Exhibit No. HIO-66

UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

High Island Offshore System, L.L.C.) Docket No. RP09-___-000

Prepared Direct Testimony
of
Richard W. Porter

Q. Please state your name and business address.

A. My name is Richard W. Porter. My business address is 1100 Louisiana Street, Houston, Texas 77002.

Q. By whom are you employed and what are your responsibilities?

A. I am employed by Enterprise Products Partners ("Enterprise"), as Director of Rates and Regulatory Affairs. My responsibilities for High Island Offshore System, L.L.C. ("HIOS") and other natural gas pipelines owned by Enterprise, include the oversight of the preparation of rate cases, including computation of the cost of service and rates associated with proceedings before the Federal Energy Regulatory Commission ("FERC" or "Commission").

Q. Please describe your educational background and work experience.

A. I graduated from Louisiana State University in 1976 and was awarded a Bachelor of Science degree with a major in Economics. From 1976 to 1979, I was employed by Allied Bank of Texas in the Trust Department. Since 1979, I have been employed in turn by Panhandle Eastern Pipeline Company, Arkla Energy Resources, Inc and ANR Pipeline Company ("ANR") in their rates and regulatory departments. During these years, my responsibilities included, a) the preparation of rate cases, including cost of service and rate design analyses, b) the preparation of certificate applications, and c) the intervention in and analysis of certificate applications and general rate filings of other interstate pipelines.

Q. What responsibilities have you had in connection with HIOS?

A. In 1992, when HIOS was affiliated with ANR, I was appointed head of the HIOS Rate Committee, a position I held until the abolition of the committee in 2001. In that capacity I prepared and oversaw the preparation of all HIOS rate cases since 1992, various tariff and tracker filings, as well as restructuring under Order Nos. 636 and 637. Since elimination of the committee, I have continued to manage the regulatory matters of HIOS. Currently I am responsible for coordinating and directing all rate and regulatory matters and also charged with making regulatory recommendations to HIOS management.

Q. Have you previously provided testimony in proceedings before the FERC?

A. Yes, I have sponsored testimony on behalf of various interstate pipelines before this Commission on several occasions.

Q. What is the purpose of your testimony in this proceeding?

A. First, I will identify the various HIOS witnesses and describe the issues included in their individual testimonies. Second, I will describe the reasons that HIOS is filing for a rate increase at this time, and why the amount of the increase is necessary. Then, I will review Statement A, the overall cost of service and its various components. Next, I will explain the basis for the economic life used to calculate the annual depreciation and negative salvage expense. After that, I will explain the need for an adjustment to the accumulated reserve for depreciation to recognize the impact of the

Supplemental Depreciation that is recorded on HIOS's books, and which has a distortionary impact on rate base. Then, I will describe the basis for the capital structure that is used to calculate the overall rate of return, which is in turn used to calculate a return on rate base. Then I will explain why the cost of debt and the return on equity proposed by HIOS are appropriate. I will also explain the HIOS proposal to refunctionalize certain of its transmission facilities as gathering, and how that is to be implemented in the context of the existing Long Haul and Short Haul rate structure provided under HIOS's existing service agreements pursuant to its currently effective FERC Gas Tariff. Finally, I am sponsoring the tariff sheets filed with this case that propose changes to the Rate Schedules and General Terms and Conditions under HIOS's FERC Gas Tariff.

Q. Who are the HIOS witnesses and what parts of the rate case are they supporting?

A. The table below is a list of the HIOS witnesses and a general description of their areas of testimony.

Witness	Description of Testimony
Richard W. Porter	Purpose of Filing, Statement A, Overall Cost of Service, Calculation of HIOS Economic Life, Calculation of Adjustments to Accumulated Reserve for Depreciation, Capital Structure, Cost of Long Term Debt, Rate of Return on Equity, Refunctionalization of Transmission Plant for Rate Design, Rate Treatment of Acquired Gathering Facilities, Retention of Long Haul Short Haul Methodology, Revisions to Tariff, Revisions to the Operating Agreement

Deborah E. Kwan	Rate Base, Regulatory Assets, Gas Plant in Service, Accumulated Reserve for Depreciation, Working Capital, Depreciation and Negative Salvage Expense
Dr. J. Stephen Gaske	Hypothetical Capital Structure, Cost of Long Term Debt, Return on Common Equity
James F. Guion	Business Risk
J. Scott Jenkins	Remaining Reserves Life
Robert C. Byrd	Cost of Negative Salvage
Lindsey E. McCartney	Operating & Maintenance Expenses
Ellen Eastham	Federal and State Income Taxes, Taxes Other Than Income Taxes
Jeffrey M. Molinaro	Gas Balance, Base and Test Period Volumes, Cost Classification, Allocation, Functionalization and Rate Design, Base and Test Period Revenues, Miscellaneous Other Revenues

Q. Are you sponsoring any exhibits as part of your testimony?

A. Yes. I am sponsoring the following exhibits in support of my testimony:

Exhibit No.	Description of Exhibits
HIO-1	Overall Cost of Service
HIO-67	Calculation of HIOS Economic Life
HIO-68	Computation of HIOS Net Book Value
HIO-69	Petition for Declaratory Order Filed on March 31, 2009 Supporting Refunctionalization of HIOS Plant
HIO-70	List and Description of Revised Tariff Sheets

Purpose of the Filing

Q. Please explain the purpose of the filing.

A. HIOS is filing this rate increase because of the significant cost increases and reductions in throughput that have occurred on the pipeline since implementation of the settlement rates from the last rate case in Docket No. RP06-540. During the base period for this case HIOS's transportation revenues totaled only $22,234,4284. HIOS projects that its annual operating expenses alone will increase to $32,648,404, or $10,413,976 more than the $22,234,428 of revenues received during the base period. In addition, total cost of service is expected to increase to $58,026,997, or $15,536,413 more than the $42,490,584 in total cost of service that was filed in the last rate case. Finally, HIOS projects that design throughput will fall to 217,347 Dth per day, or more than 180,244 Dth below the design level of 397,591 Dth per day submitted in the previous case. This throughput decline reflects, among other things, that HIOS experienced significant outages each year since its last case because of hurricane damage on HIOS or on downstream pipelines. If HIOS does not increase its rates by the end of the test period, annual revenues are projected to be approximately $19,039,597, or only 58% of fixed operating expenses. HIOS cannot continue to operate when it fails to recover nearly 42% of its fixed operating expenses. At the present time, under currently effective rates, HIOS's revenues are less than its operating expenses, and the operation of the pipeline fails to generate any income for the owners. No business can operate on a sustainable basis under those financial circumstances and, in my opinion, rates that place a pipeline in that position are not just and reasonable.

Q. Why do HIOS's current rates not provide adequate cost coverage and investor return?

A. In September 2006, HIOS filed a rate case, in Docket No. RP06-540, to increase its transportation rates from the then-effective 9.18¢ per Dth, to 27.23¢ per Dth. In my testimony filed in that proceeding, I explained the significant risks that HIOS faced, and why an economic cushion was necessary in order to provide cost coverage for the anticipated continued declines in throughput and for further cost increases given the offshore operating environment. Not only did our projections regarding declining throughput and increased costs prove accurate, as I discuss below, in Fall 2008, HIOS experienced a system outage of more than 3 months due to damage inflicted by Hurricane Ike. Consequently, HIOS realized approximately $1,257,558 of revenues in the third quarter of 2008, while experiencing ongoing operating expenses of $6,502,652.

Q. Please describe HIOS's throughput and cost experience since the Commission's order approving the current settlement?

A. HIOS implemented the settlement rates on an interim basis on June 1, 2007. Since that time, HIOS has experienced an increase in costs and a significant decrease in throughput, even beyond those levels projected in the last filed rate case. For example, as I explained above, total annual transportation revenues during the base period in this case were only $22,234,428, or approximately $20,256,156 less than the $42,490,584 as filed revenue requirement, i.e., cost of service, submitted by HIOS in Docket No. RP06-540. Furthermore, non-controllable costs increased during 2008, and in particular HIOS expensed over $9.5 million for unbudgeted, and non-reimbursable, mainline repairs. This amount was a result of the 2008 hurricane season when Hurricane Ike devastated numerous offshore facilities in areas where HIOS is located.

Q. Please describe the throughput decrease.

A. HIOS never achieved the design throughput that was submitted in Docket No. RP06-540. Rather, as the base period data shows, during which time the previously settled rates have been in effect, HIOS's average daily throughput has been approximately 348,785 Dth per day.

Q. Are there any other reasons that HIOS is filing to revise its rates?

A. Yes, on March 31, 2009, HIOS acquired the non-jurisdictional East Breaks Gathering System. On the same day, HIOS filed with the Commission requesting permission to use its currently effective rates for service on this newly acquired gathering system, pending the effectiveness of the rates to be filed in this proceeding. Consequently, part of the purpose of this filing is to establish transportation rates for Long Haul and Short Haul service that reflect a shipper's functional use of the pipeline.

Q. Are there any other significant reasons that HIOS is filing at this time?

A. Yes. As I will explain later in more detail, in addition to the acquisition of the former East Breaks gathering facilities, HIOS proposes to refunctionalize certain of its existing transmission facilities to gathering. In this rate case I am proposing the use of such facilities on a refunctionalized basis for rate design purposes. To the extent necessary, I am supporting the basis for such refunctionalization as explained in a separate proceeding, by including as Exhibit No. HIO-69 to my testimony a copy of the petition that HIOS has filed seeking a declaratory order that these facilities should be functionalized as gathering.

Q. Are you familiar with the contents of that petition?

A. Yes I am; it was prepared under my direction and supervision.

Q. Specifically, what is HIOS seeking in this filing with respect to its proposed rates?

A. HIOS is proposing a total cost of service of approximately $58,026,997, a Long Haul rate of 74.11¢ per Dth, and a Short Haul rate of 14.33¢ per Dth. HIOS believes that these rates will provide adequate revenue permitting it to fully recover the operating costs of the system, adequately compensate the owners for the ongoing risk of continuing to operate the system, and provide an adequate economic cushion to manage future fluctuations in cost and throughput.

Q. Is the increase that HIOS seeks out of line with the types of rate increases filed by other offshore pipelines?

A. Not at all. Black Marlin Pipeline Company ("Black Marlin") is an offshore pipeline that consists of approximately 67 miles of 16 inch pipe in the High Island Area, offshore Texas. On October 31, 2006, Black Marlin filed with the Commission in Docket No. RP07-39, to increase its rates from $0.09 to $1.0622, an increase of 1,080%. Because of a settlement, the currently effective rates are now 90.00¢. In that filing the Company explained that even though overall cost of service was decreasing by approximately 8%, rates were increasing due to significantly and continually declining throughput at a rate of approximately 86%. This type of significant decline in throughput due to the natural depletion of the fields is not uncommon in offshore pipeline systems.

Statement A – Overall Cost of Service

Q. What is the basis for HIOS's cost of service?

A. HIOS's cost of service is derived from HIOS's annual cost of doing business during a test period specified by the Commission's regulations. The test period is comprised of a base period, consisting of twelve consecutive months of recently available actual experience, which the pipeline adjusts for known and measurable changes that will occur on or before nine months after the end of the base period. The base period in this docket is the twelve months ending December 31, 2008. The test period will end September 30, 2009.

Q. Please briefly describe the components of HIOS's $58,026,997 cost of service as set forth in Statement A (Exhibit No. HIO-1).

A. Statement A (Exhibit No. HIO-1) presents in summary form the major components of HIOS's overall cost of service for the base period, as adjusted for known and measurable changes occurring on or before the end of the test period. The first item on Statement A is the operating expense component of HIOS's cost of service. This component reflects HIOS's total operating expenses, which consist of its annual operation and maintenance expenses and its administrative and general expenses. As shown on line 1 of Statement A, HIOS's total operating expenses are $32,648,404.

The depreciation expense component in the cost of service formula is the loss in value of HIOS's assets and provides for the return of capital investment. The negative salvage component is the annual amortization of the estimated future cost of removal, less any salvage value, of HIOS's gathering and offshore facilities. As shown on line 2 of Statement A, the sum of HIOS's depreciation and negative salvage expense is $11,129,275.

In addition, Statement A reflects allowances recognizing that HIOS should have an opportunity to recover a reasonable amount over and above operating expenses, depreciation and taxes, as an incentive for managing and operating the HIOS system efficiently. In a regulated entity such as HIOS, this is accomplished by the allowance of an overall rate of return applied to rate base. HIOS's total return of $10,334,821, shown on line 3 of Statement A, consists of a return on net plant investment, as well as on other rate base items such as working capital and regulatory assets. HIOS has also calculated a federal and state income tax allowance on the equity portion of this return. This annual federal and state income tax expense of $3,716,991 is reflected on line 4 of Statement A. The cost of service also includes an allowance for taxes other than income taxes. HIOS's total other tax expense of $330,344 is set forth on line 5 of Statement A.

Q. What is HIOS's overall cost of service?

A. As shown on line 8 of Statement A (Exhibit No. HIO-1), HIOS's net cost of service is $58,143,267, after HIOS's gross cost of service has been reduced by certain revenue credits.

Economic Life Used to Calculate
<u>Annual Depreciation and Negative Salvage Expense</u>

Q. Do you believe that the reserves life estimate provided by HIOS Witness

Jenkins is representative of the economic life of this asset?

A. Although Witness Jenkins' reserve life estimate accurately estimates the *physical* life of the reserves, it does not purport to represent the *economic* life of HIOS. This is because the physical proximity of natural gas reserves to HIOS does not necessarily assure that connection to those reserves will be a profitable venture. Even though gas reserves may be physically available, any prudent business operator cannot continue to operate a pipeline system attached to such reserves beyond a time when revenues are no longer sufficient to cover the ongoing costs of operation and to provide a return on investors' equity interest in the asset. Given the projections of declining throughput, and therefore the anticipated declining revenues, this means that there is an economic life to the operation of HIOS that is separate and distinct from the physical reserves life of the gas attached to HIOS. Put another way, a pipeline's economic life expires when the remaining gas reserves attached to the system are no longer sufficient to produce transportation revenues that exceed operating costs. As a result, the management of HIOS needs to make a reasonable assessment of when this "cross-over" point will occur.

Q. How did you determine when the "cross-over" point will occur?

A. For this purpose, the appropriate analytical approach is to examine the future throughput projections taking into consideration reserves attached, or that might be attached in the future, to the system. I have attempted to assess the economic life of the HIOS system, taking into consideration the declining throughput from reserves attached, and new speculative supplies that might be attached to the system in the future.

Q. What were the factors that you applied to determine this estimated economic life of HIOS?

A. I conducted an iterative analysis to calculate the economic life for HIOS by computing the minimum throughput required to provide sufficient revenue to cover operating costs and comparing this to the estimated reserve data computed by Witness Jenkins. I performed the calculation initially using the low end of Witness Jenkins' estimated reserve life range or ten years. I then recalculated the minimum necessary flow using the upper end of Witness Jenkins' reserve life range or 15 years. Assuming the ten year reserve life, the minimum necessary flow for HIOS was calculated to be 114 MMcf/d based on annual operating expenses of $32.9 million, a recourse rate of 74.11¢ per dekatherm, and an average Btu content of 1064 Btu/Mcf, and which can be calculated as ($32.9/74.11¢/365 days/1.064Btu)*1000 = 114 MMcf/d. In other words, 114 MMcf/d is the average volume which must be transported by HIOS, at a 74.11¢ average transportation rate, to recover HIOS's filed annual operating costs and provide a sufficient operating margin. Using the fifteen year reserve life the minimum necessary flow is 122 MMcf/d.

Q. What did you determine to be the economic life of HIOS based on these parameters?

A. Exhibit No. HIO-67 identifies the estimated decline in throughput from the proven and probable reserves attached to HIOS, and new, speculative supplies that could be attached in the future. HIOS Witness Jenkins provided this information to me. On this chart I plotted the results of my minimum required flow calculations. This exhibit illustrates the time when production volumes would decline below both calculated required minimum necessary flows of 122 and 114 MMcf of daily throughput for both calculations described above. The most optimistic case shows that the estimated production of those volumes will decline to the economic limit of 114 MMcf/d by the end of 2016, representing an 8-year economic life for HIOS. I would note that this estimate may even be overly optimistic, since the reserve projections include deepwater reserves that may only be potentially connected to HIOS, and thus are highly speculative. As I explained earlier, Witness Jenkins provides studies that demonstrate that some quantities of natural gas will be available for transportation on HIOS for a period ranging from ten to fifteen years. Since my calculation of the economic life supports an 8-year remaining life, HIOS could justifiably support an 8 year remaining life. However, as the Commission has a preference for supporting remaining life with a reserve life study, for purposes of this filing I have instructed HIOS Witness Kwan to use the low end of Witness Jenkins' range, or 10 years, for purposes of calculating annual depreciation and negative salvage expense.

Adjustments to the Accumulated Reserve for Depreciation

Q. What adjustments are you proposing to the Accumulated Reserve for Depreciation?

A. The Accumulated Reserve for Depreciation comprises an accumulation of depreciation expenses over the depreciable life for book depreciation, negative salvage and additional amounts recorded as "Supplemental Depreciation." I am proposing an adjustment to the Accumulated Reserve for Depreciation to address a distortion that has arisen from the Commission's approval of this Supplemental Depreciation allowance established in prior HIOS rate proceedings.

Q. Will you please explain the nature of this Supplemental Depreciation allowance?

A. In its early years of operation, HIOS credited approximately $65,358,548 of revenues as Supplemental Depreciation to its balance sheet, rather than to income. The revenues were generated by transportation volumes in excess of the design throughput. In accordance with a Commission Order dated December 22, 1978 in Docket No. CP75-104, HIOS was ordered to credit these revenues to its accumulated reserve for depreciation, which reduced the rate base. This rate design technique was established by the Commission in order to recognize that the owners of HIOS would recover a portion of their investment at a faster pace than recognized by the straight-line depreciation schedule, and that future rate base calculations should recognize the accelerated reduction in gas plant investment outstanding.

Q. Has the Commission previously recognized that this Supplemental Depreciation allowance has a distortionary effect on rate base?

A. Yes. In Docket No. RP03-221, the Commission recognized that the Supplemental Depreciation allowance that HIOS booked in 1979 and 1980 unduly distorted the average rate base calculation used to determine the management fee. To address that distortion, in its January 24, 2005, Order on Initial Decision and Settlement Offer in Docket No. RP03-221, the Commission ordered adjustments to mitigate the impact of the Supplemental

Depreciation balances on the calculation. While preparing the data for this case, I determined that a fundamental adjustment to the treatment of this Supplemental Depreciation balance would most accurately reflect the Commission's intent as expressed in Docket No. RP03-221.

Q. Why did HIOS not make this type of adjustment previously?

A. In Docket No. RP03-221, I recommended an adjustment to the calculation of the management fee which reflected the elimination of the impact of the Supplemental Depreciation. It was this recommendation which ultimately led to the Commission deciding that the adjustment was necessary in its January 24 Order. Later, in Docket No. RP06-540, I again included an adjustment to reflect elimination of the impact of the Supplemental Depreciation. In the preparation of this case, I determined that it would be more correct to eliminate the impact of the Supplemental Depreciation prior to the calculation of a rate base. Among other things, this method will insure that HIOS does not need to rely on a management fee solely because of the impact of the Supplemental Depreciation. In any event, the fact that the adjustment was not made in prior rate cases, or made previously in exactly the same fashion, has no bearing whatsoever on the appropriateness of the adjustment in this case. The adjustment is required to correct for the impact of the Supplemental Depreciation.

Q. Please detail the level of this adjustment to the Accumulated Reserve for Depreciation that you are proposing in this case.

A. As shown in Exhibit No. HIO-68, the net book value of the HIOS plant currently functionalized as transmission is ($5,368,215). However, after adjustment to properly account for the Supplemental Depreciation, the net book value is $2,864,800. On this Exhibit I separated gas plant in service into two vintage tiers – plant in service during the period of the Supplemental Depreciation accrual (Tier 1), and plant placed in service after that period (Tier 2). I allocated all of the Supplemental Depreciation to the Tier 1 plant as this plant was actually in service when the Supplemental Depreciation was included in the rates and reflected on the books. I have allocated all other depreciation to these two tiers using the vintaged gross plant in service by year and the total of all other depreciation expense booked during each year of the HIOS depreciable life. While Tier 1 plant is fully depreciated as of the end of the test period, the net book value of Tier 2 plant is projected to be $2,864,800 million at the end of the test period. I have instructed HIOS Witness Kwan to reflect an adjustment to the Accumulated Reserve for Depreciation on Statement D to reflect this analysis.

<u>Capital Structure</u>

Q. What is the capital structure that HIOS is proposing?

A. HIOS is proposing a hypothetical capital structure of 40% debt and 60% equity. Consistent with Commission policy, and as it has done in prior rate cases, this hypothetical structure is being used because HIOS's capital is one hundred per cent equity, and the actual capital structure of Enterprise, the entity that provides financing for HIOS, is not representative of HIOS's risk profile. Additional support for this capital structure is provided by HIOS Witness Gaske. I have instructed HIOS Witness Kwan to use this capital structure in computing the overall rate of return on rate base.

Q. Why is this hypothetical capital structure appropriate?

A. The hypothetical structure is consistent with structures that have been approved for other pipelines with 100% equity capital structures and a financing entity with an anomalous capital structure. For example, in Docket No. CP06-407-000 where the pipeline's own capital structure reflected 100 percent equity, FERC allowed the use of a hypothetical capital structure of 50.8 percent debt and 49.2 percent equity. Witness Gaske explains in his testimony how the slightly higher hypothetical equity ratio HIOS produces an equivalent return given HIOS's overall risk profile.

<u>Cost of Long Term Debt</u>

Q. What is the cost of debt that you are proposing?

A. Because of the complexity of current financial markets, I have asked Witness Gaske to evaluate and provide an estimate of the cost of debt for BBB Public Utility Debt as of September 30, 2009. As explained by Witness Gaske, this estimate is 8.00%, and I have instructed HIOS Witness Kwan to use this in computing the overall rate of return on rate base.

Q. Why is this the appropriate cost of debt to use for the hypothetical capital structure?

A. In addition to the support provided by Witness Gaske's review of capital markets, the hypothetical cost of debt is consistent with debt costs that have been approved for other pipelines with hypothetical capital structures.

<u>Rate of Return on Common Equity</u>

Q. Why has HIOS chosen a 15.50% return on equity in this case?

A. HIOS Witness Gaske has shown that the range of returns on equity applicable to the proxy group of companies he selected is 13.05% to 18.43%, with a median of 15.44%. Based on his analyses and a hypothetical common equity ratio of 60% he is recommending an allowed rate of return on common equity of 15.50%, which is within the range of the medians that he develops under his three DCF methods for the proxy group. Because of the significant risks faced by HIOS, I believe that a rate of return on equity within this range is justified. Accordingly, I have instructed HIOS Witness Kwan to calculate the overall rate of return using a return on equity of 15.50%.

Q. Why do you believe that HIOS has risks that justify this rate of return on equity?

A. An appropriate return on equity for HIOS should be set at a level that recognizes the significant business risks faced by HIOS, as outlined by HIOS Witness Guion, including the high probability of continued steep declines in throughput and the remote possibility of attaching new deepwater reserves as explained by Witness Jenkins. Indeed, given the fact that HIOS is not even able to recover its current operating expenses, and given the fact that HIOS has virtually no firm capacity subscriptions and is therefore almost totally at risk of achieving a substantial portion of its design throughput in order to recover its ongoing cost of operation, in my opinion HIOS would be justified in proposing a rate of return that even exceeds the range of returns developed by Witness Gaske. As I have noted above, I have been involved in reviewing the HIOS pipeline system for over 15 years now, and its financial situation is more precarious than it has ever been, and such a rate of return on equity is clearly justified.

Refunctionalization of Gas Plant in Service for Rate Design Purposes

Q. Please address HIOS's proposal to refunctionalize certain facilities as gathering that are currently functionalized as transmission.

A. As I stated above, for purposes of designing rates for Long Haul and Short Haul transportation services in this proceeding, I am including the cost of recently acquired gathering facilities and applying a refunctionalization of certain transmission facilities to gathering.

Q. Has HIOS calculated a functional cost of service to be used to design rates in this proceeding?

A. Yes. HIOS Witness Molinaro has calculated the functionalized cost of service in Statement I for the purpose of calculating the Long Haul and Short Haul transportation rates he derives on Statement J.

Q. Please explain how HIOS has incorporated the newly acquired and refunctionalized gathering facilities into its existing Long Haul and Short Haul rate design.

A. Currently the services on the HIOS system are either considered Long Haul or Short Haul transportation services. HIOS's FERC Gas Tariff provides, by definition, that Short Haul volumes are those received at all Points of Receipt north of HIA Block-264. By comparison, the Tariff defines Long Haul volumes as those volumes received at all Points of Receipt located south of HIA Block-264. HIOS is proposing that all HIOS pipelines and platforms that are located at and upstream (i.e., south) of HIA Block-264 be functionalized as gathering for rate design purposes. Consequently, all volumes received on the HIOS gathering facilities will be received at Long Haul Points of Receipts. All HIOS pipelines and platforms located downstream (i.e. north) of HIA Block-264 would retain their transmission function, and volumes received on these transmission facilities will continue to be received at Short Haul Points of Receipt. To maximize shipper choice, HIOS is amending its tariff to make sure that shippers pay only for the functionalized facilities that they use.

Q, How did you determine which facilities should be refunctionalized as gathering?

A. Contemporaneously with this rate filing, HIOS filed a petition with the Commission for a declaratory order seeking a determination that the facilities that I have treated in rate design as functionalized to gathering do in fact serve a gathering function. The basis for the refunctionalization is fully described in that petition. Included as Exhibit No. HIO-69 is a copy of that Petition for Declaratory Order, which I am adopting in support of the refunctionalization of gas plant for rate purposes that HIOS is proposing in this proceeding.

Q. How has HIOS treated the addition of East Breaks to its system for rate design purposes?

A. I considered various options for the rate design of the HIOS gathering system. I reviewed the possibility of separately allocating costs and volumes for each of the gathering legs of the system in order to calculate a separate gathering rate for service on each of the gathering legs. I reviewed the operations of the three legs to determine if there were any significant variance in cost due to mileage that would suggest the use of a mileage based rate. Finally, I considered the use of a postage stamp rate for gathering service. Ultimately, I determined that the postage stamp approach was the most appropriate method to employ.

Q. Why did you determine that the postage stamp rate was the most appropriate?

A. First, the East Breaks system simply functions as an extension of the central gathering leg of the HIOS refunctionalized pipeline and so it should at a minimum be integrated into that leg of the HIOS gathering network. Second, separately stated gathering rates for the east, central and west legs shippers do not provide any additional shipper flexibility and will only deny the shippers the benefits of incremental throughput not physically sourced on their leg of the system. More importantly, the establishment of separate rates for the legs would create new limitations on a shipper’s ability to nominate to secondary points, segment or release capacity. Third, the operations of the HIOS gathering system do not exhibit any characteristics of a system where costs vary materially with distance. Finally, since HIOS will operate the East Breaks system as an integrated part of its entire offshore pipeline system, including the East Breaks volumes and costs as part of a postage stamp gathering rate is the only option that preserves the exiting contractual rights of the shippers. Since I do not propose a change to HIOS’s existing Long Haul and Short Haul rate structure, I determined that the use of a postage stamp gathering rate including both the costs and volumes of the refunctionalized HIOS facilities and the East Breaks facilities was most appropriate.

Q. Are there any modifications to the calculation of the Long Haul and Short Haul rate that are the result of the refunctionalization?

A. Currently, HIOS calculates a postage stamp rate for Long Haul service and then calculates the Short Haul rate as 40% of the Long Haul rate. The 40% factor was agreed to many years ago as an approximation of the costs allocated to transportation volumes received north of HIA Block 264. Under the proposed refunctionalization, all transportation volumes received north of HIA Block 264 will be received on facilities functionalized as transmission. In contrast, all volumes received south of HIA Block 264 will be received on facilities functionalized as gathering. Because HIOS can now calculate a functional cost of service for the pipeline there is no longer an allocation factor of 40%. This functional cost of service and rate design is explained by HIOS Witness Molinaro. I have made conforming changes to the tariff to reflect the elimination of the 40% Short Haul factor.

<u>Proposed Tariff Changes</u>

Q. Are you proposing any revisions to any tariff sheets?

A. Yes. The proposed revised tariff sheets are included as Exhibit No. HIO-70. HIOS is submitting a Revised Sheet No. 10, which has been revised to reflect HIOS's proposed rates and to state that a credit will be applied to Long Haul shippers using only gathering facilities located upstream of High Island Block 264. Except for some minor clerical corrections, and housekeeping revisions, all other changes on the revised tariff sheets are the result of HIOS's acquisition of the East Breaks gathering facilities and the proposed refunctionalization of the HIOS facilities at and upstream of HIA Block-264. For example, HIOS is amending Sheet No. 9 to clarify the Short Haul receipt point location at High Island Block 264. HIOS is also clarifying on certain tariff sheets that its transportation services also apply to services using its gathering facilities and to reflect the new Point of Receipt at Alaminos Canyon Block 25 resulting from the acquisition of the East Breaks gathering system. Sheet Nos. 15, 28 and 29 have all been revised to eliminate the use of the 40% short haul calculation which I explained above. The definitions of "Short Haul Volumes" and "Long Haul Volumes" have been revised on Sheet No. 67 to state that the former volumes are received into HIOS on transmission functionalized facilities, and the latter are received into gathering functionalized facilities. The definition of "Primary Path" on Sheet No. 69 has been revised to clarify that the term is applicable to all HIOS facilities, rather than just transmission facilities. In addition, Sheet No. 89 has been revised to clarify that all Points of Receipt on HIOS are identified on Sheet No. 9, which now includes the new Point of Receipt at Alaminos Canyon Block 25. This new Point of Receipt has also been reflected on several of HIOS's service agreement exhibits and forms (Sheet Nos. 178, 185, 189, 190, 193).

We are also proposing a few "clean-up" changes to the tariff text. For example, on Sheet Nos. 16 & 55, we changed "notification by telex" to be "notification by facsimile," and on Sheet Nos. 20, 38, 58, 89, and 144, we have clarified the existing tariff language to use the pre-existing defined terms for "Point(s) of Receipt," "Point(s) of Delivery," "Primary Point(s) of Receipt" and "Primary Point(s) of Delivery". In addition, we are correcting an incorrect section reference on Sheet No. 124. None of these revisions makes any substantive changes to the HIOS tariff.

Finally, HIOS proposes to delete Section 18, Assignment of Capacity to Customers of Downstream Pipelines, from its tariff (Sheet Nos. 149-156), and the corresponding form of assignment (Sheet Nos. 196-200). The assignment of capacity to customers on downstream pipelines was a transition measure associated with the unbundling of interstate pipelines' gas sales from their gas transportation service required in Order No. 636. That assignment process has been completed and therefore Section 18 of HIOS's FERC Gas Tariff is no longer relevant. In fact, since the unbundling of interstate gas sales from transportation has effectively been accomplished, the Commission has removed from its regulations the requirement that pipelines assign their upstream capacity to their firm shippers, finding it to be no longer relevant.

<u>Third Party Operating Agreement</u>

Q. Does HIOS propose any change in this proceeding to the operating agreement structure that was proposed and settled in Docket No. RP06-540-000?

A. Apart from an amendment to the operating agreement with Enterprise GTM Offshore Operating Company, LLC to add in the additional responsibilities and charges associated with operating the East Breaks facility, HIOS is proposing no change in this case. Further, in light of the experience it has gained under the operating agreement, HIOS now has had an opportunity to reflect on its books the accounting treatment for the extraordinary charges that are provided for under that agreement.

Q. Does this complete your testimony?

A. Yes.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

In the matter of	)	
High Island Offshore System, L.L.C.	)	Docket No. RP09-___-000

Affidavit of Richard W. Porter

Richard W. Porter, being first duly sworn according to law, on oath deposes and says that he is the witness whose prepared direct testimony in the above entitled proceeding accompanies this affidavit; that if asked the questions which appear in the text of the aforesaid prepared testimony, affiant would give the answers that are therein set forth; and that affiant adopts the aforesaid testimony as his sworn, direct testimony in these proceedings.

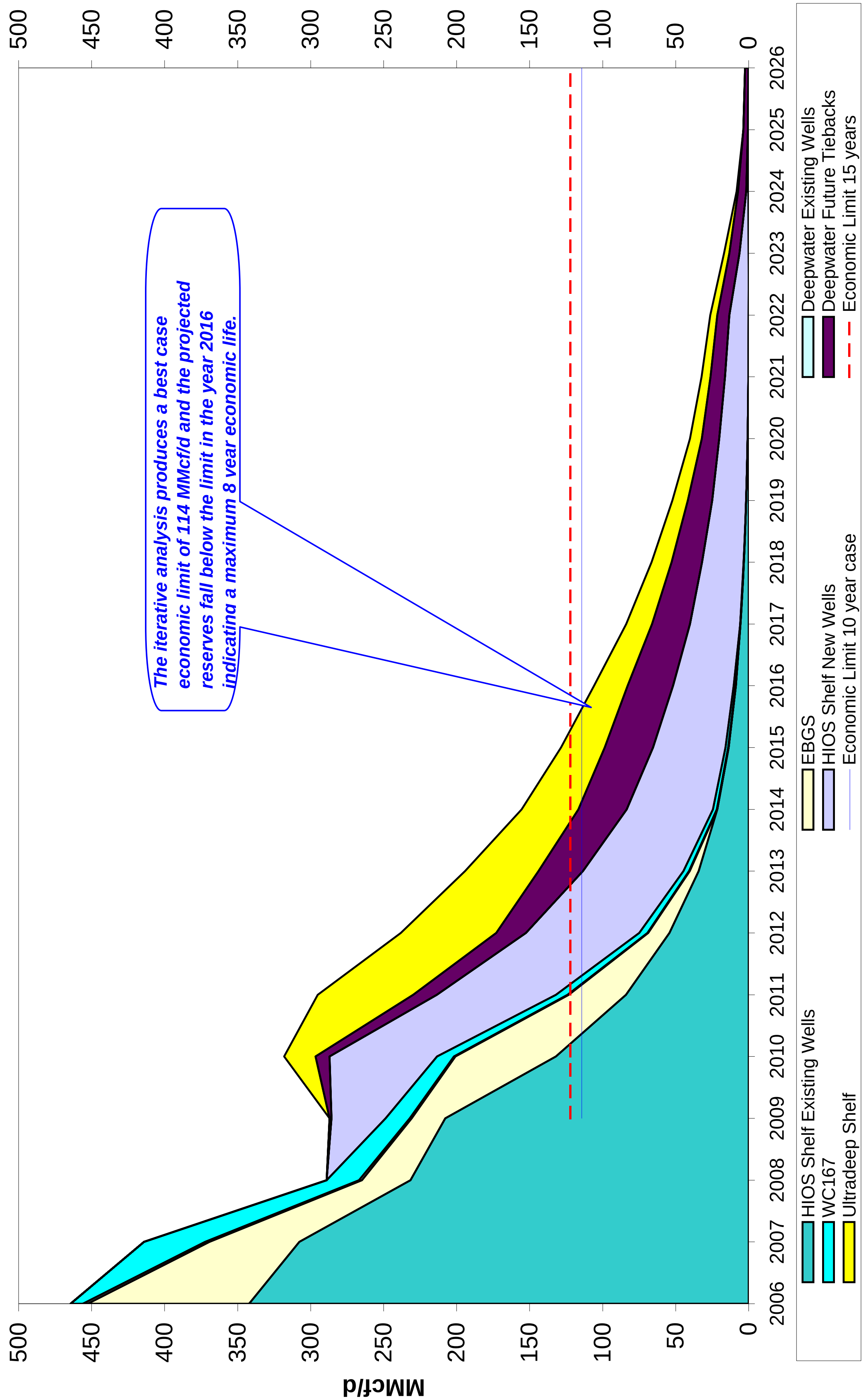
/s/ Richard W. Porter
Richard W. Porter

Subscribed and sworn to before me this 25th day of March, 2009.

FRONELL SINGLETERRY
Notary Public, State of Texas
My Commission Expires
December 19, 2010

/s/ Fronell Singleterry
Notary Public

High Island Offshore System
Calculation of Economic Life



High Island Offshore System, L.L.C.
Calculation of Tier 1 and Tier 2 Vintage Plant Balances
Demonstrating Impact of Supplemental Depreciation on Net Plant Balance

			Annual Depreciation Expenses				Tier 1 Plant - Supplemental Depreciation Period					Tier 2 Plant - Post Supplemental Depreciation Period				
Line No.	Year	Total Gross Plant	Supplemental Depreciation Expense	Book Depreciation Expense	Negative Salvage Expense	Total Annual Depreciation Expense	Tier 1 Gross Plant	Supplemental Depreciation Expense	Allocated Annual Depreciation Expense	Accumulated Depreciation	Tier 1 Net Plant	Tier 2 Gross Plant	Supplemental Depreciation Expense	Allocated Annual Depreciation Expense	Accumulated Depreciation	Tier 2 Net Plant
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1	1979	$ 337,310,982	$ 14,070,548	23,652,868	337,311	$ 38,060,727	$ 337,310,982	$ 14,070,548	$ 23,990,179	$ (38,060,727)	$ 299,250,255	$ -	$ -	$ -	$ -	$ -
2	1980	339,510,021	48,925,215	23,784,468	339,510	73,049,193	339,510,021	48,925,215	24,123,978	(111,109,920)	228,400,101	-	-	-	-	-
3	1981	342,727,661	460,355	29,722,237	342,728	30,525,320	339,510,021	460,355	29,782,705	(141,352,980)	198,157,041	3,217,640	-	282,260	(282,260)	2,935,380
4	1982	349,057,167	1,902,430	29,495,455	349,057	31,746,942	339,510,021	1,902,430	29,028,228	(172,283,638)	167,226,383	9,547,146	-	816,284	(1,098,544)	8,448,602
5	1983	352,217,403	-	31,057,139	352,217	31,409,356	339,510,021	-	30,276,162	(202,559,800)	136,950,221	12,707,382	-	1,133,194	(2,231,738)	10,475,644
6	1984	354,321,528	-	31,628,968	354,322	31,983,290	339,510,021	-	30,646,310	(233,206,110)	106,303,911	14,811,507	-	1,336,980	(3,568,718)	11,242,789
7	1985	356,059,855	-	15,684,217	534,090	16,218,307	339,510,021	-	15,464,472	(248,670,582)	90,839,439	16,549,834	-	753,835	(4,322,553)	12,227,281
8	1986	370,095,590	-	17,068,709	555,143	17,623,852	339,510,021	-	16,167,375	(264,837,957)	74,672,064	30,585,569	-	1,456,477	(5,779,030)	24,806,539
9	1987	365,931,131	-	15,901,811	548,897	16,450,708	339,510,021	-	15,262,927	(280,100,884)	59,409,137	26,421,110	-	1,187,781	(6,966,811)	19,454,299
10	1988	363,720,204	-	15,459,709	545,580	16,005,289	339,510,021	-	14,939,934	(295,040,818)	44,469,203	24,210,183	-	1,065,355	(8,032,166)	16,178,017
11	1989	363,974,422	-	15,431,224	545,962	15,977,186	339,510,021	-	14,903,286	(309,944,104)	29,565,917	24,464,401	-	1,073,900	(9,106,066)	15,358,335
12	1990	365,350,256	-	2,403,307	548,025	2,951,332	339,510,021	-	2,742,592	(312,686,696)	26,823,325	25,840,235	-	208,740	(9,314,806)	16,525,429
13	1991	366,267,681	-	9,076,039	549,402	9,625,441	339,510,021	-	8,922,255	(321,608,951)	17,901,070	26,757,660	-	703,186	(10,017,992)	16,739,668
14	1992	369,466,122	-	5,033,510	738,932	5,772,442	339,510,021	-	5,304,416	(326,913,367)	12,596,654	29,956,101	-	468,026	(10,486,018)	19,470,083
15	1993	370,085,375	-	4,708,548	740,171	5,448,719	339,510,021	-	4,998,562	(331,911,929)	7,598,092	30,575,354	-	450,157	(10,936,175)	19,639,179
16	1994	370,814,596	-	3,829,056	741,629	4,570,685	339,510,021	-	4,184,823	(336,096,752)	3,413,269	31,304,575	-	385,862	(11,322,037)	19,982,538
17	1995	369,777,101	-	2,800,393	739,554	3,539,947	339,510,021	-	3,250,194	(339,346,946)	163,075	30,267,080	-	289,753	(11,611,790)	18,655,290
18	1996	369,843,580	-	3,891,574	739,687	4,631,261	339,510,021	-	842,095	(340,189,041)	(679,020)	30,333,559	-	3,789,166	(15,400,956)	14,932,603
19	1997	369,860,694	-	3,500,614	739,721	4,240,335	339,510,021	-	679,020	(340,868,061)	(1,358,040)	30,350,673	-	3,561,315	(18,962,271)	11,388,402
20	1998	370,665,695	-	4,030,307	741,331	4,771,638	339,510,021	-	679,020	(341,547,080)	(2,037,059)	31,155,674	-	4,092,618	(23,054,890)	8,100,784
21	1999	370,400,268	-	3,347,939	740,801	4,088,740	339,510,021	-	679,020	(342,226,101)	(2,716,080)	30,890,247	-	3,409,720	(26,464,609)	4,425,638
22	2000	374,481,121	-	3,861,536	748,962	4,610,498	339,510,021	-	679,020	(342,905,121)	(3,395,100)	34,971,100	-	3,931,478	(30,396,087)	4,575,013
23	2001	378,571,376	-	3,997,557	757,143	4,754,700	339,510,021	-	679,020	(343,584,141)	(4,074,120)	39,061,355	-	4,075,680	(34,471,767)	4,589,588
24	2002	381,608,200	-	4,030,293	763,216	4,793,509	339,510,021	-	679,020	(344,263,161)	(4,753,140)	42,098,179	-	4,114,489	(38,586,256)	3,511,923
25	2003	386,054,966	-	4,271,437	772,110	5,043,547	339,510,021	-	679,020	(344,942,181)	(5,432,160)	46,544,945	-	4,364,527	(42,950,783)	3,594,162
26	2004	387,799,074	-	3,665,063	775,598	4,440,661	339,510,021	-	679,020	(345,621,201)	(6,111,180)	48,289,053	-	3,761,641	(46,712,424)	1,576,629
27	2005	388,299,794	-	3,632,726	444,175	4,076,901	339,510,021	-	388,365	(346,009,565)	(6,499,544)	48,789,773	-	3,688,536	(50,400,961)	(1,611,188)
28	2006	388,948,841	-	803,409	(1,701,040)	(897,631)	339,510,021	-	(1,484,823)	(344,524,742)	(5,014,721)	49,438,820	-	587,192	(50,988,153)	(1,549,333)
29	2007	392,240,145	-	(339,707)	1,718,179	1,378,472	339,510,021	-	1,487,199	(346,011,941)	(6,501,920)	52,730,124	-	(108,727)	(50,879,426)	1,850,698
30	2008	395,637,428	-	1,746,623	782,453	2,529,076	339,510,021	-	671,450	(346,683,390)	(7,173,369)	56,127,407	-	1,857,626	(52,737,053)	3,390,354
31	Test Period	396,271,766	-	982,733	1,236,805	2,219,538	339,510,021	-	1,059,646	(347,743,036)	(8,233,015)	56,761,745	-	1,159,892	(53,896,945)	2,864,800
32	Total	$ 396,271,766	$ 65,358,548	$ 318,159,762	$ 18,121,671	$ 401,639,981	$ 339,510,021	$ 65,358,548	$ 281,324,842	$ (347,743,036)	(8,233,015)	$ 56,761,745	$ -	$ 52,737,053	$ (53,896,945)	$ 2,864,800

Enterprise Products
High Island Offshore System, L.L.C.

ENTERPRISE PRODUCTS PARTNERS L.P.
ENTERPRISE PRODUCTS OPERATING L.P.
ENTERPRISE PRODUCTS GP, LLC, GENERAL PARTNER
ENTERPRISE PRODUCTS OLPGP, INC., GENERAL PARTNER

March 31, 2009

Ms. Kimberly D, Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: High Island Offshore System, L.L.C.
Petition for Declaratory Order
Docket No. CP09-____

Dear Ms. Bose:

Enclosed for filing, pursuant to Rule 207 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission ("Commission"), 18 C.F.R. § 385.207 (2008), is High Island Offshore System, L.L.C.'s ("HIOS's") Petition for Declaratory Order, requesting the Commission to determine that all existing HIOS facilities located at and upstream of High Island Area Block A-264 in the Gulf of Mexico are non-jurisdictional. HIOS states that an original and fourteen (14) copies of the Petition for Declaratory Order are included in this filing.

Pursuant to 18 C.F.R. § 381.302, HIOS is also including a check payable to the Treasury of the United States in the amount of $20,970.

Respectfully submitted,

/s/ Richard W. Porter
Richard W. Porter
Director, Rates and Regulatory Affairs
High Island Offshore System, L.L.C.

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UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

High Island Offshore System, L.L.C.) Docket No. CP09-_____

PETITION FOR DECLARATORY ORDER

High Island Offshore System, L.L.C. ("HIOS"), pursuant to Rule 207 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission ("Commission"), 18 C.F.R. § 385.207 (2008), hereby submits a petition for a declaratory order ("Petition") finding that all HIOS facilities located at and upstream of High Island Area Block A-264 ("HIA Block 264") are, in their entirety, gathering facilities and not subject to the Commission's jurisdiction under Section 1(b) of the Natural Gas Act ("NGA"), 15 U.S.C. § 717(b). HIOS intends to maintain all the facilities that are the subject of this Petition in operation for the performance of transportation services by HIOS on an open access basis.

HIOS respectfully requests that the Commission act on this Petition as soon as possible, and to issue an order by no later than September 30, 2009, to coincide with the anticipated end of the suspension period in the rate proceeding that is being submitted by HIOS concurrently with this Petition pursuant to Section 4(e) of the NGA, 15 U.S.C. § 717c(e). Prompt issuance of an order on this Petition will establish certainty with regard to the function of the facilities for purposes of the concurrent rate proceeding.

In further support of this Petition, HIOS states as follows:

I.

Communications and Correspondence

Communications and correspondence with respect to this Petition should be addressed to the following persons:

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II.

Description of Petitioners

The exact legal name of the applicant is High Island Offshore System, L.L.C. HIOS is a limited liability corporation with its principal place of business in Houston, Texas, and is a wholly-owned subsidiary of Enterprise Products Partners L.P., a Delaware limited partnership. HIOS owns an interstate pipeline system on the Outer Continental Shelf ("OCS") of the Gulf of Mexico, with

[1] Pursuant to 18 C.F.R. § 385.203(b)(3) and 18 C.F.R. § 385.2010(c), HIOS requests that all persons listed above be included on the Commission's official service list. HIOS respectfully requests waiver of Rule 203(b)(3), to allow more than two persons to be included on the service list.

pipeline facilities located in the High Island and West Cameron areas that provide firm and interruptible transportation services. Specifically, the HIOS interstate system originates at various points in the High Island Area of the Gulf of Mexico and terminates at West Cameron Block 167 located offshore Louisiana.

On June 4, 1976, the Federal Power Commission issued an order in Docket Nos. CP75-104, *et al.*[2] granting HIOS a certificate of public convenience and necessity to construct, own and operate a pipeline system to transport natural gas on a firm and interruptible basis from the High Island Area, Offshore Texas, to a point of interconnection at Block 167, located in the West Cameron Area, Offshore Louisiana ("WC 167") where the HIOS system delivers gas to Tennessee Gas Pipeline, Enbridge Offshore Pipelines (UTOS), and ANR Pipeline Company.

Currently, the HIOS certificated system consists of 202 miles of pipe, five manifold platforms (four are located upstream of HIA Block 264 and one is located at WC 167) and a compression and liquid handling complex consisting of three platforms located at HIA Block 264. The system resembles an inverted-Y with the southern-most part of the system, upstream of HIA Block 264, consisting of three smaller-diameter legs (the East Leg, Center Leg[3] and West Leg) that feed the 42-inch diameter mainline at HIA Block 264. These pipelines comprise various lengths and diameters as follows: (i) the East Leg consists of approximately 41 miles of 30-inch and 36-inch diameter pipe, (ii) the Center Leg consists of approximately 41 miles of 30-inch diameter pipe, (iii) the West Leg consists of approximately 54 miles of 30-inch diameter pipe, and (iv) the mainline consists of approximately 66 miles of 42-inch diameter pipe.

[2] High Island Offshore System (Successor in Interest to Texas Offshore Pipeline System, Inc., AMTEX Offshore Pipeline Company and Natural Gas Pipeline Company of America), 55 F.P.C. 2674 (1976). Original certificate applications were filed by Texas Offshore Pipeline System, Inc. ("TOPSI") on September 9, 1974 (Docket No. CP75-81) and Amtex Offshore Pipe Line Company ("AMTEX") on September 27, 1974 (Docket No. CP75-104). HIOS filed an amendment to the certificate applications on September 8, 1975 seeking to become the successor in interest of TOPSI and AMTEX.
[3] References to the "Center Leg" herein do not include the non-jurisdictional East Breaks facilities discussed *infra*.

On March 31, 2009, HIOS acquired the non-jurisdictional East Breaks Gathering System, which consists of an approximately 85-mile line originating in the deepwater of the Gulf of Mexico at Alaminos Canyon Area Block 25 and interconnecting with the Center Leg of the HIOS system at High Island Area Block A-573.

Natural gas and associated injected condensate is collected and delivered to the HIOS system through a series of lateral lines between the various production platforms and HIOS. On the HIOS pipeline "Legs," the lateral lines are connected to the Legs either by a subsea tap or at one of the four HIOS manifold platforms. These manifold platforms provide a point where multiple lateral lines may interconnect with the HIOS system on the platform, obviating the need for subsea taps. However, the primary purpose of these four manifold platforms is to provide access to the HIOS "Legs" and to perform internal pipeline maintenance operations including pigging operations. Facilities on the various manifold platform decks include pig launchers, pig receivers and valves to accommodate pigging or isolation of certain Legs for other maintenance or repair purposes.

At HIA Block 264, there is a three-platform complex (platforms A, B and C) for HIOS's compression and liquid handling facilities. The lone compressor station on the HIOS system is located at "B" platform, and it primarily facilitates the flow of natural gas from various wellhead or production platform interconnects into the HIOS system. HIOS's liquid handling and separation facilities are located at "A" platform and the crew quarters are located at "C" platform.

The three southern legs of the HIOS interstate system converge at the three-platform complex located in HIA Block 264. At that point, the natural gas and associated condensate is run through separators on the A platform, and compressed at the B platform before it is discharged back to the A platform and, along with the separated liquids, injected into the 42-inch diameter

HIOS mainline. From there, gas is transported on the HIOS mainline to the WC 167 manifold platform, where the HIOS system interconnects with three interstate pipelines for onshore delivery.

The subject of this Petition are the platform facilities located at HIA Block 264, the four manifold platforms located upstream of HIA Block 264, and the East Leg, Center Leg and West Leg located upstream of HIA Block 264. A map of the HIOS system, including the East Leg, Center Leg and West Leg, is attached as Exhibit A.

III.

Request for a FERC Determination that the HIOS Facilities Located At and Upstream of HIA Block 264 Function as Non-Jurisdictional Gathering

Facilities used for the gathering of natural gas and gathering services are exempt from Commission jurisdiction under Section 1(b) of the NGA, 15 U.S.C. § 717(b). Since the NGA does not define the term "gathering," the Commission has developed a legal test to determine which facilities are non-jurisdictional gathering facilities and which facilities are jurisdictional transmission facilities. To determine a facility's function, the Commission relies on the modified "primary function test,"[4] which considers the physical and geographical attributes of a system.

The physical and geographic criteria considered by the Commission include: (i) the length and diameter of the pipelines, (ii) the extension of the facilities beyond a central point in the field, (iii) the facility's geographical configuration, (iv) the location of compressors and processing plants, (v) the location of wells along all or part of the facilities, and (vi) the operating pressure of the pipelines. The Commission does not consider any one factor to be determinative and recognizes that all factors do not necessarily apply to all situations.[5]

In applying these physical factors in the offshore context, the Commission will take into account the realities of offshore production. On remand in *Sea Robin Pipeline Co.*, the

Commission reformulated the primary function test to provide that when an offshore system is configured to deliver gas collected from upstream wells on several, relatively-smaller diameter lines for aggregation for further delivery onshore through a single larger diameter pipeline, the centralized aggregation location "will be considered analogous to the central-point-in-the-field in the onshore context and will be given weight in identifying the demarcation point between gathering and transportation on OCS pipeline systems."[6] In addition, for offshore facilities, the Commission will allow for "the use of gathering pipelines of increasing lengths and diameters in correlation to the distance from shore and the water depth of the offshore production area."[7]

In addition to the physical and geographical factors, in determining the jurisdictional status of the facilities, the Commission also considers the purpose, location, and operation of the facilities, the general business activities of the owner of the facilities, and whether the jurisdictional determination is consistent with the NGA and the Natural Gas Policy Act of 1978.[8] However, primary weight is given to physical factors in determining the demarcation point between transmission and gathering facilities.[9]

A. <u>The HIOS Facilities Located At and Upstream of HIA Block 264 Satisfy the Physical and Geographical Criteria for a Gathering Function</u>

Based on an application of the physical and geographical standards as developed and applied previously by the Commission in proceedings where parties have sought to refunctionalize their facilities, HIOS respectfully submits that all facilities located at and upstream of HIA Block

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[4] *Amerada Hess Corp.*, 52 FERC ¶ 61,268 (1990); *Farmland Industries, Inc.*, 23 FERC ¶ 61,063 (1983).
[5] *Tennessee Gas Pipeline Co. and PSI Midstream Partners, LP*, 124 FERC ¶ 61,128 at P 10 (2008) ("*Tennessee*").
[6] *Sea Robin Pipeline Company*, order on remand, 87 FERC ¶ 61,384 at 62,425-26 (1999), *order denying reh'g*, 92 FERC ¶ 61,072 (2000), *order denying stay*, 92 FERC ¶ 61,217 (2000), *aff'd, sub nom. ExxonMobil Gas Marketing Company v. FERC*, 297 F.3d 1071 (D. C. Cir. 2002).
[7] *Amerada Hess Corp.*, 52 FERC ¶ 61,268, at 61,988 (1990).
[8] *Tennessee*, 124 FERC ¶ 61,128 at P 12.
[9] *See Sea Robin Pipeline Co.*, 127 F.3d 365, 370-71 (5th Cir. 1997); *see also Tennessee*, 124 FERC ¶ 61,128 at P 12; *Natural Gas Pipeline Company of America*, 100 FERC ¶ 61,286 at P 26 (2002).

264 – the platform facilities, the East Leg, the Center Leg and the West Leg – qualify as gathering facilities exempt from the Commission's jurisdiction.

1. The length and diameter of all the facilities upstream of HIA Block 264 are typical of gathering

First, the facilities located upstream of HIA Block 264 consist of three trunklines (the East Leg, Center Leg and West Leg) that feed into a central aggregation point at the three platform complex located in HIA Block 264, prior to flow into the HIOS mainline. These three trunklines have relative lengths and diameters of the following: (a) the East Leg consists of approximately 41 miles of 30-inch and 36-inch diameter pipe, (b) the Center Leg consists of approximately 41 miles of 30-inch diameter pipe, and (c) the West Leg consists of approximately 54 miles of 30-inch diameter pipe.

The Commission has previously stated that it "adhere[s] to no bright line test regarding size and operating pressure of offshore facilities. Facilities as large as typical transmission lines may nevertheless be found to be gathering when other primary function factors demonstrate characteristics consistent with gathering."[10] In this particular case, the lengths of the East Leg, Center Leg and West Leg lines reflect the fact that long lateral pipelines are necessary to connect offshore gas wells to the nearest available interstate pipeline for delivery to shore.[11] With respect to the diameters of the lines, the sizes of the facilities reflect the productivity of the wells and the large volumes of gas that were anticipated to be collected at the time the lines were authorized for construction and operation by HIOS as jurisdictional facilities back in 1976.[12] Thus, these

[10] *See Tennessee*, 124 FERC ¶ 61,128 at P 13 quoting *Trunkline Gas Co. and Trunkline Field Services, Inc.*, 95 FERC ¶ 61,337 (2001).
[11] *See Tennessee*, 124 FERC ¶ 61,128 at P 13 (finding that 30-mile length of line reflected the fact that long lateral pipelines are necessary to connect offshore gas wells to the nearest available interstate pipeline). *See also Superior Offshore Pipeline Co.*, 67 FERC ¶ 61,253 at 61,835 (1994) (finding 38-mile and 73-mile offshore lines to be gathering when length is solely a function of the location of the production in OCS waters in relation to the nearest interconnection to shore); *EP Operating Co.*, 876 F.2d 46, 49 (5th Cir. 1989) (finding 51-mile line to be gathering)..
[12] *See id.*(finding that 30-inch diameter of line reflected the volumes of gas to be collected based on estimated reserves at the time of construction and projected initial year daily production). In the case of the three southern legs of the

diameters and lengths of the HIOS facilities upstream of the 42-inch mainline at HIA Block 264 are consistent with a system performing an offshore gathering function.

2. The application of the central aggregation point criterion supports a finding of gathering

For offshore pipeline systems, the Commission will determine if there exists a central location where gas is aggregated and prepared for further transportation to shore to demarcate gathering facilities and transmission facilities.[13] In the case of the HIOS system, the central point for aggregation is at HIA Block 264 where the 36-inch diameter East Leg, 30-inch diameter Center Leg and 30-inch diameter West Leg feed into a 42-inch diameter mainline at the flanged connection between the compressor discharge line and the inlet to the 42-inch diameter mainline on the A platform. These three legs collect gas from 45 production platforms for aggregation at HIA Block 264 for transportation to shore on a single, longer and larger-diameter pipeline. This configuration, of an inverted-Y system with a central aggregation point, is very similar to the Sea Robin system found by the Commission to be gathering.[14] As in *Sea Robin*, the HIOS system has a “marked change in the physical attributes and geographic configuration” at the central aggregation point.[15] On the HIOS system, there are three pipelines of 30-inch and 36-inch diameters feeding into a single, 42-inch diameter mainline downstream of HIA Block 264. Since the East Leg, the Center Leg, and the West Leg are upstream of the area in which gas is aggregated for further transportation on a 42-inch mainline, these facilities are typical of non-jurisdictional gathering.[16]

HIOS system, while sized to collect anticipated large volumes from supply sources in the HIA, unfortunately, as demonstrated in HIOS’s concurrently filed rate change application, production from the supply sources connected to the three legs has declined precipitously.

[13] *Sea Robin Pipeline Co.*, order on remand, 87 FERC ¶ 61,384 at 62,428 (1999).

[14] *Id.*

[15] *Id*. at 62,430.

[16] *See Transcontinental Gas Pipe Line Corporation and Williams Gas Processing-Gulf Coast Company, L.P.*, 121 FERC ¶ 61,157 at P 16 (2007) (applying *Sea Robin* analysis).

As to the platforms at HIA Block 264 where the three legs converge, the platform facilities, including the separation facilities, crew quarters and compressor facilities, are all primarily involved with bringing gas to the platforms rather than sending gas toward shore, and therefore perform a gathering function. In determining the jurisdictional status of OCS platform facilities, the Commission has explained:

> An OCS platform may be constructed to serve many functions, such as an aggregation point for numerous lines, and/or to provide separation, dehydration, and other production and transmission services. Basically, facilities on the platform involved with bringing gas to the platform are gathering and facilities involved in sending gas toward shore are transmission. Facilities that separate or dehydrate are also performing production and gathering functions. Although unusual in offshore situations, compression facilities would most likely be involved in transmission. New interconnections to the platform should be functionalized accordingly.[17]

Because they bring gas to the platform, HIOS's separator and compressor facilities are on the gathering end of the demarcation point between gathering and transmission at HIA Block 264. The Commission has previously indicated that separator facilities perform a gathering function.[18] As to the compressors at HIA Block 264, they are not compressing gas for transportation to shore, but are instead facilitating the receipt of gas into the HIOS system, which is consistent with a gathering function.

The presence of the pipeline compression facilities at HIA Block 264 mitigates the need for incremental producer-owned compression facilities on the multiple production platforms connected to the HIOS system. The location of this centrally located compression facility reduces the overall cost of compression for the system since, in its absence, additional compression facilities would need to be installed on some offshore production platforms to maintain production levels and delivery of gas into the HIOS system. This is illustrated by an understanding of the impact of a compressor shutdown on the HIOS system. The distance from HIA Block 264 to the terminus of the HIOS system at WC 167 is approximately 66 miles. If the compressors at HIA Block 264 were shutdown, any gas at the central aggregation point would free flow the 66 miles of the 42-inch mainline to WC 167. However, the converse is not true. If the compressors were shut down, all of the gas being collected at the production platforms upstream of HIA Block 264 could not free flow from the production platforms through the various legs of the system to the central aggregation point at HIA Block 264. In sum, the compression at HIA Block 264 is required to make the gas flow from the production platforms. It is therefore primarily performing a gathering function.

While the Commission in *Sea Robin* found that Sea Robin's gathering facilities ended at the compressors,[19] on that system, the "level of compression was typical of that found on large diameter transportation lines transporting high volumes of gas over relatively long distances, and was not field compression needed to deliver gas from production platforms into Sea Robin's system."[20] In contrast, in HIOS's case, the compression is needed to deliver gas from production platforms into the HIOS gathering facilities. Because the platform facilities at HIA Block 264 are all involved with bringing gas to the platform, rather than sending gas to shore, they are consistent with gathering facilities.

3. <u>The geographical configuration of the HIOS facilities supports a finding of gathering</u>.

The HIOS system resembles an inverted-Y consisting of a larger diameter mainline downstream of HIA Block 264 and three smaller-diameter legs upstream of HIA Block 264. The legs upstream from the central aggregation point intersect with supply laterals throughout their

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[17] *Transcontinental Gas Pipe Line Corporation and Williams Gas Processing-Gulf Coast Company, L.P.*, 97 FERC ¶ 61,296 at 62,389 (2001).
[18] *Id.*
[19] *Sea Robin Pipeline Co.*, order on remand, 87 FERC ¶ 61,384 (1999).
[20] *See Transcontinental Gas Pipe Line Corporation*, 121 FERC ¶ 61,157 at P 16 (describing compression on Sea Robin).

length. Again, as demonstrated in the attached map of the Sea Robin gathering system included as Exhibit B, the configuration of the HIOS system closely resembles the configuration of the Sea Robin system found to be gathering by the Commission under its central aggregation point analysis. In the orders on remand in *Sea Robin*, the Commission applied a reformulation of the primary function test in determining that gathering on Sea Robin's inverted-Y system ends where the upstream legs of the Sea Robin's inverted-Y system meet. The Commission found that this particular physical design feature served as a centralized aggregation point demarcating the dividing line between gathering and jurisdictional transmission downstream.[21] Since the HIOS system has a similar inverted-Y configuration, its geographical configuration supports a finding that the facilities upstream of the aggregation point are performing a gathering function.[22]

4. <u>The location of compressors and processing plants support a finding of gathering.</u>

While there are no processing plants located on or connected to the East, Center and West Legs, the Commission has found that, in the offshore context, the lack of processing plants is "of little value in assessing the primary function of facilities," since it is impractical to locate processing plants offshore.[23] Indeed, HIOS operates as a rich or unprocessed gas system. Although there is a single compressor station at HIA Block 264, its main function, as discussed above, is to lower the line pressure to allow more gas to be gathered into the system, and therefore, is involved in a gathering function.

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[21] *Natural Gas Pipeline Company of America*, 100 FERC ¶ 61,286 at n.11 (2002) (describing Commission's determination in *Sea Robin*).
[22] *Sea Robin Pipeline Company*, order on remand, 87 FERC ¶ 61,384 (1999).
[23] *Tennessee*, 124 FERC ¶ 61,128 at P 15. *See also Northern Natural Gas Co. and El Paso Offshore Gathering and Transmission Co.*, 93 FERC ¶ 61,101 at 61,275 (2000).

5. The location of the wells along the length of the three legs supports a finding of gathering.

The Commission has found that pipelines with well connections along their length are typical of a gathering line.[24] In the case of the HIOS system, there are wells connected to production platforms located along the lengths of the East Leg, Center Leg, and West Leg. While these production platforms are not directly connected to the HIOS legs, but are instead tied to lateral lines that are connected to the HIOS legs, the Commission has found that this is attributable to the nature of offshore drilling and does not disqualify the lines from a finding of gathering.[25] The three legs of the HIOS system at and upstream of HIA Block 264 create a gathering-type network that aggregates gas supplies from numerous wells for delivery to the central aggregation point at HIA Block 264. In total, the three gathering legs are connected to 45 active producing platforms,[26] through the lateral line system and each of the 45 producing platforms is tied to one or more wells. Conversely, only 3 active producing platforms are located along the larger diameter, 42-inch HIOS mainline, located downstream of the central aggregation point located at HIA Block 264. As a result, 45 out of 48 active producing platforms along the HIOS system, or almost 94%, are connected to the HIOS system upstream of HIA Block 264.[27] Therefore, by having the functional equivalent in the offshore context of well connections along their lengths, the facilities at and upstream of HIA Block 264 exhibit characteristics of a gathering function.

6. The operating pressure of the facilities is consistent with gathering.

Generally, the East Leg, Center Leg and West Leg operate at pressures ranging from 850 psig to 980 psig, which is consistent with offshore facilities found to be gathering. For example, in

[24] *Straight Creek Gathering, L.P.*, 117 FERC ¶ 61,005 at P 17 (2006) (finding that the location of wells along the Straight Creek system was indicative of a gathering function).
[25] *Tennessee*, 124 FERC ¶ 61,128 at P 14.
[26] The East Leg is connected to 11 active producing platforms, the Center Leg is connected to 10 active producing platforms, and the West Leg is connected to 24 active producing platforms.
[27] A map showing these production sources is attached as Exhibit C.

Southern Natural Gas Co., the Commission found pressures of 885 to 950 psig to be consistent with the "operation of gathering pipelines in the offshore domain," where compression on platforms assisted aging offshore fields in meeting the pressure needed to deliver into the system. 120 FERC ¶ 62,165 (2007). Moreover, the Commission has found offshore pipelines with higher operating pressures than those on three HIOS legs to be gathering.[28] Therefore, the operating pressure on the HIOS facilities at and upstream of HIA Block 264 is consistent with a gathering function.

B. <u>Other Non-Physical Factors.</u>

As discussed above, in making a jurisdictional determination, the Commission will also look to other, non-physical factors, but will consider them secondary in determining the demarcation point between transmission and gathering facilities.

1. <u>Purpose, Location and Operation of the Facilities</u>

The Commission has said that in determining whether the NGA section 1(b) gathering exemption applies, "'the Commission must make a factual determination whether a [facility's] primary function consists of the interstate transportation of gas or some other activity.' If the purpose of the facility can be categorized as being primarily the collection of gas, its principal or primary function is gathering. If, on the other hand, the principal or primary function of the facility is to move gas away from the location where the collection process is completed, its primary function is transportation."[29] In the case of the HIOS system, the East Leg, Center Leg and West Leg collect gas from 45 production platforms located at various points along their

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[28] *See, e.g., Tennessee, LP*, 124 FERC ¶ 61,128 at P 15 (2008)(finding offshore line with operating pressure range of 800 to 1,200 psig to be consistent with the higher operating pressure of offshore gathering facilities); *Trunkline Gas Co. and Trunkline Field Services, Inc.*, 95 FERC ¶ 61,337 at 62,238 (2001) (offshore line with maximum operating pressure of 1,154 psig found to be gathering); *Northern Natural Gas Company*, 93 FERC ¶ 61,101 at 61,275 (2000) (offshore facilities operating at pressures between 1,050 and 1,200 psig found to be gathering).

lengths. This collection of gas continues at the platforms at HIA Block 264 until the gas is delivered to a single, central point where it is injected into the HIOS mainline. The application of this fundamental concept regarding the purpose of the facilities leads to the conclusion that the facilities at and upstream of HIA Block 264 are involved in the collection of gas and therefore, are exempt gathering facilities. Moreover, the location of the subject facilities in offshore production areas confirms their underlying function of gathering gas.

Additionally, the Commission has allowed a number of interstate pipelines to refunctionalize facilities from transmission to gathering based on the premise that the historical function of a pipeline's facilities is not the most relevant factor when applying the primary function test.[30] The Commission has found that its OCS Policy Statement, which provides that "[e]xisting interstate pipelines and gathering facilities would retain their [jurisdictional] status barring some change in circumstances,"[31] actually "anticipates that facilities may be reclassified in response to changing circumstances."[32] In fact, the Commission has encouraged pipelines to file for refunctionalization if the nature of the asset has changed, noting that "pipelines *should* seek to refunctionalize facilities if they determine that the function of a facility has changed or that it was incorrectly functionalized."[33]

Such changed circumstances are present here. First, the Commission has found that its reformulation of the primary function test on remand in *Sea Robin* is a legitimate reason to revisit the jurisdictional status of offshore facilities.[34] In this case, as explained above, according to the central aggregation point analysis articulated in *Sea Robin*, the existence of the central aggregation

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[29] *Sea Robin Pipeline Co.*, order on remand, 87 FERC ¶ 61,384 at 62,432 (1999).
[30] *See Transcontinental Gas Pipe Line Corporation and Williams Gas Processing-Gulf Coast Company, L.P.*, 121 FERC ¶ 61,157 at P 18. *See also Tennessee Gas Pipeline Co.,* 81 FERC ¶ 61,352 at 62,647 (1997).
[31] *Gas Pipeline Facilities and Services on the Outer Continental Shelf – Issues Related to the Commission's Jurisdiction Under the Natural Gas Act and the Outer Continental Shelf Lands Act*, 74 FERC ¶ 61,222 at 61,757 (1996), *order dismissing reh'g*, 75 FERC ¶ 61,291 (1996).
[32] *Trunkline Gas Co. and Trunkline Field Services, Inc.*, 95 FERC ¶ 61,337 at n.74 (2001).

point at HIA Block 264 with a “marked change in physical attributes and geographic configuration,”[35] renders the facilities at and upstream of HIA Block 264 gathering facilities. Indeed, the HIOS system is configured very similarly to the Sea Robin system found to perform a gathering function.

Second, the conditions under which HIOS constructed the East Leg, Center Leg and West Leg as certificated facilities no longer exist. The HIOS system was originally constructed as a transmission system that was intended to bring gas, purchased as part of the merchant supply of various interstate pipelines, from existing wells located on the HIOS system for delivery to the WC 167 interconnect. With the unbundling of the merchant function pursuant to Order No. 636, HIOS became solely a transporter of gas for third parties and was therefore dependent on the discovery of future gas supplies from producers. However, with the exception of gas located in the Alaminos Canyon area of the Gulf of Mexico and connected to HIOS through the East Breaks Gathering System, no significant additional gas sources have been connected to the HIOS system since 2001, and as this particular area of the Gulf has seen little development activity, no additional significant sources of gas appear likely. As a result, the function of the HIOS system has changed such that the central aggregation point lies on the HIOS system at HIA Block 264 as opposed to some point upstream of HIOS, rendering all facilities located at and upstream of HIA Block 264 as gathering facilities.

2. General Business Activities of the Owner of the Facility

As explained above, HIOS has recently acquired the East Breaks Gathering System from Enterprise Field Services. The East Breaks Gathering System currently gathers gas from Alaminos Canyon Block No. 25 and delivers it to HIOS at the Center Leg at High Island Area Block 573.

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[33] *Equitrans, L.P.*, 111 FERC ¶ 61,091 at P 34 (2005).
[34] *Trunkline Gas Co.*, 95 FERC ¶ 61,337 at n.74.
[35] *Sea Robin*, order on remand, 87 FERC ¶ 61,384 at 62,430 (1999).

Since HIOS already operates gathering facilities, a determination that the facilities at and upstream of HIA Block 264 are non-jurisdictional gathering facilities would be consistent with HIOS's existing business activities. HIOS would operate the facilities that are proposed to be refunctionalized herein in conjunction with the newly acquired East Breaks gathering facilities as part of an integrated gathering system connected to the larger HIOS transportation network.[36]

3. Whether the Jurisdictional Determination is Consistent with the NGA

Finally, a jurisdictional determination that the facilities at and upstream of HIA Block 264 are gathering facilities would be consistent with the NGA. When establishing whether a jurisdictional determination is consistent with the NGA, the Commission considers improving infrastructure, enhancing competition, and providing additional supplies of gas.[37]

Contemporaneous with this Petition, HIOS is filing an NGA Section 4(e) proceeding to establish revised long haul and short haul rates based on the functionalization of its facilities between transmission and gathering. In that filing, HIOS proposes to establish a long haul rate for all transportation services provided from receipt points located upstream of and including HIA Block 264, and a short haul rate for all services provided from receipt points located downstream of HIA Block 264. As further explained in that filing, this rate structure is consistent with the dual zone rates that are currently in effect on HIOS as a 100% transmission system.[38] Thereafter, applicable charges for shippers will be governed by their service agreements with HIOS.

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[36] Since HIOS intends to operate the subject facilities at part of its integrated system, it is not seeking any abandonment authority pursuant to Section 7(b) of the NGA. However, HIOS notes that once facilities are determined to be non-jurisdictional gathering facilities under NGA § 1(b), the Commission "has no authority to exercise jurisdiction over that facility by denying the certificate of abandonment for that facility." *Williams Gas Processing-Gulf Coast Co. v. FERC*, 331 F.3d 1011, 1022 (D.C. Cir. 2003). *See also ExxonMobil Gas Marketing Co. v. FERC*, 297 F.3d 1071, 1088 (D.C. Cir. 2002).

[37] *See, e.g., SWEPI LP and Encana Oil & Gas (USA) Inc.*, 126 FERC ¶ 61,098 at P 33 (2009).

[38] In accordance with Rate Schedules FT-1 and FT-2 of HIOS's currently effective FERC Gas Tariff, shippers with receipt points upstream of HIA Block 264 pay a higher long-haul rate and shippers with receipt points downstream of HIA Block 264 pay a lower short-haul rate.

HIOS anticipates that its proposed new operating structure will serve to increase shipper choice. Primarily, HIOS intends to increase shipper flexibility and provide seamless transportation services. For example, HIOS can currently provide downstream access to transportation services on Stingray Gas Pipeline, LLC ("Stingray"). However, any shipper seeking access to Stingray must currently be willing to pay the maximum long haul transportation rate for the entire HIOS system, which includes delivery at the downstream terminus of HIOS near the shore at WC 167. Under the proposal reflected in this Petition and its concurrently filed rate proceeding, HIOS will provide a credit to the invoices of those shippers using gathering facilities only, equal to the short haul rate on HIOS, *i.e.*, the rate for services on transmission functionalized facilities. In other words, as the Stingray point of interconnection is located on the proposed gathering facilities, new shippers desiring receipts at gathering points and deliveries at Stingray would only be required to pay the rate applicable to the use of gathering facilities.

IV.
Conclusion

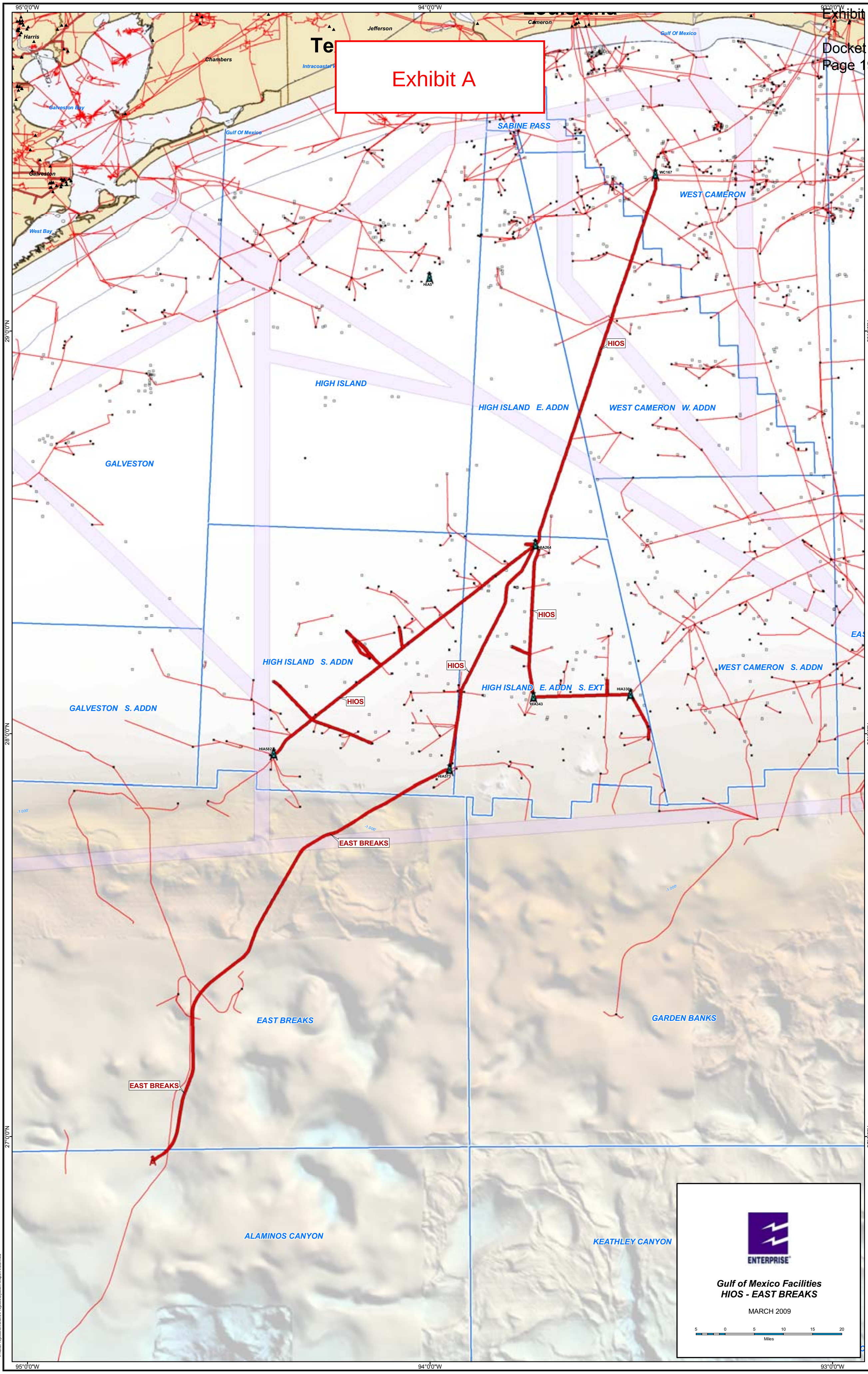
WHEREFORE, HIOS respectfully requests that the Commission issue a declaratory order finding that all of the HIOS facilities at and upstream of HIA Block 264 are non-jurisdictional gathering facilities. HIOS requests that the Commission make this determination as quickly as possible, but in any event on or before September 30, 2009, to coincide with the end of the suspension period in HIOS's concurrent rate case.

Respectfully submitted,

/s/ Richard W. Porter
Richard W. Porter
Director, Rates and Regulatory Affairs
High Island Offshore System, L.L.C.

Dated: March 31, 2009

Exhibit A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Harris
Chambers
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Gulf Of Mexico
Intracoastal
Galveston Bay
Galveston
West Bay
SABINE PASS
WEST CAMERON
HIGH ISLAND
HIGH ISLAND E. ADDN
WEST CAMERON W. ADDN
GALVESTON
HIOS
HIGH ISLAND S. ADDN
HIGH ISLAND E. ADDN S. EXT
WEST CAMERON S. ADDN
GALVESTON S. ADDN
EAST BREAKS
GARDEN BANKS
ALAMINOS CANYON
KEATHLEY CANYON
ENTERPRISE
Gulf of Mexico Facilities
HIOS - EAST BREAKS
MARCH 2009
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Miles

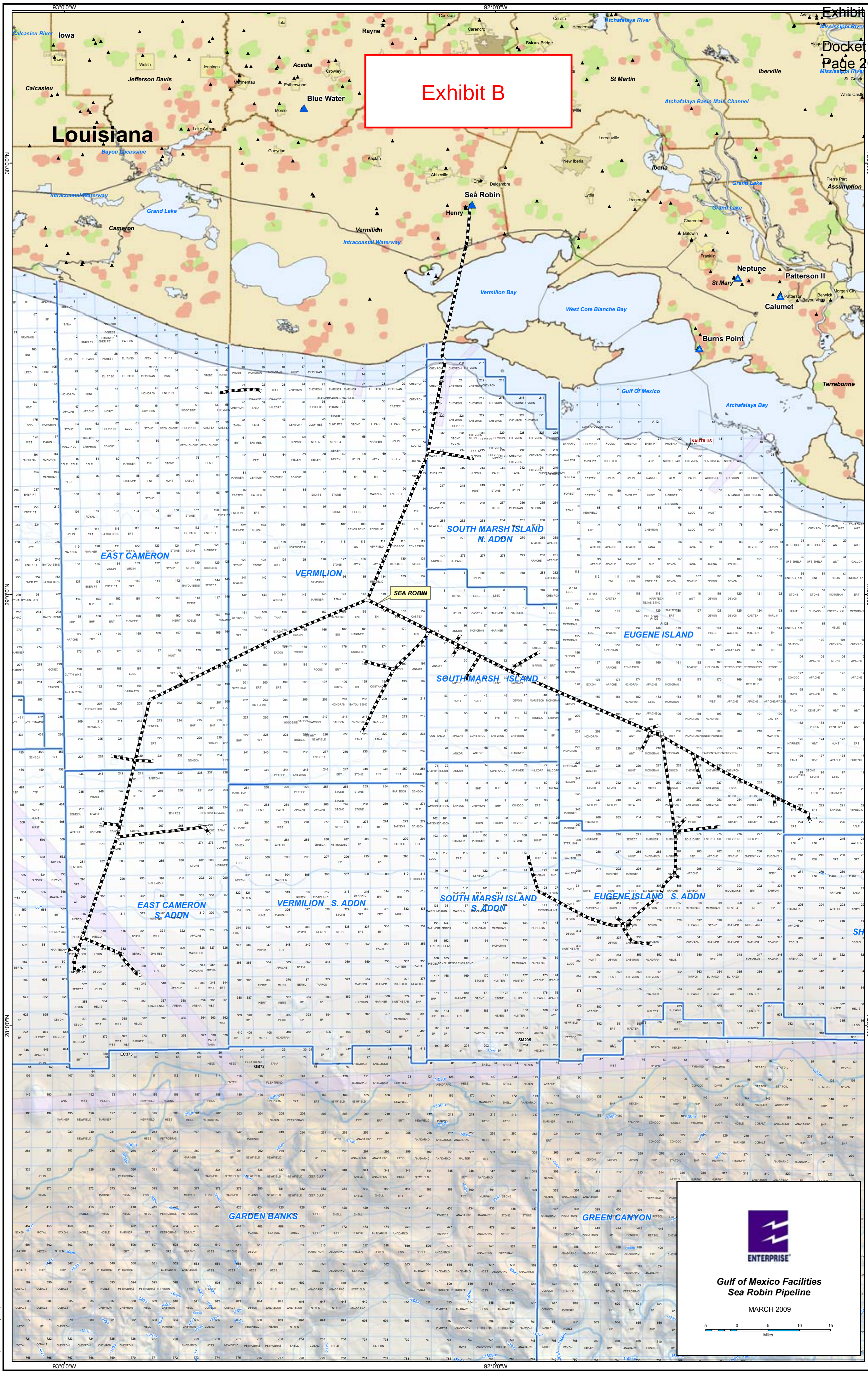
Exhibit B
Louisiana
Sea Robin
Henry
Blue Water
Neptune
Patterson II
Calumet
Burns Point
Vermilion Bay
West Cote Blanche Bay
Atchafalaya Bay
Gulf Of Mexico
Grand Lake
Intracoastal Waterway
Calcasieu
Cameron
Vermilion
Jefferson Davis
Acadia
Iberia
St Martin
Iberville
Assumption
Terrebonne
NAUTILUS
SEA ROBIN
EAST CAMERON
VERMILION
SOUTH MARSH ISLAND
N. ADDN
EUGENE ISLAND
EAST CAMERON S. ADDN
VERMILION S. ADDN
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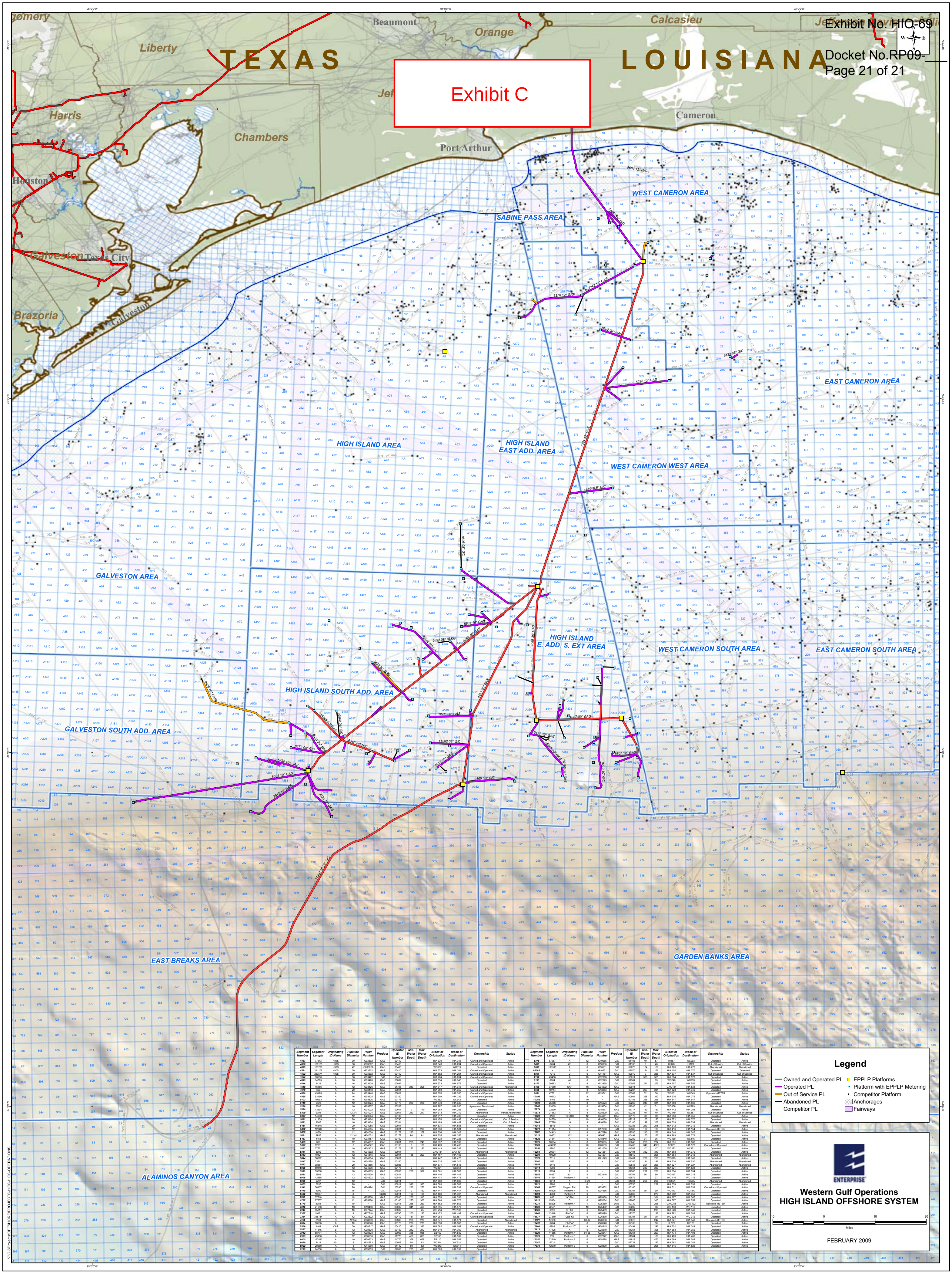
ENTERPRISE
Gulf of Mexico Facilities
Sea Robin Pipeline
MARCH 2009
Miles

Exhibit C


TEXAS
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Beaumont
Orange
Calcasieu
Liberty
Harris
Chambers
Houston
Galveston
Texas City
Brazoria
Port Arthur
Cameron
WEST CAMERON AREA
SABINE PASS AREA
EAST CAMERON AREA
HIGH ISLAND AREA
HIGH ISLAND EAST ADD. AREA
WEST CAMERON WEST AREA
GALVESTON AREA
HIGH ISLAND E. ADD. S. EXT AREA
WEST CAMERON SOUTH AREA
EAST CAMERON SOUTH AREA
HIGH ISLAND SOUTH ADD. AREA
GALVESTON SOUTH ADD. AREA
EAST BREAKS AREA
GARDEN BANKS AREA
ALAMINOS CANYON AREA
Legend
Owned and Operated PL
Operated PL
Out of Service PL
Abandoned PL
Competitor PL
EPPLP Platforms
Platform with EPPLP Metering
Competitor Platform
Anchorages
Fairways
ENTERPRISE
Western Gulf Operations
HIGH ISLAND OFFSHORE SYSTEM
Miles
FEBRUARY 2009

Exhibit No. HIO-70
Docket No. RP09-___

High Island Offshore System, L.L.C.
Proposed Tariff Sheets

Third Revised Sheet No. 9
Eighth Revised Sheet No. 10
Fourth Revised Sheet No. 15
Fifth Revised Sheet No. 16
Second Revised Sheet No. 20
Fifth Revised Sheet No. 28
Third Revised Sheet No. 29
Fifth Revised Sheet No. 31
First Revised Sheet No. 38
Third Revised Sheet No. 54
Fourth Revised Sheet No. 55
First Revised Sheet No. 58
Third Revised Sheet No. 67
Sixth Revised Sheet No. 69
Fourth Revised Sheet No. 89
Fifth Revised Sheet No. 124
Third Revised Sheet No. 144
Second Revised Sheet No. 149
Fourth Revised Sheet No. 150
Fifth Revised Sheet No. 151
Second Revised Sheet No. 152
Second Revised Sheet No. 153
Second Revised Sheet No. 154
Second Revised Sheet No. 155
Second Revised Sheet No. 156
Fifth Revised Sheet No. 178
Second Revised Sheet No. 185
First Revised Sheet No. 189
First Revised Sheet No. 190
First Revised Sheet No. 193
Fourth Revised Sheet No. 196
First Revised Sheet No. 197
Second Revised Sheet No. 198
Second Revised Sheet No. 199
Second Revised Sheet No. 200

Exhibit No. HIO-71

UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

High Island Offshore System, L.L.C.) Docket No. RP09-

Prepared Direct Testimony
Of
Deborah E. Kwan

Q. Please state your name and address.

A. My name is Deborah Kwan. My business address is 1100 Louisiana Street, Houston, Texas, 77002.

Q. By whom are you employed and what are your responsibilities?

A. I am employed by Enterprise Products Partners L.P. ("Enterprise"), which owns High Island Offshore System, L.L.C. ("HIOS"), as a Lead Analyst in the Rates and Regulatory Affairs Department. My responsibilities consist of filing various annual and semi-annual Federal Energy Regulatory Commission ("Commission") reports and submitting certificate application related information to the Commission.

Q. Please describe your educational background and work experience.

A. I graduated from the University of Houston in 1990 with a Bachelor of Business Administration in Accounting. From 1991 to 1997, I was employed by Centerpoint Energy and worked in the General Ledger Department, Gas Accounting Department and the Rate Department. In October 1997, I began working for The Williams Companies, Inc. as a Rate Analyst III in the Regulatory Affairs group within Transcontinental Gas Pipeline's Rate Department. From 2001 to 2003, I worked for El Paso Corporation as a Senior Rate Analyst within the Rate Department for Tennessee Gas Pipeline; however in

July 2003, I was transferred to the Rate Department in El Paso Field Services to work on the assets of GulfTerra Energy Partners, L.P. ("GulfTerra"). Due to the merger of Enterprise and Gulfterra, I accepted a position within Enterprise in October 2004.

Q. Have you previously filed testimony in any proceedings before the Commission?

A. Yes.

Q. What is the purpose and scope of your testimony in this proceeding?

A. The purpose of my testimony is to present HIOS' rate base, gas plant, depreciation of plant, and rate of return.

Q. What exhibits are you sponsoring?

A. I am sponsoring the following exhibits, which were included in HIOS' filing:

Hearing Exhibit No.	**Schedule Reference**	**Description**
HIO-2	Statement B	Rate Base & Return Summary
HIO-3	Schedule B-1	Accumulated Deferred Income Taxes
HIO-4	Schedule B-2	Regulatory Asset and Liability
HIO-5	Statement C	Cost of Plant Summary
HIO-6	Schedule C-1	End of Base and Test Period Plant Functionalized
HIO-7	Schedule C-1.1	Cost of Plant - Adjustments
HIO-8	Schedule C-2	Accts. 106 & 107-Major Plant Additions & Retirements Accts.
HIO-9	Schedule C-2.1	Uncompleted Work Orders
HIO-10	Schedule C-3	Storage
HIO-45	Schedule C-4	Methods in Capitalizing Allowance for Funds Used During Construction
HIO-46	Schedule C-5	Cost of Gas Plant in Service Not Used In Rendering Gas Service
HIO-11	Statement D	Accumulated Provision for Depreciation, Depletion, and Amortization
HIO-47	Schedule D-1	Depreciation Reserve Applicable to Portion of Depreciation Rates Not Yet Approved

HIO-48	Schedule D-2	Methods In Depreciating, Depleting and Amortizing Plant & Abandonments
HIO-12	Statement E	Working Capital
HIO-13	Schedule E-1	Cash Working Capital
HIO-14	Schedule E-2	Monthly Balances for Materials, Supplies, and Prepayments
HIO-15	Schedule E-3	Quantities & Cost of Gas Storage
HIO-16	Statement F-1	Rate of Return Claimed
HIO-17	Statement F-2	Capitalization, Capital Structure, & Return on Equity
HIO-18	Statement F-3	Debt Capital
HIO-19	Statement F-4	Preferred Stock Capital
HIO-28	Statement H-2	Depreciation, Depletion, Amortization and Negative Salvage Expenses
HIO-29	Schedule H-2.1	Transmission Plant Depreciation Rate
HIO-30	Schedule H-2(1)	Reconciliation of Depreciable Plant

Q. What is shown on Statement B (Exhibit No. HIO-2)?

A. Statement B (Exhibit No. HIO-2) reflects information taken from the books of the company, as adjusted for known and measurable changes projected to occur in the test period, and details the major components of HIOS' rate base and return on rate base in this proceeding. HIOS' rate base includes a total Net Utility Plant of $63,218,748, as shown on line 6 of Statement B, and it is derived by deducting the accumulated reserve for depreciation, supplemental depreciation and negative salvage, as shown on Statement D (Exhibit No. HIO-11), from the total gross plant of $484,457,468, which is shown on line 1 of Statement B and identified on Statement C (Exhibit No. HIO-5). The total net plant in service includes the net book value of the recently acquired East Breaks facilities. As shown on line 2 of Statement B, HIOS' current total accumulated reserve for depreciation balance as recorded on its books is $339,415,808. HIOS also has on its books $65,358,548 of total supplemental depreciation which is reflected on line 3 of

Statement B (Exhibit No. HIO-2). The total negative salvage portion of the accumulated reserve for depreciation is $16,464,364, as is reflected on line 4 of Statement B.

In addition to reducing total plant by the accumulated reserve for depreciation, supplemental depreciation and negative salvage related to gas utility plant, I have also added to net plant in service the amount of $179,021, as shown on HIOS' books for the reserve for deferred income taxes, as reflected on line 7 of Statement B. Schedule B-1, Pages 1 through 3 (Exhibit No. HIO-3) provides support for the determination of this amount. Schedule B-1, Page 3 of 3, itemizes HIOS' deferred tax activity and balances reflected in FERC Account Nos. 190, 282 and 283 for the twelve months ended December 31, 2008. Schedule B-1, Page 2 of 3, reflects a reconciliation of book and tax net plant balances. It also provides a calculation of deferred income taxes using current income tax rates and a comparison to HIOS' per book deferred tax balances. Schedule B-1, Page 1 of 3, reflects the balances in HIOS' deferred tax accounts as of the end of the base period, December 31, 2008. It also shows monthly adjustments to reflect additional projected accumulations of deferred taxes through September 30, 2009. In addition, this schedule reflects the adjustments that HIOS has made to add deferred taxes reflected in FERC Accounts Nos. 190 and 282. I have therefore increased rate base by $179,021 of deferred income taxes related to the differences between book and tax depreciation as reflected in FERC Account Nos. 190 and 282.

Line 8 shows total working capital of $12,863,238, the details of which are supported in Schedule E-2 (Exhibit No. HIO-14), which is added to rate base. Line 9 shows a total regulatory asset of $6,417,561, which I have also added to rate base. Schedule B-2 (Exhibit No. HIO-4) shows the 12 monthly base period book balances for this regulatory asset, which was set up for the recovery of the cost of the repairs to the HIOS system due to hurricane damages from storms like Katrina, Rita, and Ike. In the test period, HIOS plans to expense one third of these costs. As a result, the test period balance of $6,417,561 was calculated by taking the $9,626,342 ending base period balance at December 31, 2008, and subtracting $3,208,781 ($9,626,342*1/3).

Applying the 12.50% overall rate of return as shown on Statement F-2 to the total net rate base of $82,678,568, as shown on line 10, results in a return of $10,334,821.

Q. Please describe Statement C (Exhibit No. HIO-5) and the related schedules.

A. Statement C and the related schedules depict HIOS' cost of plant for the base period and test period, as shown on HIOS' plant accounts. As shown on line 3, column 6 of Statement C, the cost of plant at the end of the base period was $397,264,904. The test period adjustments to plant reflect a net increase of $87,192,564, resulting in a total cost of plant of $484,457,468 at the end of the test period. The detailed support for base period and test period plant, by FERC Account, is set forth on Schedule C-1 (Exhibit No. HIO-6). Schedule C-1, column 5, also shows the amounts of plant that is being refunctionalized from transmission plant to gathering plant, as shown on HIOS' books. In addition, in preparing this schedule, I determined that $753,058, of which $420,774 comprises Communication Equipment and $332,284 comprises Other Equipment, should not have been classified to Account Nos. 370 and 371, but rather should have been classified as transmission plant. Consistent with the treatment of other transmission plant that is being refunctionalized, I have functionalized this plant as gathering plant.

Schedule C-1.1 (Exhibit No. HIO-7) summarizes the test period plant adjustments by function and by FERC Account. Schedule C-2 (Exhibit No. HIO-8) itemizes the major additions and retirements to plant that are expected to occur by the end of the test period, and shows the dollar amounts for each major item. HIOS does not project any major retirements to plant during the test period. Schedule C-2.1 (Exhibit No. HIO-9) provides data relating to the uncompleted work orders reflected in FERC Account No. 107, Construction Work in Progress.

Q. Please explain further these test period plant adjustments in Schedule C-1.1 (Exhibit No. HIO-7).

A. Adjustment No. 1 consists of a positive adjustment of $88,185,702 to reflect the cost of the East Breaks gathering facilities that were acquired by HIOS during the test period. A detailed description of the gathering facilities is provided on Schedule C-2, page 1 of 2.

Adjustment No. 2 reflects an adjustment to the Construction Work in Progress ("CWIP") balance in FERC Account No. 107, to eliminate the $634,338 of CWIP at the end of the base period associated with transmission facilities that will be placed in service during the test period and refunctionalized as gathering plant. A detailed description of projects reflected in the CWIP account is provided on Schedule C-2.1 (Exhibit No. HIO-9).

Adjustment No. 3 reflects a negative adjustment to CWIP to eliminate the balance of uncompleted work orders in Account No. 107, in the amount of ($993,138).

Adjustment No. 4 reflects the refunctionalization of plant from transmission plant to gathering plant on HIOS' books.

Q. Please explain Statement D (Exhibit No. HIO-11).

A. Statement D provides the details for the $421,238,720 of accumulated provisions for depreciation, depletion, amortization and negative salvage reflected in HIOS' rate base.

Page 1 of Statement D presents a summary of the actual entries and balances in FERC Account Nos. 108 and 111 from January 1, 2008 through December 31, 2008, and entries and balances anticipated to be made through the end of the test period on September 30, 2009. Statement D, Page 2 of 2, provides support for the components of the test period adjustment that was made to the provisions for depreciation, depletion, and amortization for the additional expense expected to occur during the nine months of the test period.

Q. What depreciation rates did you use on Statement D, Page 2 of 2, to determine the adjustments for additional depreciation, depletion and amortization expense?

A. I have used the depreciation rates established in HIOS' last rate case in Docket No. RP06-540-000, other than for structures and improvement under general plant, which is a new category. As I discuss in more detail later in this testimony, and as reflected in Schedule H-2, HIOS proposes to change the existing depreciation rates for gathering, onshore and offshore plant to reflect HIOS' current estimate of the economic life of its assets.

Q. Please explain the adjustments reflected on Statement D to the provisions for depreciation, depletion, and amortization as of the end of the test period.

A. The adjustments identified on Statement D, Page 1 of 2, column 6 reflect an addition of $27,389,278 of depreciation for the gathering facilities plant in service as of the end of the test period, the transfer of $9,740,231 of transmission negative salvage to gathering negative salvage due to the refunctionalization, and a ($8,233,015) adjustment related to the supplemental depreciation as explained by HIOS Witness Porter. The transfer of balances to reflect the refunctionalization are shown on lines 1 and 4 in Column 7. In addition, Column 7 reflects adjustments to the accumulated provision for depreciation, depletion and amortization to recognize additional accumulated depreciation expense through the end of the test period. These adjustments in column 7, as also reflected on Statement D, Page 2 of 2, column 10, use HIOS' projected plant balances and currently effective depreciation rates to calculate the amount of additional accumulated depreciation anticipated to occur between January 1, 2009 and September 30, 2009. Column 9 on Statement D, Page 2 of 2 shows adjustments to the accumulated depreciation balances due to the refunctionalization of transmission plant to gathering plant. In addition, the accumulated depreciation of $314,682, comprising $236,859 for communication plant and $77,823 for other equipment, in column 9 on Statement D, Page 2 of 2, was reclassified to accumulated depreciation for gathering due to the misclassification of these assets which should have originally been transmission plant and are now appropriately functionalized as gathering plant.

Q. Will you please explain Statement E, Schedules E-1 and E-2 (Exhibit Nos. HIO-12, 13 and 14)?

A. Statement E reflects the components of working capital included in rate base as shown on Statement B. Schedule E-1 (Exhibit No. HIO-13) states that HIOS does not claim an allowance for cash working capital. Schedule E-2 (Exhibit No. HIO-14) shows HIOS' 13 monthly book balances for material and supplies for Accounts 154 and 163 from December 2007 to December 2008 to be zero, and HIOS will not have any test period adjustments, so HIOS is not claiming any working capital for material and supplies.

Schedule E-2, Pages 3 and 4, details HIOS' $12,863,238 of working capital allowance from prepayments in its rate base, as reflected on Statement B. The first prepayments, as reflected on HIOS' books, are the prepayments required under the Operating Agreement between HIOS and Enterprise GTM Offshore Operating Company, LLC (EGOOC), whereby HIOS prepays a monthly amount for non-routine operating services pursuant to a 36 month budget. As projects are completed by EGOOC, the costs are deducted from the 36 month budget prepayments and are either expensed or capitalized as appropriate. The resulting balance each month is the amount of prepayments not used and carried over to the next month. The second prepayment item is insurance premiums that are paid a year in advance and expensed each month. On page 3, HIOS' book monthly balances for the prepayments of the 36 month budget and insurance premiums are shown for December 2007 to December 2008. Line 15 shows the average 13 monthly balances to be $7,790,822, which is $7,790,822 for the 36 month budget and $0 for insurance. That amount is increased by the test period adjustment of $5,072,416, of which $2,445,655 is the 36 month budget and $2,626,761 is insurance, resulting in a total of $12,863,238. Page 4 of Schedule E-2 shows the calculation of the test period adjustment. The average 13 monthly balance at the end of the test period of $12,863,238 is reduced by the average 13 monthly balance at the end of the base period of $7,790,822, resulting in the adjustment of $5,072,416.

Q. Please explain Statement F-2 (Exhibit No. HIO-21).

A. Statement F-2 reflects HIOS' claimed rate of return based on a hypothetical capital structure of 40 percent debt and 60 percent equity, which HIOS Witness Porter instructed me to use. It reflects an 8% cost of debt, which is the hypothetical cost of debt as of the end of the test period as explained by HIOS Witness Porter. It also reflects a 15.50% return on equity which was provided to me by HIOS Witness Porter.

Q. Please explain Statement H-2 (Exhibit No. HIO-28) and Schedules H-2.1 and H-2(1) (Exhibit Nos. HIO-29 and HIO-30).

A. These schedules set forth the details related to depreciation, depletion and amortization expenses included in the cost of service. As I mentioned above, HIOS is proposing changes to its current 2.17 percent onshore transmission depreciation rate, .05 percent offshore transmission depreciation rate, and .65 percent negative salvage allowance. All other depreciation rates reflected on Schedule H-2 (Exhibit No. HIO-28) are depreciation rates established in HIOS' last rate proceeding except for structures and improvements. This is a new classification of plant under General Plant since the last rate case, and HIOS used a depreciation rate of 2.17% for this plant. HIOS' adjustments to base period depreciation expense reflect the annual effect of depreciation accruals using HIOS' current and proposed depreciation rates. As shown on Schedule H-2, column 6, HIOS' proposed new depreciation rates are 1.66 percent for gathering plant, onshore and offshore transmission plant, and .92 percent for the gathering negative salvage rate. The following depreciation rates are not changed: a 0 percent intangible plant depreciation rate, a 3.5 percent communications plant depreciation rate; a 6.59 percent depreciation rate for other equipment; a 6.67 percent depreciation rate for office furniture and equipment; and a 0 percent depreciation rate for transportation equipment, tools, shop and garage equipment and miscellaneous equipment.

Q. Why has HIOS proposed a change to its current onshore and offshore transmission and gathering depreciation rate?

A. Based on the testimony of HIOS Witness J. Scott Jenkins, Mr. Porter has instructed me to use a remaining economic depreciable life of ten (10) years in calculating depreciation. Using this estimate of remaining life and the balance of net gathering and transmission plant, HIOS has calculated a new gathering and transmission plant depreciation rate of 1.66 percent.

Q. Can you explain in more detail your new depreciation calculations?

A. Yes. As shown on Schedule H-2.1, Page 1 of 2 (Exhibit No. HIO-29), HIOS has a remaining balance in gathering and transmission plant at September 30, 2009 of $77,003,908 (See line 9). Using an estimated remaining economic life of ten (10) years, I have calculated that HIOS' annual gathering and transmission depreciation expense is $7,700,391 ($77,003,908/10), as stated on line 11. This amount is then translated into a new gathering and transmission depreciation rate of 1.66 percent by dividing the $7,700,391 by the total gathering and transmission gross plant amount of $463,772,879 reflected on Line 4. When the 1.66 percent gathering and transmission depreciation rate is applied to the plant balances on Statement H-2, Lines 2, 4 and 5, it yields a depreciation expense of $7,698,630.

Q. What is offshore negative salvage?

A. Offshore negative salvage is the cost to HIOS of removing retired offshore facilities after accounting for the salvage value of the facilities. As explained by HIOS' negative salvage Witness Robert C. Byrd, the salvage value of HIOS' offshore plant, taken as a whole, is negative. He projects that HIOS will incur $48,005,611 to provide for final abandonment of its offshore facilities.

Q. How does HIOS propose to recover its offshore negative salvage costs in rates?

A. First, as shown on Statement D (Exhibit No. HIO-11), HIOS is projected to have recovered $16,464,364 of negative salvage costs by September 30, 2009, the end of the test period. This means that HIOS must collect the net remaining projection of outstanding costs of $31,541,247 ($48,005,611 – 16,464,364) over the remaining life of HIOS' gathering facilities. HIOS Witness Porter has instructed me to use a remaining economic life of ten (10) years in calculating negative salvage. Therefore, HIOS proposes to amortize its remaining negative salvage costs of $31,541,247 over the same period of ten (10) years. Based on the above determination, HIOS' annual negative salvage amortization is $3,154,125. When translated into a negative salvage amortization rate, HIOS is requesting to increase its current offshore negative salvage rate from .65 percent to .92 percent. Schedule H-2.1, Page 2 of 2 (Exhibit No. HIO-29) reflects the calculation of the new offshore negative salvage rate. When the .92 percent is applied to HIOS' gathering plant balance on Statement H-2, it yields an annual negative salvage amortization of $3,154,125.

Q. Does this conclude your testimony?

A. Yes.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

In the matter of	)	
High Island Offshore System, L.L.C.	)	Docket No. RP09-___-000

Affidavit of Deborah E. Kwan

Deborah E. Kwan, being first duly sworn according to law, on oath deposes and says that she is the witness whose prepared direct testimony in the above entitled proceeding accompanies this affidavit; that if asked the questions which appear in the text of the aforesaid prepared testimony, affiant would give the answers that are therein set forth; and that affiant adopts the aforesaid testimony as her sworn, direct testimony in these proceedings.

Deborah E Kwan

Deborah E. Kwan

Subscribed and sworn to before me this 25th day of March, 2009.

FRONELL SINGLETERRY
Notary Public, State of Texas
My Commission Expires
December 19, 2010

Fronell Singleterry

Notary Public

Exhibit No. HIO-72

UNITED STATES OF AMERICA

Before the

FEDERAL ENERGY REGULATORY COMMISSION

	)	
High Island Offshore System, L.P.	)	Docket No. RP09-___-000
	)	

Prepared Direct Testimony

of

J. Stephen Gaske

On Behalf of

High Island Offshore System, L.P.

March 31, 2009

Table of Contents

I. INTRODUCTION

Q.1 Please state your name and business address.

A. My name is J. Stephen Gaske. My business address is 1717 Rhode Island Avenue, Suite 630, Washington, DC 20036.

A. Qualifications

Q.2 Would you please describe your educational and professional background?

A. I hold a B.A. degree from the University of Virginia and an M.B.A. degree with a major in finance and investments from George Washington University. I also earned a Ph.D. degree from Indiana University where my major field of study was public utilities and my supporting fields were in finance and economics.

From 1977 to 1980, I worked for H. Zinder & Associates as a research assistant and later as supervisor of regulatory research. Subsequently, I spent a year assisting in the preparation of cost of capital studies for presentation in regulatory proceedings.

From 1982 to 1986 I undertook graduate studies in economics and finance at Indiana University where I also taught courses in public utilities, transportation, and physical distribution. During this time I also was employed as an independent consultant on a number of projects involving public utility regulation, rate design, and cost of capital. From 1983-1986 I was coordinator for the Edison Electric Institute Electric Rate Fundamentals course. In 1986 I accepted an appointment as assistant professor at Trinity University in San Antonio, Texas, where I taught courses in financial management, investments, corporate finance, and corporate financial theory.

In 1988 I returned to H. Zinder & Associates ("HZA") and was President of the company from 2000 to 2008. In May 2008, HZA merged with Concentric Energy Advisors ("Concentric") and I became a Senior Vice President of Concentric.

Q.3 Have you presented expert testimony in other proceedings?

A. Yes. I have filed expert testimony on the cost of capital and capital structure issues for electric, gas distribution and oil and gas pipeline operations in more than 50 proceedings before: the U.S. Federal Energy Regulatory Commission ("FERC"), eight state regulatory bodies, the Alberta Utilities Commission, and before the Comisión Reguladora de Energia de México ("CRE").

In addition, I have testified or submitted expert testimony on economics and pricing issues before the Alberta Energy and Utilities Board, the Alberta Utilities Commission, the U.S. FERC, the Ontario Energy Board, the New Brunswick Energy and Utilities Board, eight state public utility Commissions, and the U.S. Postal Rate Commission. Topics addressed before those regulatory bodies have included utility and energy economics; electric utility and gas pipeline cost allocation, rate design, pricing, and revenue requirements; and, market power and generating plant economics.

During the course of my consulting career, I have conducted many studies on issues related to regulated industries and have served as an advisor to numerous clients on economic, competitive and financial matters. I also have spoken and lectured before many professional groups including the American Gas Association and the Edison Electric Institute Rate Fundamentals courses. Finally, I am a member of the American Economic Association, the Financial Management Association, and the American Finance Association.

B. Summary of Testimony

Q.4 What is your assignment in this proceeding?

A. I have been asked by High Island Offshore System, L.P. ("HIOS") to estimate the cost of capital for HIOS and to recommend a rate of return on common equity to be used by HIOS Witness Porter for this filing. In this testimony, I recommend a ratemaking capital structure and a hypothetical market cost of debt to be used in this proceeding. I then calculate the cost of common equity capital for HIOS's natural gas pipeline operations based on Discounted Cash Flow ("DCF") analyses of a group of natural gas pipeline proxy companies that I have selected and that have risks similar to those of HIOS's natural gas pipeline operations. My selection of proxy companies follows the principles established in the Commission's recent *Kern River* decision which requires a detailed examination of the risks of each of the operations of a potential proxy company, and an assessment of whether the overall risks of each potential proxy company are commensurate with the risks faced by the specific applicant for which regulated rates are to be determined.[1] I then consider the differences between HIOS's risks and those of the proxy companies in arriving at a recommended rate of return on common equity. The results of my DCF study and other analyses are supported by various benchmark criteria that I have used to test the reasonableness of the recommended rate of return on common equity.

Finally, I also describe the need for a regulated company to have a level of profit that produces a fair and reasonably operating margin on its services in addition to a fair and reasonable rate of return on invested capital.

Q.5 What exhibits are you sponsoring?

A. I am sponsoring the following exhibits, which were prepared by me or under my direction or supervision:

Exhibit No. HIO-72	Prepared Direct Testimony of J. Stephen Gaske	
Exhibit No. HIO-73	Exhibits to Prepared Direct Testimony:	
	Schedule 1	Economic Statistics

[1] Opinion No. 486-B, *Kern River Gas Transmission Company*, 126 FERC ¶ 61,034 (January 15, 2009).

Schedule 2	Potential Proxy Company Statistics
Schedule 3	Gas Transmission Pipeline Ownership- Potential Proxy Companies
Schedule 4	Business Segment Data -Potential Proxy Companies
Schedule 5	Contract Expiration Profile - Potential Proxy Companies
Schedule 6	Calculation of Dividend Yield
Schedule 7	Growth Rates
Schedule 8	DCF Results
Schedule 9	Flotation Cost
Schedule 10	Capital Structure
Schedule 11	Operating Margins of Selected Business Service Companies
Schedule 12	2007 Operating Margins of Major Pipelines
Exhibit No. HIO-74	Supplemental Proxy Company Data

Q.6 What rate of return is HIOS requesting in this proceeding?

A. As shown in Table 1 below, based on a hypothetical capital structure, HIOS is requesting an overall rate of return of 12.50 percent.

Table 1: HIOS Pipeline Cost of Capital[2]

Source	Capital Ratio	Cost	Overall rate of Return
Common Equity	60.00%	15.50%	9.30%
Long Term Debt	40.00%	8.00%	3.20%
Total	100.00%		12.50%

As my testimony discusses, an overall allowed rate of return of 12.50 percent, with a 15.50 percent return on common equity, represents a reasonable estimate of the cost of capital for HIOS at this time. Conditions in the capital markets have changed dramatically during the past six months and the cost of capital is higher now than it has been at any time in more than 20 years.

C. <u>Background Information</u>

Q7. Please describe the ownership and operations of HIOS.

A. As described in the testimony of HIOS witness Mr. Guion, HIOS is an offshore pipeline system that commenced operations in 1978. The HIOS system consists of 205 miles of underwater pipeline, with three supply legs that connect to a 42-inch diameter mainline. The center supply leg also includes the 86-mile East Breaks System that connects the Hoover-Diana deepwater platform located in Alaminos Canyon Block 25 to the HIOS pipeline system. HIOS transports natural gas from production fields located in the Galveston, Garden Banks, West Cameron, High Island and the East Breaks areas of the Gulf of Mexico to

[2] Statement F-3.

the ANR Pipeline Company system, Tennessee Gas Pipeline Company and the U-T Offshore System ("UTOS"); all three of which are interstate pipelines owned by unrelated third parties. The system includes eight pipeline junction and service platforms as well as three 60,150 horsepower compressor stations. The approximate net capacity of the system is 1.8 Bcf/d. In 2006 and 2007, the system transported declining volumes of 183.2 and 158.7 million dekatherms of natural gas, respectively. HIOS's major transportation customers include natural gas marketers and producers. The table below presents the percentage of total revenue derived from major customers for the years ended December 31, 2007 and December 31, 2006.[3]

Table 2: Percent of Total Revenue Derived from Major Customers

	2007	2006
Louis Dreyfus Energy Services	25.5%	16.1%
El Paso E&P Company, L.P.	12.2%	3.4%
Minerals Management Services	11.6%	5.6%

As of December 31, 2008, HIOS had contracts with BP Energy Co. and Exxon Mobil Corp. for 5,000 Dth/d and 25,900 Dth/d, respectively, under its Rate Schedule FT-2 firm transportation service, which is a "flexible-firm" service rate schedule under which the shippers can adjust their contract quantities monthly and they pay for usage under a volumetric rate. Thus, more than 95 percent of

[3] High Island Offshore System, L.L.C. 2007 FERC Form 2; Enterprise Products Partners L.P. 2007 10-K.

available capacity is unsubscribed on a firm basis, and remaining volumes move on an interruptible basis.

D. Criteria for a Fair Rate of Return

Q.8 Please describe the criteria which should be applied in determining a fair rate of return for a regulated company?

A. The United States Supreme Court has provided general guidance regarding the level of allowed rate of return that will meet constitutional requirements. In *Bluefield Water Works & Improvement Company v. Public Service Commission of West Virginia* (262 U.S. 679, 693 (1923)), the Court indicated that:

> The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market and business conditions generally.

The Court has further elaborated on this requirement in its decision in *Federal Power Commission v. Hope Natural Gas Company (320 U.S. 591, 603 (1944)).* There the Court described the relevant criteria as follows:

> From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock.... By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be

> sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.

Thus, the standards established by the Court in *Hope* and *Bluefield* consist of three requirements. These are that the allowed rate of return should be:

> (1) commensurate with returns on enterprises with corresponding risks;
>
> (2) sufficient to maintain the financial integrity of the regulated company; and,
>
> (3) adequate to allow the company to attract capital on reasonable terms.

In my opinion, criterion (1) requires an examination of the returns that are actually earned in the primary financial markets by enterprises with corresponding risks. In order to avoid logical circularity, the commensurate returns should be those of unregulated companies with comparable risks. Legal criteria (2) and (3) generally will be satisfied best by employing the economic concept of the "cost of capital" or "opportunity cost" in establishing the allowed rate of return on common equity. Criterion (2), suggests that the *overall* allowed rate of return, must also be sufficient to maintain a solidly investment-grade bond rating. For every investment alternative, investors consider the risks attached to the investment and attempt to evaluate whether the return they expect to earn is adequate for the risks undertaken. Investors also consider whether there might be other investment opportunities that would provide a better return relative to the risk involved. This weighing of alternatives and the highly competitive nature of capital markets causes the prices of stocks and bonds to adjust in such a way that investors can expect to earn a return that is just adequate for the risks involved. Thus, for any given level of risk there is a return that investors must expect in order to induce them to voluntarily undertake that risk and not invest their money elsewhere. That return is referred to as the "opportunity cost" of capital or "investor required" return.

Q.9 How should a fair rate of return be evaluated from the standpoint of consumers and the public?

A. The same standards should apply. When a regulated entity faces competition, consumers will implicitly determine the fair rate of return by their consumption decisions. When regulation is appropriate, consumers and the public have a long-term interest in seeing that the regulated company has an opportunity to earn returns that are not so high as to be excessive, but that also are sufficient to encourage continued replacement and maintenance, as well as needed expansions, extensions, and new services. Thus, the consumer and public interest also lies in establishing a return that will readily attract capital without being excessive.

Q.10 How are the costs of preferred stock and long-term debt determined?

A. For purposes of setting regulated rates, the current, embedded costs of preferred stock and long-term debt are used in order to ensure that the company receives a return that is sufficient to pay the fixed dividend and interest obligations that are attached to these sources of capital.

Q.11 How is the cost of common equity determined?

A. The practice in setting a fair rate of return on common equity generally is to use the current cost of common equity, as inferred from studies of the secondary financial markets, in order to ensure that the return is adequate to attract common equity capital to the company. However, determining the market cost of common equity is a relatively complicated task that requires analysis of many factors and some degree of judgment by an analyst. The current market cost of capital for securities that pay a fixed level of interest or dividends is relatively easy to determine. For example, the current market cost of debt for publicly-traded bonds can be calculated as the yield-to-maturity, adjusted for flotation costs, based on the current market price at which the bonds are selling. In contrast, because common stockholders receive only the residual earnings of the company, there are no fixed contractual payments which can be observed. This uncertainty associated with the dividends that eventually will be paid greatly complicates the task of estimating the cost of common equity capital. For purposes of this testimony, I have relied on several analytical approaches for estimating the cost of common equity. My primary approach relies on two DCF analyses. In addition, I have conducted Risk Premium, Alternative Equity Investment, and Comparable

Earnings analyses in order to establish benchmarks for a reasonable rate of return. Each of these approaches is described later in this testimony.

E. Cost of Debt

Q.12 What debt cost rate have you used for HIOS?

A. As shown on Statement F-3, HIOS is proposing a cost of debt of 8.00 percent. I have determined that 8.00 percent is a reasonable estimation of HIOS's cost of debt by considering the most recently published cost of corporate debt for BBB rated companies from the Mergent Bond Record. As of the publication dated March 2009, this figure was 8.08 percent.

F. Capital Structure

Q.13 What hypothetical capital structure are you recommending for HIOS to calculate the management fee?

A. Because HIOS's rate base is largely depreciated and its cash flow is very low, HIOS does not utilize debt in its actual financial structure. Moreover, given its circumstances and risks it would probably be inadvisable for HIOS to carry any debt in its capital structure. As explained in the testimonies of HIOS witnesses Mr. Porter and Mr. Guion, HIOS lacks any normal long-term firm contracts with a fixed contract quantity and most of the throughput on its system moves under interruptible, variable rate contracts. In addition, HIOS faces uncertain prospects and declining throughput, it has experienced frequent outages in recent years due to hurricane effects, and the system faces an impending cross-over point when it may not be economical to continue operating the system. Moreover, HIOS has a recent history of periods in which its net operating cash flow has been negative. Even in "good" times its operating margins are exceptionally low and provide very little cushion to allow the company to issue significant debt. Nevertheless, for purposes of calculating a return on its rate base, I am recommending a hypothetical capital structure consisting of 60 percent common equity and 40 percent long term debt. Schedule 10 of Exhibit No. HIO-73 demonstrates that this capital structure is at the top of the range of equity ratios established by the proxy group companies. Because of the risky nature of HIOS's operations, any hypothetical capital structure should contain an equity ratio at the top of the range established by the proxy group. Based upon my research and recommendations, HIOS Witness Porter decided to use a capital structure consisting of 60 percent common equity and 40 percent long term debt, as he explains in his prepared direct testimony.

It should be stressed that HIOS has far greater business and operating risks than any of the proxy companies. However, by imputing to HIOS a hypothetical equity ratio at the top of the range represented by the proxy companies it can then be assumed that HIOS faces lower financial risk than all but one of the proxy companies. It is only by making this assumption of lower financial risk that it becomes possible to say that any of the proxy companies face risks that are comparable to those faced by HIOS and that HIOS should receive an allowed return approximately equal to the mid-point of the proxy group. If a median or mean equity ratio for the proxy group were imputed to HIOS, then an allowed rate of return on common equity at the top of the proxy company range would be required for HIOS.

II. FINANCIAL MARKET STUDIES

A. Interest Rates and the Economy

Q.14 What are the general economic factors that affect the cost of capital?

A. Companies attempting to attract common equity must compete with a variety of alternative investments. Prevailing interest rates and other measures of economic trends influence investors' perceptions of the economic outlook and its implications on both short- and long-term capital markets. Schedule 1 of Exhibit No. HIO-73 summarizes various general economic statistics. Page 2 of Schedule 1 of Exhibit No. HIO-73 provides average historical bond yields. As shown on this schedule, for the period between January 2008 and February 2009 interest rates on A- and Baa-rated public utility bonds continued to climb[4] and since September, 2008, when the liquidity crisis took hold with the collapse of Lehman Brothers, were higher than at any time during the past five years. As shown on

[4] Bond yields receded slightly beginning in December 2008 but were still higher than any time in the past five years.

page 1 of Schedule 1 of Exhibit No. HIO-73 real growth in the Gross Domestic Product ("GDP") has averaged 2.9 percent annually during the past 30 years, 2.8 percent for the past 20 years and 2.6 percent for the past ten years. Through October 2008, real GDP grew at 3.5 percent.. However, in recent months the government-backed mortgage crisis has created a severe tightening in capital markets. On December 1, 2008, the National Bureau of Economic Research announced that the US economy has been in a recession since December 2007. According to the most recent Blue Chip Economic Indicators Report, real GDP fell at an annualized rate of 6.2 percent in the fourth quarter of 2008 (on a fourth quarter-over quarter basis). Furthermore, in the first and second quarters of 2009, real GDP is projected to contract at annualized rates of 5.3 percent and 2.0 percent respectively.[5]

Q.15 Have perceived risks in the economy increased recently?

A. In recent months the United States has experienced a near collapse of credit markets. In an effort to forestall a national lending crisis attributable to sub-prime mortgages, the Federal Reserve Board began cutting the Federal Funds Rate and the Discount Rate in September 2007. Since September 2007, when the yield on short-term U.S. Treasury securities exceeded the yield on long-term U.S. Treasury bonds, the Federal Reserve has cut the Federal Funds Rate from 5.25 percent to a

[5] Blue Chip Economic Indicators, *Top Analysts' Forecasts of the U.S. Economic Outlook for the Year Ahead,* Vol. 34, No. 3, March 10, 2009, at 5.

range of 0.00 to 0.25 percent.[6] Concurrent with the Fed's effort to provide liquidity to credit markets by reducing the Fed Funds Rate by over 500 basis points, interest rates on 30-year U.S. Treasury bonds declined by approximately 111 basis points. This effect is shown on Exhibit No. HIO-73, Schedule 1, Page 2 and Figure 1. The change in the slope of the yield curve from a downward slope to an upward slope is often an indicator of expectations of greater inflation, and the result of the reduction in the short-term Federal Funds Rate was the highest reported inflation rates since 1991. During the past decade, the Consumer Price Index has increased at an average annual rate of 2.9 percent and the GDP Implicit Price Deflator, a measure of price changes for all goods produced in the United States, has increased at an average rate of 2.4 percent. While the Blue Chip consensus forecasts the Consumer Price Index to decrease by during 2009 due to the current economic conditions, this is a short term decline that is projected to reverse in the last quarter of 2009. The Blue Chip consensus forecasts CPI to increase by 1.9 percent in the fourth quarter of 2010.[7]

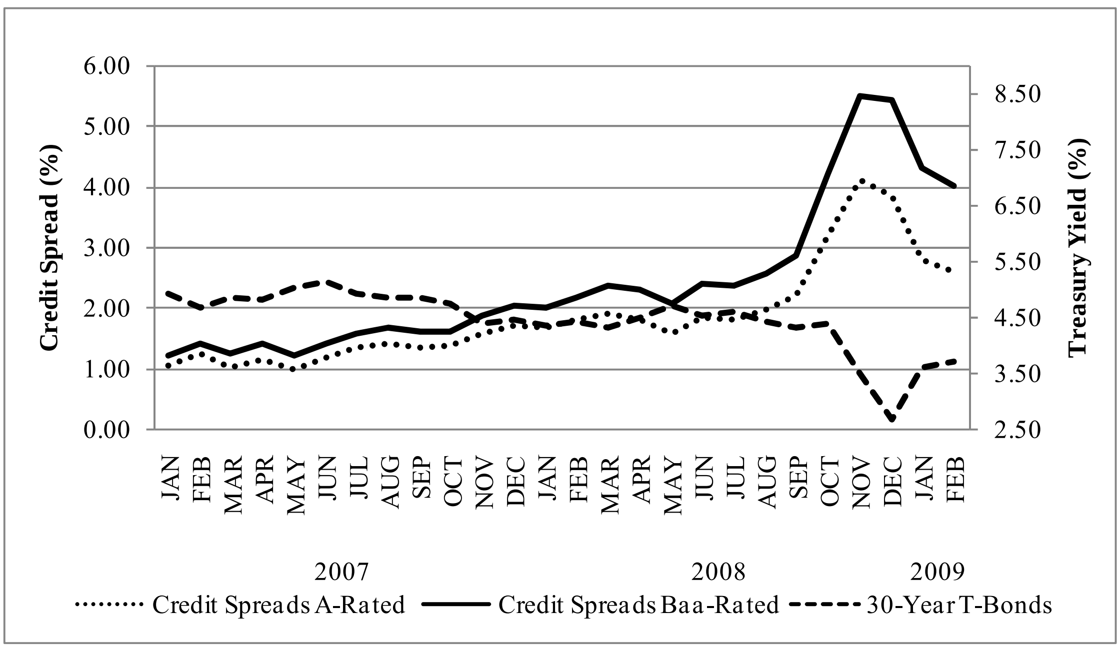
In conjunction with the heightened fears concerning the future of the economy, credit spreads have been increasing, a condition that many market experts attribute to the "flight to safety" in the aftermath of the sub-prime lending crisis. A growth in credit spreads results from the flight to safety that occurs when

6 http://www.newyorkfed.org/markets/statistics/dlyrates/fedrate.html, December 16, 2008

7 Blue Chip Economic Indicators, *Top Analysts' Forecasts of the U.S. Economic Outlook for the Year Ahead*, Vol. 34, No. 3, March 10, 2009, at 5.

investors flock to lower-risk securities such as government bonds or treasury bills, thereby lowering the yield on those lower-risk securities, but significantly increasing the capital costs associated with the more risky corporate debt and equity. Figure 1 below, demonstrates that the credit spreads for A-rated have increased two and a half times and credit spreads for Baa-rated corporate utility bonds have more than tripled in the period from January 2007 to February 2009, while long-term Treasury yields were largely declining.

Figure 1: Credit Spreads v. 30-Year Treasury Yields



Source: Mergent Bond Record and Yahoo! Finance

The net impact is higher corporate borrowing costs despite lower Treasury yields. The average February yields on A-rated public utility bonds were approximately 6.30 percent and the yields on Baa-rated public utility bonds were approximately

7.74 percent.[8] Subsequent to the last full month of data as shown in Exhibit No. HIO-73, Schedule 1, Page 2, utility bond yields have increased slightly. As of March 24, 2009, the yield on the Moody's A-rated Utility Bond Index was 6.44 percent and the yield on the Moody's Baa rated utility Bond Index was 8.08 percent[9].

Another indicator of the "flight-to-safety" phenomenon is the fact that U.S. Treasury bill yields have been below one percent recently, as many investors are willing to accept very low yields on the safest investments while they assiduously avoid riskier investments. The aversion to risk has been so extreme that yields on three-month U.S. Treasury bills were actually negative for a brief period on December 9, 2008.

Q.16 Please provide an overview of current credit market conditions.

A. While the credit markets have been tightening over the past year, due in large part to the sudden collapse of the subprime mortgage market, recent events have greatly increased the momentum and reach of the crisis. The resulting global financial dislocation and its effect on lenders and investors have resulted in high profile bankruptcies, bank mergers, and significant government intervention in capital markets. The fourth quarter of 2008 was characterized by constrained availability and a significant increase in the cost of corporate debt financing, and a

[8] Mergent Bond Record, March 2008.
[9] Bloomberg.

highly volatile deteriorating stock market. Importantly, no sector, including natural gas transmission, has been immune to those conditions.

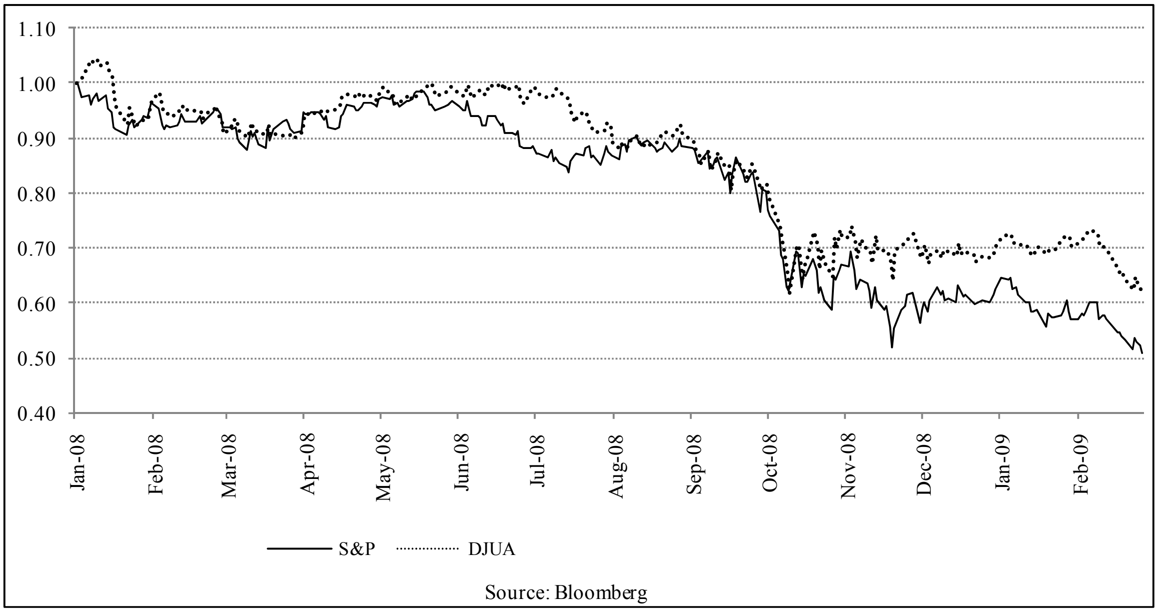
Q.17 How will lower economic growth be reflected in the equity markets?

A. The stock market is a discounting mechanism, which means that investors attempt to set current stock prices based on their expectations for corporate profits, economic growth, inflation, and interest rates. Stock investors are cognizant of slower economic growth because this places downward pressure on corporate profitability. The price of equities reflects investor expectations about the future stream of corporate earnings, discounted at a specified rate to compensate for the risk associated with variability and uncertainty in those earnings. When earnings deteriorate and investors become less certain about the reliability of that future earnings stream, the price of equities would be expected to decline because investors would demand a higher expected rate of return to compensate them for this additional risk. Overall, these measures suggest that the cost of capital for gas transmission companies is rising despite the decline in U.S. Treasury yields. Stagnant economic growth and rising corporate debt rates have correspondingly increased the required return on equity for companies such as HIOS.

Q.18 How have equity prices responded to the disruption that has occurred in the credit markets?

A. The increase in volatility in the equity market since September 2008 is unprecedented. Equity prices, as measured by the Standard and Poor's 500 Index, fell by nearly 48 percent from the peak on November 20, 2007 through November 20, 2008, the most severe overall annual price decline since the Great Depression. Furthermore, as shown in Figure 2 below, since January 2008, the broad market (as measured by the S&P 500 Index) has fallen by over 49 percent and utility stock valuations (as measured by the Dow Jones Utility Index) have fallen by approximately 38 percent.

Figure 2: Equity Market Performance[10]



Q.19 What effect does the recent credit market liquidity crisis and stock market decline have on the cost of common equity?

A. This extreme market uncertainty raises the perceived risk of owning common equity (and therefore increases the required return on equity to compensate for the perceived higher risk) even in those companies, such as natural gas pipelines or public utilities, which were previously perceived as relatively "safe" investments. This has an important ramification for the determination of the ROE in this proceeding. Depending on the duration and severity of the market dislocation, the accuracy and usefulness of historical information must be carefully considered.

10 Source: Bloomberg.

Because markets are currently experiencing such extreme volatility in the midst of a continuing decrease in asset values, there is a risk that traditional measurements of the cost of equity underestimate its level, while there is little risk that those measures overestimate it. Therefore, due to the volatility in the markets and considering that HIOS is operating in a highly competitive environment the allowed ROE for HIOS should be set at 15.50 percent, which is conservative when viewed in the context of market conditions and the range of results produced by my various analyses.

Q.20 How has the current financial environment affected the ability of regulated companies to attract capital?

A. The current state of the financial markets has led to a general decrease in the availability of, and an increase in, the cost of capital for all market sectors including utilities and natural gas pipelines. In fact, in its 2009 *Outlook for Utilities*, Fitch Ratings ("Fitch") noted that several investment grade issuers issued senior unsecured debt with financing costs that were 250 to 450 basis points above the 5.00 percent to 6.00 percent financing costs that were achievable only one year ago.[11]

The Fitch study confirms my recent observations based on recently issued long-term debt for the period from October 1, 2008, through January 30, 2009.

[11] U.S. Utilities, Power and Gas 2009 Outlook, FitchRatings, December 22, 2008, at 2.

Table 3 below summarizes the long-term utility and gas transmission debt issuances during that period.[12]

[12] Gas transmission and mid-stream companies are shown in bold.

Table 3- BBB-Rated Natural Gas Pipeline and Utility Long-Term Debt Issuances[13]

Issuer	Announced	S&P rating	Years to maturity	Coupon	Yield
Entergy Texas Inc.	1/27/2009	BBB+	10	7.125%	7.231%
Jersey Central Power & Light	1/23/2009	BBB+e	10	7.350%	7.368%
Duke Energy Corp.	1/22/2009	BBB	5	6.300%	6.344%
Metropolitan Edison	1/21/2009	BBB+	10	7.700%	7.700%
Indiana Michigan Power	1/14/2009	BBBe	10	7.00%	7.092%
Nevada Power	1/7/2009	BBBe	5	7.38%	7.37%
Centerpoint Energy	1/6/2009	BBB+e	5	7.00%	7.00%
Energy Transfer Partners	**12/18/2008**	**BBB-**	**10**	**9.70%**	**9.71%**
Enbridge Energy Partners	**12/17/2008**	**BBB**	**10**	**9.88%**	**9.88%**
Kinder Morgan Energy Partners	**12/16/2008**	**BBB**	**10**	**9.00%**	**9.00%**
Monongahela Power	12/10/2008	BBB+	5	7.95%	8.00%
El Paso Corp.	**12/9/2008**	**BB-**	**5**	**12.00%**	**15.25%**
Central Illinois Light	12/4/2008	BBB+	5	8.88%	8.87%
Potomac Electric Power	12/3/2008	BBB+	30	7.90%	7.90%
DCP Midstream LLC	**11/19/2008**	**BBB+**	**5**	**9.70%**	**9.75%**
Westar Energy	11/18/2008	BBB	10	8.63%	8.75%
Sempra Energy	11/17/2008	BBB+	10	9.80%	9.87%
Sempra Energy	11/17/2008	BBB+	5	8.90%	9.00%
Southwest Public Service	11/14/2008	BBB+e	10	8.75%	8.88%
Cleveland Electric Illuminating	11/13/2008	BBB+	10	8.88%	8.87%
Pacific Gas & Electric	11/13/2008	BBB+	5	6.25%	6.42%
Pacific Gas & Electric	10/16/2008	BBB+	10	8.25%	8.50%
Illinois Power	10/20/2008	BBB	10	9.75%	10.00%
Pacific Gas & Electric	10/16/2008	BBB+	10	8.25%	8.50%
Ohio Edison	10/15/2008	BBB+	30	8.25%	8.50%
Interstate Power & Light	10/1/2008	BBB+	10	7.25%	7.37%

[13] Source: Bloomberg. For certain new issuances Bloomberg has estimated an S&P rating. These estimates are noted in the above table with an "*e*".

While there are fewer gas transmission data points, as shown in the table, over the past few months, yields on gas distribution company and gas transmission company debt have increased significantly above historical levels. Interstate Power & Light announced the issuance of ten-year debt at a coupon interest rate of 7.375 percent on October 1, shortly after Lehman Brothers declared bankruptcy. Less than two months later DCP Midstream issued five year debt at 9.75 percent. While it appears that there has been some easing in the credit markets in the last few weeks, there is, nonetheless, a clear difference between yields on natural gas transmission company debt and utility company debt. Further, the El Paso debt issuance illustrates the significant premium associated with a below investment grade rating. As shown in Table 3, El Paso issued 5-year debt at a coupon rate of 12.00 percent and a yield of 15.25 percent.

Q.21 What do you conclude from your analysis of these debt issuances?

A. As shown in Table 3, there have been five gas transmission company debt issuances since September 2008; Energy Transfer Partners, Enbridge Energy Partners, Kinder Morgan Energy Partners, El Paso Corp. and DCP Midstream L.L.C. In my view, because of the limited number of gas transmission company debt issuances since the beginning of September 2008, BBB utility debt issuances provide a relevant benchmark of the capital market conditions faced since that time by regulated companies such as HIOS pipeline. The data clearly demonstrate the accelerating contraction of the credit market in the period since the beginning of September 2008. These data also demonstrate the premium that high quality utilities have been required to pay and furthermore the exorbitant cost of being below investment grade in the current market environment.

III. DISCOUNTED CASH FLOW ("DCF") ANALYSIS

A. <u>Discounted Cash Flow Model</u>

Q.22 Please describe the DCF method of estimating the cost of common equity capital.

A. The DCF method reflects the assumption that the market price of a share of stock represents the discounted present value of the stream of all future dividends that investors expect the firm to pay. The DCF method suggests that investors in common stocks expect to realize returns from two sources: a current dividend yield, plus expected growth in the value of their shares as a result of future dividend increases. Estimating the cost of capital with the DCF method therefore is a matter of calculating the current dividend yield and estimating the long-term future growth rate in dividends that investors reasonably expect from a company.

The dividend yield portion of the DCF method for a company generally consists of the dividend per share of that company divided by the price per share, and utilizes readily-available information regarding stock prices and dividends. The market price of a firm's stock reflects investors' assessments of risks and potential earnings as well as their assessments of alternative opportunities in the competitive financial markets. By using the market price to calculate the dividend yield, the DCF method implicitly recognizes investors' market assessments and alternatives. However, the other component of the DCF formula, investors' expectations regarding the future long-run growth rate of dividends, is not readily apparent from stock market data and must be estimated using informed judgment.

Q.23 What DCF formula do you use in this proceeding?

A. In its recent decisions on rate of return, the Commission has utilized the following general form of the DCF model:

$$K = \frac{D\,(1 + .5g)}{P} + g \qquad (1)$$

where:

K = the cost of capital, or total return that investors expect to receive;

P = the current market price of the stock;

D = the current annual dividend rate; and

g = the future annual growth rate that investors expect.

That is the formula that I will use in this study.[14] I have also adjusted my calculated cost of capital for a flotation cost adjustment.

[14] In the Alternative Basic DCF formula the growth on the dividend in the dividend yield calculation is (1+.625g).

B. Flotation Cost Adjustment to Cost of Capital

Q.24 What are flotation costs?

A. Flotation costs are the costs associated with the sale of new issues of common stock. These costs include out-of-pocket expenditures for the preparation, filing, underwriting, and other costs of issuance of common stock.

Q.25 Does the investor return requirement that is estimated by a DCF analysis need to be adjusted for flotation costs in order to estimate the cost of capital?

A. Yes. This is particularly true when the cost of common equity is estimated by conducting a DCF analysis that is based on the prices of common stocks traded in the "secondary" markets on stock exchanges. Because the purpose of the allowed rate of return in a regulatory proceeding is to estimate the cost of capital that the regulated company would incur to raise money in the "primary" markets, a DCF estimate of the returns required by investors in the "secondary" markets must be adjusted for flotation costs in order to provide an estimate of the cost-of-capital that the regulated company requires in order to raise capital on reasonable terms in the "primary" markets.

Q.26 Please describe the difference between "primary" and "secondary" markets for common equity.

A. When a company issues new common equity in order to raise cash for investment in plant, or to otherwise run its operations, it does so in the "primary" market. The "primary" market is defined very simply as the market in which the stock is first sold in order to raise cash funds to be used by the issuer. In this "primary" market, the company generally hires an investment banker, or a syndicate of bankers and brokers, to float its stock issue to the public. Associated with a company raising cash funds through a "primary" market sale of common stock there are significant costs of preparing and filing documents with the Securities and Exchange Commission ("SEC"), as well as other regulatory agencies, and issuing prospectuses. In addition, in the "primary" market the issuing company generally must pay a significant percentage of the proceeds from the stock issuance to the investment banker, or the syndicate of bankers and brokers, who undertakes to find investors who will provide cash to the issuing company.

Once stock has been issued to investors in the "primary market," those investors who initially provided cash to the issuing company may re-sell or "trade" the stock with other investors in the "secondary" market. Much of the trading in the "secondary" market occurs on stock exchanges and buyers and sellers are not required to file prospectuses with the SEC. The crucial difference between stock issued in the "primary" market and stock traded in the "secondary" market is that the issuing company does not receive any additional funds when its stock trades in the "secondary" market. Instead, the ownership of the stock merely changes hands between various investors. In addition, the brokerage fees associated with buying and selling stock in the "secondary" market generally are incurred by both the buyer and the seller, and are a small fraction of the level of the flotation costs incurred by a company that attempts to raise cash by issuing stock in the "primary" market.

Q.27 Have you quantified the cost of raising capital by issuing stock in the "primary" market?

A. Yes. There are significant costs associated with issuing new common equity capital and these costs must be considered in determining the cost of capital to a company. Schedule 9 of Exhibit No. HIO-73 shows a representative sample of flotation costs incurred with 142 new common stock issues by natural gas transmission and distribution companies between 1992 and 2008. Flotation costs associated with these new issues averaged 4.30 percent. This indicates that in order to be able to issue new common stock on reasonable terms, without diluting the value of the existing stockholders' investment, HIOS must have an expected return that places a value on its equity that is approximately 4.30 percent above book value. The cost of capital is therefore the investor return requirement multiplied by 1.043. This "Primary Market" return on equity is presented in Tables 6 and 7 in Section III of my testimony with the results of the secondary market returns discussed previously.

One purpose of a flotation cost adjustment is to compensate common equity investors for past flotation costs by recognizing that their real investment in the company exceeds the equity portion of the rate base by the amount of past flotation costs. For example, the proxy companies generally have incurred flotation costs in the past and, thus, the cost of capital invested in these companies is the investor return requirement plus an adjustment for flotation costs. A more important purpose of a flotation cost adjustment is to establish a return that is sufficient to enable a company to attract capital on reasonable terms. This fundamental requirement of a fair rate of return is analogous to the well-understood basic principle that a firm, or an individual, should maintain a good credit rating even when they do not expect to be borrowing money in the near future. Regardless of whether a company can confidently predict its need to issue new common stock several years in advance, it should be in a position to do so on reasonable terms at all times without dilution of the book value of the existing investors' common equity. This requires that the flotation cost adjustment be applied to the entire common equity investment and not just a portion of it.

In summary, when a DCF analysis based on stock prices and dividend yields in the “secondary” market is used to estimate the required rate of return, a flotation cost adjustment is essential in order to account for the difference between (i) the market value of stocks traded between investors in the secondary markets and

(ii) the initial subscription stock issued in the primary market to raise capital for plant construction and utility operations.

C. Selection of Natural Gas Pipeline Proxy Companies

Q28. Would you please describe the overall approach used in your DCF analysis of HIOS's cost of common equity?

A. Because HIOS must compete for capital with many other potential projects and investments, it is essential that it have an allowed return that matches returns potentially available from other investments of a similar risk. In recent years, the Commission has stated a preference for using the DCF method for estimating the required return for interstate gas pipelines. However, the DCF method requires a market price of common stock to compute the dividend yield component of the DCF analysis. Since nearly all interstate gas pipelines, including HIOS, are owned by larger companies, the operating pipeline companies for which the Commission sets rates generally do not have publicly-traded common stock that would produce a market price that is required for a DCF analysis. A direct, market-based DCF analysis of HIOS as a stand-alone company is not possible since it is privately-owned by a diversified energy company. As an alternative, I have used a proxy group of companies that is most nearly similar in risk to HIOS. My Tier I proxy group, which I will discuss in greater detail, consists of six natural gas transmission Master Limited

Partnerships ("MLPs") and two corporations. To the extent that a proxy group with more than eight companies is desirable to smooth out random variations or any anomalous results in the DCF analysis, I have also considered additional companies that are somewhat less comparable to HIOS than my primary proxy group. I refer to the single additional company identified as a Tier II company.

Q29. What are the guiding principles you used to select your group of proxy companies?

A. I applied the standards prescribed by the Commission in the recent *Kern River*[15] case and in its Policy Statement in Docket No. PL07-2-000[16]. In the recent *Kern River* Order, the Commission noted that:

> [G]iven the numerous factors that can vary the risk profile of the individual firm, it is difficult in an individual case to develop a proxy group of sufficient numbers in which the members will have exactly the same risk. In the instant case, 100 percent of Kern River's assets, revenues, and earnings are derived from its interstate gas transmission pipeline function. Given this level of natural gas pipeline activity, it is unlikely there will be complete congruence among the characteristics of all proxy group members. For this reason, as both BP and Staff assert, *Petal* requires a full and complete analysis of the similarities and differences between the business activities of each of the proposed proxy firms and Kern River in order to ensure that the operations presented by the proxy group companies adopted are analogous to Kern River's operations and risks.[17]

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15 126 FERC ¶ 61,034 Opinion No. 486-B, Order on Rehearing, Proposed Settlement and Paper Hearing, Issued January 15, 2009.

16 *Policy Statement, 123 FERC ¶ 61,048 (2008).*

17 Ibid, at para. 51. "*Petal*" refers to *Petal Gas Storage, L.L.C. v. FERC.* [Clarification added].

Furthermore, the Commission has acknowledged the notion that equity returns established through the regulatory process should be commensurate with the level of risk assumed by the Company. For example, in its Policy Statement, the Commission observed that the Supreme Court (the "Court") has long held that equity returns must be commensurate with returns on investments of commensurate risk, and that returns must be sufficient to enable the subject company to attract capital at reasonable cost rates. The Commission pointed out that in *Petal*, the Court emphasized that the proxy group must be "risk appropriate."[18] In addition, the Policy Statement rightfully noted the increasing tendency of natural gas pipeline assets to be transferred to publicly-traded MLPs "whose business is narrowly focused on pipeline activities" and concluded that "including MLPs in the gas pipeline proxy group should render the proxy group more "risk-appropriate".[19] Moreover, the Commission noted that, as discussed in *Petal*, cases involving less representative proxy groups introduce the need for the Commission to adjust the cost of equity, a difficult and contentious process. The inclusion of MLPs in natural gas pipeline proxy groups would "minimize" the need for such adjustments. In light of those considerations, the Policy Statement affirmatively concluded it was appropriate to include MLPs in proxy groups for natural gas pipeline companies. The Commission was clear to point out, however, that it was making no findings as to the specific entities that may be

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[18] *Ibid., at para. 48.*
[19] *Ibid.*, at para. 49.

included in such groups; rather, it left that determination to individual rate proceedings.

In addition to clearly articulating the requirement that the proxy companies should be of similar risk as the subject company, in the Policy Statement the Commission established its position concerning the inclusion of MLPs in the proxy group used to establish the return on equity for natural gas pipelines. In the Policy Statement the Commission noted the following:

> As the court explained in *Petal Gas Storage, L.L.C. v. FERC*, the purpose of the proxy group is to "provide market determined stock and dividend figures from public companies comparable to a target company for which those figures are unavailable. Market-determined stock figures reflect a company's risk level and when combined with dividend values, permit calculation of the 'risk-adjusted expected rate of return sufficient to attract investors.'"
>
> It is thus crucial that the firms in the proxy group be comparable to the regulated firm whose rate is being determined. In other words, as the court emphasized in *Petal*, the proxy group must be "risk-appropriate.[20]

Similarly, as noted above, the need for all proxy companies to be risk appropriate for the applicant was reemphasized in the recent *Kern River* decision.[21]

While the Commission has not been prescriptive in establishing criteria to define comparability of the proxy companies with the subject company, the

[20] *Policy Statement, 123 FERC ¶ 61,048 (2008)., at para. 48.*

[21] *Kern River, Opinion No.486-B,126 FERC ¶ 61,034,(2009), at para. 50.*

Commission has provided the following general guidance on the type of information that should be used to determine whether or not a company is appropriately included in the proxy group. For MLP's the Commission noted:

> The Commission leaves that determination to each individual rate case. In order to assist the Commission in determining the most representative possible proxy group in those cases, the parties and other participants should provide as much information as possible regarding the business activities of each firm they propose to include in the proxy group, including their recent annual SEC filings and investor service analyses of the firms. This information should help the Commission determine whether the interstate natural gas or oil pipeline business is a primary focus of the firm and whether investors view an investment in the firm as essentially an investment in that business.[22]

Consistent with that Commission policy guidance, I have prepared a review and comparison of HIOS's risks vis-à-vis a group of potential proxy group companies and have established a proxy group that is specifically risk appropriate for HIOS. In support of that review, I have also prepared an electronic copy of SEC filings and investment reviews that I relied upon in part in making a determination as to the comparability of HIOS's risks to each of the individual proxy companies. Because they comprise an enormous volume of information, the electronic copy of those documents is being filed separately as Exhibit No. HIO-74 of this testimony.

[22] *Policy Statement, 123 FERC ¶ 61,048 (2008)., at para..51.*

Q30. What markets are served by HIOS?

A. As discussed in more detail above and by Company witnesses Mr. Porter and Mr. Guion, HIOS is an offshore natural gas transmission pipeline system. HIOS was designed to transport gas gathered from production fields in the Western Gulf of Mexico and deliver this gas into three separate interstate gas pipelines systems companies: ANR Pipeline Company, U-T Offshore System, L.L.C, and Tennessee Gas Pipeline Company. These pipelines then deliver the natural gas to other pipelines and downstream consumption markets. The HIOS system currently consists of three separate lines running from separate production areas, which feed into a single 66 mile 42 inch diameter transmission mainline, which then interconnects with the three interstate pipelines systems noted above.

HIOS is one of several competing transportation alternatives that provide natural gas service in the Gulf of Mexico, and it faces significant competition from other offshore transmission and gathering systems in connecting to additional long-term supply sources.

It should be noted that HIOS does not have a monopoly position in any of the downstream markets that it serves. Instead, it is a supplemental or alternative supplier to markets downstream of its route. This is apparent from the lack of long-term firm contracts on the HIOS system. The Company has faced significant competition since 1993 (when its original 15-year firm contracts expired) to connect new sources of natural gas supply under firm long-term contracts. In fact, in order to attract the firm long-term customers it currently serves, HIOS instituted its "flexible" firm Rate Schedule FT-2 in 1999. This rate schedule was implemented in response to offshore producers' desire for more flexibility in their transportation contracting, by allowing shippers the unilateral right to reduce their firm service capacity reservation annually. As discussed previously, despite this flexibility, HIOS has been required to provide the vast majority of its service under interruptible rates. Despite this, as noted by Company Witness Mr. Guion, volumes transported on HIOS have declined consistently and substantially. In addition, HIOS is proposing in this proceeding to establish regulated rates for its newly-acquired East Breaks gathering system and to re-functionalized as "gathering" those existing facilities that lie upstream of HIOS's 42" mainline. The risk associated with HIOS's lack of firm contracts significantly resembles the contracting risk faced by Natural Gas Liquids ("NGL") pipelines and natural gas gathering systems. For those systems, the exposure to short-term customers generally is much greater than with most interstate gas pipeline systems. HIOS is notably riskier in this regard than a typical interstate pipeline.

Q31. Has the amount of competition faced by natural gas pipelines been increasing?

A. Yes. As a result of growth in the North American natural gas pipeline network, development of new supply sources, and a fundamental change in Commission regulatory policies during the past two decades, numerous new pipelines have been constructed, and existing pipelines have expanded into service territories that traditionally have been served by other pipelines. This overlap of pipelines is increasingly eliminating most of whatever monopoly power that pipelines might have had at one point.

HIOS is a prime example of a pipeline that must compete against numerous alternative service providers. Moreover, the ability of pipelines to achieve a reasonable rate of return is uncertain, and depends to a large extent on the level of competition and the state of the natural gas markets at the time that their particular customer contracts expire.

Q32. Does HIOS face any other risks that are exceptionally high relative to those of other pipeline companies?

A. Yes. HIOS has experienced significant outages each year since its last rate case because of hurricane damage on HIOS or on interconnecting pipelines. In addition, HIOS is now approximately 30 years old. Unlike pipelines that are constructed onshore, offshore pipelines not only require the typical level of routine maintenance, but because of the harsh salt-water environment in which they operate they are subjected to a greater need for significant, non-routine maintenance over and above that typically required. Because of its age, HIOS is at a stage where a substantial level of this additional maintenance is now required. However, as described in the testimony of Mr. Porter, the declining throughput on HIOS means that HIOS may be approaching a cross-over point when it will no longer be economical to operate the pipeline. These are exceptionally risky circumstances for HIOS that exceed the overall business and operating risks faced by any of the proxy companies.

Q33. How did you establish a group of proxy companies that are risk appropriate for HIOS?

A. In compliance with the Commission's requirement to show the comparability of proxy companies with the applicant, I relied on a list of screening criteria to narrow the list of potential proxy companies. As noted by the Commission in *Kern River*, given that HIOS's business operations are 100 percent natural gas transmission and gathering, it is difficult to develop a proxy group in which the members will have exactly the same risk[23]. Therefore, after I identified a "short list" of potential companies, I conducted an extensive review of the potential proxy companies' business units, both pipeline assets and other business segments, to identify a group of companies that are of comparable risk to

[23] *126 FERC ¶ 61,034* (2008), at para 51.

HIOS. From this analysis, I concluded that eight of the potential proxy companies were truly comparable to HIOS. One additional company was sufficiently comparable to be classified as a Tier II comparable company, should eight proxy companies not be a sufficient sample size for the determination of HIOS's cost of equity. The following screens were applied to establish my "short list" of potential proxy companies:

1. All of the companies must be covered by Value Line with at least one year of operating history;
2. All of the companies have publicly-traded common stock or partnership units;
3. All of the companies have significant involvement in natural gas gathering and transmission, including ownership in FERC-regulated pipelines;
4. All of the companies are currently paying cash dividends or distributions;
5. None of the companies has a credit rating below investment grade as established by either Moody's or Standard and Poor's;
6. None of the companies is engaged in significant transactions involving mergers, acquisitions or divestitures; and
7. The MLPs under consideration must have at least a year of historical data available and have paid a distribution during that time period.

Based on the application of these criteria, I have developed a group of potential proxy companies with risks reasonably comparable to those of HIOS.

Q34. What companies met these initial screening criteria?

A. The following nine companies and MLPs met these initial criteria:

- Boardwalk Pipeline Partners, L.P.
- Enbridge Energy Partners, L.P.
- Enterprise Products Partners, L.P.
- Kinder Morgan Energy Partners L.P.
- ONEOK Partners, L.P.
- Southern Union
- Spectra Energy
- TC Pipelines, L.P.
- Williams Companies

In addition, I considered the proxy group relied upon by the Commission in the recent decision in *Kern River*. In *Kern River*, the Commission included Kinder Morgan Inc., Northern Border, and National Fuel Gas. Kinder Morgan, Inc. is no longer public and therefore cannot be included in the HIOS proxy group. Northern Border is now owned by ONEOK Partners, L.P. and TC Pipelines, both of which passed my initial screening criteria. Finally, I considered National Fuel Gas in my more detailed analysis of the potential proxy companies and concluded that not only was it not comparable to HIOS, it was also relatively less comparable than the Tier II company, and therefore I relegated it to a Tier III company for consideration purposes..

Q35. How did you conduct your comparability analysis of each of the potential proxy companies?

A. As discussed, in accordance with the recent *Kern River* opinion, in order to determine whether the proxy group developed to calculate HIOS's cost of equity provides an appropriate comparison to the risks I previously outlined for HIOS, it is necessary to examine the individual companies that comprise the potential proxy group.

In Exhibit No. HIO-73, Schedule 3 I have provided a list of the federally-regulated gas transmission pipelines owned by the companies that I included in my group of potential proxy companies. My determination as to whether each of these companies is sufficiently similar in risk to HIOS was based on the same criteria relied upon by the Commission. In addition to screening companies based on the percentage of their income and assets that are associated with natural gas transportation, I considered the relative financial and operating risk of the potential proxy companies. This included an assessment of the risk of other businesses that each company is engaged in, as well as the risk of the natural gas pipelines that are operated by the company. In conducting this analysis, I was guided by certain general relationships.

First, most natural gas pipelines and storage operations are sufficiently similar to each other to be used in the proxy group, but it is important to recognize that there are wide variations between natural gas pipelines in terms of the level of competition that they face and the probability that they will be able to recover their costs, including their cost of capital, during the useful lives of their facilities.

Second, fee-based NGL pipelines generally have risks that are substantially similar to those of natural gas pipelines. Both types of pipelines transport products that are often jointly produced, and that can be used as substitutes for each other in many applications. Natural gas pipelines often have more stable long-term contracts than NGL pipelines, but those natural gas pipelines that have a high assurance of recovering their costs and earning their cost of capital as a result of little competition, and/or a high proportion of capacity committed under long-term contracts at the maximum regulated rate, generally will be less risky than NGL pipelines. However, natural gas pipelines that face significant competition, and sell large portions of their capacity under interruptible rates, like HIOS, and/or have most of their capacity under contracts that expire within a few years, generally have the same risks as, or greater risks than, NGL pipelines.

Third, like NGL pipelines, processing, fractionation, oil pipelines, terminals, and other mid-stream services will often have greater risks than natural gas pipelines, but this will not be the case in all circumstances, and would not generally be the case in respect to HIOS, given HIOS's low level of firm transportation contracts and the fact that a large portion of HIOS's business is, or will be, functionalized as "gathering."

Fourth, gas distribution generally has significantly less risk than typical gas pipelines because the level of direct competitive risks in gas distribution is significantly less than that faced by gas pipelines. There is no similarity in the risks of gas distribution companies and the riskier of the gas pipelines.

Fifth, gas production generally is riskier than most gas pipelines, because the flow rates and ultimate recoverable amounts of gas from a particular well are somewhat less predictable. Although in the case of HIOS, its offshore gathering and transmission operations are at least as risky as many gas production operations.

Sixth, gas exploration and production is significantly riskier than most gas pipelines, and generally somewhat riskier than HIOS's operations, because the probability of losing the entire investment in an exploration and production project is reasonably high. Thus, there is no similarity in risks as between exploration and production operations and the less-risky natural gas pipelines.

Q.36 How did you utilize these relationships in your analysis?

A. My first consideration was to include any company that derived more than 50 percent of its operating income from, or had more than 50 percent of its identifiable assets associated with, the natural gas pipeline and storage segment of its operations unless there were substantial amounts of other operations, or unusual financial circumstances, that render a company non-comparable to HIOS. Four companies, Boardwalk, Southern Union, Spectra, and TC Pipelines, met this selection criterion.

Next, I considered companies that had less than 50 percent, but at least 40 percent, of their operating income or identifiable assets associated with natural gas pipeline and storage operations. For these companies to be considered to be comparable to HIOS they must also have substantial amounts of natural gas gathering, processing, or fee-based natural gas liquids transportation. In addition, they must not have substantial amounts of other operations, or unusual financial circumstances that render a company non-comparable to HIOS. This screen produced three companies – Enbridge Energy Partners, Enterprise Products, and Kinder Morgan Energy Partners – that have risks comparable to those of HIOS.

I have also included ONEOK in my Tier I proxy group. ONEOK had at least 30 percent of its operating income or assets associated with natural gas transportation or storage. ONEOK also has substantial amounts of natural gas gathering, processing, and fee-based natural gas liquids transportation that might make them comparable to HIOS.

Because I have identified eight comparable companies through this process, I believe this is a sufficiently large group of proxy companies to allow a reasonably accurate range of DCF results to be estimated for determining the cost of common equity to HIOS. Additional companies could be added to the group to increase the size of the proxy group, but any companies that are added to the group beyond these eight would have risks that are less comparable to those of HIOS.

For example, while similar to ONEOK, in that it did not meet my 40 percent screen for natural gas operations, Williams has a substantial amount of exploration and production in its business mix which would make it non-comparable to HIOS and thus inappropriate for the proxy group unless there were an insufficient number of better proxy companies.

Q.37 What are your conclusions as to the comparability of each company to HIOS?

A. My analysis finds that HIOS faces operating risks that are exceptionally high for a natural gas pipeline company. None of the potential proxy companies has operating risks as great as those faced by HIOS. But for the assumption that HIOS has a hypothetical common equity ratio at the high end of the range for the proxy companies, HIOS would not have any comparable companies that have publicly-traded common stock and a large portion of their business devoted to natural gas transmission.

Based on my review of the data for each of the potential proxy group companies, two tiers of comparability became apparent. Because HIOS's primary characteristic is that it is a natural gas transmission and gathering system facing significant contracting and operating risks, I have separated the companies into two tiers based on their similarity in this respect. The first tier consists of companies that are either pure play natural gas pipelines, or that have at least 40 percent of operating income or assets associated with natural gas pipeline and storage operations, and that have risks in their other operations that are reasonably similar to the risks that HIOS faces.[24]

<u>Tier I Proxy Group</u>

- Boardwalk Pipeline Partners, L.P.
- Enbridge Energy Partners, L.P.
- Enterprise Products Partners, L.P.
- Kinder Morgan Energy Partners L.P.
- ONEOK Partners, L.P.
- Southern Union

[24] In addition, I reviewed each of the potential proxy companies' 2008 SEC 10-Q filings to ensure that there were no transactions that materially changed the relative contribution of each of the business segments that was discussed in detail in the 2007 SEC 10-K filings.

- Spectra Energy
- T.C. Pipelines, L.P.

For the reasons discussed in detail below, I consider Williams to be a second tier comparable company.

Q.38 Are there other companies involved in natural gas transmission that are not appropriate as pipeline proxy companies at this time?

A. Yes. Several other publicly-traded companies also own natural gas pipeline or storage operations, but they have less involvement in transmission and storage than companies in my first three tiers of comparability. Several of these other companies have substantial gas distribution and/or exploration and production operations that make them inappropriate as proxy companies for HIOS at this time. For example, companies such as Dominion Resources, Equitable, National Fuel Gas, NISOURCE or Questar which have been considered for the proxy group in the past are not comparable to HIOS and could be considered to be no better than third tier comparable companies given their lines of business and circumstances. Moreover, these companies generally have become progressively less appropriate as pipeline proxies since the 2004 timeframe covered by the *Kern River* decision. Since that time there has been a movement to reorganize assets into companies, particularly MLPs, which are more narrowly focused on mid-stream energy transportation. This trend has created several MLPs with risks that are similar to the risks faced by a pure-play natural gas pipeline company such as HIOS. The following section presents my analysis of the risks of each of the potential proxy group companies.

1) <u>Tier I Comparable Companies</u>

Q.39 Please describe Boardwalk Pipeline L.P. ("Boardwalk") and the operating and financial risks of this MLP.

A. As shown in Exhibit No. HIO-73, Schedule 4, Boardwalk is a pure-play natural gas transmission and storage MLP. The partnership's assets were approximately 82 percent natural gas transmission in 2007, with the remaining eight percent of identified segment assets comprised of natural gas storage, also a FERC-regulated natural gas service. Boardwalk is engaged in natural gas transmission through its two subsidiaries; (1) Gulf South Pipeline ("Gulf South")[25] and (2) Texas Gas Transmission ("TGT").[26] In addition a third subsidiary, Gulf Crossing Pipeline Company L.L.C., is expected to begin commercial operation in the first quarter of 2009. Boardwalk's pipeline system facilities consist of approximately 13,550 miles of pipeline, carrying 3.6 billion cubic feet (Bcf) of gas per day, and underground storage fields with aggregate working gas capacity of approximately 155 Bcf. Boardwalk's business consists

[25] Gulf South (formerly known as United Gas Pipeline and then Koch Interstate) is an interstate pipeline system that gathers gas from basins between Texas and Alabama and delivers it to on-system markets within its footprint and to off-system markets in the Northeast and Southeast through interconnections with third-party pipelines.

[26] Texas Gas Transmission connects Gulf Coast supply areas to markets in the Midwest and the Northeast via interconnections with third-party pipelines.

of the transportation of natural gas and a natural gas storage operation that is integrated with the transportation business, both of which are regulated by the FERC. Boardwalk conducts its business through its operating subsidiaries, which comprise a single operating segment.

The operations of Boardwalk are subject to a variety of risks. Many of these risks are common to all companies across this industry, such as the occurrences of catastrophes, terrorist attacks or accidents. Significant swings in the price of natural gas could impact all pipelines negatively; a high price could dampen demand and reduce throughput volume while a low price could impact the basis differentials and reduce transportation revenues. In addition, all pipelines are subject to the credit risk of their customers. These factors even affect pipelines with significant revenue from reservation charges because they affect interruptible revenue in the short run and firm service revenue in the longer run. Production-area natural gas pipeline companies such as Gulf South and HIOS also rely on continuing access to new reserves as production from existing wells declines.

Additionally, Boardwalk has to contend with risks specific to its circumstances. The company's completion of capital intensive expansion projects will require significant debt and equity financing. This financing may not be available given current market conditions. Finally, Boardwalk faces significant re-contracting risk. Approximately 25 percent of Boardwalk's long term contracts (LTCs) expired December 31, 2008. The construction of new pipelines and LNG facilities is increasing competition in its markets, and could impair Boardwalk's ability to renew these contracts at favorable rates. The successful addition of new LNG plants or expansion of existing plants, as well as the anticipated introduction of significant new Rocky Mountain gas supplies could reduce Boardwalk's deliveries destined to midcontinent or northeastern markets; increased demand from other regions would be required to make up this shortfall.

As shown in Exhibit No. HIO-73, Schedule 3, similar to HIOS, both Gulf South and TGT face competition at both ends of their systems. Gulf South and TGT are directly tied to production throughout the Gulf Coast, in Texas and Louisiana, and they compete with numerous pipelines to transport gas out of the production basins. In addition, both Gulf South and TGT face competition in various downstream markets that they also serve, with Gulf South facing competition from various other pipelines serving markets along the southern Gulf Coast region, while TGT faces competition in the markets it serves in the central U.S. along the eastern Mississippi Valley. Considering re-contracting risk, on average the pipelines owned by Boardwalk will need to re-contract for approximately 55 percent of their existing contracts before the end of 2012.

As shown in Exhibit No. HIO-73, Schedule 10, with a 53.17 percent equity ratio, Boardwalk has a 53 percent common equity ratio, and thus has somewhat less financial risk than HIOS which has filed a hypothetical common equity ratio of 60 percent.

As discussed previously, Boardwalk's assets are substantially weighted to its natural gas transmission operations, with 82 percent of total assets derived from natural gas transmission, and 100 percent of the business dedicated to FERC-regulated natural gas transmission and storage operations. Considering the various operational risks described above, including the pipe-on-pipe competition faced by Gulf South and TGT and increased competition from LNG facilities and other pipelines, the operational risks to which Boardwalk is exposed are similar to the risks faced by HIOS. Therefore, while Boardwalk faces less financial risk than HIOS, based on the similarities discussed with respect to the operating risks, it is appropriate to include Boardwalk Energy Partners in Tier I of the HIOS proxy group.

Q.40 Please describe Enbridge Energy Partners, L.P. ("Enbridge Partners") and the operating and financial risks of this MLP.

A. In 2007, Enbridge Partners' natural gas segment operations were 50 percent of the partnership's total assets. Most significantly, Enbridge Partners owns a portfolio of natural gas pipelines that, like HIOS, operate in the offshore Gulf of Mexico area. These offshore pipelines include: Stingray, Garden Banks, Nautilus, Mississippi Canyon, Destin and UTOS. In addition to natural gas transportation, the natural gas segment includes gathering and storage operations. HIOS is similar to these systems in that its transmission function acts as an intermediate, or "bridge" pipeline system in the middle of a production area with no connections to consumption markets. Moreover, its lack of firm, long-term contracts and the additional risks of operating in the offshore areas make HIOS at least as risky as a typical gathering system. The company's remaining two segments consist of oil and NGL transportation and marketing. The oil and NGL segment operates three pipeline systems, while the marketing segment provides natural gas supply, transportation, balancing, storage and sales services on the company's natural gas gathering and intrastate natural gas transportation pipelines. Consequently, nearly all of Enbridge Partners' other operations have risks that are comparable to HIOS's pay-as-you-go gas transportation operations in the offshore Gulf of Mexico.

As shown in Exhibit No. HIO-73, Schedule 3, both of Enbridge Partners' interstate systems access Gulf Coast production, either directly (MidLa), or indirectly (AlaTenn). Pipelines operating in the Gulf Coast are subject to significant competition. In addition, both of these systems serve markets in which there are other pipeline competitors, particularly the MidLa system in southeastern Louisiana. Furthermore, almost all of Enbridge's MidLa and AlaTenn long-term contracts will expire in the next four years.

As shown on Exhibit No. HIO-73, Schedule 10, Enbridge Energy Partners has an equity ratio of 43.73 percent, which is lower than HIOS's hypothetical equity ratio, resulting in an assumption of lower financial risk for Enbridge Energy Partners.

As noted previously, natural gas transmission operations, particularly offshore pipelines, represent a significant portion of Enbridge Energy Partners' business. In addition, the pipelines owned by Enbridge Energy Partners are exposed to operating and contracting risks that are similar to HIOS's. While Enbridge Energy Partners faces greater financial risk, due to its equity ratio, based on the substantial similarity in operations and the similarities in business risks between the pipelines owned by Enbridge Energy Partners and HIOS, I have included Enbridge Energy Partners in Tier I of my proxy group for HIOS.

Q.41 Please describe Enterprise Products Partners ("Enterprise") and the operating and financial risks of this MLP.

A. Enterprise is an energy transportation company that focuses on natural gas pipeline transportation and services, natural gas liquids transportation and services, offshore pipeline transportation and services, and petrochemical services. Enterprise is also HIOS's parent company. Enterprise's onshore pipelines consist of 6,976 miles of Texas pipeline facilities, 6,065 miles of pipeline facilities in the San Juan basin, 1,042 miles in Louisiana, and 12 other smaller pipeline systems that account for 17,758 miles of pipeline. Enterprise owns approximately 28 Bcf of working gas storage capacity at four major facilities (*i.e.*, Petal, Hattiesburg, Wilson and Acadian). Enterprise's NGL transportation and services segment operates "(i) [a] natural gas processing business and related NGL marketing activities, (ii) NGL pipelines aggregating approximately 13,758 miles including [the] 7,808-mile Mid-America Pipeline System, (iii) NGL and related product storage facilities and (iv) NGL fractionation facilities located in Texas and Louisiana. This segment also includes [Enterprise Partners'] import and export terminal operations." [27]

In addition to its significant onshore natural gas pipeline and storage operations, Enterprise's offshore segment includes approximately 1,555 miles of natural gas pipelines plus other gas handling facilities in the Gulf of Mexico. Enterprise's largest offshore pipelines include HIOS and Viosca Knoll. Furthermore, Enterprise Partners' Offshore Pipeline and Services segment includes 914 miles of offshore crude oil pipelines and six offshore hub platforms in the Gulf of Mexico capable of producing both natural gas and crude oil. Finally, Enterprise's Petrochemical Services segment consists of seven

[27] See Enterprise's 2007 SEC Form 10-K, at 4.

petrochemical process facilities and 683 miles of associated petrochemical pipeline.

Apart from HIOS, Enterprise's primary natural gas transportation pipeline operations are the Enterprise Texas Intrastate, Acadian and Alabama Intrastate systems. As shown in Exhibit No. HIO-73, Schedule 3, these systems all operate in the highly-competitive Gulf Coast region, sourcing gas from production in the region, as well as serving customers in this region. As a result, Enterprise's natural gas pipeline operations are subject to competition from numerous pipeline competitors on both the downstream and upstream ends of their systems. As shown on Exhibit No. HIO-73, Schedule 10, Enterprise has a 40.73 percent equity ratio that results in greater overall financial risk than is implied by HIOS's hypothetical capital structure.

As shown on Exhibit No. HIO-73, Schedule 4, in 2007, onshore natural gas transmission operations were 32 percent of the partnership's assets in 2007, while offshore pipelines represented 13 percent of assets. Additionally, the NGL business segment was 39 percent of total assets. Based on my review of Enterprise Partners' business segment contributions, and the risks of these segments relative to HIOS's risks, I concluded that this MLP is substantially similar to HIOS with regard to its overall operational risks and financial risks, and therefore, I included Enterprise in Tier I of my proxy group.

Q42. Please describe Kinder Morgan Energy Partners, L.P. ("Kinder Morgan") and the operating and financial risks of this MLP.

A. The operations of Kinder Morgan include interstate natural gas pipelines, natural gas gathering pipelines, interstate petroleum product pipelines, crude oil pipelines, CO2 pipelines, and terminals. As shown on Exhibit No. HIO-73, Schedule 4, Kinder Morgan's natural gas pipeline operations contributed 42 percent of the overall operating income of the MLP in 2007. Kinder Morgan's natural gas pipelines segment consists of approximately 14,700 miles of natural gas transmission pipelines and gathering lines, plus natural gas storage, treatment and processing facilities. Kinder Morgan's Product Pipelines segment operates approximately 8,300 miles of refined petroleum products pipelines and 60 associated product terminals and processing facilities. Kinder Morgan's CO2 segment operates approximately 1,300 miles of carbon dioxide transportation pipelines and a 450-mile crude oil pipeline, along with associated production and marketing activities. The Terminals segment consists of approximately 108 liquids and bulk terminal facilities with 45 associated railroad loading and handling facilities. The Trans-Mountain Segment operates over 700 miles of crude oil pipelines and five associated product terminals that originate in Alberta, Canada, with delivery to British Columbia and Puget Sound in Washington State.

Kinder Morgan operates four interstate natural gas pipelines, i.e., Kinder Morgan Interstate Gas Transmission, ("KMI"), Trailblazer Pipeline Company, TransColorado Gas Transmission and the new Rockies Express Pipeline, as well as one intrastate system operating in the Barnett Shale region of Texas, i.e., the Kinder Morgan North system. As shown in Exhibit No. HIO-73, Schedule 3, each of these pipelines sources gas from basins in which there are numerous pipeline competitors, and serve downstream markets that are served by a number of different pipelines.

Kinder Morgan's 34.87 percent equity ratio provides considerably less financial strength than HIOS's proposed hypothetical capital structure.

While Kinder Morgan has several business units discussed above, considering the assets and operating income of the business segments, investors would reasonably view Kinder Morgan as being predominately engaged in the transmission of natural gas. The pipelines owned by Kinder Morgan operate in competitive supply and market areas, and have somewhat similar risks to HIOS pipeline. Furthermore, in *Kern River,* where the Commission was also establishing a proxy group for a company that was comprised 100 percent of natural gas transmission operations, the Commission suggested that it was reasonable to include Kinder Morgan in the proxy group if the weight of the gas and oil pipelines is similar and the combined transmission function exceeds

50 percent. The Commission went on to note that in the 2008 proxy group for *Kern River*, all parties included Kinder Morgan.[28] Since HIOS, like Kern River is a pure-play natural gas transmission company, it is also reasonable to consider Kinder Morgan in the proxy group for HIOS. Therefore, I have included Kinder Morgan in Tier I of the proxy group for HIOS.

Q43. Please describe ONEOK Partners, L.P. ("ONEOK") and the operating and financial risks of this MLP.

A. ONEOK is a mid-stream natural gas company that transports, gathers and processes natural gas and natural gas liquids. ONEOK's interstate natural gas pipeline assets include 1,290 miles of FERC-regulated pipelines with 2.4 Bcf/d of capacity. ONEOK's interstate pipelines include Midwestern Gas Transmission ("MGT"), Guardian Pipeline ("Guardian"), Viking Gas Transmission ("Viking"), OkTex Pipeline ("OkTex") and a 50 percent interest in Northern Border Pipeline ("NBPL"). The natural gas pipeline segment also includes approximately 5,630 miles of intrastate natural gas gathering and state-regulated transmission pipelines, and 51.6 Bcf of natural gas storage capacity. ONEOK's natural gas gathering and processing segment consists of approximately 14,300 miles of gathering pipelines in the Mid-Continent and Rocky Mountain regions, thirteen processing plants, and NGL fractionation

[28] *Kern River* at para 74.

capacity. The NGL gathering and fractionation segment consists of approximately 2,570 miles of NGL gathering pipelines, 163 miles of NGL distribution pipelines, interests in four NGL fractionation facilities, an isomerization unit[29], and seven NGL storage facilities. ONEOK's NGL pipeline segment consists of 4,070 miles of NGL gathering and distribution pipelines, eight NGL product terminals and both below- and above-ground storage facilities. As shown on Exhibit No. HIO-73, Schedule 4, in 2007, ONEOK's natural gas transmission operations were 30 percent of the partnership's assets.

As with the other entities in the proxy group, the pipelines owned by ONEOK connect to production basins that are also connected to markets by numerous other pipelines. As shown in Exhibit HIO-73, Schedule 3 MGT accesses gas from numerous regions at the Chicago Hub, and also accesses production from South Texas and the Gulf Coast through interconnections with several major pipelines including Texas Eastern, Tennessee, and Texas Gas Transmission. Viking and NBPL primarily access production from western Canada, while Guardian connects southeastern Wisconsin with supplies delivered at the Chicago Hub from western Canada, the Rockies, and the Gulf Coast. In addition, as can be seen from Exhibit No. HIO-73, Schedule 3, the ONEOK

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[29] An <u>isomerization</u> unit transforms low-octane molecules into higher-octane branched molecules for blending into gasoline.

pipelines also face competition from other pipelines in their various downstream markets as well.

In addition to the pipeline operations, I have considered the risk associated with contract expirations in determining the comparability of ONEOK to HIOS. As shown in Exhibit No. HIO-73, Schedule 5, several of the pipelines owned or partially owned by ONEOK may experience significant re-contracting risk over the next four years. For example, approximately 90 percent of Viking and Northern Border's contracts will expire during this time and approximately 55 percent of Midwestern's will expire. However, none of the risks for those pipelines are as great as the contracting risk faced by HIOS which provides most of its service under pay-as-you-go interruptible contracts.

In terms of capital structure and relative financial strength, ONEOK operates with approximately a 51 percent equity ratio, which provides ONEOK with higher financial risk than the hypothetical capital structure I am recommending for HIOS.

Although less than 40 percent of its operations involve natural gas transportation or storage, ONEOK nevertheless has significant natural gas pipeline operations and its gas gathering and NGL transportation operations have risks that are somewhat comparable to those of HIOS, with its substantial gathering functions, lack of firm contracts, and exposure to offshore operating risks. In addition, the pipelines operated by ONEOK are operating in competitive environments and experience many of the same risks related to competition that HIOS is currently experiencing. Therefore, I have included ONEOK Partners in Tier I of the proxy group for HIOS.

Q44. Please describe Southern Union Company ("Southern Union") and the operating and financial risks of this Company.

A. Southern Union provides services related to the gathering, processing, transportation, storage and distribution of natural gas in the United States. The transportation and storage segment comprised approximately 74 percent of Southern Union Company's total assets and 62 percent of operating income in 2007, as shown on Exhibit No. _ HIO-73, Schedule 4. Southern Union has an ownership interest in four major interstate natural gas pipelines in the United States:- Panhandle Eastern Pipe Line Company, LP ("PEPL"), Florida Gas Transmission Company, LLC ("FGT"), Trunkline Gas Company ("Trunkline"), and Sea Robin Pipeline Company L.L.C. PEPL owns 9,900 miles of large diameter gas pipeline used to deliver natural gas from producing areas surrounding the Anadarko and Hugoton Basins (Texas, Oklahoma, and Kansas) to Missouri, Illinois, Indiana, Ohio and Michigan. In connection with its transportation services, PEPL owns five gas storage fields. Southern Union Company also owns a 50% equity interest in FGT, which transports natural gas from Southern Texas along the Gulf Coast to Florida. FGT extends over 5,000 miles and has 60 interconnections with major interstate and intrastate pipelines. Seventy percent (70%) of the natural gas consumed in Florida is delivered by Florida Gas. Trunkline transports gas from the Texas/Louisiana Gulf Coast region up the Mississippi Valley to similar markets in the upper Midwest served by PEPL (*i.e.*, Illinois, Indiana, and Southern Michigan). In addition, Southern Union owns Sea Robin Pipeline Company which is an offshore pipeline in the Gulf of Mexico that transports gas to Southern Louisiana. While other operations contributed less to operating income in 2007 than the natural gas transmission segment, Southern Union also has significant local gas distribution operations in Missouri and Massachusetts, and gas processing operations in Texas and New Mexico.

As shown in Exhibit No. HIO-73, Schedule 3, PEPL, FGT and Trunkline all access production basins in which there are numerous pipelines competing to transport gas away from the basin to downstream markets. The onshore and offshore Gulf Coast production accessed by FGT and Trunkline, as well as the onshore Anadarko and Hugoton basin production accessed by PEPL, are also accessed by numerous pipeline competitors. In addition, with the exception of the eastern Florida market where FGT is the sole pipeline supplier, the other downstream markets served by PEPL, FGT and Trunkline also face competition from various other pipelines. As shown in Exhibit No. HIO-73, Schedule 10, Southern Union, with a 39.02 percent equity ratio, has greater overall financial risk than HIOS.

As was noted by the Commission in *Kern River*, it is very difficult to find a pipeline proxy company that experiences the exact same risks as the subject company. In developing the proxy group, the Commission sought to establish a proxy group of companies that are risk appropriate, considering several relevant factors for each company. While Southern Union owns significant pipeline assets, Thomson-Reuters lists the Company's business in the category "Utilities/.../Gas Distribution." Notably, Southern Union and Spectra, the other company in the Tier I proxy group that is listed in the "Utilities/.../Gas Distribution" category, have significantly lower DCF results than the other proxy companies, which are all listed in the Thomson-Reuters "Pipelines" group.[30] This suggests that despite their significant natural gas pipeline operations, these two companies may be viewed by the market more as natural gas distribution companies and therefore they are less risky and somewhat less comparable to HIOS than other potential proxy companies. However since Southern Union did meet the criteria established, I have included this Company in Tier I of the HIOS proxy group.

[30] Thomson-Reuters in Context Report, Southern Union, February 18, 2009

Q45. Please describe Spectra Energy Corporation ("Spectra") and the operating and financial risks of this Company.

A. Spectra Energy Corporation is involved in the transmission, storage, distribution, gathering and processing of natural gas in the United States and Canada. It owns and operates 18,000 miles of transmission pipelines which handled 3,642 trillion Btus of throughput in 2007 through its subsidiaries, Texas Eastern Transmission, L.P. (Texas Eastern), Algonquin Gas Transmission, LLC (Algonquin), East Tennessee Natural Gas, LLC (East Tennessee), Maritimes & Northeast Pipeline ("M&NP"), and its 50% ownership in Gulfstream. Transmission operations in the United States comprised 60% of Spectra Energy's total operating income in 2007, as evidenced by Exhibit No. HIO-73, Schedule 4. Canadian natural gas transmission comprises another 26 percent of Spectra Energy's business operations. Therefore, Spectra's business is highly concentrated in the transmission of natural gas.

Texas Eastern delivers gas from Texas and Louisiana to Ohio, Pennsylvania, New Jersey and New York. It consists of 8,700 miles of onshore pipeline, 500 miles of offshore pipe, 73 compressor stations and three storage fields. Algonquin transports natural gas from New Jersey to New England with 1,100 miles of pipeline and six compressor units. East Tennessee connects with Texas

Eastern in Tennessee and transports natural gas to Georgia, North Carolina and Virginia through 1,400 miles of pipeline with 21 compressor stations. M&NP brings natural gas 900 miles from Nova Scotia to Maine, New Hampshire and Massachusetts with the aid of two compressor stations. Gulfstream delivers natural gas from Mississippi and Alabama across the Gulf of Mexico to Florida.

Spectra's Canadian operations include its Union Gas subsidiary which operates natural gas distribution, transmission and storage services in Ontario, Canada. Union Gas provides distribution service to approximately 1.3 million residential, commercial and industrial customers. Union Gas also operates substantial storage and transmission facilities at the Dawn, Ontario natural gas hub.

The Western Canada Transmission and Processing segment of Spectra operates the BC Pipeline Westcoast, a 1,800 mile gas transmission pipeline that transports gas from northern British Columbia to markets in British Columbia and to the western United States at an export delivery-point interconnection with Northwestern Pipeline. It also provides gas gathering and processing services with 2,600 miles of gathering pipeline and 18 natural gas processing plants, split between two business units.

As shown in Exhibit No. HIO-73, Schedule 3, with the exception of M&NP, all of the Spectra interstate pipelines are directly or indirectly connected to production basins in which there are numerous other pipelines competing to move gas to downstream markets. M&NP is the exception in that it is the only pipeline moving production from offshore Nova Scotia. In addition, with the exception of East Tennessee, all of the Spectra interstate pipelines also face competition from numerous pipelines in their respective downstream markets. Spectra Energy, which is operating with a 40.10 percent equity ratio, also has greater financial risk than the hypothetical capital structure for HIOS.

As shown on Exhibit No. HIO-73, Schedule 4, Page 2, while Spectra has significant natural gas transmission operations, as noted earlier Spectra and Southern Union may be viewed by the market as having risks that are more similar to those of a natural gas distribution company and, therefore, those two companies are less risky and somewhat less comparable to HIOS than other proxy companies.[31] However, because those two companies have significantly lower common equity ratios than the proposed hypothetical capital structure for HIOS, and both companies met my other screening criteria, I also have included Spectra in Tier I of the HIOS proxy group.

[31] Thomson-Reuters in Context Report, Spectra Energy, February 18, 2009.

Q.46 Please describe TC Pipelines, L.P. ("TC Pipelines") and the operating and financial risks of this MLP.

A. TC Pipelines, L.P. is an owner and operator of FERC-regulated natural gas pipelines. As shown on Exhibit No. HIO-73, Schedule 4, Page 3, TC Pipelines is a pure-play natural gas transmission owner with 100 percent of its operating revenue derived from pipeline operations. It owns a 100 percent interest in the Tuscarora Gas Transmission Company ("Tuscarora"), a 46.45 percent interest in the Great Lakes Gas Transmission Limited Partnership ("GLGT"), and a 50 percent interest in the Northern Border Pipeline Company ("Northern Border"). Tuscarora's assets are comprised of a 240-mile, 20-inch pipeline that runs from the Malin Hub on the California/Oregon border through Northeastern California and Northwestern Nevada to Wadsworth, Nevada. The pipeline has a design capacity of approximately 190 MMcf per day. GLGT is owned jointly by TC Pipelines, L.P. and by TransCanada Corporation, a Canadian Corporation. GLGT's assets are comprised of approximately 2,115 miles of natural gas pipeline, ranging between 10 and 36 inches in diameter. The pipeline system is designed to carry approximately 2.3 Bcf per day, and has 14 compressor stations and 55 receipt and delivery points for gas. The pipeline runs between an interconnect with the TransCanada Mainline at the Canadian border at Emerson, Manitoba and interconnects with the TransCanada Mainline at the Canadian border at St. Clair, Michigan.

Northern Border consists of approximately 1,249 miles of natural gas pipeline that runs from the Canadian border at Port of Morgan, Montana to a point near North Hayden, Indiana. The pipeline has a design capacity of approximately 2.374 Bcf per day, and ranges in diameter between 30 and 42 inches. In addition to transporting natural gas from the Canadian border, Northern Border also transports gas from the Williston Basin in Montana and North Dakota and the Powder River Basin in Wyoming and Montana to its eastern delivery points. The pipeline has 17 compressor stations to support the transportation of natural gas at 55 delivery points and ten supply points.

All of the natural gas on Tuscarora, GLGT and much of the gas on NBPL is sourced indirectly from western Canada. There are numerous outlets for gas produced in western Canada and the TC Pipelines must compete to transport that production. In addition, as can be seen from Exhibit HIO-73, Schedule 3, similar to HIOS, Tuscarora, GLGT and NBPL serve various downstream markets where they face competition from one or more pipelines. Considering re-contracting exposure, TC Pipelines may experience significant re-contracting risk, since greater than 90 percent of the contracts on Northern Border and Great Lakes expire before the end of 2012. None of the pipelines owned by TC Pipelines is as risky as HIOS in terms of contracting risk, competition, weather risks, or supply diversity. In addition, TC Pipelines has diversity in the regional and physical operations of its systems that gives it less overall operating risk than HIOS. Finally, as shown on Exhibit No. HIO-73, Schedule 10, TC Pipelines has an equity ratio of 60.86 percent which presents essentially the same financial risk as HIOS's proposed hypothetical capital structure.

Because TC Pipelines, like Boardwalk, is a publicly-traded, pure-play natural gas transmission business, it is one of the most comparable to an interstate natural gas pipeline company of all the potential proxy companies considered for the HIOS proxy group.[32] Therefore, although it is less risky than HIOS, TC Pipelines is substantially similar to a natural gas pipeline company like HIOS in terms of operations and overall risk, and I have therefore included this MLP in Tier I of the proxy group for HIOS.

2) <u>Tier II Comparable Company</u>

Q.47 Please describe Williams Companies, Inc. ("Williams") and the operating and financial risks of this company.

A. Williams is a natural gas company with business segments engaged in exploration, production, gathering, processing and the transportation of natural gas. Through its gas pipeline business segment, Williams owns Transcontinental Gas Pipe Line Corporation ("Transco"), Northwest Pipeline

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[32] The Commission reached this same conclusion about TC Pipelines in *126 FERC ¶ 61,034*; *Kern River Opinion 486-B*.

GP ("NWPL"), a 50 percent interest in Gulfstream Natural Gas System, LLC ("Gulfstream") and interests in other joint venture interstate and intrastate pipelines. Altogether it owns and operates 14,200 miles of natural gas pipelines with a total annual throughput of approximately 2,700 trillion Btu and peak-day delivery capacity of approximately 12 MMDth. Additionally, the gas pipeline business segment incorporates certain natural gas storage facilities that operate along the Transco and NWPL systems. Williams also owns gas gathering and processing assets which include 8,700 miles of pipeline, nine processing plants, five natural gas treatment plants, an ethylene production plant and Canadian plants dedicated to olefin extraction. A gas marketing division provides support for the natural gas businesses through risk management and procurement services. This service is also offered to third-party producers.

As shown in Exhibit No. HIO-73 Schedule 4, page 3, natural gas transmission activities accounted for approximately 33 percent of Williams' 2007 operating income and 35 percent of its assets.

As shown in Exhibit No. HIO-73, Schedule 3, Transco, Gulfstream and NWPL face significant pipeline competition from the basins to which they are connected. Specifically, Transco and Gulfstream compete with numerous pipelines in the Gulf Coast, while NWPL competes with various pipelines in carrying gas out of the San Juan basin, transporting gas out of the Rockies, and transporting gas from western Canada. In addition, Transco, Gulfstream and NWPL also face competition in the various downstream markets that they serve. While Transco and NWPL serve some markets where they are the only provider, they also serve various other downstream markets where they face competition from one or more pipelines. Furthermore, as shown in Exhibit No. HIO-73, Schedule 5, over the next five years three of the Williams pipelines face significant contract expirations of 40 to 65 percent on a cumulative basis. Williams has an equity ratio of 52.01 percent, which is less than HIOS's hypothetical equity ratio.

Williams has historically been recognized as predominantly engaged in the interstate natural gas transmission business; however, it had been excluded from recent proxy groups due to financial difficulties and credit issues. Williams currently has an investment-grade bond rating, and is significantly engaged in natural gas transmission activity. Moreover, Williams' midstream gas and liquids business segment has risks that are reasonably similar to those of HIOS's off-shore pay-as-you-go operations. However, Williams' substantial exploration and production operations are riskier than HIOS's operations because exploration and production is subject to many of the same risks of supply disruption as HIOS and also face greater risks related to commodity price volatility and uncertainty concerning the discovery of recoverable reserves. Because Williams' non-comparable exploration and production operations accounted for 39 percent of operating income and 35 percent of assets in 2007, I have included Williams in Tier II, but not Tier I, of my proxy group.

3) <u>Tier III Comparable Company</u>

Q.48 Did you consider other potential proxy companies?

A. Yes. In my initial screening process there were several other potential proxy companies considered. Since none of these companies is sufficiently comparable to HIOS to be included in the proxy group, I generally will not include a detailed discussion of their operations in this evidence. The one exception is with respect to National Fuel Gas which was included by the Commission in the 2004 proxy group, but which is no longer a good proxy for natural gas pipeline companies in general, or for HIOS in particular.

Q.49 Please discuss your analysis of the comparability and risks of National Fuel Gas Company ("National Fuel")?

A. National Fuel has five distinct business segments. Its utility operations, which contributed 25 percent to operating income and comprised approximately 40 percent of net assets in 2007, are focused on the sale and local distribution of natural gas in New York and Pennsylvania. The New York distribution business operates using a decoupled rate structure, which reduces earnings variations due to throughput on the distribution utility's system. This makes the utility segment even more dissimilar to HIOS, which, as discussed previously, does not have significant long-term firm customers and has revenues almost completely dependent on declining and unreliable throughput. These operations clearly are not comparable in risk to HIOS's operations. The second largest business segment is Exploration and Production, which contributed 37 percent to operating income and 34 percent of net assets. Again, these operations do not have risks that are comparable to the risks of HIOS's operations because exploration and production is generally subject to greater commodity price volatility and uncertainty concerning recoverable reserves.

Pipeline and storage operations contributed 28 percent to operating income and comprise 21 percent of assets. Finally, the Energy Marketing and Timber business units are fairly insignificant, contributing approximately six percent of operating income and net assets.

The natural gas pipeline segment provides interstate and intrastate natural gas transportation for utilities, power producers and other independent customers. However, affiliated companies are a significant portion of the customer base for National Fuel's pipeline services. National Fuel owns the Empire Pipeline, formerly an intrastate gas pipeline, regulated by the New York Public Service

Commission ("NYPSC"), which is comprised of 157 miles of pipe commencing at the US/Canadian border at the Niagara River near Buffalo, New York with its terminus at a point near Syracuse, New York. The company has recently completed a 77 mile extension of the Empire Pipeline with additional compression capacity in order to interconnect with the unaffiliated new Millennium Pipeline. Upon completion of the extension of the Empire Pipeline, Empire Pipeline is now an interstate system and subject to the jurisdiction of the FERC. Additionally, National Fuel Gas Supply Corporation ("NFGSC") is part of the pipeline segment. NFGSC provides FERC-regulated interstate natural gas transportation and storage services through approximately 2,972 miles of pipeline and 27 underground natural gas storage facilities. NFGSC's pipeline network extends from southwestern Pennsylvania to the US/Canadian border at Niagara Falls, and eastward in Pennsylvania to Ellisburg and Leidy.

While much of the capacity on the pipeline is under contract to serve the company's distribution business, as shown in Exhibit No. HIO-73, Schedule 3, the remainder of the gas transportation capacity on NFGSC is subject to pipeline competition both upstream and downstream. Specifically, NFGSC is a network pipeline system that accesses production directly in the New York/Pennsylvania region, indirectly from western Canada, and from several other producing areas. Both NFGSC and Empire Pipeline serve downstream markets in the New York/Pennsylvania and upstate New York regions, respectively, which are also served by various other pipelines.

Based on my review of the business operations of National Fuel, I do not believe that it is of similar risk to HIOS and therefore have excluded it from my proxy group for HIOS. National Fuel is a vertically integrated energy company that is predominantly engaged in the local distribution company business with 40 percent of the assets dedicated to this business unit, and a significant percentage of operating income derived from this segment. Additionally, National Fuel did not fulfill my screening requirement of at least 30 percent pipeline operating income or assets in 2007, in order to qualify for inclusion in either of the tiers of my comparison companies.

In the *Kern River* decision, the Commission assumed that LDC operations and natural gas transmission operations are of similar risk, aggregating these two business units to meet a 50 percent gas pipeline threshold. However, National Fuel's local distribution business is clearly less risky than the typical gas pipeline and in no way comparable to HIOS. Although the lower risk faced in the distribution business is offset by the higher risk of exploration and production, National Fuel is not sufficiently similar to HIOS to be included in either Tier I or II of my proxy group. If there were an insufficient number of proxy companies comparable to HIOS, it might be necessary to establish a Tier III of comparable companies and make adjustments for the differences in risk between HIOS and the Tier III comparable companies. Since there are eight companies in my first tier, in this case there is no need to include a third tier of less comparable companies such as National Fuel Gas.

Q.50 Please summarize your recommended proxy group for HIOS?

A. As discussed previously, my analysis began with 39 companies and MLPs covered by Value Line. I applied seven screening criteria to identify a short list of potential proxy companies. Next, consistent with the Commission's Policy Statement and the precedent established in *Kern River*, I analyzed the business operations of each of the ten potential proxy companies that met these initial screening criteria or were included by the Commission in the *Kern River* proceeding. Consistent with the Commission's approach in *Kern River*, I relied on these analyses to determine the comparability of each potential proxy group company to HIOS. The first tier, listed below, is the most reasonable proxy for HIOS's business operations and risks, while the addition of the results from the second tier provides additional data that may alleviate concerns of an inadequate sample size. The tiers of my proxy group are structured as follows:

Tier I

- Boardwalk Pipeline Partners, L.P.
- Enbridge Energy Partners, L.P.
- Enterprise Product Partners, L.P.
- Kinder Morgan Energy Partners, L.P.
- ONEOK Partners, L.P.
- Southern Union
- Spectra Energy
- TC Pipelines, L.P.

Tier II

- Williams Companies

Q.51 **Please compare your Tier I recommended proxy group with the proxy group adopted by the FERC in *Kern River*.**

A. The proxy group that was established by the FERC in *Kern River* was based on the ownership structure of pipelines and MLPs as they existed in 2004, when the Kern River case was filed. Since that time, the ownership of pipelines and the structure of pipeline ownership have changed considerably. As was noted by the FERC in the Pipeline Proxy Policy Statement, there now are fewer pipeline corporations, as pipeline assets are now increasingly held by MLPs. My Tier I proxy group necessarily reflects this change in ownership structure. As discussed by the FERC in *Kern River*, even in the 2004 data set that was used to develop the *Kern Riv*er proxy group, there were very few pure-play pipeline companies.

HIOS, being a pure-play offshore natural gas transmission and gathering operation, faces the same issue of comparability, and the movement of some pipeline companies to more-diversified MLPs over the past several years has reduced the number of companies that are highly concentrated in the natural gas pipeline business that can be used as proxy companies. Therefore, in order to develop the most comparable proxy group for HIOS, my Tier I group includes:

- the only two pure play natural gas pipeline entities that met my screening criteria – Boardwalk Pipeline Partners and TC Pipelines;
- four pipeline companies – Enbridge Energy Partners, ONEOK, Southern Union and Spectra – that were at least approximately 50 percent involved in natural gas transmission, gathering and processing, and that were also involved in fee-based natural gas liquids transportation, despite the fact that Southern Union and Spectra also have significant gas distribution operations; and,
- two pipeline companies -- Enterprise Products Partners and Kinder Morgan Energy Partners -- that have greater than 40 percent involvement in natural gas transmission, gathering and processing, that also had very substantial natural gas liquids transportation operations and, importantly in the case of Enterprise Products, contracting risk profiles and offshore pipeline risks that are most similar to the risks faced by HIOS.

Q52. Does your proxy group include all the Companies that the Commission included in Kern River?

A. While I considered each company that was included by the Commission in *Kern River*, as discussed above, the change in the ownership structure and asset mix of many companies made several of the companies included in a 2004 proxy group for Kern River less comparable to HIOS today, and has created some companies that are more comparable to HIOS and/or other pipelines. For example, the operations of Boardwalk and TC Pipelines are nearly 100 percent natural gas transmission and storage related and therefore they have been included in my proxy group for HIOS. The inclusion of TC Pipelines is consistent with the Commission's decision in *Kern River*. In *Kern River*, the Commission included TC Pipelines in the proxy group, indicating that TC Pipelines met the threshold of 50 percent natural gas pipeline operations. Boardwalk, while not included in any recommendations for the 2004 proxy group in the Kern River proceeding, was recommended by interveners for the 2008 proxy group.[33] Similarly, Enterprise was recommended by FERC Staff in *Kern River* for the 2008 proxy group. Enbridge, while not recommended by interveners in *Kern River*, meets my threshold for natural gas transmission ownership and has important similarities to HIOS with respect to contracting risk and offshore operations, such that it should be included in the proxy group.

[33] The Commission relied on a 2004 proxy group and therefore, no decision was made as to the comparability of Boardwalk to Kern River.

Although the Commission included Northern Border in its proxy group in *Kern River*, Northern Border and several other pipelines are now owned by ONEOK Partners, L.P. Based on the comparability of ONEOK Partners to HIOS, I have included ONEOK Partners in my Tier I proxy group. Similarly, the Commission included Kinder Morgan, Inc. and Kinder Morgan Energy Partners in the proxy group for Kern River, however Kinder Morgan Inc. is no longer a publicly-traded entity. I have proposed the inclusion of the Kinder Morgan Energy Partners as a Tier I proxy for HIOS because KMEP has 42 percent of its income and 29 percent of its assets associated with natural gas pipeline operations, and nearly all of its business is associated with the transportation and storage of gases and hydrocarbons.

Williams was not included in the 2004 proxy group adopted by the Commission in *Kern River* and it was not recommended by the Commission Staff for the 2008 proxy group. In this case, Williams would be classified as a second tier comparable company for HIOS because it has generally lower involvement in natural gas transmission, gathering and processing than the eight other proxy companies, and it has a substantial portion of its earnings and assets associated with exploration and production operations, the risks of which are not similar to the risks of HIOS's operations.

Finally, the Commission included National Fuel in the proxy group for *Kern River*. As I have discussed in detail above, National Fuel does not meet the comparability standard for HIOS at anything but the third tier. National Fuel is fairly equally diversified between exploration and production, natural gas distribution and natural gas transmission business segments. Because of its lower relative involvement in natural gas transmission, gathering and processing operations than nine other potential proxy companies, and the significant dissimilarity between HIOS and National Fuel's gas distribution operation and its gas exploration and production operations, I have categorized National Fuel as a Tier III company and do not believe that it should be included in a proxy group for HIOS.

Q.53 How do the overall risks of the natural gas pipeline proxy companies compare with the risks faced by HIOS?

A. The Tier I proxy companies I have selected are the most reasonable companies to use to reflect the business operations and associated risks of HIOS. As shown on Exhibit No. HIO-73, Schedules 3, 4 and 5, all of the natural gas pipeline proxy companies are significantly more diversified than HIOS both in terms of geographic markets and lines of business. Each of the proxy group companies has a portfolio of assets that source gas from more than one producing region and that reach multiple market areas. As a result of this diversity advantage, all of the proxy group companies have less business risk than does HIOS.

Furthermore, in addition to the proxy companies having greater diversification resulting from the ownership of different pipelines in different regions, many of the pipelines that are owned by the proxy companies have access to multiple market areas. For example, Boardwalk, Southern Union Gas, Spectra and Kinder Morgan all have ownership interests in pipelines that source gas directly from the Gulf of Mexico and Texas. Kinder Morgan and ONEOK also source gas supplies from other US producing regions. In addition, the pipelines owned by each of these companies also directly transport gas supplies to market regions. The greater diversification that is experienced by the proxy group companies serves to reduce the overall volatility and risk of expected earnings. In contrast, HIOS is tied to one, relatively small, offshore producing area and faces considerable amounts of competition. As is discussed by Mr. Guion, HIOS faces competition from Transco (which is owned by Williams) and Stingray Pipeline (which is owned by Enbridge); both of which have the ability to move gas from the Gulf of Mexico to other markets.

D. Dividend Yields

Q.54 How did you calculate the dividend yields for the companies in your comparison groups?

A. The dividend yields were calculated for each company by dividing the current annualized dividend by the average of the stock prices for each company. For the price component of the calculation I calculated the high and low price for each month during the six month period from August 2008 to January 2009. The dividend yield was then calculated for each month using the most recent dividend for that period. The six dividend yields over this time period were then averaged to derive the dividend yield that was used in the DCF analysis. This is consistent with the approach that was relied upon by FERC Staff in *Kern River*.[34] These calculations are shown on Schedule 6 of Exhibit No. HIO-73. These dividend yields can be multiplied by the quarterly DCF model factor (1 + .5 g) to arrive at the dividend yield component of the DCF model[35].

E. Growth Rate Analysis

Q55. Please describe the methods you used in estimating the future growth rate that investors expect from these companies?

A. There are many methods that reasonably can be employed in formulating a growth rate estimate, but an analyst must attempt to ensure that the end result is

[34] Trial Staff Initial Brief, Exhibit S-3, June 17, 2008, p. 212.

[35] In the Alternative Basic DCF, the dividend is multiplied by (1+.625g) calculate the dividend yield.

an estimate that fairly reflects the forward-looking growth rate that investors expect. I developed three different DCF analyses based on different growth rate estimation methods: 1) the Policy Statement approach[36]; 2) an Alternative "Realistic Expectations" approach and, 3) an Alternative Basic DCF model.

Q56. In your opinion, what are some of the underlying factors that will affect future growth rates for the companies in both proxy groups?

A. One important factor will be growth in the overall economy. Exhibit No. HIO-73, Schedule 1, Page 1 shows that the United States Gross Domestic Product has grown at an average annual rate of 6.3 percent during the past 30 years and at rate of 5.0 percent during the past decade. It is reasonable to expect that long-term future growth in the economy generally will be comparable to past growth rates in the 5.0-6.3 percent range.

Another factor will be demand for natural gas. Natural gas usage has been increasing in recent years and many analysts are expecting demand to increase steadily during the next decade and beyond. For example, the Energy Information Administration of the U.S. Department of Energy (EIA) forecasts that gas consumption in the United States will grow from its current level of approximately 23 Tcf per year to approximately 24.4 Tcf per year in 2030. This

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[36] This method, which was used by FERC Staff Witness Green in the Kern River proceeding, produces the final results that were approved by the FERC. See Trial Staff Initial Brief, Exhibit S-3, June 17, 2008.

forecast is largely dependent on the demand for natural gas from the electric power sector.[37] Steady increases in demand for gas transportation should be fueled by the availability of domestic and imported supplies, and the superior environmental characteristics of natural gas that should allow it to achieve a greater market share relative to other fuels.

Q57. What are some of the other factors that will affect the growth rates of the proxy companies in the foreseeable future?

A. The U.S. domestic natural gas industry will require increasing amounts of plant and capital in future years to maintain existing services and to adjust to changing circumstances. Additional capital generally should be needed to replace old, depreciated plant because of the high rates of inflation experienced during the past 30 years. Whereas depreciation is based on the original cost of plant, denominated in outdated nominal dollars, replacement plant must be purchased with current dollars. Thus, additional capital is needed simply for replacement.

Another growth factor will be the need to serve new or growing markets. Many of the major new projects proposed or constructed in recent years have been for this purpose. For example, electric power generation should continue to be a growth market for natural gas. Dramatic improvements in the efficiency of

[37] Energy Information Administration, 2009 Annual Energy Outlook Early Release Overview, http://www.eia.doe.gov/oiaf/aeo/overview.html.

combined-cycle plants during the past decade, along with the Commission's policies that require open access to the electric transmission grid, have created a very large demand for new gas-fired electric generating plants and pipeline capacity to supply these plants. Air quality and plant siting requirements, combined with an aversion to coal-fired plants, have created an expectation of increases in demand for natural gas-fired generation in the future. However, there is an expectation that load factors for gas-fired generating plants might be reduced to the extent that subsidies for wind power cause a decrease in total gas demand, but little or no reduction in the peak capacity requirements for gas delivery.

Pipelines also must add facilities to attach new gas supplies as the sources of existing supplies are depleted and new areas are developed. Many of the new pipeline facilities proposed in recent years have been designed to transport growing supplies from western Canada, the Rocky Mountain and Powder River regions and the Canadian Maritimes region. Several large LNG import terminals have been proposed or completed during the past few years. In addition, technological improvements and discoveries of enormous amounts of shale gas in formations throughout North America will create a need for large amounts of new pipeline construction that may displace existing pipelines that carry production from more distant sources. Further in the future, investors expect that new supplies from Alaska and/or the Mackenzie Delta regions will add to the supplies of gas available and require additional investments in many parts of the energy infrastructure. These various sources of new supplies are likely to contribute to growth in overall gas usage, and also may displace volumes from other supply basins. Consequently, as the natural gas industry becomes increasingly competitive, domestic pipeline capacity and investment is likely to grow more rapidly than overall consumption, and many existing pipelines are becoming riskier.

Finally, if growth in the regulated pipeline industry slows, or if regulated returns become inadequate, we would expect to see these pipeline proxy companies directing a greater share of their investments toward unregulated investments that offer the opportunity of a reasonable return and that will sustain a relatively high level of growth.

1) Policy Statement Method

Q58. Did you do a calculation of the DCF results that would be obtained if investors expect the growth rates produced by the method specified in the Commission's policy statement?

A. Yes. Using the methodology outlined by the Commission in the Policy Statement[38] and recently applied in *Kern River*, ("the Policy Statement Approach"), I calculated a DCF rate of return for the proxy group using the Commission's traditional two-stage model. Short-term growth rates for the proxy

[38] This approach was outlined in *123 FERC ¶ 61,048 (2008)*at para 6.

group companies and MLPs were based on the growth rates published by I/B/E/S[39]. The long-term growth rates for corporations in the proxy group were calculated using the average of Global Insight, EIA and the Social Security Administration forecasts of nominal GDP growth. These sources are consistent with the sources that were relied upon by the FERC Staff and were ultimately approved by the FERC in *Kern River*.[40] I relied on these data to calculate the arithmetic mean growth rates, which are theoretically correct growth rates to use in preparing an estimate of annual return requirements. Long–term growth rates for MLPs were calculated using one-half of the GDP growth rate, as required by the Commission in its Policy Statement and applied in *Kern River*[41]. The growth rates relied upon for this analysis are provided in Schedule 7 of Exhibit No. HIO-73. The DCF results that resulted from this analysis for each of the proxy group companies are provided in Schedule 8 of Exhibit No. HIO-73. Table 4 below summarizes the results of the Policy Statement Approach. As shown in Table 4, this approach results in a primary market cost of common equity capital for the Tier I natural gas pipeline proxy companies of between 11.37 percent and 16.87 percent.

[39] This is consistent with the Staff approach that was adopted by the Commission in its final decision in *Kern River*. See Trial Staff Initial Brief Exhibit S-2, Schedule Nos. 4, 5, 6, 10 & 11 , June 17, 2008.

[40] Trial Staff Initial Brief, Exhibit S-3 p. 222, June 17, 2008.

[41] Ibid at para 96.

Table 4: DCF Results - Policy Statement Approach

Approach Adopted in Kern River Decision

	Tier I Proxy Group	
	Secondary Market	**Primary Market**
High	16.87%	17.60%
3rd Quartile	15.56%	16.22%
2nd Quartile (MEDIAN)	**14.02%**	**14.62%**
1st Quartile	12.83%	13.38%
Low	11.37%	11.86%

2) Realistic-Expectations Growth Analysis

Q.59 Please describe the Realistic-Expectations Growth method.

A. For purposes of presenting a DCF analysis that I believe is more accurate than that currently used by the FERC in interstate natural gas pipeline proceedings, I have utilized a variation on the two-stage methodology that the Commission addressed in the Policy Statement. Consistent with the Policy Statement, in my "Realistic-Expectations Growth" methodology, I rely on IBES growth rates for the short-term growth rate. For long term growth rates, in place of the GDP forecast of growth in the U.S. economy, I have utilized my own estimates for the sustainable growth rate based on the retention growth rate estimates for each of the corporate entities in the proxy group and a combination of factors for the MLP's in the proxy group, which I discuss in more detail below.

Q.60 In your opinion does the Policy Statement Approach adequately represent the return on equity for MLPs?

A. No. As shown on Page 3 of Schedule 7 of Exhibit No. HIO-73, using ½ GDP as the long term growth rate for the MLPs significantly suppresses the growth rates of MLPs in comparison with the growth rate forecasts of investment analysts. Moreover, the ½ GDP growth rate bears no relationship to the historical growth rates of the MLPs that have lengthy earning histories. For example, Kinder Morgan has maintained earnings per unit growth rates greater than seven percent during the past decade, and there is no sign that the growth rate for this MLP is likely to permanently drop to a growth rate equal to the 4.48 percent GDP growth rate forecast, much less to a persistent growth rate that is one-half that level. Accordingly, the DCF results using the ½ DCF growth rate are in my opinion significantly understated.

Q.61 Are there better indicators of investors' long-term growth rate expectations for the corporations in the proxy group than the U.S. GDP forecasts?

A. Yes. If the Commission is interested in estimates that go beyond the period covered by analysts' forecasts, one alternative that is more supportable than the Policy Statement approach is to use the full U.S. GDP forecast for the second-stage growth rates for MLPs and to use the projected earnings retention growth rates for the corporations. Analysts' projections of the long-term earnings growth rates for all of the MLPs except TC Pipelines are greater than the 4.48 percent growth rate projected for the U.S. GDP. In fact several of the analysts' projections are substantially higher than the U.S. GDP growth projections. Consequently, a more measured adjustment to reflect the long-term growth rate expectations of investors is to use 4.48 percent as the second-stage growth rate. Using one-half that amount for the second-stage growth rate is an extreme adjustment that cannot be shown to reasonably reflect investors' expectations.

With respect to corporations, in the long-run, growth in earnings and dividends per share depends in part on the amount of earnings that are being retained and reinvested in a company.

Q.62 How can a corporation's earnings retention rate affect its future growth?

A. Retention of earnings causes an increase in the book value per share and, *ceteris paribus*, increases the amount of earnings that are generated per share of common stock. The retention growth rate can be estimated by multiplying the expected retention rate (b) times the rate of return on common equity (r) that a company is expected to earn in the future. For example, a company that is expected to earn a return of 15 percent and retain 80 percent of its earnings might be expected to have a growth rate of 12 percent, computed as follows:

.80 x 15 percent = 12 percent

On the other hand, another company that is also expected to earn 15 percent but only retains 20 percent of its earnings might be expected to have a growth rate of 3 percent, computed as follows:

$$.20 \times 15 \text{ percent} = 3 \text{ percent}$$

Thus, the rate of growth in a firm's book value per share is primarily determined by the level of earnings and the proportion of earnings retained in the company.

Q.63 Is there a source for expected future retention rates?

A. Yes. For most companies, Value Line publishes forecasts of data that can be used to estimate the retention rates that its analysts expect individual companies to have 3-5 years in the future. Since these retention rates are projected to occur at a point in time several years in the future, they should be indicative of a normal expectation for a primary underlying determinant of growth that would be sustainable indefinitely beyond the period covered by analysts' forecasts. While companies may have either accelerating or decelerating growth rates for extended periods of time, the retention growth rates expected to be in effect 3-5 years in the future generally represent a *minimum* "cruising speed" that companies can be expected to maintain indefinitely.

Q.64 How did you derive the Value Line retention growth rates that you relied on to calculate a Realistic-Expectations DCF analysis for the corporations in your proxy group?

A. The derivation of Value Line's retention growth rate forecasts for each proxy corporation is shown on page 4 of Schedule 7 of Exhibit No. HIO-73. As shown in the schedule, the retention rate is calculated for each company by subtracting from 1.0 the company's dividend payout ratio (i.e., the ratio of projected dividends per share and projected earnings per share). The retention growth rate estimate is then the product of the projected return on equity and the retention rate for each company.

As the Commission does in its current growth rate methodology, I calculated for each company a weighted average of the analysts' projected growth rate (based on IBES data) and the projected retention growth rate to derive a long-term growth rate estimate for use in the DCF model. These calculations are shown on page 4 of Schedule7 of Exhibit No. HIO-73.

Q.65 How did you calculate the Realistic-Expectations Growth Rates for the MLP's in the proxy group?

A. Because projected retention growth rates and return on equity estimates are not provided consistently for MLP's by Value Line, and MLP's have managed to grow consistently, in some cases for more than a decade, without any significant retention of earnings, I relied on the projected growth rate for the U.S. GDP as a long-term guideline to ensure that the expected growth rates are sustainable indefinitely. These sustainable long-term growth estimates are shown in Schedule 7 of Exhibit No. HIO-73.

Q.66 How did you combine these growth rate estimates with dividend yields to produce an estimate of the return on common equity capital that investors require from the proxy companies?

A. Again, I used the same method that the FERC has adopted in recent decisions. The dividend yield for each company shown on page 1 of Schedule 6 of Exhibit No. HIO-73 is multiplied times the dividend adjustment factor utilized by the Commission (1 + .5g) and added to the growth rate estimate. The calculations for each of the proxy group companies are shown on page 2 of Schedule 8 of Exhibit No. HIO-73. Table 5 below presents a summary of the results of this analysis. As shown in Table 5, this approach indicates that the cost of common equity capital for Tier I of the natural gas pipeline proxy companies is in a range between 12.51 percent and 17.67 percent. The median for the group is 14.80 percent.

Table 5: DCF Results- Realistic Expectations Retention Growth Approach

	Tier I Proxy Group	
	Secondary Market	**Primary Market**
High	17.67%	18.43%
3rd Quartile	16.34%	17.04%
2nd Quartile (MEDIAN)	**14.80%**	**15.44%**
1st Quartile	13.67%	14.26%
Low	12.51%	13.05%

3) <u>Alternative Analysis - Basic DCF</u>

Q.67 What approach did you use in conducting a Basic DCF analysis?

A. The Basic DCF analysis is a constant growth model that relies exclusively on analysts' forecasts of growth rates. The U.S. GDP and retention growth rate components that were discussed previously are omitted from this analysis. This Basic DCF analysis recognizes that the consensus of analysts' forecasts reflects the most important component of investors' growth rate expectations and it assumes that the analysts' forecasts incorporate all information required to estimate a long-term expected growth rate for a company. Financial research and empirical literature indicate that analyst forecasts are the best available estimates for future growth rates. Consequently, although FERC reduces pipeline growth rate estimates by including GDP growth forecasts in the second stage growth analysis, I also have calculated the results using the more widely accepted method that relies solely on analysts' estimates.

Q.68 How did you calculate the cost of capital using the Basic DCF analysis?

A. These calculations are shown on Page 3 of Schedule 8 of Exhibit No. HIO-73. In the Basic DCF analysis, annual dividend yield is multiplied times the quarterly dividend adjustment factor (1 + .625g) and this product is added to the growth rate estimate to arrive at the investor-required return. As shown on Page 3 of Schedule 8 of Exhibit No. HIO-73 and in Table 6 below, the Basic DCF analysis indicates a median secondary market cost of common equity for the Tier I proxy companies of 15.04 percent and a median primary market cost of common equity of 15.69 percent.

Table 6: Alternative DCF - Basic Approach

	Tier I Proxy Group	
	Secondary Market	**Primary Market**
High	18.11%	18.89%
3rd Quartile	17.51%	18.27%
2nd Quartile (MEDIAN)	**15.04%**	**15.69%**
1st Quartile	13.82%	14.42%
Low	12.62%	13.17%

IV. CORROBORATING ANALYSES

A. <u>Risk Premium Analyses</u>

Q.69 Please explain what the risk premium analysis measures.

A. The risk premium approach provides a general guideline for determining the level of returns that investors expect from an investment in common stocks. Investments in the common stocks of companies carry considerably greater risk than investments in bonds of those companies since common stockholders only receive dividends after the bondholders have been paid. In addition, in the event of bankruptcy or liquidation of the company, the stockholders' claims on the assets of a company are subordinated to the claims of bondholders. This superior standing provides bondholders with greater assurances that they will receive the return on investment that they expect and that they will receive a return of their investment when the bonds mature. Accompanying the greater risk associated with common stocks is a requirement by investors that they can expect to earn, on average, a return that is greater than the return they could earn by investing in less risky bonds. Thus, the risk premium approach estimates the return investors require from common stocks by utilizing current market information that is readily available in bond yields and adding to those yields a premium for the added risk of investing in common stocks.

Q.70 Did you consider any risk premium analyses to support your cost of equity recommendation?

A. Yes, I considered two risk premium approaches that are based on data concerning historical stock and Corporate Bond returns published by Morningstar, Inc.[42] In this analysis, I considered returns and risk premiums earned by two groups of companies: (1) the return premiums generated by large companies over the period from 1926 through 2007; and (2) the return premiums generated by companies that are similar in size to HIOS pipeline.[43] In addition, I examined the return premiums of large company common stock returns as compared with returns on corporate bonds for the period from 1926 through 2007. Comparing the large company stock returns of 12.3 percent to the average yield on long-term corporate bonds of 6.20 percent for this period results in an average premium for large company common stocks over this period of 610 basis points (6.1 percent) on an annual average basis. When this premium is added to the current Moody's corporate bond yield of 6.64 percent,[44] the result is an investor return requirement for large company stocks of 12.74 percent. A better comparison, however, is with companies in the same size range as HIOS. Smaller companies often have higher returns and a higher cost of capital because they tend to be less diversified than very large

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[42] Formerly called "Ibbotson Associates."

[43] As shown on Exhibit No. HIO-73, Schedule 2, HIOS is significantly smaller than most of the proxy companies.

[44] Exhibit No. HIO-73, Schedule 1.

companies. The premium over corporate bond yields for companies in HIOS's size range is about 930 basis points or 9.3 percent (15.5 percent - 6.2 percent). When added to the recent average corporate bond yields, this size-related premium suggests an expected return of 15.94 percent (9.3 percent + 6.64 percent).

Q.71 Did you also consider the return premium of common stocks relative to U.S. Treasury Bonds?

A. Yes. However, during the current financial market crisis there has been an exceptionally large divergence in the yields on corporate bonds as compared with US Treasury bonds and, as a result, in my opinion the historical risk premiums relative to US government bonds do not provide an accurate or reliable indicator of required returns at this time.

B. <u>Comparable Earnings</u>

Q.72 Have you conducted any analyses to determine the level of returns that are commensurate with returns on unregulated enterprises with corresponding risks?

A. Yes. I conducted a Comparable Earnings analysis using the returns that were achieved in 2004-2007 by unregulated companies that were similar in risk to HIOS. Additionally, I considered the projected returns for these companies for 2008-2009. My analysis began with the U.S. companies covered by Value Line across approximately 100 industry segments. Companies were considered under my analysis to be of comparable risk if they met the following three screening criteria:

(1) Value Line safety ranking[45] of 2 or 3,

(2) Companies were BBB- to BBB+ rated by Standard & Poor's

(3) Equity ratio between 35 and 65 percent.

I excluded the eight utility industry segments covered by Value Line in order to avoid the logical circularity that would otherwise result from using the returns earned by regulated companies as a measure of the fair rate of return for a regulated company. I also excluded ten industry segments that were financial or finance-related because the capital structure and operating characteristics of financial institutions are fundamentally different from industrial and transportation companies. The resulting 26 unregulated companies that met these screening criteria can reasonably be considered to have corresponding risk to HIOS pipeline. As shown in Table 7, the average return between 2004 and 2008 on these unregulated companies was 16.66 percent. As a benchmark, a return close to the 5-year average median is appropriate.

[45] The proxy group companies used in the DCF analysis had an average safety ranking of approximately 1.88.

Table 7: Return on Equity of Unregulated Companies with similar risk Profiles

	Return on Shareholders Equity								
	2004	**2005**	**2006**	**2007**	**2008**	**Long-Term Debt/Total Capital**	**Value Line Safety Rank**	**S&P Issuer Rating**	**Industry**
Ametek, Inc.	17.10	17.50	18.80	18.38	18.50	34.96	2.00	BBB	Diversified Co.
Joy Global	14.40	25.40	34.00	38.65	39.00	35.37	3.00	BBB-	Coal
Amphenol Corp.	33.90	30.20	29.80	27.92	31.00	36.32	3.00	BBB-	Electronics
Avery Dennison	19.80	22.30	22.60	19.43	14.50	36.53	2.00	BBB	Chemical (Specialty)
Xilinx Inc.	11.90	13.00	19.80	22.73	24.50	37.42	3.00	BBB-	Semiconductor
Reynolds American	10.20	15.00	16.10	18.06	18.00	37.69	3.00	BBB-	Tobacco
Goodrich Corp.	12.80	16.60	17.00	19.23	21.00	37.73	3.00	BBB+	Aerospace/Defense
Beckman Coulter	19.30	15.80	13.50	14.19	14.00	38.13	2.00	BBB	Medical Supplies
Laboratory Corp.	18.20	20.50	22.20	29.38	24.50	38.44	2.00	BBB	Medical Services
Agilent Technologies	9.80	12.10	14.40	18.86	27.10	39.22	3.00	BBB-	Precision Instrument
Pall Corp.	14.40	12.40	12.30	12.00	19.07	39.60	2.00	BBB	Chemical (Diversified)
Mettler-Toledo Int'l	15.00	19.30	23.50	30.71	36.00	39.85	3.00	BBB	Precision Instrument
Anadarko Petroleum	17.20	22.30	18.70	23.09	19.50	40.53	2.00	BBB-	Petroleum (Producing)
Amer. Capital Ltd.	11.80	10.80	9.80	9.22	12.50	41.44	3.00	BBB	Public/Private Equity
M.D.C. Holdings	27.60	25.90	9.90	(43.15)	-	41.96	3.00	BBB-	Homebuilding
Int'l Paper	7.70	6.10	8.00	11.11	9.50	42.28	3.00	BBB	Paper/Forest Products
Eastman Chemical	16.50	30.10	20.50	20.32	23.00	42.44	3.00	BBB	Chemical (Diversified)
L-3 Communic.	10.10	11.30	11.96	12.63	12.00	43.10	3.00	BBB-	Aerospace/Defense
Xerox Corp.	11.00	12.90	14.80	13.22	14.00	44.69	3.00	BBB	Office Equip/Supplies
Waste Connections	10.90	11.90	11.00	12.78	8.50	48.14	3.00	BBB-	Environmental
RPM Int'l	14.50	14.70	18.20	18.30	20.48	48.41	3.00	BBB-	Chemical (Specialty)
Barr Pharmac.	11.80	17.40	19.90	6.88	7.50	48.84	3.00	BBB-	Drug
Rohm and Haas	13.10	17.30	18.70	22.92	21.50	49.94	3.00	BBB	Chemical (Specialty)
Int'l Game Tech.	25.30	22.90	23.20	34.98	40.00	50.85	3.00	BBB	Hotel/Gaming
Waste Management	13.70	14.30	16.00	18.65	19.00	58.03	2.00	BBB	Environmental
Allied Waste	6.00	5.30	6.70	8.96	10.50	60.92	3.00	BBB	Environmental
Average	**15.15**	**17.05**	**17.36**	**16.90**	**20.21**	**42.80**	**2.73**		

	Return on Shareholders' Equity					
	2004	**2005**	**2006**	**2007**	**2008**	**2004-2008 Average**
Median	**14.05**	**16.20**	**17.60**	**18.52**	**19.07**	**17.09**
High	33.90	30.20	34.00	38.65	40.00	**35.35**
3rd Quartile	17.18	21.85	20.35	22.87	24.50	**21.35**
2nd Quartile	14.05	16.20	17.60	18.52	19.07	**17.09**
1st Quartile	11.20	12.53	12.60	12.67	14.00	**12.60**
Low	6.00	5.30	6.70	-43.15	7.50	**(3.53)**
					Overall Average	**16.66**

C. Alternative Equity Investment Analysis

Q.73 Why is it important to consider the returns available on common equity investments in other industries?

A. When investors consider whether to invest their funds in a particular company or line of business, they evaluate the returns potentially available from other companies. This process, whereby projects and companies compete for scarce equity capital, ensures that capital resources are deployed efficiently. As a result, regulated natural gas transmission operations must bid for equity capital against other companies, and other possible projects within the same company, by offering potential returns that investors find attractive relative to the risks involved.

Q.74 Have you analyzed the returns available on common equity investments in other industries?

A. Yes. I reviewed data published by The Value Line Investment Survey on industrial, retail and transportation companies. For purposes of comparison with allowed returns for regulated electric operations, the earnings projections for equity investments for the 610 companies that are covered by Value Line in these sectors are a good indicator of earnings on alternative equity investments.

Q.75 What level of returns is potentially available to unregulated companies?

A. Based on my review of the Value Line data, the potential returns in these competing sectors are often considerably above 20.0 percent, and in fact the average returns for broad-based, diversified portfolios have averaged 20.0 percent or more in recent years. As shown in Table 8 below, excluding extraordinary and non-recurring items, the average returns on the original cost book value of common equity for companies in the industrial, retail and transportation sectors in recent years averaged 34.41 percent over the five-year period from 2003 through 2007.

Table 8: Average Normalized Returns on Original Cost Book Value for Unregulated Companies 2003-2007[46]

	Annual Average Return
2003	27.98%
2004	31.57%
2005	34.06%
2006	38.64%
2007	39.81%
Average	**34.41%**

Q.76 Is it appropriate to set the allowed rate of return for a gas transmission company equal to the average return available to industrial companies?

A. To some degree, yes. The average return for industrials serves as a useful indicator of the cost of capital because gas transmission companies must offer potential returns that are competitive with other investments in order to attract capital. It is important to remember that an industrial company has an opportunity to earn returns far in excess of 20 percent. In fact, the average company has earned

[46] Value Line.

normal returns on the book value of equity well in excess of 20 percent in recent years. This average reflects many companies that experienced enormous losses as well as those with large returns.

Similarly, when a regulator sets an allowed return it is providing only an *opportunity* to earn that return. In exceptionally good times a regulated company might earn slightly more than this amount, but it might earn substantially less than the allowed return and, in fact, often does earn less than that amount. Thus, investors would expect that there is a significant probability they will actually earn something less than the allowed amount. Gas transmission companies generally now have risks that are similar to those of the average large industrial company. Consequently, it would be appropriate to view average returns earned by a broad cross-section of industry as being a general indicator for reasonable allowed returns.

As a benchmark, allowed returns for gas transmission companies can be compared to returns on book value for large companies. Normal returns have averaged 34.41 percent during the past five years. As this comparison indicates, an allowed return of 15.50 percent for HIOS would be quite low in comparison with the returns earned by other companies with comparable business and risk profiles.

V. OPERATING MARGIN ANALYSIS

Q.77 Does HIOS present any unusual circumstances for regulated ratemaking?

A. Yes. The cost of service formula typically used by the Commission for ratemaking is designed to set rates that will recover a pipeline's operating expenses, including depreciation, and a reasonable return on the capital invested in the company. However, because its transmission plant is substantially depreciated for accounting purposes, for example, HIOS does not have a significant level of remaining positive transmission rate base on which its return is calculated. In its latest rate proceeding, the Commission calculated rates for HIOS by including a return using the *Tarpon* method, which involves developing a management fee rate base equal to 10 percent of the company's average historical net plant in service. This rate base is essentially equal to five percent of the value of the company's gross plant in service and would provide a return that is negligible in comparison with HIOS's costs and risks. The return dollars that HIOS has calculated in this case, and by extension the rate of return on equity that HIOS is proposing, can be validated by considering a level of return based on an operating margin test of reasonableness that should be applied when the rate base is low relative to the overall cost of service.

Q.78 Please explain this operating margin analysis.

A. While HIOS has only a small amount of net transmission plant remaining on its accounting books, it continues using those facilities to provide critical and valuable services to its customers using those facilities, upon which it is entitled to earn a reasonable and compensatory profit and – as discussed both herein and in the testimony of HIOS witness Mr. Porter – a reasonable profit margin is essential in order to ensure that HIOS can sustain a reasonable quality of service. Regulators have long embraced the concept that the companies they regulate must be allowed the opportunity to earn a reasonable and compensatory return, or margin. This operating margin approach can be applied for a company like HIOS that incurs substantial risks and expenses to operate and maintain a system that provides a valuable service, but that has a very low accounting book value for its net plant.

Q.79 You use the terms "return" and "margin" interchangeably. Is that appropriate for this discussion?

A. When a company has a substantial rate base relative to its overall cost structure, the terms "return" and "margin" can be used interchangeably. In regulated ratemaking, the return on rate base included in a company's rates is its margin for profit above and beyond its operating expenses. This margin is what compensates equity holders for their investment in the company and provides ratings' agencies with confidence (or lack thereof) in the company's financial health, thus also affecting its access to and cost of debt capital.

Q.80 Is a profit "margin" essential for other reasons in addition to the need to provide equity holders with a return on their investment and to attract capital?

A. Yes. Even when a regulated company has an accounting net book value close to zero for its plant, rates that incorporate a projected profit "margin" are essential to provide:

i. a cushion so that the company has funds to pay operating expenses and continue to provide service to the public even when there is a downturn in its business;

ii. a reason for the owners of a system to continue to allocate management and employee time and other resources to the operation of the regulated business when those resources could be more profitably employed elsewhere in the economy; and

iii. a return to owners for the risks they incur even when the company's plant has a net book value close to zero.

Q.81 Can you describe an example of the need for a pipeline such as HIOS to have a profit margin that provides a cushion so that the company can continue to provide service to the public, even when it encounters unexpected downturns or problems in its business?

A. Yes. During 2008 HIOS was out of service for three months as a result of damage caused by hurricane Ike. Because it provides virtually all of its service under interruptible and flexible-firm contracts, HIOS had its revenue stream virtually halted while it continued to pay substantial amounts of operating costs. In this circumstance, with virtually no cash coming in, a return amount from a low rate base or from *Tarpon*-based profit-margin could be exhausted in a matter of days. An injection of bailout funds from its owners also could have been necessary to restore service, or to restore service without a lengthy process to restructure in order to obtain funds to continue operating.

Q.82 Is a profit margin essential for an efficient allocation of resources when a company has a net book value of plant that is close to zero?

A. Yes. The traditional public utility model of rate base regulation is premised on the industrial-era concept that it is primarily important for enterprises to efficiently allocate capital, plant and equipment. However, in the modern service-oriented economy it is just as important to allocate the time of workers, especially skilled workers, and the attention of productive enterprises, to tasks that will provide the greatest value to consumers. Like other service-based firms (e.g., engineering, accounting, management, information technology, law, marketing, etc.), HIOS invests its time and expertise to provide a valuable service to its customers. The reasonable and compensatory margin for such services is not driven by the company's undepreciated invested capital or rate base, but rather by the expertise it invests and the services it provides to its customers. Consequently, in the absence of a substantial book value rate base, the profit margin for its services should be based, at least in part, on the profit margins that are typical of service-based industries.

Q.83 Would you please describe the risks that a pipeline owner incurs by continuing to provide service after the accounting book value of its assets begins to approach zero?

A. Yes. As described earlier, a pipeline in HIO's position might need to obtain an injection of funds from its owner in order to make repairs, pay fixed operating costs, and return the pipeline to service. Thus, it should be clear that there is a very real possibility that cash flow will be less than operating costs and the owners will need to either: (i) inject additional funds, (ii) incur substantial costs of bankruptcy, and/or (iii) apply for a FERC certificate to abandon service and shut down and de-commission facilities. Moreover, there are risks associated with fixed payment obligations and service obligations, as well as potential tort liabilities and government fines. All of these are risks that are a part of being in business regardless of whether the net book value of the company's plant provides a substantial rate base on which to calculate a reasonable profit margin. Thus, with or without a rate base, the company's regulated rates should include a projected profit margin that gives it an opportunity to earn a profit that reasonably compensates its owners for the risks incurred.

Q.84 Are there any alternative methods of calculating a reasonable profit margin for HIOS?

A. Yes. In addition to the *Tarpon* management fee methodology that has previously been required for HIOS, various regulatory bodies, including this Commission, have used alternative methods for calculating a reasonable profit for ratemaking purposes. For example, numerous regulatory bodies throughout history have used a "valuation" rate base, which reflects the current market or replacement value of the regulated assets. In addition, for many years prior to its shift to "return on investment" approach[47] the Interstate Commerce Commission ("ICC") relied on profit margins (i.e., a markup over operating costs), or a "return on revenues" approach, to establish profit levels for motor carriers. This approach was used in part because the trucking industry cost structure was heavily weighted toward fuel and labor costs and did not have a predominance of capital costs.

Q.85 How should a reasonable profit margin be calculated for a pipeline?

A. Rate regulation generally is intended to protect customers from prices set at a profit-maximizing level that a company with unconstrained market power might charge. Traditionally, the Commission has relied on cost-based rates, with a rate of return on rate base, to ensure that rates are not excessive for customers while also attempting to ensure that the company has sufficient

[47] Breyer, Steven. *Regulation and Its Reform*. Cambridge: Harvard University Press, 1982. Page 231.

revenues to pay for operations and to generate a return for owners. However, when the rate base is substantially depreciated to a point that is far below replacement cost, rates calculated using a traditional cost formula will generally be far below an equilibrium competitive level, and even further below an unconstrained market power level. In these circumstances, a reasonable profit margin should be sufficient to give the owners an economic justification for remaining in business, an incentive to continue investing in plant and maintenance, and a financial profile which enables the company to attract sufficient capital – both debt and equity - at reasonable costs. Moreover, it should recognize that as long as the facilities continue to be operated they have an economic value that may bear little or no relation to the depreciated original cost of assets on the balance sheet. Financially, it does not matter what method is used to set rates so long as the total amounts of both the rate of return on investment and the profit margin are economically reasonable for both the owners and the customers. A reasonable level of return should be sufficient to give the company a comfortable assurance that revenues will be *more* than adequate to recover its operating costs. In addition, it should be adequate to compensate for the risks of continuing to operate the pipeline after the rate base has declined. Finally, there should be enough return such that the company is justified in continuing to devote the time and expertise of its managers and employees to this project rather than shifting those resources to other projects that are more likely to earn a reasonable profit.

Q.86 How can a reasonable, appropriate and compensatory margin be calculated for HIOS?

A. As I noted earlier in my testimony, HIOS's business model has been more like that of a professional services company than a traditional rate-base regulated utility. For book value accounting purposes HIOS has very little net plant remaining in its transmission function after subtracting accumulated depreciation, yet it continues to provide a valuable service to its transmission customers for which it should have the opportunity to earn a profit. Absent the opportunity to earn a reasonable, appropriate and compensatory profit, the Company has little incentive to continue operating the pipeline. For HIOS, I would recommend using a proxy group of professional services companies to calculate the margin that is appropriate for HIOS. This margin would replace the return on equity as the determining factor in the revenue requirement calculation. Proxy or comparison groups are routinely used to determine appropriate ROE levels.

Q.87 Please describe an illustrative proxy group of companies that could be selected for this purpose?

A. Industrial Services and Software Service companies (as categorized in Bloomberg, a subscription resource which provides access to a broad spectrum of financial data) represent a broad universe of service companies. Companies with a Value

Line "Safety Rank" of 3 or better should be used to ensure that excessively risky or financially unstable companies are not included in the sample. The "Safety Rank" is an assessment of the relative safety of an investment in a company; a rank of 3 or better indicates the company is considered by Value Line to be a reasonably secure investment. A proxy group consisting of Industrial Services and Software Service companies' with a Value Line Safety Rank of "3" would contain 67 companies.

Q.88 Please explain how you would calculate this Proxy Groups' margins.

A. Operating margin looks at a company's operating income as a percentage of revenue.

$$\text{Operating Margin} = \frac{\text{Operating Income (Loss)}}{\text{Net Sales or Total Revenue}} \times 100$$

I believe that the after-tax operating margin is the appropriate metric as it considers the key elements of a service company's cost of providing service to its customers – operating income and revenues. Because margins can fluctuate from year to year, the average of the last three years should be calculated to get a "normalized" result. At the time of this filing data for 2008 were not available on Bloomberg for approximately half of the service companies. Consequently, I have calculated the 3-year average for 2005-2007 based on complete data and a 3-year average for 2006-2008 based on partial data.

Table 9 summarizes the margin analysis for the Proxy Group of companies as well as for HIOS. Service companies earned average operating profit margins of 14.60 percent during the 2005-2007 time period, while HIOS had an average margin of *negative* 1.85 percent. During 2006-2008, the service companies earned average margins of 13.76 percent while HIOS's margin averaged only 3.62 percent. Clearly, the margins earned by HIOS since its last rate proceeding have been exceptionally low by any standards.

Table 9: Average Annual Operating Margins

	Service Companies	HIOS
2005	15.12%	-14.82%
2006	13.91%	1.32%
2007	14.78%	7.97%
2008*	12.58%	1.57%
3-Yr Avg. '05-'07	**14.60%**	**-1.85%**
3-Yr Avg. '06-'08	**13.76%**	**3.62%**
* Only 26 of the 58 Service Companies have 2008 data available. HIOS data is based on 9/30/08.		

Source: Bloomberg

Q.89 How will the margin proposed by HIOS in this proceeding compare with the margins of other natural gas pipeline companies?

A. Exhibit No. HIO-73, Schedule 12, shows the after-tax and pre-tax operating margins earned in 2007 by 67 major natural gas pipeline companies. On an after-tax basis the average natural gas pipeline company earned an operating profit margin of 32.72 percent, which is an order of magnitude greater than the 3.62

percent average margin earned by HIOS during the 2006-2008 time period. On a pre-tax basis the average return earned by natural gas pipeline companies was 50.33 percent.

The Company is requesting pro forma operating revenues of $58.1 million in this rate case. The total return HIOS is proposing is $14.2 million, which provides an after-tax margin of only 17.7 percent. This compares to an average 2007 operating margin of 32.7 percent for larger pipeline companies that file FERC Form 2s.[48] This margin is especially low when one considers that the proposed margin for HIOS's gathering operations, 20.4 percent,[49] is approximately one standard deviation below the mean operating margin earned by major pipelines in 2007, and the proposed margin for HIOS's transmission operations, 6.9 percent,[50] is less than the lowest operating margin earned by any of the 67 major pipeline companies in 2007. Clearly, HIOS's profit potential is well-below that of other companies who face similar or lower risks related to operations, throughput, regulation, etc. I do not believe that this is either a reasonable or appropriate outcome or regulatory objective.

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[48] See Exhibit No. HIO-73, Schedule 12, page 2.
[49] See HIOS Schedule I-1(a). 20.4% = $9,542,815 ÷ $46,821,942.
[50] Id., 6.9% = $792,006 ÷ $11,454,163.

Q.90 How can a profit margin analysis be used in judging the reasonableness of the rates proposed for a natural gas pipeline company?

A. It should be noted that the typical natural gas pipeline company is far more capital intensive than a typical management or professional services company. Consequently, the operating margins of pipelines generally must be higher in order to compensate for the greater proportion of capital required in pipeline cost structures. Nevertheless, service companies and their owners require an operating profit margin that reasonably compensates them for the time, the expertise, and the organizational systems that they devote to providing service to pipeline shippers and the public. In addition, they require an operating profit margin that compensates them for the risks they incur, and that provides them with a cash flow cushion so that they can continue to provide service despite unexpected events or downturns. When a pipeline's rate base becomes so low that it no longer generates a reasonable operating profit margin, it is appropriate to include in the pipeline's rates an operating profit margin that is commensurate with the operating profits available to professional and specialized management service companies.

Q.91 Are you recommending that the Commission establish an operating margin for HIOS in this case rather than the return on rate base that HIOS is proposing?

A. No, I am not. However, I have used the profit margin analysis as an additional means for testing the reasonableness of the level of return on rate base that HIOS is proposing and, by extension, the reasonableness of the return on equity and the overall cost of capital that I am proposing.

VI. SUMMARY AND CONCLUSIONS

Q.92 Would you please summarize the results of your cost of capital study?

A. Yes. I conducted several DCF analyses on a group of natural gas pipeline companies that have a range of risks that includes risks roughly comparable to those of HIOS. The results of my analyses are summarized in Table 10 below:

Table 10: Summary of Primary Market DCF Results

	Policy Statement Method	Realistic Expectations Approach	Alternativ e Basic DCF
High	17.60%	18.43%	18.89%
3rd Quartile	16.22%	17.04%	18.27%
2nd Quartile (MEDIAN)	**14.62%**	**15.44%**	**15.69%**
1st Quartile	13.38%	14.26%	14.42%
Low	11.86%	13.05%	13.17%

The methodology outlined by the Commission in the Policy Statement, and applied in *Kern River*, for calculating expected growth rates yields a primary market median cost of common equity capital for the proxy group of 14.62 percent. The Policy Statement approach relies on U.S. GDP growth as the second stage of the growth rate analysis for corporations, and ½ U.S. GDP growth projections as the second stage of the growth rate analysis for MLPs. As discussed previously, exclusive reliance on GDP growth as the second stage significantly understates the DCF results of the proxy group. If the Commission is interested in a simple, formulaic approach for calculating a DCF required rate of return that utilizes a two-stage analysis, my realistic expectations method is more supportable and is a better indicator of expected long-term growth than the U.S. GDP growth because projected retention growth is sustainable indefinitely and it is directly related to the growth rate expectations for an individual company. My realistic-expectations retention growth analysis indicates a median cost of capital for the proxy group of 15.44 percent. The Alternative Basic DCF analysis, which uses analyst forecasts of investors' growth rate expectations, yields a median cost of capital for the Proxy group of 15.69 percent.

The primary market results presented in Table 10 are derived by multiplying the secondary market results by 1.043 (the estimated flotation cost). That is the return actually required to enable HIOS to attract common equity capital on reasonable terms.

Q.93 Please summarize your conclusions as to the appropriate return on equity for HIOS.

A. HIOS has business risks that are similar to or greater than the proxy group companies, based primarily on the fact that HIOS is unable to attract customers willing to take firm, long-term service on its competitive, offshore pipeline company. In addition, HIOS is significantly less diversified than the proxy companies. The hypothetical capital structure proposed for HIOS provides less financial risk than most of the proxy companies and serves to make the overall risk implied for HIOS common stock comparable to the risk of the proxy companies. Considering the DCF results for the Tier I companies and the returns required in the primary market, as shown in my analyses, as well as the results of my alternative and corroborating analyses, in my opinion, 15.50 percent is the cost of common equity capital for HIOS.

Q.94 Is your recommended rate of return reasonable in comparison with your benchmark measures?

A. Yes. The benchmark analyses indicate the following:

Table 11: Benchmark Analyses

Risk Premium Return Based On:	
- Corporate Bonds	
v. Large Companies	12.74%
v. Small Companies	15.94%
Commensurate Return-	
Median	17.09%
Alternative Equity Investments	
- Value Line Industrials	34.41%

The risk premium analyses indicate that HIOS's requested rate of return produces a premium over lower risk, corporate bond yields that could be as much as 39 basis points below the average long-run premium available from common stocks in HIOS's size range. In addition, the 15.50 percent return on common equity that HIOS is proposing to use for ratemaking purposes is far below the 34.41 percent average normal returns earned by the Value Line Industrials in recent years and also considerably below the 17.09 percent average returns on equity earned by industrial companies with comparable risks. The rate of return is also validated by the fact that the operating margin earned by HIOS is comparable to that earned by a suitable proxy group of service companies, but that margin is significantly lower than that earned by most natural gas pipeline companies.

Q.95 Does this conclude your Prepared Direct Testimony?

A. Yes.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

In the matter of	)	
High Island Offshore System, L.L.C.	)	Docket No. RP09-___-000

Affidavit of J. Stephen Gaske

J. Stephen Gaske, being first duly sworn, states that he is the J. Stephen Gaske whose Prepared Direct Testimony accompanies this affidavit; that the facts set forth therein are true and correct to the best of his knowledge, information and belief; and that he adopts said testimony as his sworn Testimony in these proceeding.

/s/ J. Stephen Gaske
J. Stephen Gaske

Subscribed and sworn to before me this 25th day of March, 2009.

Leslie P. Kim
Notary Public, District of Columbia
My Commission Expires 8-31-2009

/s/ Leslie P. Kim
Notary Public

High Island Offshore System L.L.C.

General Economic Statistics

1977-2008

	Year	Inflation: Consumer Price Index	Inflation: GDP Implicit Price Deflator	Economic Growth: Real GDP Growth	Economic Growth: Nominal GDP ($Billions)	Economic Growth: Nominal GDP Growth
		[1]	[2]	[3]	[4]	[5]
	1977	6.5%	6.4%	4.6%	2,030.9	11.3%
	1978	7.6%	7.0%	5.6%	2,294.7	13.0%
	1979	11.3%	8.3%	3.2%	2,563.3	11.7%
	1980	13.5%	9.1%	-0.2%	2,789.5	8.8%
	1981	10.3%	9.4%	2.5%	3,128.4	12.1%
	1982	6.2%	6.1%	-1.9%	3,255.0	4.0%
	1983	3.2%	4.0%	4.5%	3,536.7	8.7%
	1984	4.3%	3.8%	7.2%	3,933.2	11.2%
	1985	3.6%	3.0%	4.1%	4,220.3	7.3%
	1986	1.9%	2.2%	3.5%	4,462.8	5.7%
	1987	3.6%	2.7%	3.4%	4,739.5	6.2%
	1988	4.1%	3.4%	4.1%	5,103.8	7.7%
	1989	4.8%	3.8%	3.5%	5,484.4	7.5%
	1990	5.4%	3.9%	1.9%	5,803.1	5.8%
	1991	4.2%	3.5%	-0.2%	5,995.9	3.3%
	1992	3.0%	2.3%	3.3%	6,337.7	5.7%
	1993	3.0%	2.3%	2.7%	6,657.4	5.0%
	1994	2.6%	2.1%	4.0%	7,072.2	6.2%
	1995	2.8%	2.0%	2.5%	7,397.7	4.6%
	1996	3.0%	1.9%	3.7%	7,816.9	5.7%
	1997	2.3%	1.7%	4.5%	8,304.3	6.2%
	1998	1.6%	1.1%	4.2%	8,747.0	5.3%
	1999	2.2%	1.4%	4.4%	9,268.4	6.0%
	2000	3.4%	2.2%	3.7%	9,817.0	5.9%
	2001	2.8%	2.4%	0.8%	10,128.0	3.2%
	2002	1.6%	1.7%	1.6%	10,469.6	3.4%
	2003	2.3%	2.1%	2.5%	10,960.8	4.7%
	2004	2.7%	2.9%	3.6%	11,685.9	6.6%
	2005	3.4%	3.3%	2.9%	12,421.9	6.3%
	2006	3.2%	3.2%	2.8%	13,178.4	6.1%
	2007	2.8%	2.7%	2.0%	13,807.5	4.8%
[6]	2008	4.2%	2.0%	1.5%	14,288.6	3.5%
	Average Rate of Change: [7]					
	1979-2008	4.1%	3.4%	2.9%	7445.84	6.3%
	1989-2008	3.1%	2.4%	2.8%	9282.14	5.3%
	1999-2008	2.9%	2.4%	2.6%	11602.61	5.0%

[1] *Economic Report of the President* , January 2009, Table B62
[2] *Economic Report of the President* , January 2009, Table B3
[3] *Economic Report of the President* , January 2009, Table B4
[4] *Economic Report of the President* , January 2009, Table B1
[5] Calculated
[6] Data available through October
[7] Nominal GDP growth rates are based on the geometric average rate of change in nominal GDP.

High Island Offshore System L.L.C.

Mergent Bond Yield Averages
May 2005 - February 2009

		30-Year	Average	Public Utility Bonds		Credit Spreads	
		T- Bonds	Corporate	A-Rated	Baa-Rated	A-Rated	Baa-Rated
2005	MAY	4.35	5.54	5.53	5.88	1.18	1.53
	JUN	4.22	5.35	5.40	5.70	1.18	1.48
	JUL	4.47	5.46	5.51	5.81	1.04	1.34
	AUG	4.26	5.49	5.50	5.80	1.24	1.54
	SEP	4.57	5.53	5.52	5.83	0.95	1.26
	OCT	4.76	5.77	5.79	6.08	1.03	1.32
	NOV	4.70	5.86	5.88	6.19	1.18	1.49
	DEC	4.55	5.81	5.80	6.14	1.25	1.59
2006	JAN	4.68	5.75	5.75	6.06	1.07	1.38
	FEB	4.50	5.80	5.82	6.11	1.32	1.61
	MAR	4.89	5.95	5.98	6.26	1.09	1.37
	APR	5.17	6.26	6.29	6.54	1.12	1.37
	MAY	5.21	6.36	6.42	6.59	1.21	1.38
	JUN	5.19	6.35	6.40	6.61	1.21	1.42
	JUL	5.07	6.33	6.37	6.61	1.30	1.54
	AUG	4.88	6.16	6.20	6.43	1.32	1.55
	SEP	4.77	5.98	6.00	6.26	1.23	1.49
	OCT	4.72	5.97	5.98	6.24	1.26	1.52
	NOV	4.56	5.78	5.80	6.04	1.24	1.48
	DEC	4.82	5.79	5.81	6.05	0.99	1.23
2007	JAN	4.93	5.92	5.96	6.16	1.03	1.23
	FEB	4.67	5.88	5.90	6.10	1.23	1.43
	MAR	4.85	5.84	5.85	6.10	1.00	1.25
	APR	4.82	5.99	5.97	6.24	1.15	1.42
	MAY	5.01	6.00	5.99	6.23	0.98	1.22
	JUN	5.13	6.32	6.30	6.54	1.17	1.41
	JUL	4.92	6.26	6.25	6.49	1.33	1.57
	AUG	4.83	6.26	6.24	6.51	1.41	1.68
	SEP	4.83	6.21	6.18	6.45	1.35	1.62
	OCT	4.75	6.12	6.11	6.36	1.36	1.61
	NOV	4.40	5.97	5.97	6.27	1.57	1.87
	DEC	4.46	6.15	6.16	6.51	1.70	2.05
2008	JAN	4.35	6.02	6.02	6.35	1.67	2.00
	FEB	4.42	6.24	6.21	6.60	1.79	2.18
	MAR	4.31	6.24	6.21	6.68	1.90	2.37
	APR	4.50	6.29	6.29	6.82	1.79	2.32
	MAY	4.71	6.30	6.27	6.79	1.56	2.08
	JUN	4.53	6.42	6.38	6.93	1.85	2.40
	JUL	4.60	6.44	6.40	6.97	1.80	2.37
	AUG	4.41	6.42	6.37	6.98	1.96	2.57
	SEP	4.30	6.50	6.49	7.15	2.19	2.85
	OCT	4.37	7.56	7.56	8.58	3.19	4.21
	NOV	3.49	7.65	7.60	8.98	4.11	5.49
	DEC	2.69	6.73	6.54	8.13	3.85	5.44
2009	JAN	3.60	6.59	6.39	7.90	2.79	4.30
	FEB	3.72	6.64	6.30	7.74	2.58	4.02

Source: *Mergent Bond Record* , March 2009 and Yahoo! Finance.

High Island Offshore System L.L.C.

Natural Gas Pipeline Proxy Companies
2007 Operating Data

	Assets ($000,000)	Operating Revenues ($000,000)	Operating Income ($000,000)
Boardwalk Pipeline Partners, L.P.	$4,157	$643	$266
Enbridge Energy Partners, L.P.	$6,892	$7,283	$319
Enterprise Products Partners, L.P.	$16,608	$16,950	$883
Kinder Morgan Energy Partners L.P.	$15,178	$9,218	$808
ONEOK Partners, L.P.	$6,112	$5,832	$447
Southern Union	$7,398	$2,617	$427
Spectra Energy	$22,970	$4,742	$1,442
TC Pipelines L.P.	$1,493	$283	$160
High	$22,970	$16,950	$1,442
Median	**$7,145**	**$5,287**	**$437**
Low	$1,493	$283	$160
High Island Offshore System L.L.C. (2007)	**$17**	**$32**	**$7**
High Island Offshore System L.L.C. % of:			
Proxy Company Median	**0.2%**	**0.6%**	**1.5%**

Sources: Proxy Group - SEC Form 10-K; Annual Reports, High Island Offshore System L.L.C. - FERC Form 2
Data as of 12/31/07

High Island Offshore System L.L.C.

Bond Ratings of
Natural Gas Pipeline Proxy Companies

Company	Ticker	Standard & Poor's [1]	Moody's [1]
Boardwalk Pipeline Partners, L.P.	BWP	BBB	NR
Enbridge Energy Partners, L.P.	EEP	BBB	Baa2
Enterprise Products Partners L.P.	EPD	BBB-	NR
Kinder Morgan Energy Partners L.P.	KMP	BBB	Baa2
ONEOK Partners, L.P.	OKS	BBB	Baa2
Southern Union	SUG	BBB-	Baa3
Spectra Energy	SE	BBB+	NR
TC Pipelines L.P.	TCLP	NR	NR

Source: SNL, Bloomberg

[1] The credit rating is the corporate credit rating where available. Otherwise, it is the senior unsecured rating.

High Island Offshore System L.L.C.

Comparison of Upsteam and Downstream Pipeline Competition
Among Proxy Group Interstate Pipeline Companies

Parent/Pipeline	Basin(s)/Hub(s) to Which Pipeline is Tied	Pipeline Competitors at Basin(s)	Major Downstream Markets Served	Pipeline Competitors at Major Markets Served
Boardwalk Pipeline Partners, L.P.				
Texas Gas Transmission	Gulf Coast, E. TX, N. LA	Numerous	Southern IN	PEPL, ANR, REX
			Western/Central KY	ANR, MGT
			Western TN	ANR, TRKLN
			Southern OH	Numerous
Gulf South Pipeline	S. TX, E. TX, LA, Gulf Coast	Numerous	Louisiana	Numerous
			Southern MS	SONAT, TETCo
			Southern AL/Western FL	FGT, Transco, GNGS, DIGP
Enbridge Energy Partners, L.P.				
Enbridge Pipelines (AlaTenn System)	Gulf Coast (via TETCo, CGLF, TGP)	Numerous	Northern AL	NALPL, SONAT
Enbridge Pipelines (Midla System)	N. LA, E. LA	Numerous	Eastern LA	Numerous
			Northern LA	Numerous
Enbridge Offshore Pipelines (Stingray)	Gulf Coast, HIOS	Numerous	Gulf Coast	Numerous
Enbridge Offshore Pipelines (Garden Banks)	Gulf Coast, HIOS	Numerous	Gulf Coast	Numerous
Enbridge Offshore Pipelines (Nautilus)	Gulf Coast, HIOS	Numerous	Gulf Coast	Numerous
Enbridge Offshore Pipelines (Mississippi Canyon)	Gulf Coast, HIOS	Numerous	Gulf Coast	Numerous
Enbridge Offshore Pipelines (Destin)	Gulf Coast, HIOS	Numerous	Gulf Coast	Numerous
Enbridge Offshore Pipelines (UTOS)	Gulf Coast, HIOS	Numerous	Gulf Coast	Numerous
Enterprise Products Partners, L.P.				
Acadian Gas System	Henry Hub	Numerous	Baton Rouge, New Orleans	Numerous
Alabama Intrastate System	Black Warrior (AL)	TGP, SONAT, TETCo, NALPL, CGLF	Central AL	SONAT, NALPL
Anaconda Gathering System	Gulf Coast	Numerous	ANR	Numerous
Falcon Natural Gas Pipeline	Texas Coast	Numerous	Central TX Gathering System	Numerous
Green Canyon Gathering System	Gulf Coast	Numerous	Gulf Coast, HIOS	Numerous
High Island Offshore System	Gulf Coast	Numerous	ANR, UTOS, TGP, Stingray	Numerous
Petal Gas Storage LLC	Gulf Coast	Numerous	Gulf Coast, TGP	Numerous
Manta Ray Offshore Gathering System	Gulf Coast	Numerous	Gulf Coast	Numerous
Nautilus System	Gulf Coast	Numerous	Gulf Coast	Numerous
Nemo Gathering System	Gulf Coast	Numerous	Manta Ray	Numerous
Phoenix Gathering System	Gulf Coast	Numerous	ANR	Numerous
VESCO Gathering System	Gulf Coast	Numerous	Gulf Coast	Numerous
Viosca Knoll Gathering System	Gulf Coast	Numerous	TGP, CGLF,Transco, Destin, SONAT	Numerous

High Island Offshore System L.L.C.

Comparison of Upsteam and Downstream Pipeline Competition
Among Proxy Group Interstate Pipeline Companies

Parent/Pipeline	Basin(s)/Hub(s) to Which Pipeline is Tied	Pipeline Competitors at Basin(s)	Major Downstream Markets Served	Pipeline Competitors at Major Markets Served
Kinder Morgan Energy Partners, L.P.				
Kinder Morgan Interstate Gas Transmission	Cheyenne Hub	CIG, WYIOC, WBIPL, SSC	Kansas City	SSC, KPC, PEPL
Rockies Express Pipeline	Rockies/Piceance, So. WY	CIG, WYIOC, SSC, KMI	Central MO	PEPL
			Central IL	PEPL, NGPL, TRKLN
			Central IN	ANR, TXG, PEPL
			Southern OH	TETCo, CGT, DOM, TGP
Texas Intrastate Natural Gas Pipeline Group				
Texas Pipeline, L.P.	So. TX, E. TX, W. TX, Texas Coast	Numerous	Texas Gulf Coast	Numerous
Tejas Pipeline, L.P.	So. TX, E. TX, W. TX, Texas Coast	Numerous	Texas Gulf Coast	Numerous
Mier-Monterrey Pipeline	So. TX	None	PEMEX/Northern Mexico	None
North Texas Pipeline, L.P.	NGPL	None	Electric Generating Facility Northern Texas	None
Trailblazer Pipeline Company	Cheyenne Hub	CIG, WYIOC, SSC, REX, KMI	Southeast NE	NGPL, NNG
TransColorado Gas Transmission Co.	San Juan	EPNG, TRNSW, NWPL, SoTRLS	Western CO	RMNG
	Rockies/Piceance	CIG, WYIOC, Questar		
ONEOK Partners, L.P.				
Northern Border Pipeline Company	WCSB (via FTHL)	Numerous	Eastern Iowa	ANR, ALL, NNG
	Williston Basin	WBIPL	Northern Illinois	ANR, ALL, MGT, NGPL
Midwestern Gas Transmission Company	Chicago Hub	Numerous	Northern IL	ANR, ALL, NGPL, NBPL
	Gulf Coast and So. TX (via numerous)		Southern IN	TGT, ANR
			Western KY	TGT, ANR
OkTex Pipeline Company	Atmos system	None	TX, OK, NM	None
Viking Gas Transmission Company	WCSB (via TCPL)	Numerous	Central MN	NNG
			Central WI	ANR
Guardian Pipeline	Chicago Hub	Numerous	Eastern/Northern WI	ANR
Spectra Energy Corp.				
Texas Eastern Transmission Co.	Gulf Coast, S. TX, E. TX, E. LA, S. LA	Numerous	New York/New Jersey	TGP, Transco, IGT, CGT
			Philadelphia	CGT, DOM, Transco
			Central/Southern OH	PEPL, ANR, DOM, CGT
			Central KY	CGT
			Southern IN	TXG, ANR, MGT
			Southern IL	NGPL, TRKLN
			Central AR	TXG, CEGT, NGPL
			Southeast TX	Numerous
Algonquin Gas Transmission	Gulf Coast (via TETCo)	Numerous	New England	M&NE, TGP
East Tennessee Natural Gas	Gulf Coast (via TETCo, CGLF, TGP)	Numerous	Central/Eastern TN	None
			Western VA	None
Maritimes and Northeast Pipeline	Offshore Nova Scotia	None	New England	TGP, AGT
Gulfstream Natural Gas System	Gulf Coast	Numerous	Western FL	FGT
Southeast Supply Header`	E. TX, SE. LA	Numerous	MS, AL	Numerous

High Island Offshore System L.L.C.
Comparison of Upsteam and Downstream Pipeline Competition
Among Proxy Group Interstate Pipeline Companies

Parent/Pipeline	Basin(s)/Hub(s) to Which Pipeline is Tied	Pipeline Competitors at Basin(s)	Major Downstream Markets Served	Pipeline Competitors at Major Markets Served
Southern Union Company				
Panhandle Eastern Pipeline	Anadarko	Numerous	Central MO	SSC
	Hugoton	Numerous	Central IL	REX, NGPL, PEPL, TRKLN
			Central IN	ANR, TXG, TETCo
			Southern MI	ANR, MichCon
Trunkline Gas	S. TX, S. LA	Numerous	Memphis	ANR, TGT
			Central IL/Northern IN	Numerous
Florida Gas Transmission	S. TX, S. LA	Numerous	Eastern FL	None
			Western FL	GNGS
			Onshore Gulf Coast	Numerous
Sea Robin Pipeline	Gulf Coast	Numerous	Gulf Coast	Numerous
Williams Companies				
Black Marlin Pipeline Company	Offshore Texas, High Island Production Area	Numerous	Intrastate Pipeline Interconnects at Texas City	Numerous
Discovery Gas Transmission, L.L.C	Offshore Louisiana Production Areas	Numerous	Multiple Major Interstate Pipelines	Numerous
Gulfstream Natural Gas System	Gulf Coast	Numerous	Western FL	FGT
Northwest Pipeline Co.	Rockies/Green River, Uinta, Piceance	Questar, CIG, WYIOC, REX, TCO, KR	Central ID	None
	San Juan, WCSB (via Westcoast)	EPNG, SoTRLS, TRNSW, TCO	Western WA	GTNW
			Eastern WA/OR	None
Transcontinental Gas Pipeline Corporation	Gulf Coast	Numerous	New York City	TGP, IGT
			New Jersey	TETCo, CGT, AGT
			Philadelphia	CGT
			Washington DC/Baltimore	CGT, DOM
			NC/SC	None
			Northern GA	SONAT

High Island Offshore System L.L.C.

Comparison of Upsteam and Downstream Pipeline Competition
Among Proxy Group Interstate Pipeline Companies

Parent/Pipeline	Basin(s)/Hub(s) to Which Pipeline is Tied	Pipeline Competitors at Basin(s)	Major Downstream Markets Served	Pipeline Competitors at Major Markets Served
TC PipeLines, L.P.				
Northern Border Pipeline Company	WCSB (via FTHL)	Numerous	Eastern Iowa	ANR, ALL, NNG
	Williston Basin	WBIPL	Northern Illinois	ANR, ALL, MGT, NGPL
Tuscarora Gas Transmission Company	WCSB (via GTNW)	Numerous	Western NV	Paiute
Great Lakes Gas Transmission L.P.	WCSB (via TCPL)	Numerous	Dawn (MI/Canada Border)	Vector, Consumers, MichCon
			Central Michigan	MichCon
			Northeastern MN	NNG
National Fuel Gas Company				
National Fuel Gas Supply Corporation	Appalachian, WCSB (via TCPL)	Numerous	Western NY/Western PA	CGT, TGP, DOM, EQTRN
Empire Pipeline	Dawn Hub, WCSB (via TCPL)	Numerous	Upstate NY	DOM, CGT

Notes:
- All references to "Numerous" indicate that there are more than five pipelines in that area.
- Source: Company websites, Pipeline Informational Postings, Platts North American Natural Gas System Map (2008/2009 Edition).

Legend

AGT	= Algonquin Gas Transmission	MGT	= Midwestern Gas Transmission
ALL	= Alliance Pipeline	NALPL	= North Alabama Pipeline
ANR	= ANR Pipeline	NBPL	= Northern Border Pipeline
CEGT	= CenterPoint Energy Gas Transmission	NGPL	= Natural Gas Pipeline Co of America
CGLF	= Columbia Gulf Transmission	NNG	= Northern Natural Gas
CGT	= Columbia Gas Transmission	NWPL	= Northwest Pipeline
CIG	= Colorado Interstate	PEPL	= Panhandle Eastern Pipe Line
DIGP	= Dauphin Island Gathering Partners	REX	= Rockies Express
DOM	= Dominion Transmission	RMNG	= Rocky Mtn. Natural Gas
EPNG	= El Paso Natural Gas	SONAT	= Southern Natural Gas
EQTRN	= Equitrans	SoTRLS	= Southern Trails Pipeline
FGT	= Florida Gas Transmission	SSC	= Southern Star Central Gas Pipeline
FTHL	= Foothills Pipe Line Ltd.	TCPL	= TransCanada Pipelines
GTNW	= Gas Transmission Northwest	TCO	= TransColorado
GNGS	= Gulfstream Natural Gas System	TETCo	= Texas Eastern Transmission
HIOS	= High Island Offshore System	TGP	= Tennessee Gas Pipeline
IGT	= Iroquois Gas Transmission	Transco	= Transcontinental Gas Pipe Line
KMI	= Kinder Morgan Interstate Gas Transmission	TRKLN	= Trunkline Gas
KPC	= Qwest Midstream Partners (KPC)	TRNSW	= Transwestern Pipeline
KR	= Kern River Gas Transmission	TXG	= Texas Gas Transmission
M&NE	= Maritimes & Northeast Pipeline	WBIPL	= Williston Basin Interstate Pipeline
		WYIOC	= Wyoming Interstate

High Island Offshore System L.L.C.
Potential Proxy Group
2007 Business Segment Data

Boardwalk Pipeline Partners, L.P.

	Total	Natural Gas Transmission: Gas Transportation	Gas Storage	Other
Operating Income	-			
Percent of Total	NA	NA	NA	NA
Segment Assets	3,701,657	3,022,489	282,922	396,246
Percent of Total	100%	82%	8%	11%

Enbridge Energy Partners, L.P.

	Total	Liquids	Natural Gas	Marketing	Corporate
Operating Income	318.8	207.1	91.2	24.0	(3.5)
Percent of Total	100%	65%	29%	8%	-1%
Segment Assets	6,891.6	2,976.9	3,461.1	349.6	104.0
Percent of Total	100%	43%	50%	5%	2%

Enterprise Products Partners, L.P.

	Total	Offshore Pipelines and Services	Onshore Pipelines and Services	NGL Pipelines and Services	Petrochemical Services	Adjustments and Eliminations
Operating Income	1,492,068	171,551	335,683	812,521	172,313	
Percent of Total	100%	11%	22%	54%	12%	0%
Segment Assets	11,587,264	1,452,568	3,702,297	4,570,555	687,856	1,173,988
Percent of Total	100%	13%	32%	39%	6%	10%

High Island Offshore System L.L.C.
Potential Proxy Group
2007 Business Segment Data

Kinder Morgan Energy Partners, L.P.

	Total	Products Pipelines	Natural Gas Pipelines	CO_2	Terminals	Trans Mountain
Operating Income	1,276.4	477.0	535.0	252.8	326.7	-315.1
Percent of Total	100%	37%	42%	20%	26%	-25%
Segment Assets	14,874.0	4,045.0	4,347.3	2,004.5	3,036.4	1,440.8
Percent of Total	100%	27%	29%	13%	20%	10%

National Fuel Gas Company

	Total	Utility	Pipeline & Storage	Exploration & Production	Energy Marketing	Timber	Corporate and Intersegment Eliminations	Other
Operating Income	201,675	50,886	56,386	74,889	7,663	3,728	5,559	2,564
Percent of Total	100%	25%	28%	37%	4%	2%	3%	1%
Segment Assets	3,888,412	1,565,593	810,957	1,326,073	59,802	165,224	(105,768)	66,531
Percent of Total	100%	40%	21%	34%	2%	4%	-3%	2%

ONEOK Partners, L.P.

	Total	NG Gathering and Processing	NG Pipelines	NG Liquids Gathering and Fractionation	Liquids Pipelines (100% regulated)	Other
Operating Income	446,783	$ 187,815	$ 112,212	$ 111,976	$ 39,460	$ (4,680)
Percent of Total	100%	42%	25%	25%	9%	-1%
Segment Assets	4,436,371	1,227,475	1,346,502	672,047	1,139,865	50,482
Percent of Total	100%	28%	30%	15%	26%	1%

Spectra Energy

	Total	U.S. Transmission	Distribution	Western Canada Transmission & Processing	Field Service	Commercial Power	Other
Operating Income	$ 1,441	$ 858	$ 322	$ 380	$ -	$ -	$ (119)
Percent of Total	100%	60%	22%	26%	0%	0%	-8%
Segment Assets	$ -						
Percent of Total	NA	NA	NA	NA	NA		

High Island Offshore System L.L.C.
Potential Proxy Group
2007 Business Segment Data

Southern Union Company

	Total	Transportation and Storage	Gathering and Processing	Distribution	Corporate and Other
Operating Income	527,116	391,029	65,368	70,568	151
Percent of Total	100%	74%	12%	13%	0%
Segment Assets	7,397,913	4,550,822	1,709,901	1,020,460	116,730
Percent of Total	100%	62%	23%	14%	2%

TC PipeLines, L.P.

	Total	Pipelines
Operating Income	89	89
Percent of Total	100%	100%
Segment Assets	1493	1492.6
Percent of Total	100%	100%

Williams Companies

	Total	Gas Marketing Services	Gas Pipeline	Exploration and Production	Midstream Gas and Liquids	Other	Eliminations
Operating Income	1,865	(337)	622	731	1,011	(162)	-
Percent of Total	100%	-18%	33%	39%	54%	-9%	0%
Segment Assets	24,876	4,437	8,624	8,692	6,604	3,592	(7,073)
Percent of Total	100%	18%	35%	35%	27%	14%	-28%

Source: Company 2007 SEC Form 10-K

High Island Offshore System L.L.C.
Summary of Firm Transportation Contract Expiration Profile
for Interstate Pipelines in Proxy Group

Cumulative % of Firm Transp. Contracts Expiring

	On or Before					After
Parent/Pipeline	**Oct. 31, 2009**	**Oct. 31, 2010**	**Oct. 31, 2012**	**Oct. 31, 2014**	**Oct. 31, 2016**	**Oct. 31, 2018**
Boardwalk Pipeline Partners, L.P.						
Texas Gas Transmission	34%	42%	65%	83%	99%	100%
Gulf South Pipeline	18%	30%	40%	63%	85%	100%
Enbridge Energy Partners, L.P.						
Enbridge Pipelines (AlaTenn System)	60%	89%	95%	97%	97%	100%
Enbridge Pipelines (Midla System)	3%	4%	96%	100%	100%	100%
Enterprise Products Partners, L.P.						
High Island Offshore System, L.L.C.	0%	0%	0%	0%	0%	100%
Kinder Morgan Energy Partners, L.P.						
Kinder Morgan Interstate Gas Transmission	30%	42%	63%	69%	95%	100%
Rockies Express Pipeline	3%	4%	4%	4%	4%	100%
Trailblazer Pipeline Company	6%	6%	44%	59%	66%	100%
TransColorado Gas Transmission Co.	5%	7%	33%	47%	61%	100%
National Fuel Gas Company						
National Fuel Gas Supply Corporation	85%	90%	96%	97%	97%	100%
ONEOK Partners, L.P.						
Northern Border Pipeline Company	56%	73%	94%	98%	100%	100%
Midwestern Gas Transmission Company	51%	53%	55%	60%	60%	100%
Viking Gas Transmission Company	36%	69%	91%	97%	97%	100%
Guardian Pipeline	1%	1%	1%	3%	3%	100%
Spectra Energy Corp.						
Texas Eastern Transmission Co.	38%	40%	55%	66%	72%	100%
Algonquin Gas Transmission	16%	16%	39%	45%	48%	100%
East Tennessee Natural Gas	5%	30%	35%	38%	47%	100%
Maritimes and Northeast Pipeline	0%	5%	5%	5%	35%	100%
Gulfstream Natural Gas System	1%	1%	1%	2%	2%	100%
Southern Union Company						
Panhandle Eastern Pipeline	21%	28%	44%	52%	77%	100%
Trunkline Gas	16%	17%	33%	40%	49%	100%
Sea Robin	0%	0%	0%	100%	100%	100%
Transwestern Pipeline	42%	64%	78%	84%	100%	100%
Florida Gas Transmission	3%	15%	16%	20%	55%	100%
TC PipeLines, L.P.						
Northern Border Pipeline Company	56%	73%	94%	98%	100%	100%
Tuscarora Gas Transmission	1%	1%	1%	1%	10%	100%
Great Lakes Gas Transmission L.P.	61%	76%	88%	90%	94%	100%
Williams Companies						
Gulfstream Natural Gas System	1%	1%	1%	2%	2%	100%
Northwest Pipeline Co.	22%	25%	42%	57%	60%	100%
Transcontinental Gas Pipeline Corporation	28%	43%	58%	74%	83%	100%
Texas Gas Transmission	34%	42%	65%	83%	99%	100%

Note: Figures may not add due to rounding.

[1] All information based on pipeline Index of Customers for the fourth quarter 2008. In addition, all year-to-year contracts (*i.e* ., those contracts that have an expiration date already passed) have assumed for purposes of the analysis herein to expire by 10/31/2009.

Source: SNL Energy

High Island Offshore System L.L.C.

Natural Gas Pipeline Proxy Companies
Dividend Yields
September 2008 -February 2009

	Symbol	Yield
Boardwalk Pipeline Partners, L.P.	BWP	9.23%
Enbridge Energy Partners, L.P.	EEP	12.54%
Enterprise Products Partners L.P.	EPD	9.43%
Kinder Morgan Energy Partners L.P.	KMP	8.34%
ONEOK Partners, L.P.	OKS	8.89%
Southern Union	SUG	3.99%
Spectra Energy	SE	5.89%
TC Pipelines L.P.	TCLP	11.15%

Average	8.68%
Median	9.06%

High Island Offshore System L.L.C.

Natural Gas Pipeline Proxy Companies
Dividend Yields
September 2008 -February 2009

BWP	High Price	Low Price	Average Price	Indicated Annualized Dividend	Dividend Yield
Feb-09	22.81	20.2	21.51	1.90	8.84%
Jan-09	22.05	19.23	20.64	1.90	9.21%
Dec-08	20.13	17.71	18.92	1.90	10.04%
Nov-08	25.5	18.61	22.06	1.90	8.61%
Oct-08	24	15.31	19.66	1.90	9.67%
Sep-08	24.31	17.53	20.92	1.88	8.99%
Average					**9.23%**

EEP	High Price	Low Price	Average Price	Indicated Annualized Dividend	Dividend Yield
Feb-09	31.48	26.19	28.84	3.96	13.73%
Jan-09	33.07	27.78	30.43	3.96	13.02%
Dec-08	29.55	24.06	26.81	3.96	14.77%
Nov-08	38.3	23.78	31.04	3.96	12.76%
Oct-08	40.24	27.07	33.66	3.96	11.77%
Sep-08	48.3	38	43.15	3.96	9.18%
Average					**12.54%**

EPD	High Price	Low Price	Average Price	Indicated Annualized Dividend	Dividend Yield
Feb-09	23.23	20.08	21.66	2.12	9.79%
Jan-09	23.39	21.09	22.24	2.12	9.53%
Dec-08	21.63	19.49	20.56	2.09	10.17%
Nov-08	25	17.26	21.13	2.09	9.89%
Oct-08	26.12	18.39	22.26	2.09	9.39%
Sep-08	29.02	23.61	26.32	2.06	7.83%
Average					**9.43%**

KMP	High Price	Low Price	Average Price	Indicated Annualized Dividend	Dividend Yield
Feb-09	50.58	45.78	48.18	4.20	8.72%
Jan-09	51.48	46	48.74	4.20	8.62%
Dec-08	49.11	44.94	47.03	4.08	8.68%
Nov-08	55.12	43.95	49.54	4.08	8.24%
Oct-08	54.83	42.9	48.87	4.08	8.35%
Sep-08	57.16	49.35	53.26	3.96	7.44%
Average					**8.34%**

OKS	High Price	Low Price	Average Price	Indicated Annualized Dividend	Dividend Yield
Feb-09	50.6	40.02	45.31	4.32	9.53%
Jan-09	52.75	48.27	50.51	4.32	8.55%
Dec-08	47.13	43.91	45.52	4.32	9.49%
Nov-08	55.88	41.42	48.65	4.32	8.88%
Oct-08	55.07	39.25	47.16	4.32	9.16%
Sep-08	59.83	50.32	55.08	4.24	7.70%
Average					**8.89%**

High Island Offshore System L.L.C.

Natural Gas Pipeline Proxy Companies
Dividend Yields
September 2008 -February 2009

SUG	High Price	Low Price	Average Price	Indicated Annualized Dividend	Dividend Yield
Feb-09	14.14	11.99	13.07	0.60	4.59%
Jan-09	14.76	12.58	13.67	0.60	4.39%
Dec-08	13.36	12.07	12.72	0.60	4.72%
Nov-08	17.27	11.44	14.36	0.60	4.18%
Oct-08	20.65	13.9	17.28	0.60	3.47%
Sep-08	25.65	20.32	22.99	0.60	2.61%
Average					**3.99%**

SE	High Price	Low Price	Average Price	Indicated Annualized Dividend	Dividend Yield
Feb-09	15.72	12.47	14.10	1.00	7.09%
Jan-09	17.17	14.2	15.69	1.00	6.38%
Dec-08	16.19	14.13	15.16	1.00	6.60%
Nov-08	19.24	13.48	16.36	1.00	6.11%
Oct-08	23.25	16.21	19.73	1.00	5.07%
Sep-08	25.71	23.51	24.61	1.00	4.06%
Average					**5.89%**

TCLP	High Price	Low Price	Average Price	Indicated Annualized Dividend	Dividend Yield
Feb-09	25.87	23.84	24.86	2.82	11.35%
Jan-09	26	24.35	25.18	2.82	11.20%
Dec-08	23.25	20.86	22.06	2.82	12.79%
Nov-08	27.35	18.82	23.09	2.82	12.22%
Oct-08	31.72	21.45	26.59	2.82	10.61%
Sep-08	34.09	30.42	32.26	2.82	8.74%
Average					**11.15%**

Source: Bloomberg

High Island Offshore System L.L.C.

Projected Earnings Retention Growth Rates for Natural Gas Pipeline Proxy Companies

		Value Line Forecast 2011-2013				
	Symbol	EPS	DPS	ROE	Retention Rate	Retention Growth
Southern Union	SUG	$ 2.65	$ 0.76	11.00%	71.32%	7.85%
Spectra Energy	SE	$ 2.55	$ 1.32	15.50%	48.24%	7.48%
Average						7.66%

Source: *Value Line* , December 12, 2008.

High Island Offshore System L.L.C.

Long Term

U.S. Gross Domestic Product (GDP)

Growth Estimates

Source	Beginning Year	Ending Year	Annual GDP Growth
Global Insight [1	2012	2037	4.35%
EIA[2]	2013	2030	4.47%
SSA[3]	2013	2063	4.63%
Average			4.48%

[1] Global Insight Long Term Macro Forecast- Baseline (U.S. Economy 30-Year Focus, Fourth Quarter, November (2007), Table Summary 1(a), as provided in the Trial Staff Initial Brief in Kern River, Exhibit S-3, June 17, 2008.

[2] Energy Information Administration Annual Energy Outlook 2009 with projections to 2030 (February 2009), Table 20. Macroeconomic Indicators. Nominal GDP=(Real GDP)*(GDP Chain Type Price Index). Http://www.eia.doe.gov/oiaf/aeo/aeoref_tab.html

[3] Social Security Administration: The 2008 OASDI Trustees Report, Table VI.F4.—OASDI and HI Annual and Summarized Income, Cost, and Balance as a Percentage of GDP, Calendar Years 2008-85

High Island Offshore System L.L.C.

Natural Gas Pipeline Proxy Companies
Growth Rate Forecasts- Policy Statement Approach

MLPs	Symbol	IBES 5-Yr Earnings Growth Est.	1/2 GDP Growth	Weighted Average
Boardwalk Pipeline Partners, L.P.	BWP	8.40%	2.24%	6.35%
Enbridge Energy Partners, L.P.	EEP	5.00%	2.24%	4.08%
Enterprise Products Partners L.P.	EPD	7.50%	2.24%	5.75%
Kinder Morgan Energy Partners L.P.	KMP	6.00%	2.24%	4.75%
ONEOK Partners, L.P.	OKS	5.00%	2.24%	4.08%
TC Pipelines L.P.	TCLP	4.00%	2.24%	3.41%

Corporations	Symbol	IBES 5-Yr Earnings Growth Est.	GDP Growth	Weighted Average
Southern Union	SUG	8.60%	4.48%	7.23%
Spectra Energy	SE	6.50%	4.48%	5.83%
Average				5.18%
Median				5.25%

High Island Offshore System L.L.C.

Natural Gas Pipeline Proxy Companies
Growth Rate Forecasts - Realistic Expectations Approach

MLPs	Symbol	IBES 5-Yr Earnings Growth Est.	GDP Growth	Weighted Average
Boardwalk Pipeline Partners, L.P.	BWP	8.40%	4.48%	7.09%
Enbridge Energy Partners, L.P.	EEP	5.00%	4.48%	4.83%
Enterprise Products Partners L.P.	EPD	7.50%	4.48%	6.49%
Kinder Morgan Energy Partners L.P.	KMP	6.00%	4.48%	5.49%
ONEOK Partners, L.P.	OKS	5.00%	4.48%	4.83%
TC Pipelines L.P.	TCLP	4.00%	4.48%	4.16%

Corporations	Symbol	IBES 5-Yr Earnings Growth Est.	Retention Growth Estimate	Weighted Average
Southern Union	SUG	8.60%	7.85%	8.35%
Spectra Energy	SE	6.50%	7.48%	6.83%

Average	6.01%
Median	5.99%

High Island Offshore System L.L.C.

Natural Gas Pipeline Proxy Companies
Growth Rate Forecasts- Basic DCF Case

MLPs	Ticker	IBES 5-Yr Earnings Growth Est.
Boardwalk Pipeline Partners, L.P.	BWP	8.40%
Enbridge Energy Partners, L.P.	EEP	5.00%
Enterprise Products Partners L.P.	EPD	7.50%
Kinder Morgan Energy Partners L.P.	KMP	6.00%
ONEOK Partners, L.P.	OKS	5.00%
TC Pipelines L.P.	TCLP	4.00%

Corporations	Ticker	IBES 5-Yr Earnings Growth Est.
Southern Union	SUG	8.60%
Spectra Energy	SE	6.50%

Average		6.38%
Median		6.25%

High Island Offshore System L.L.C.

Natural Gas Pipeline & MLP Proxy Companies
DCF Calculation Policy Statement Second-Stage Model
GDP Growth for Corporations and One-Half GDP for MLPs

Policy Statement DCF Results- Tier I Proxy Companies

	Symbol	Dividend Yield	Dividend Yield Times (1 + .50g)	Expected Growth Rate (g)	Secondary Market[(a)]: Investor Required Return	Flotation Cost Adjustment	Primary Market[(b)]: Cost of Capital
Boardwalk Pipeline Partners, L.P.	BWP	9.23%	9.52%	6.35%	15.87%	1.043	16.55%
Enbridge Energy Partners, L.P.	EEP	12.54%	12.79%	4.08%	16.87%	1.043	17.60%
Enterprise Products Partners L.P.	EPD	9.43%	9.70%	5.75%	15.45%	1.043	16.12%
Kinder Morgan Energy Partners L.P.	KMP	8.34%	8.54%	4.75%	13.28%	1.043	13.86%
ONEOK Partners, L.P.	OKS	8.89%	9.07%	4.08%	13.15%	1.043	13.71%
Southern Union	SUG	3.99%	4.14%	7.23%	11.37%	1.043	11.86%
Spectra Energy	SE	5.89%	6.06%	5.83%	11.88%	1.043	12.40%
TC Pipelines L.P.	TCLP	11.15%	11.34%	3.41%	14.75%	1.043	15.39%

Results- Tier I Proxy Companies	Investor Required Return	Cost of Capital
High	16.87%	17.60%
3rd Quartile	15.56%	16.22%
2nd Quartile (MEDIAN)	**14.02%**	**14.62%**
1st Quartile	12.83%	13.38%
Low	11.37%	11.86%

(a) Return required by investors when they trade stocks in the "secondary" market.
(b) Cost to companies when they raise common equity capital in the "primary" market.

High Island Offshore System L.L.C.

Natural Gas Pipeline & MLP Proxy Companies
DCF Calculation Second-Stage Model
Retention Growth for Corporations and GDP for MLPs

Realistic Expectations Approach DCF Results- Tier I Proxy Companies

	Symbol	Dividend Yield	Dividend Yield Times (1 + .50g)	Expected Growth Rate (g)	Secondary Market[(a)]: Investor Required Return	Flotation Cost Adjustment	Primary Market[(b)]: Cost of Capital
Boardwalk Pipeline Partners, L.P.	BWP	9.23%	9.55%	7.09%	16.65%	1.043	17.36%
Enbridge Energy Partners, L.P.	EEP	12.54%	12.84%	4.83%	17.67%	1.043	18.43%
Enterprise Products Partners L.P.	EPD	9.43%	9.74%	6.49%	16.23%	1.043	16.93%
Kinder Morgan Energy Partners L.P.	KMP	8.34%	8.57%	5.49%	14.06%	1.043	14.67%
ONEOK Partners, L.P.	OKS	8.89%	9.10%	4.83%	13.93%	1.043	14.53%
Southern Union	SUG	3.99%	4.16%	8.35%	12.51%	1.043	13.05%
Spectra Energy	SE	5.89%	6.09%	6.83%	12.91%	1.043	13.47%
TC Pipelines L.P.	TCLP	11.15%	11.38%	4.16%	15.54%	1.043	16.21%

Results- Tier I Proxy Companies	Investor Required Return	Cost of Capital
High	17.67%	18.43%
3rd Quartile	16.34%	17.04%
2nd Quartile (MEDIAN)	**14.80%**	**15.44%**
1st Quartile	13.67%	14.26%
Low	12.51%	13.05%

(a) Return required by investors when they trade stocks in the "secondary" market.
(b) Cost to companies when they raise common equity capital in the "primary" market.

High Island Offshore System L.L.C.

Natural Gas Pipeline & MLP Proxy Companies
DCF Calculation

Basic DCF Results- Tier I Proxy Companies

	Ticker	Dividend Yield	Dividend Yield Times (1 + .625g)	Expected Growth Rate (g)	Secondary Market[a]: Investor Required Return	Flotation Cost Adjustment	Primary Market[b]: Cost of Capital
Boardwalk Pipeline Partners, L.P.	BWP	9.23%	9.71%	8.40%	18.11%	1.043	18.89%
Enbridge Energy Partners, L.P.	EEP	12.54%	12.93%	5.00%	17.93%	1.043	18.70%
Enterprise Products Partners L.P.	EPD	9.43%	9.88%	7.50%	17.38%	1.043	18.12%
Kinder Morgan Energy Partners L.P.	KMP	8.34%	8.65%	6.00%	14.65%	1.043	15.28%
ONEOK Partners, L.P.	OKS	8.89%	9.16%	5.00%	14.16%	1.043	14.77%
Southern Union	SUG	3.99%	4.21%	8.60%	12.81%	1.043	13.36%
Spectra Energy	SE	5.89%	6.12%	6.50%	12.62%	1.043	13.17%
TC Pipelines L.P.	TCLP	11.15%	11.43%	4.00%	15.43%	1.043	16.09%

Results- Tier I Proxy Companies

	Investor Required Return	Cost of Capital
High	18.11%	18.89%
3rd Quartile	17.51%	18.27%
2nd Quartile (Median)	**15.04%**	**15.69%**
1st Quartile	13.82%	14.42%
Low	12.62%	13.17%

(a) Return required by investors when they trade stocks in the "secondary" market.
(b) Cost to companies when they raise common equity capital in the "primary" market.

High Island Offshore System L.L.C.

Common Equity Flotation Costs of
Natural Gas Distribution/Transmission Companies
1992-2008

Issuer	Date of Offering	Number of Shares	Issue Price	Net Proceeds Per Share	Financing Costs as a Percent of Net Proceeds
Bay State Gas Co.	3/13/1992	1,550,000	$23.250	$22.280	4.35%
El Paso Natural Gas Co.	5/12/1992	5,000,000	$19.000	$17.770	6.92%
New Jersey Resources Co.	9/15/1992	1,500,000	$22.250	$21.270	4.61%
Washington Energy Co.	9/29/1992	2,750,000	$21.000	$20.190	4.01%
Equitable Resources	9/22/1993	2,400,000	$38.500	$37.250	3.36%
Brooklyn Union Gas	9/29/1993	1,700,000	$25.750	$24.770	3.96%
S.E. Michigan Gas Enterprises	1/19/1994	650,000	$20.500	$19.620	4.49%
Connecticut Energy Corp.	3/3/1994	900,000	$20.125	$19.220	4.71%
Mobile Gas Service Corp.	9/14/1994	400,000	$22.000	$20.300	8.37%
Northwest Natural Gas	2/15/1995	1,000,000	$29.750	$28.590	4.06%
MCN Corp.	3/14/1995	5,000,000	$17.875	$17.210	3.86%
Piedmont Natural Gas	3/20/1995	1,500,000	$20.000	$19.140	4.49%
Laclede Gas	5/15/1995	1,550,000	$19.000	$18.120	4.86%
United Cities	6/8/1995	1,200,000	$14.500	$13.880	4.47%
Atlanta Gas Light	6/12/1995	1,300,000	$33.625	$32.510	3.43%
WICOR, INC.	12/5/1995	1,100,000	$31.875	$30.630	4.06%
Connecticut Natural Gas	6/5/1996	640,000	$23.250	$22.190	4.78%
Delta Natural Gas	7/15/1996	350,000	$16.000	$15.070	6.17%
Tejas Gas	7/22/1996	3,075,000	$35.000	$33.420	4.73%
KN Energy	7/31/1996	3,100,000	$32.250	$31.010	4.00%
Cascade Natural Gas	8/13/1996	1,350,000	$15.250	$14.450	5.54%
Energen	1/17/1997	1,500,000	$29.500	$28.390	3.91%
KCS Energy	1/29/1997	3,000,000	$39.000	$36.910	5.66%
Energen	9/18/1997	1,200,000	$35.500	$34.160	3.92%
COHO Energy, Inc.,	9/29/1997	8,585,000	$10.500	$9.870	6.38%
Fall River Gas Co.	10/30/1997	340,000	$13.250	$12.060	9.87%
Connecticut Energy Corp.	11/12/1997	900,000	$24.250	$23.170	4.66%
Roanoke Gas Co.	2/22/1998	166,000	$20.000	$18.668	7.13%
KN Energy	3/4/1998	11,000,000	$52.000	$49.902	4.20%
Enron Corp.	5/5/1998	15,000,000	$50.000	$48.466	3.17%
Washington Gas Light	12/12/1998	2,000,000	$25.063	$24.089	4.04%
Laclede Gas	5/5/1999	1,100,000	$20.188	$19.252	4.86%
Semco	6/12/2000	9,000,000	$10.000	$9.600	4.17%
WGL Holdings	6/26/2001	1,790,000	$26.730	$25.804	3.59%
Utilicorp	1/25/2002	11,000,000	$23.000	$22.252	3.36%
Enbridge Energy Partners L.P.	2/27/2002	2,200,000	$42.750	$40.933	4.44%
NUI Corporation	3/14/2002	1,500,000	$22.500	$21.430	4.99%
GulfTerra Energy Partners L.P.	4/24/2002	3,000,000	$37.860	$36.251	4.44%
Markwest Energy Partners L.P.	5/20/2002	2,100,000	$20.500	$19.065	7.53%
ONEOK Partners L.P.	6/13/2002	1,280,000	$35.970	$34.610	3.93%
El Paso Corporation	6/20/2002	45,000,000	$19.950	$19.350	3.10%
ONEOK Partners L.P.	6/27/2002	2,000,000	$35.500	$33.990	4.44%
Kinder Morgan Management LLC	7/31/2002	12,000,000	$27.500	$26.540	3.62%
Enterprise Products Partners	10/3/2002	9,800,000	$18.990	$18.180	4.46%
Enbridge Energy Management L	10/10/2002	9,000,000	$39.000	$37.050	5.26%
NiSource Inc.	11/6/2002	36,000,000	$18.300	$17.751	3.09%
MDU Resources Group	11/29/2002	2,100,000	$24.000	$23.188	3.50%
Enterprise Products Partners	1/9/2003	12,750,000	$18.010	$17.245	4.44%
KeySpan Corporation	1/14/2003	13,900,000	$34.500	$34.070	1.26%
ONEOK Inc.	1/23/2003	12,000,000	$17.190	$16.524	4.03%

High Island Offshore System L.L.C.

Common Equity Flotation Costs of
Natural Gas Distribution/Transmission Companies
1992-2008

Issuer	Date of Offering	Number of Shares	Issue Price	Net Proceeds Per Share	Financing Costs as a Percent of Net Proceeds
AGL Resources Inc.	2/11/2003	5,600,000	$22.000	$21.230	3.63%
GulfTerra Energy Partners L.P.	4/8/2003	3,000,000	$31.350	$30.018	4.44%
Delta Natural Gas Company Inc.	4/29/2003	530,000	$21.600	$20.650	4.60%
Atlas Pipeline Partners L.P.	5/5/2003	950,000	$25.000	$23.375	6.95%
Enbridge Energy Partners L.P.	5/6/2003	3,350,000	$44.790	$42.886	4.44%
Energy Transfer Partners L.P.	5/13/2003	1,400,000	$29.260	$27.797	5.26%
ONEOK Partners L.P.	5/20/2003	2,250,000	$40.500	$38.779	4.44%
Kinder Morgan Energy Partners	5/28/2003	4,000,000	$39.350	$37.680	4.43%
Enterprise Products Partners	5/29/2003	10,400,000	$22.350	$21.400	4.44%
Southern Union Company	6/5/2003	9,500,000	$16.000	$15.440	3.63%
Atmos Energy Corporation	6/18/2003	4,000,000	$25.310	$24.298	4.16%
GulfTerra Energy Partners L.P.	6/19/2003	1,000,000	$36.500	$35.222	3.63%
ONEOK Inc.	8/5/2003	9,500,000	$19.000	$18.620	2.04%
Vectren Corporation	8/7/2003	6,500,000	$22.810	$22.012	3.63%
Sempra Energy	10/8/2003	15,000,000	$28.000	$27.160	3.09%
GulfTerra Energy Partners	10/15/2003	4,800,000	$40.600	$38.874	4.44%
El Paso Corporation	11/19/2003	8,790,000	$5.950	$5.900	0.85%
Enbridge Energy Partners L.P.	12/3/2003	5,000,000	$50.300	$48.162	4.44%
El Paso Corporation	12/23/2003	8,790,000	$7.850	$7.745	1.36%
El Paso Corporation	1/5/2004	8,790,000	$8.350	$8.250	1.21%
Markwest Energy Partners L.P.	1/12/2004	1,150,000	$39.900	$37.805	5.54%
Energy Transfer Partners L.P.	1/13/2004	8,000,000	$38.690	$36.560	5.83%
Piedmont Natural Gas Company	1/20/2004	4,250,000	$42.500	$41.010	3.63%
Kinder Morgan Energy Partners	2/4/2004	5,300,000	$46.800	$44.869	4.30%
ONEOK Inc.	2/5/2004	6,900,000	$22.000	$21.930	0.32%
UGI Corporation	3/18/2004	7,500,000	$32.100	$30.696	4.57%
Northwest Natural Gas Company	3/30/2004	1,200,000	$31.000	$29.990	3.37%
Atlas Pipeline Partners L.P.	4/7/2004	750,000	$36.000	$33.840	6.38%
Enterprise Products Partners	4/29/2004	15,000,000	$21.000	$20.107	4.44%
The Laclede Group	5/25/2004	1,500,000	$26.800	$25.929	3.36%
Energy Transfer Partners L.P.	6/24/2004	4,500,000	$39.200	$37.534	4.44%
Atmos Energy Corporation	7/13/2004	8,650,000	$24.750	$23.760	4.17%
Atlas Pipeline Partners L.P.	7/14/2004	2,100,000	$34.760	$33.109	4.99%
Southern Union Company	7/26/2004	11,000,000	$18.750	$18.094	3.63%
Enterprise Products Partners	8/4/2004	15,000,000	$20.200	$19.341	4.44%
Enbridge Energy Partners L.P.	9/9/2004	3,200,000	$47.900	$45.864	4.44%
Markwest Energy Partners L.P.	9/15/2004	2,160,000	$43.410	$41.350	4.98%
Atmos Energy Corporation	10/21/2004	14,000,000	$24.750	$23.760	4.17%
Kinder Morgan Energy Partners	11/4/2004	5,500,000	$46.000	$44.160	4.17%
Copano Energy LLC - Units	11/8/2004	5,000,000	$20.000	$18.600	7.53%
AGL Resources Inc.	11/18/2004	9,600,000	$31.010	$30.080	3.09%
Southern Union Company	2/7/2005	14,910,000	$23.000	$22.300	3.14%
Enterprise Products Partners	2/11/2005	15,000,000	$27.050	$25.968	4.17%
TC Pipelines L.P.	3/17/2005	3,500,000	$37.040	$35.470	4.43%
Atlas Pipeline Partners L.P.	5/26/2005	2,300,000	$41.950	$40.062	4.71%
Kinder Morgan Energy Partners	8/10/2005	5,000,000	$51.250	$49.330	3.89%
Semco Energy Inc.	8/10/2005	4,300,000	$6.320	$6.067	4.17%
Williams Partners L.P.	8/17/2005	5,000,000	$21.500	$20.130	6.81%
Enterprise GP Holdings L.P.	8/23/2005	12,600,000	$28.000	$26.320	6.38%
Kinder Morgan Energy Partners	11/2/2005	2,600,000	$51.750	$50.051	3.39%
Boardwalk Pipeline Partners	11/8/2005	15,000,000	$19.500	$18.330	6.38%
Enbridge Energy Partners L.P.	11/16/2005	3,000,000	$46.000	$44.160	4.17%
Atlas Pipeline Partners L.P.	11/21/2005	2,700,000	$42.000	$40.110	4.71%

High Island Offshore System L.L.C.

Common Equity Flotation Costs of Natural Gas Distribution/Transmission Companies 1992-2008

Issuer	Date of Offering	Number of Shares	Issue Price	Net Proceeds Per Share	Financing Costs as a Percent of Net Proceeds
Enterprise Products Partners	11/29/2005	4,000,000	$25.030	$24.520	2.08%
Kinder Morgan Management	12/21/2005	1,670,000	$45.000	$44.430	1.28%
Regency Energy Partners L.P.	1/31/2006	13,750,000	$20.000	$18.787	6.46%
Energy Transfer Equity L.P.	2/2/2006	21,000,000	$21.000	$19.792	6.10%
Enterprise Products Partners	3/2/2006	16,000,000	$23.900	$22.944	4.17%
Atlas Pipeline Partners L.P.	5/9/2006	500,000	$41.200	$39.730	3.70%
El Paso Corporation	5/23/2006	35,700,000	$14.150	$14.025	0.89%
Williams Partners L.P.	6/14/2006	6,600,000	$31.250	$29.922	4.44%
Markwest Energy Partners L.P.	6/30/2006	3,000,000	$39.750	$37.961	4.71%
Atlas Pipeline Holdings L.P.	7/20/2006	3,600,000	$23.000	$21.447	7.24%
Kinder Morgan Energy Partners	8/9/2006	5,000,000	$44.800	$43.132	3.87%
Enterprise Products Partners	9/7/2006	11,000,000	$25.800	$24.839	3.87%
Boardwalk Pipeline Partners	11/16/2006	6,000,000	$29.650	$28.390	4.44%
Chesapeake Utilities Corporation	11/16/2006	600,000	$30.100	$28.975	3.88%
Copano Energy LLC - Units	11/30/2006	2,500,000	$59.110	$56.600	4.43%
Williams Partners L.P.	12/6/2006	7,000,000	$38.000	$36.480	4.17%
Atmos Energy Corporation	12/7/2006	5,500,000	$31.500	$30.397	3.63%
Vectren Corportation	2/22/2007	4,600,000	$28.330	$27.338	3.63%
Boardwalk Pipeline Partners	3/19/2007	8,000,000	$36.500	$36.000	1.39%
Enterprise Products Partners	4/13/2007	13,500,000	$31.250	$30.620	2.06%
Enbridge Energy Partners L.P.	5/16/2007	5,300,000	$58.000	$57.040	1.68%
Spectra Energy Partners L.P.	6/26/2007	10,000,000	$22.000	$20.625	6.67%
Regency Energy Partners L.P.	7/26/2007	10,000,000	$32.050	$30.768	4.17%
Boardwalk Pipeline Partners	11/2/2007	7,500,000	$30.900	$30.420	1.58%
Energy Transfer Equity L.P.	11/7/2007	7,340,000	$31.700	$30.432	4.17%
El Paso Pipeline Partners L.P.	11/15/2007	25,000,000	$20.000	$18.800	6.38%
Kinder Morgan Energy Partners	11/30/2007	6,200,000	$49.340	$48.090	2.60%
Williams Partners L.P.	12/5/2007	9,250,000	$37.750	$36.240	4.17%
Energy Transfer Partners L.P.	12/13/2007	5,000,000	$48.810	$46.858	4.17%
Williams Pipeline Partners L.P.	1/17/2008	16,250,000	$20.000	$18.800	6.38%
Enbridge Energy Partners L.P.	2/27/2008	4,000,000	$49.000	$47.285	3.63%
Kinder Morgan Energy Partners	2/27/2008	5,000,000	$57.700	$56.380	2.34%
ONEOK Partners L.P.	3/11/2008	2,500,000	$58.100	$56.150	3.47%
Markwest Energy Partners L.P.	4/8/2008	5,000,000	$31.150	$29.904	4.17%
Western Gas Partners L.P.	5/8/2008	18,750,000	$16.500	$15.510	6.38%
Boardwalk Pipeline Partners	6/10/2008	10,000,000	$25.300	$24.352	3.89%
Atlas Pipeline Partners L.P.	6/19/2008	5,000,000	$37.520	$36.019	4.17%
Energy Transfer Partners L.P.	7/15/2008	7,750,000	$39.450	$37.872	4.17%
Regency Energy Partners L.P.	9/11/2008	7,100,000	$21.000	$20.210	3.91%
Average 1992-2008					**4.28%**
	Selected Flotation Costs for Cost of Equity				**4.30%**

Sources: EBASCO, *Analysis of Public Utility Financing* and *Public Utility Financing Tracker, Edgar Online, Bloomberg*

High Island Offshore System L.L.C.

Natural Gas Pipeline Proxy Companies
Capital Structures as of September 30, 2008

	Long-Term Debt	%	Preferred Stock (Millions)	%	Common Equity (Millions)	%	Total Capital
Boardwalk Pipeline Partners, LP	$ 2,352,800	45.80%	$ 53,100	1.03%	$ 2,731,400	53.17%	$ 5,137,300
Enbridge Energy Partners, L.P.	$ 3,606,300	55.18%	$ 71,400	1.09%	$ 2,858,000	43.73%	$ 6,535,700
Enterprise Products Partners L.P.	$ 8,458,195	58.43%	$ 122,639	0.85%	$ 5,896,107	40.73%	$ 14,476,941
Kinder Morgan Energy Partners, L.P.	$ 8,340,900	63.65%	$ 193,400	1.48%	$ 4,569,400	34.87%	$ 13,103,700
National Fuel Gas Company	$ 1,099,000	40.66%	$ -	0.00%	$ 1,603,599	59.34%	$ 2,702,599
ONEOK Partners, L.P.	$ 2,605,412	47.58%	$ 77,520	1.42%	$ 2,793,248	51.01%	$ 5,476,180
Southern Union Company	$ 3,315,765	58.85%	$ 119,973	2.13%	$ 2,198,457	39.02%	$ 5,634,195
Spectra Energy Corporation	$ 9,590,000	59.90%	$ -	0.00%	$ 6,421,000	40.10%	$ 16,011,000
TC Pipelines, LP	$ 546,100	37.82%	$ 19,100	1.32%	$ 878,900	60.86%	$ 1,444,100
Mean		51.98%		1.04%		46.98%	
Median		55.18%		1.09%		43.73%	

High Island Offshore System L.L.C.

OPERATING MARGINS OF SELECTED BUSINESS SERVICE COMPANIES 2005 - 2007

			[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
			Ranks	2007	2007	2007	2006	2006	2006	2005	2005	2005
Company	**Ticker**	**Industry Name**	**Value Line Safety**	**PROFIT MARGIN**	**OPERATING MARGIN**	**GROSS MARGIN**	**PROFIT MARGIN**	**OPERATING MARGIN**	**GROSS MARGIN**	**PROFIT MARGIN**	**OPERATING MARGIN**	**GROSS MARGIN**
Automatic Data Proc.	ADP	Computer Software/Svcs	1	14.08	19.67	55.38	14.60	19.31	56.51	22.73	18.99	56.54
Microsoft Corp.	MSFT	Computer Software/Svcs	1	29.26	37.23	80.80	27.51	36.23	79.08	28.45	37.20	82.72
Oracle Corp.	ORCL	Computer Software/Svcs	2	24.61	35.71	77.79	23.75	34.08	76.71	23.51	34.48	77.50
Intuit Inc.	INTU	Computer Software/Svcs	2	16.46	24.60	82.10	18.18	25.08	82.62	18.73	26.53	81.71
Paychex, Inc.	PAYX	Computer Software/Svcs	2	27.88	40.08	68.02	27.32	37.18	67.38	27.76	38.79	66.54
Henry (Jack) & Assoc.	JKHY	Computer Software/Svcs	2	14.03	22.10	41.35	15.71	24.01	43.03	15.18	23.53	43.30
Fiserv Inc.	FISV	Computer Software/Svcs	2	11.19	18.61	32.76	12.62	18.65	32.22	12.72	18.36	31.08
DST Systems	DST	Computer Software/Svcs	2	37.99	14.94	20.61	12.21	13.66		16.88	13.38	
Affiliated Computer	ACS	Computer Software/Svcs	2	5.34	10.47	77.08	4.38	10.63		6.70	10.92	
Computer Sciences	CSC	Computer Software/Svcs	2	3.30	7.11	20.29	2.67	7.07	20.47	3.61	6.56	19.91
SEI Investments	SEIC	Computer Software/Svcs	2	18.98	43.39	61.53	20.16	42.39	60.59	24.37	27.42	49.04
Cintas Corp.	CTAS	Industrial Services	2	8.52	14.66	42.70	9.02	15.58	42.66	9.50	15.95	42.74
McAfee, Inc.	MFE	Computer Software/Svcs	3	12.76	12.89	76.63	12.00	12.24	78.44	12.04	15.16	82.68
Sybase Inc.	SY	Computer Software/Svcs	3	14.51	16.44	79.43	10.85	15.27	76.77	10.45	14.89	74.61
CA, Inc.	CA	Computer Software/Svcs	3	11.69	22.80	85.57	2.99	10.45	91.73	4.22	6.81	93.03
ManTech Int'l 'A'	MANT	Computer Software/Svcs	3	4.64	7.85	16.16	4.46	7.97	16.97	4.51	8.61	17.79
CACI Int'l	CAI	Computer Software/Svcs	3	3.44	6.73	32.84	4.05	7.53	34.59	4.83	8.56	35.34
Rollins, Inc.	ROL	Industrial Services	3	7.23	11.46	47.63	6.73	10.89	46.69	6.58	10.12	47.41
C.H. Robinson	CHRW	Industrial Services	3	4.43	6.97	9.24	4.07	6.37	8.64	3.57	5.74	7.95
SAIC, Inc.	SAI	Industrial Services	3	4.64	7.45	13.84	4.85	7.10	13.48	11.90	6.38	12.72
MAXIMUS Inc.	MMS	Industrial Services	3	-1.32	6.88	23.59	0.35	7.99	21.88	5.57	9.77	27.79
BMC Software	BMC	Computer Software/Svcs	3	18.11	21.73	77.22	13.66	15.94	76.57	6.81	8.58	74.09
Cognizant Technology	CTSH	Computer Software/Svcs	3	16.40	17.87	43.53	16.34	18.18	44.68	18.77	20.05	45.82
Red Hat, Inc.	RHT	Computer Software/Svcs	3	14.66	13.46	84.58	14.95	13.05	83.84	28.63	20.87	82.57
Synopsys, Inc.	SNPS	Computer Software/Svcs	3	10.76	10.00	80.68	2.26	2.76	82.20	-1.73	-5.46	82.55
Advent Software	ADVS	Computer Software/Svcs	3	5.87	6.17	68.47	44.87	1.88	68.06	8.38	4.96	69.30
ACI Worldwide	ACIW	Computer Software/Svcs	3	-2.49	0.66	61.54	15.91	15.46	68.17	13.76	20.51	72.86
CSG Systems Int'l	CSGS	Industrial Services	3	14.49	20.15	48.05	15.60	23.19	49.23	14.11	24.11	49.63
Huron Consulting	HURN	Industrial Services	3	7.65	15.28	38.53	8.29	14.76	38.78	7.86	13.98	39.48
UniFirst Corp.	UNF	Industrial Services	3	5.01	9.34	36.57	4.78	8.99	36.09	5.68	9.95	37.07
Expeditors Int'l	EXPD	Industrial Services	3	5.14	8.09	11.88	5.08	8.11	11.80	5.60	7.80	10.68
Navigant Consulting	NCI	Industrial Services	3	4.35	9.26	33.92	7.77	15.41	37.55	8.66	15.72	37.74
EMCOR Group	EME	Industrial Services	3	2.14	3.38	11.86	1.77	2.31	11.27	1.28	1.76	10.61
Adobe Systems	ADBE	Computer Software/Svcs	3	22.92	27.17	88.77	19.64	22.17	88.64	30.66	37.05	94.27
ANSYS, Inc.	ANSS	Computer Software/Svcs	3	21.38	32.90	79.75	5.37	24.37	78.48	27.78	37.23	84.79
Citrix Sys.	CTXS	Computer Software/Svcs	3	15.41	15.25	90.11	16.13	18.01	91.30	18.22	23.18	93.61
SPSS Inc.	SPSS	Computer Software/Svcs	3	11.59	17.00	93.91	5.79	13.12	92.83	6.82	11.87	93.06
Compuware Corp.	CPWR	Computer Software/Svcs	3	10.93	15.25	60.09	13.03	10.95	59.53	11.86	12.23	63.43
Fair Isaac	FIC	Computer Software/Svcs	3	13.35	20.56	66.91	12.54	20.89	65.84	16.85	24.17	65.56
MICROS Systems	MCRS	Computer Software/Svcs	3	10.61	14.60	52.53	10.18	14.07	52.37	9.36	13.44	50.91
Manhattan Assoc.	MANH	Computer Software/Svcs	3	9.11	12.76	56.33	6.69	12.25	57.16	7.56	14.85	57.96
DealerTrack Hldgs.	TRAK	Computer Software/Svcs	3	8.45	11.77	57.39	11.16	11.97	59.11	3.48	8.18	58.30
Symantec Corp.	SYMC	Computer Software/Svcs	3	7.90	13.12	79.23	7.78	11.36	76.62	3.79	14.53	76.30
Blackboard Inc.	BBBB	Computer Software/Svcs	3	5.37	8.34	73.11	-5.87	-6.46	69.63	30.85	18.02	70.64
SRA Int'l Inc.	SRX	Computer Software/Svcs	3	4.86	7.92	25.55	5.00	7.32	24.76	5.30	8.22	25.31

High Island Offshore System L.L.C.

OPERATING MARGINS OF SELECTED BUSINESS SERVICE COMPANIES 2005 - 2007

			[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
			Ranks	**2007**	**2007**	**2007**	**2006**	**2006**	**2006**	**2005**	**2005**	**2005**
Company	**Ticker**	**Industry Name**	**Value Line Safety**	**PROFIT MARGIN**	**OPERATING MARGIN**	**GROSS MARGIN**	**PROFIT MARGIN**	**OPERATING MARGIN**	**GROSS MARGIN**	**PROFIT MARGIN**	**OPERATING MARGIN**	**GROSS MARGIN**
MSC.Software	MSCS	Computer Software/Svcs	3	-0.63	1.21	81.25	5.31	1.86	77.63	4.00	9.89	76.10
Amdocs Ltd.	DOX	Industrial Services	3	12.87	12.84	36.66	12.85	14.43	36.14	14.16	17.22	36.44
FTI Consulting	FCN	Industrial Services	3	9.20	18.68	45.23	5.94	18.24	45.05	10.45	21.07	45.96
Convergys Corp.	CVG	Industrial Services	3	5.96	8.73	35.38	5.96	9.51	37.10	4.75	9.48	38.69
Resources Connection	RECN	Industrial Services	3	5.85	10.05	38.31	7.44	12.14	39.21	9.56	14.98	39.35
Iron Mountain	IRM	Industrial Services	3	5.61	16.46	53.84	5.48	16.92	54.29	5.35	18.44	54.85
G&K Services `A'	GKSR	Industrial Services	3	4.60	9.03	31.97	4.65	8.54	31.74	4.75	8.50	34.60
ABM Industries Inc.	ABM	Industrial Services	3	1.94	2.85	10.21	3.44	2.88	10.73	2.24	2.48	10.59
Cadence Design Sys.	CDNS	Computer Software/Svcs	3	18.34	19.25	85.52	9.61	15.14	84.70	3.71	12.31	82.79
Autodesk, Inc.	ADSK	Computer Software/Svcs	3	16.40	20.52	90.47	15.75	19.01	88.23	21.70	24.62	88.87
Parametric Technology	PMTC	Computer Software/Svcs	3	15.26	11.54	69.10	6.70	8.79	68.19	11.60	11.82	71.11
QAD Inc.	QADI	Computer Software/Svcs	3	2.06	2.13	57.81	3.09	3.45	60.29	9.20	7.00	60.66
CB Richard Ellis	CBG	Industrial Services	3	6.47	11.18	46.96	7.90	13.64	47.66	7.47	12.79	49.49
Harsco Corp.	HSC	Industrial Services	3	8.12	12.41	27.19	6.49	11.38	27.18	5.66	9.72	24.11
Mentor Graphics	MENT	Computer Software/Svcs	3	3.27	9.69	85.21	3.39	8.72	85.71	0.82	2.70	84.30

Value Line Safety = 1,2,3	**PROFIT MARGIN**	**OPERATING MARGIN**	**GROSS MARGIN**
2007	**10.55**	**14.78**	**54.35**
2006	**10.02**	**13.91**	**54.64**
2005	**11.33**	**15.12**	**55.08**
3-Year Average	**10.63**	**14.60**	**54.69**

Notes:
[1] Source: Value Line
[2] Source: Bloomberg
[3] Source: Bloomberg
[4] Source: Bloomberg
[5] Source: Bloomberg
[6] Source: Bloomberg
[7] Source: Bloomberg
[8] Source: Bloomberg
[9] Source: Bloomberg
[10] Source: Bloomberg

High Island Offshore System L.L.C.

2007 OPERATING MARGINS OF MAJOR PIPELINES

	[1] After-Tax Net Utility Operating Income / Gas Operating Revenues	[2] Pre-Tax Net Utility Operating Income / Gas Operating Revenues
Ozark Gas Transmission L.L.C.	74.71%	114.93%
MarkWest New Mexico L.P.	60.53%	93.12%
Hardy Storage Company	58.92%	90.65%
Gulfstream Natural Gas System, L.L.C.	56.86%	87.48%
Rockies Express Pipeline LLC	52.21%	80.33%
Maritimes & Northeast Pipeline, L.L.C.	51.70%	79.53%
Alliance Pipeline L.P.	51.43%	79.12%
Kern River Gas Transmission Company	49.37%	75.95%
Guardian Pipeline, L.L.C.	45.13%	69.43%
Cheyenne Plains Gas Pipeline Company, LLC	44.00%	67.69%
TransColorado Gas Transmission Company LLC	43.97%	67.64%
Vector Pipeline L.P.	43.25%	66.54%
Great Lakes Gas Transmission Limited Partnership	40.82%	62.80%
Florida Gas Transmission Company, LLC	40.51%	62.33%
Wyoming Interstate Company, Ltd.	40.07%	61.64%
North Baja Pipeline, LLC	39.15%	60.24%
Portland Natural Gas Transmission System	38.80%	59.69%
East Tennessee Natural Gas, LLC	38.31%	58.94%
Mississippi Canyon Gas Pipeline, LLC	38.24%	58.83%
Northern Border Pipeline Company	38.19%	58.76%
IPOC as Agent/Iroquois Gas Trans. Sys. L.P.	37.53%	57.75%
Destin Pipeline Company, L.L.C.	35.44%	54.53%
Colorado Interstate Gas Company	35.31%	54.33%
Petal Gas Storage, L.L.C.	35.27%	54.26%
Trunkline LNG Company, LLC	35.25%	54.23%
MIGC, LLc	35.23%	54.21%
Texas Eastern Transmission, LP	35.01%	53.87%
Gas Transmission Northwest Corporation	34.75%	53.46%
Questar Pipeline Company	34.64%	53.30%
CenterPoint Energy Gas Transmission Company	33.79%	51.98%
ANR Storage Company	33.61%	51.71%
Northwest Pipeline GP	33.58%	51.67%
Bear Creek Storage Company	33.50%	51.53%
El Paso Natural Gas Company	33.49%	51.52%
Transwestern Pipeline Company, LLC	33.32%	51.26%
Mojave Pipeline Company	33.21%	51.09%
Equitrans, L.P.	32.87%	50.56%
Trailblazer Pipeline Company LLC	32.83%	50.51%
Northern Natural Gas Company	30.90%	47.54%
Texas Gas Transmission, LLC	30.57%	47.03%
Natural Gas Pipeline Company of America LLC	30.00%	46.15%
Dominion Cove Point LNG, LP	29.93%	46.04%
Southern LNG Inc.	29.57%	45.50%

High Island Offshore System L.L.C.
2007 OPERATING MARGINS OF MAJOR PIPELINES

	[1] After-Tax Net Utility Operating Income / Gas Operating Revenues	[2] Pre-Tax Net Utility Operating Income / Gas Operating Revenues
Southern Natural Gas Company	29.51%	45.40%
Williston Basin Interstate Pipeline Company	28.33%	43.58%
National Fuel Gas Supply Corporation	27.90%	42.92%
Columbia Gas Transmission Corporation	27.65%	42.54%
Questar Overthrust Pipeline Company	27.45%	42.24%
Gulf South Pipeline Company, LP	26.40%	40.61%
Dominion Transmission, Inc.	25.83%	39.73%
Tennessee Gas Pipeline Company	25.67%	39.49%
Kinder Morgan Interstate Gas Transmission LLC	24.33%	37.44%
Columbia Gulf Transmission Company	24.30%	37.38%
Algonquin Gas Transmission, LLC	24.26%	37.32%
Southern Star Central Gas Pipeline, Inc.	24.09%	37.07%
Panhandle Eastern Pipe Line Company, LP	24.01%	36.93%
Transcontinental Gas Pipe Line Corporation	21.54%	33.14%
Carolina Gas Transmission Corporation	20.72%	31.88%
ONEOK Gas Transportation, L.L.C.	20.60%	31.70%
ANR Pipeline Company	17.67%	27.18%
Midwestern Gas Transmission Company	17.06%	26.25%
CenterPoint Energy Mississippi River Transmission Corporation	16.29%	25.07%
Viking Gas Transmission Company	13.90%	21.39%
Duke Energy Ohio, Inc.	9.70%	14.92%
Duke Energy Kentucky, Inc.	8.64%	13.29%
High Island Offshore System, L.L.C.	**7.97%**	**12.26%**
Stingray Pipeline Company, L.L.C.	7.79%	11.99%
Chandeleur Pipe Line Company	7.28%	11.21%
MEAN	**32.72%**	**50.33%**
STD. DEV.	**12.96%**	**19.94%**
MAX	**74.71%**	**114.93%**
MIN	**7.28%**	**11.21%**

Note:
[1] Source: FERC Form 2, pg. 114 line 26 / pg. 114 line 2
[2] Source: FERC Form 2, pg. 114 line 26 grossed up assuming 35% income tax rate / pg. 114 line 2

Exhibit HIO-74
Docket No. RP09-___-000

Exhibit No. HIO-74 is being filed with FERC in digital format on CD.

UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

High Island Offshore System, L.L.C.) Docket No. RP09-__-000

Prepared Direct Testimony
of
James F. Guion

Q. Please state your name and business address.

A. My name is James F. Guion. My business address is 1100 Louisiana Street, Houston, Texas 77002.

Q. By whom are you employed and in what capacity?

A. I am employed by EPCO, Inc. I am the Vice President for Commercial Offshore Development.

Q. Please describe your educational and professional background.

A. In 1971, I received a Bachelor of Science degree in Mechanical Engineering from Louisiana Tech University. In 1978, I received a Master of Business Administration degree from Nicholls State University. I am also a Registered Professional Engineer (Registration - 15909). From 1973 to 1999, I worked for the Kerr McGee Corporation where I held positions of increasing responsibility. From 1997 to 1999, I was Senior Vice President - Production for KMG Oil & Gas Co. In 1999, I left Kerr McGee and founded Guion Management LP, where I served as Project Manager for a number of offshore facility projects. Since 2007, I have been employed by EPCO, Inc.

Q. Have you previously provided testimony in proceedings before the Federal Energy Regulatory Commission?

A. No.

Q. What is the purpose of your testimony in this proceeding?

A. I will describe the current and long-term business risk that HIOS is facing in the offshore Gulf of Mexico gas supply transportation environment.

Q. Are you sponsoring any exhibits as part of your testimony?

A. Yes. I am sponsoring the following exhibits in support of my testimony:

Exhibit No.	Description of Exhibits
HIO-76	HIOS System Map
HIO-77	HIOS Throughput Decline
HIO-78	Diana Hoover Field – Decline in Throughput Volumes

Q. Please briefly describe the HIOS system.

A. HIOS owns and operates an interstate pipeline system on the Outer Continental Shelf ("OCS") of the Gulf of Mexico. The HIOS system is shaped like a three-pronged fork, with the three upstream lateral prongs collecting gas from production areas in the Western Gulf of Mexico and delivering it to a point where the three prongs converge at a platform in High Island Block A-264. On March 31, 2009, HIOS filed with the Commission a Petition for a Declaratory Order asking that the Commission find that these three lateral prongs perform a gathering function exempt from the Commission's jurisdiction. In addition, upstream of the center prong of the proposed refunctionalized gathering system, there is an 85-mile, non-jurisdictional gathering system, known as the East Breaks Gathering System ("East Breaks"), that HIOS acquired on March 31, 2009, from a HIOS affiliate, Enterprise Field Services, LLC. The East Breaks system connects HIOS to a production platform located in 4,800 feet of water approximately 140 miles offshore in the Alaminos Canyon area.

From the downstream point of convergence at High Island Block A-264, HIOS operates a single 42-inch diameter mainline that extends northward for 66 miles to West Cameron Block 167 offshore Louisiana, where it interconnects with the interstate pipeline systems of three companies: ANR Pipeline Company; U-T Offshore System, L.L.C; and Tennessee Gas Pipeline Company. My Exhibit No. HIO-76 is a map of the HIOS system that shows the interconnections with these downstream interstate pipelines.

Q. Can you describe the nature of HIOS's operations?

A. Yes. The original HIOS system (other than East Breaks) was constructed over thirty years ago by a gas pipeline consortium for the purpose of moving gas from what was then a new production area in offshore Texas, to interconnections with other pipelines, for further downstream delivery to onshore markets. When HIOS was first placed in service in 1978, it was supported by 15-year, firm transportation contracts. During its initial years of operation, throughput on HIOS steadily increased. However, these initial contracts have since expired, and throughput in the system has declined significantly. Accordingly, HIOS has been competing to attach new supplies to the HIOS system.

Q. What percentage of HIOS's current throughput is associated with firm contracts?

A. As of the end of the test period, out of a total physical capacity of 1.8 Bcf per day, HIOS will have under firm subscription only 22.0 MDth/d (20.7 MMcf per day), or 1.2 % of its physical capacity, and average daily throughput of 280.7 MDth/d (263.8 MMcf per day), or 14.7 % of capacity. Today, HIOS provides mostly interruptible transportation service. In fact, HIOS has no existing contracts under its traditional Rate Schedule FT-1 firm transportation service. The only firm contracts on the system are provided under Rate Schedule FT-2, which is a form of volumetric firm service where the shippers pay on a commodity basis rather than the two-part reservation/commodity structure traditionally associated with firm service.

Q. Why are firm volumes such a small fraction of HIOS's throughput?

A. HIOS has not been able to attract Rate Schedule FT-1 service to its system since 2005 and that was short term service only because certain shippers wanted to have flow assurance on HIOS from the Stingray receipt point while Stingray was recovering from damages due to Hurricane Rita in 2005. Stingray was unable to provide service through its system as normal to the beach, so it reversed flow for a period of time to the HIOS interconnect at HIA-330. Prior to this short term FT-1 service in 2005 and early 2006, HIOS had not had any FT-1 service since approximately 2000. In 1999, in conjunction with its connection to East Breaks when that gathering facility was constructed, HIOS implemented its firm transportation service under Rate Schedule FT-2 to address offshore producers' desire for a more flexible service that was suited to their particular needs. Although nominally a firm service, the shippers pay for the service on a commodity only basis, and have the unilateral right under the Rate Schedule to reduce their firm service entitlements annually, based on an updated production profile, or as frequently as quarterly, by giving HIOS six months advance written notice of their intent. In exchange for this flexibility in the service, the shippers agree to dedicate for delivery into and transportation through HIOS's pipeline facilities all gas produced by or for the account of the shippers at certain identified OCS leases. While this service was initially successful in attracting new "firm" throughput to the system, because of lower-than-expected rates of production, now only a fraction of the system's physical capacity is under firm subscription.

Q. Does HIOS anticipate that it will be executing any new service agreements in the foreseeable future under either of its two firm service rate schedules?

A. No, the business environment in which HIOS currently operates makes that very unlikely to occur.

Q. Please describe the business environment that HIOS is operating in today and the business risks it is facing today and into the future.

A. HIOS operates today in what has become an extremely difficult business environment. HIOS's throughput has declined precipitously over the last several years, and the decline is expected to continue without any real prospects of reversal. Since 2000, the cumulative decline in throughput has been 68.6%. During HIOS's last rate case in 2006, average daily throughput for the base period was 493.3 MDth/d, which itself represented a significant decline from previous years. For the base period in this case, annual throughput was 300.2 MDth/d. This decline in throughput has resulted in a significant decline in the revenues that were forecast by HIOS in its last rate case. Compounding this drop in throughput and revenues, HIOS has been subjected to unanticipated cost increases, including additional increases in its insurance costs as a result of the aftermath of Hurricane Ike in the Gulf of Mexico, three years after Hurricane Rita caused significant damage. In addition, after operating approximately twenty years beyond its originally expected life, HIOS is exposed to escalating costs to ensure that the pipeline and associated facilities can continue to operate in a safe and reliable manner.

Q. Can you describe these business risks in greater detail?

A. I would divide them into three general types: (1) risk from production decline in reserves already attached to the system, and the resulting reduction in revenues, (2) risk from competition from other pipeline service providers for attachment of new, deepwater gas production, and (3) operational risk.

Q. Please expand on the first category of business risk.

A. The first major business risk that HIOS faces is the risk associated with production decline in reserves attached to the system, and the resulting reduction in revenues. HIOS continues to experience a significant decline in throughput attributable to production decline in reserves. As shown in Exhibit No. HIO-77, from 2000 through the end of the test period, total throughput has declined by 223.6 MMDth, from 326.0 MMDth per year to 102.4 MMDth per year. HIOS anticipates that base period total throughput will continue to decline by a factor of 6.6% by the end of the test period, to an annualized level of approximately 102.4 MMDth by the end of the test period. The expectation of a continuing significant decline in throughput is also supported in the testimony of HIOS Witness Scott Jenkins.

Q. What is the reason for this decline in throughput?

A. The most recent, significant reductions in throughput have resulted from the continued decline in the level of production from the “Diana Hoover” fields, located in East Breaks Block 945 and Alaminos Canyon Block 25, respectively. After ramping up to an average of 243 MDth/d in 2001, and producing between 180 and 242 MDth/d through 2004, East Breaks volumes declined to approximately 144 MDth/d in 2006 before HIOS’s last rate case. Since then, the declines have become even more pronounced, as shown by my Exhibit No. HIO-78. At the end of 2008 East Breaks volumes were approximately 31 Mdth/d.

Since the two primary producers from the Diana Hoover fields take service under Rate Schedule FT-2, the decline in East Breaks volumes has resulted in a significant reduction in the level of firm service commitments or MDQ under their contracts. Set forth below are the levels of MDQ that those two producers, ExxonMobil Gas & Power Marketing Company (“ExxonMobil”) and BP Exploration & Production Inc. (“BP”), estimated in 2000 would be their MDQs for the first quarter of 2007, contrasted with the actual firm service entitlements that were in effect at the time of HIOS’s rate case in 2006, as well as the actual MDQs in effect following the recent exercise of their contract reduction rights:

MDQ			
	2000 Estimate	June, 2006 Actual	Sept. 2009 Actual
ExxonMobil	169,300 Dth/d	71,000 Dth/d	19,900 Dth/d
BP	130,000 Dth/d	5,000 Dth/d	4,000 Dth/d

These reduced MDQs are a direct result of the lower-than-expected production from the Diana Hoover fields. Actual average daily production by ExxonMobil in 2008, was 25.3 MDth (15% of its original MDQ). Average daily production by BP during 2008 was 6.3 MDth (5% of its original entitlement). In sum, in 2008, the combined average daily production by ExxonMobil and BP totaled 31.6 MDth, and as I note in the table above, even further declines are anticipated.

Q. How do these reductions in firm throughput affect HIOS?

A. First, given the nature of the Rate Schedule FT-2 service, with the decline in firm throughput, HIOS has experienced a corresponding decline in revenues. Without the firm throughput, HIOS has no assurance of a level of firm revenue stream that could be used to support continued operation of the system. Second, in conjunction with declining throughput, the lack of firm contracts contributes to inefficiencies when shippers contract for capacity on HIOS. Since approximately 98.8% of the HIOS capacity will not be contracted on a firm basis as of the end of the test period in this case, there will be significant capacity available for interruptible service. And since total throughput, including interruptible, is below capacity, interruptible service is virtually firm and there is no incentive for a shipper to purchase firm service.

Q. Please explain why this is a long-term business risk.

A. Based on the estimates provided by Mr. Jenkins, and my knowledge of the offshore production potential in this area, no reversal in the decline in production of the reserves attached to the HIOS system is expected or anticipated. As a result, HIOS has virtually no assurance of sufficient revenue recovery under firm contracts in either the near term or in the long term.

Q. Can you expand on the second type of business risk you identify?

A. Yes. Related to the risk from declining throughput due to declining production from those reserves attached to the HIOS system, is the risk associated with HIOS's inability to successfully negotiate contracts to attach any new, deepwater gas production south of the HIOS system. HIOS has not been able to successfully offset the decline in throughput associated with the decline in production from those reserves already attached to the system by attaching new reserves.

Q. When was the last time HIOS was able to attach new reserves?

A. The last time HIOS was able to attach new deepwater gas reserves was in June 2000, and at considerable expense to a HIOS affiliate. In June 2000, as a result of the construction of East Breaks at a cost of over $85 million, HIOS was able to attach new production from the Diana Hoover fields located in East Breaks Block 945 and Alaminos Canyon Block 25, respectively. Since that time, however, HIOS has not been able to attract any other significant new deepwater gas reserves to its system despite making competitive efforts on a number of occasions to reach agreement with producers for the limited number of reserves available.

Q. Why has HIOS not been able to attach any new reserves to its system since 2000?

A. There are primarily two reasons. First, the optimistic projections prior to 2000 of the potential for significant new deepwater reserves south of HIOS simply have not materialized. That area was originally considered to hold potential for the discovery of significant new deepwater gas reserves, which was a major reason why the substantial sum of $85 million was invested by HIOS's affiliate to attach these potential reserves. However, results of exploration efforts in the deepwater south of HIOS have been extremely disappointing. Only 1.3 Tcf, or 9%, of the 13.5 Tcf total deepwater Gulf of Mexico gas production to date, has come from the area south of HIOS. Further, only 30 of the leases drilled in the deepwater south of HIOS since 1985 have resulted in commercial production, and only 48% of that production has been gas, with the remainder being oil. In sum, despite initial projections, the amount of new deepwater reserves that have become available is very limited.

The second reason why HIOS has been unsuccessful in attaching new deepwater gas reserves is that, despite its aggressive attempts to compete with other pipelines, HIOS has not been able to negotiate acceptable agreements with the producers for the limited new reserves that have become available.

Q. Are there recent examples of HIOS attempting to conclude acceptable arrangements with producers for these reserves.

A. Yes. In 2005 to 2006 HIOS attempted to negotiate a deal with Shell for its "Great White" reserves, as further described below. There have been no other potential deepwater reserves discovered near HIOS since Great White.

There are a number of other examples since 2000 of HIOS attempts to secure new reserves. In 2000, for example, HIOS entered into extensive negotiations with Kerr McGee Oil & Gas Corporation ("Kerr McGee") for the potential connection of the "Boomvang/Nansen" development located in the East Breaks Block 643/602 area. After months of negotiations, Kerr McGee elected to contract with the Williams Companies' Transcontinental Gas Pipe Line Corporation, which connected a new 105-mile gathering lateral from its existing Central Texas Gathering System to this new development. The Boomvang/Nansen complex has produced 428 Bcf since commencing deliveries in July 2001, and is still producing about 200 MMcf/d.

In 2001, HIOS entered into extensive negotiations with Kerr McGee for potential connection of its Gunnison development located in Garden Banks Block 668. After months of negotiations, Kerr McGee elected to contract with Enbridge Pipelines, which connected a new 45-mile gathering lateral from its existing Stingray pipeline to this new development. Gunnison has produced 94 Bcf since commencing deliveries in 2003, and is still producing approximately 125 MMcf/d.

The only other significant new reserves discovered since 2000 comprise the proposed "Great White" development by Shell Offshore, Inc. in the southern portion of Alaminos Canyon, 50 miles south of the terminus of East

Breaks, in 7,500 feet of water. Once again, HIOS competed aggressively with Williams for this new business, which would have required the investment by an affiliate of an estimated $200 million in a new pipeline and associated facilities. Williams was ultimately the successful bidder because, as we understand it, Williams was able to tie the gas transportation services to other ancillary services, such as gas processing, that HIOS could not provide. Publicly available well logs from this area show it to be oil prone, such that the gas will be primarily casinghead gas associated with production from oil wells. In addition, leasing activity within 30 miles of Great White over the last three years indicates producers see better opportunities in other portions of the Gulf of Mexico. Despite record bidding elsewhere in the Gulf, 84 leases have expired or been relinquished while only 23 blocks have been leased within 30 miles of Great White.

Q. Are you anticipating any other deepwater reserve connections to HIOS?

A. In my judgment, at this time there really are no reasonably feasible prospects of significant future reserves that could be attached to HIOS. The only reasonably foreseeable, potential new gas supply reserves of any significance are located in the deepwater area south of HIOS. However, the low discovery rate, combined with the oil prone nature of deepwater prospects and the fierce competition for connections, greatly reduce the chances of finding and connecting any significant gas supplies in the prospects that remain undrilled.

Q. Are there risks associated with connecting to new, deepwater reserves if HIOS were able to find and connect to significant gas supplies in the prospects that remain undrilled?

A. Yes. Even if HIOS were able to obtain a producer commitment, it is extremely expensive to connect to deepwater supply reserves. Producers are able to shift the reserve risk associated with a new field onto the pipeline by insisting upon contract provisions that allow them to tie the level of their firm entitlements (and firm payment obligations) to the level of their actual production. This was the case with HIOS's Rate Schedule FT-2, which, as explained above, gives shippers the right to unilaterally reduce their firm service entitlements and their payment obligations annually in accordance with their production levels. This puts the pipeline in the position of having to make a considerable investment in new pipeline facilities in the hopes that actual production will justify the investment. As HIOS's affiliate learned with East Breaks, that is not always the case.

Q. You have focused on the risk of building new pipeline in deepwater to attach deepwater reserves at the southern end of the system. Why doesn't HIOS compete for the attachment of new, near-shore supplies along its existing system?

A. HIOS certainly does compete aggressively for transportation of production along its system. However, near-shore production in the Western Gulf of Mexico is declining rapidly. There is also competition from other pipeline transporters in the vicinity of HIOS. Based on the reserves declines as shown by Mr. Jenkins, it simply is not realistic for HIOS to count on any significant new sources of revenue from this part of its system.

Q. Please explain the long-term nature of this second business risk.

A. Without any serious prospect of attaching new, deepwater reserves, HIOS will not be able to offset declines in firm throughput attributable to declines in production of the reserves already attached to the HIOS system. HIOS therefore has virtually no assurance of sufficient revenue recovery under firm contracts in either the near term or in the long term.

Q. Please explain the third type of business risk that HIOS faces.

A. The third major type of risk that HIOS faces pertains to its operation of one of the oldest pipeline systems in the Gulf of Mexico. HIOS was one of the earliest pipelines constructed out into the western Gulf of Mexico. The system is now almost 30 years old. Unlike pipelines that are constructed onshore, offshore pipelines not only require the typical level of routine maintenance, but because of the harsh salt-water environment in which they operate they are subjected to a greater need for significant, non-routine maintenance over and above that typically required. Because of its age, HIOS is at a stage where a substantial level of this additional maintenance is now required.

Q. And what is the relation of the expenses associated with Hurricane Ike that you mentioned earlier to your assessment of HIOS's operational business risk?

A. HIOS's insurance premiums have increased as a result of Hurricane Ike. This contributes to business risk because it is additional, unexpected cost to HIOS at a time when revenues to the system are declining.

Q. Please summarize the business risks facing HIOS today.

A. HIOS projects that in the future the system will continue to experience declines in both firm contracts and total throughput. Reversing these declines is an extremely difficult challenge given the uncertain and overall disappointing future of new sources of supply. This challenge is compounded by the competition to attach the limited new deepwater supplies. The declines in firm contracts and total throughput, together with escalating costs, produce significant business uncertainty for HIOS.

Q. Does this conclude your testimony?

A. Yes.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

In the matter of)
High Island Offshore System, L.L.C.) Docket No. RP09-___-000

Affidavit of James F. Guion

James F. Guion, being first duly sworn according to law, on oath deposes and says that he is the witness whose prepared direct testimony in the above entitled proceeding accompanies this affidavit; that if asked the questions which appear in the text of the aforesaid prepared testimony, affiant would give the answers that are therein set forth; and that affiant adopts the aforesaid testimony as his sworn, direct testimony in these proceedings.

/s/ James F. Guion
James F. Guion

Subscribed and sworn to before me this 25th day of March, 2009.

SUSAN L. WILSON
MY COMMISSION EXPIRES
July 19, 2011

/s/ Susan L. Wilson
Notary Public

Exhibit No.HIO-76
Docket No. RP09-
95°0'0"W
94°0'0"W
93°0'0"W
29°0'0"N
28°0'0"N
27°0'0"N
Texas
Harris
Chambers
Jefferson
Cameron
Galveston Bay
Galveston
West Bay
Intracoastal Waterway
Gulf Of Mexico
SABINE PASS
WEST CAMERON
HIGH ISLAND
HIGH ISLAND E. ADDN
WEST CAMERON W. ADDN
GALVESTON
HIGH ISLAND S. ADDN
HIGH ISLAND E. ADDN S. EXT
WEST CAMERON S. ADDN
GALVESTON S. ADDN
HIOS
EAST BREAKS
GARDEN BANKS
ALAMINOS CANYON
KEATHLEY CANYON
ENTERPRISE
Gulf of Mexico Facilities
HIOS - EAST BREAKS
MARCH 2009
5 0 5 10 15 20
Miles

Exhibit No. HIO-77

Docket No. RP09-___

High Island Offshore System, L.L.C.
HIOS Throughput Decline
Annual Percent Change

Line No	Year		Annual Throughput (MMDth)	Percent Decline
	(1)		(2)	(3)
1	2000		326.0	0.0%
2	2001		367.3	-12.7%
3	2002		268.2	27.0%
4	2003		259.7	3.2%
5	2004		282.7	-8.9%
6	2005		223.5	21.0%
7	2006		183.2	18.0%
8	2007		158.7	13.4%
9	2008		109.6	30.9%
10	Oct 2008 - Sep 2009	1/	102.4	6.6%
11	Cumulative % Decline	1/	223.6	68.6%

1/ Twelve month period ending at the end of the test period (Oct 2008 - Sep 2009)
1/ Cumulative change from January 2000 through September 2009
(Col. 2 - line 9, 102.4 less Col. 2 - line 1, 326.0).

Exhibit No. HIO-78

Docket No. RP09-___

High Island Offshore System, L.L.C.
Diana Hoover Field
Decline in Throughput Volumes

Line No	Year (1)	Diana Hoover Average Daily Volume (MDth/day) (2)	Percent Decline (3)
1	2000	111.5	
2	2001	243.3	-118.2%
3	2002	180.1	26.0%
4	2003	183.2	-1.7%
5	2004	242.4	-32.3%
6	2005	172.8	28.7%
7	2006	144.4	16.4%
8	2007	64.1	55.6%
9	2008	31.5	50.9%
10	Cumulative % Decline	80.0	71.7%

Exhibit No. HIO-79

UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

High Island Offshore System L.L.C.) Docket No. RP09-

Prepared Direct Testimony
Of
J. Scott Jenkins

Q. Please state your name and address.

A. My name is J. Scott Jenkins. My business address is 1100 Louisiana Street, Houston, TX 77002.

Q. By whom are you employed and in what capacity?

A. I am Manager of Supply Appraisal for Enterprise Products Operating, LLC. ("Enterprise").

Q. Please describe your educational background.

A. I received a Bachelor of Science degree in Geology from the University of Houston in 1974. In 1981, I received a Master of Business Administration from the same institution with a concentration in Finance.

Q. What is the purpose of your testimony in this proceeding?

A. I am sponsoring testimony with regard to the reserve life of the gas supplies connected to HIOS.

Q. Have you previously provided testimony before the FERC related to HIOS?

A. Yes, I provided testimony in Docket No's. RP03-221-000 and RP06-540-000.

Q. Please describe your duties at Enterprise.

A. My primary duties are directly related to my testimony in this case and pertain to the development of gas production forecasts for pipeline assets.

Q. What experience do you have on these issues?

A. Since the time of first being employed by ANR Pipeline Company ("ANR") (the original operator of HIOS) in 1974, my primary job has been to estimate gas reserves and forecast gas production. I held several positions within the Reserves and Availability Department of ANR and was named Director of that group in November 1986. In that position, I was responsible for overseeing all reservoir engineering and geological studies with respect to ANR gas supply, including HIOS. In February 2001, ANR was merged into El Paso. At that time, I was named Manager of Supply Appraisal for the Eastern Pipeline Group of El Paso, supervising a group of professionals charged with scouting for and forecasting gas supplies for ANR, Tennessee Gas Pipeline and Southern Natural Gas Company. In May of the same year, I was also named Manager of Reservoir Engineering for El Paso Field Services ("EPFS"), supervising a group of professionals charged with scouting for and forecasting gas and oil supplies for all of the assets operated and managed by EPFS. My EPFS responsibilities included assets such as HIOS which became part of El Paso's GulfTerra Energy Partners, L.P. In 2004 El Paso sold GulfTerra Energy Partners, L.P. to Enterprise, including HIOS. My staff and I transferred to Enterprise with the assets.

Q. Do you have any other experience pertinent to this testimony?

A. Yes, I have served on the Potential Gas Committee ("PGC") since 1983 in various positions including President of the PGC, and Chairman of the Board, as well as Chairman of the Gulf Coast Area work committee. The PGC is a voluntary organization that publishes biennial estimates of potential gas resources (as opposed to proved reserves) for the United States. I am also a Certified Petroleum Geologist of the American Association of Petroleum Geologists, and a registered Professional Geoscientist with the state of Texas.

Q. What is the purpose of your testimony in this case?

A. My testimony will speak to the expected life of gas production from supply sources attached to HIOS, or to the "reserve life" of HIOS. My analysis is based strictly on physical reserve and production factors only, that is, my analysis assumes that there are no economic limits on the production and transportation of my estimated reserves. In other words, my estimate of the reserve life of HIOS could be shorter, but not longer, based on the consideration of economic factors. This is significant, as it is my understanding that such economic factors are required to be taken into account by producing companies in their annual reports of proved reserves submitted to the Securities and Exchange Commission ("SEC"). HIOS witness Richard W. Porter has determined the economic life based on the economics of operating HIOS, and taking into consideration my supply forecast.

Q. What have you concluded based on your studies?

A Based on the gas supply studies conducted by me or under my supervision, which are summarized in my attached exhibits, I have determined a reserve life of 15 years for HIOS, though a reserves life as low as 10 years could be supported.

Q. What exhibits are you sponsoring in support of this recommendation?

A I am sponsoring the following exhibits:

Exhibit No.	HIO-80	HIOS gas forecast of proved and probable reserves
Exhibit No.	HIO-81	HIOS shelf gas production from existing wells
Exhibit No.	HIO-82	HIOS well statistics
Exhibit No.	HIO-83	HIOS reserve statistics
Exhibit No.	HIO-84	HIOS shelf forecast parameters
Exhibit No.	HIO-85	HIOS shelf gas production from existing and new wells
Exhibit No.	HIO-86	HIOS gas forecast

Q. Please explain how you derived your reserves life estimate for HIOS.

A. The gas supply studies conducted under my supervision were designed to project the level of likely gas volumes adjacent to HIOS, which HIOS could reasonably be expected to transport in the future, if no economic limits on the ability to produce and transport those supplies are taken into consideration. My studies are summarized in Exhibit No. HIO-80, which is a chart that compiles different sources of likely gas supply, including my forecast of production from existing wells connected to HIOS on the Outer Continental Shelf ("Shelf"). These existing Shelf wells connected to HIOS are described in my testimony and exhibits as "HIOS Shelf Existing Wells". I have also included in the graph shown on Exhibit No**.** HIO-80**,** certain data for existing deepwater wells connected directly to HIOS ("HIOS Deepwater Existing Wells"), or via the East Breaks Gathering System ("EBGS"), plus volumes available since October 2006 at West Cameron 167 via a split-connected lateral operated by Mariner Energy, Inc. ("Mariner"). The summation of my forecasts for these four categories of supply sources depicted on my Exhibit No. HIO–80 shows that the proved and probable reserves attached to HIOS will be depleted by the end of 2018, or in 10 years, assuming as noted above that no economic limit is applied to the costs of producing and transporting the gas.

Q. What are the historical production trends for sources connected to HIOS, and how do those trends relate to the reserve life you are projecting for HIOS?

A. For HIOS, historical accessible production volumes peaked at over 1,750 MMcf/d in 1981, declined to an average of 948 MMcf/d in 2001, and have continued to decline to below 350 MMcf/d as of January 2009. My studies forecast continuation of this decline.

Q. Please describe the methodology you used to forecast the production from HIOS Shelf Existing Wells.

A. Exhibit Nos. HIO-81 through HIO-83 provide backup for my forecast of existing Shelf wells which should be considered in this case. My staff performed a "vintaging" study on all Shelf wells currently connected to HIOS to establish trends for the number of wells added per year, reserves per well, start rate per well, and the associated decline factors for each well. The wells completed in each year from 1978 through 2008 were accumulated into "vintages". Production from each vintage was plotted and forecasted using exponential declines (Exhibit No. HIO-81). The composite of all vintage forecasts for 1978 through

2008 represents the amount of gas expected to be produced in the future from HIOS Shelf Existing Wells, again assuming that no economic limits on the ability to produce and transport those supplies are taken into consideration.

Average well information was determined by dividing each vintage by the number of wells completed that year. The forecasts were divided by the number of wells to determine average reserves and initial (maximum) flow rate per well (Exhibit No. HIO-82). These statistics show that the ultimate reserves per well have declined an average of about 4% per year since 1978, starting at over twelve billion cubic feet, and declining to less than two billion cubic feet at present. The maximum flow rate per well has declined an average of 0.3% over the same period.

Statistics were also developed on the number of wells added each year (Exhibit No. HIO-83). These data show the number of wells added each year has been declining an average of 13% per year since 1996, from 100 wells in 1996 to 16 wells in 2008. This decline in activity, coupled with the decline in reserves per well, has caused the ultimate reserves added from Shelf drilling to decline an average of 15% per year.

Q. Turning to your second two categories of wells connected to HIOS, how did you forecast the existing deepwater volumes producing directly into HIOS and via EBGS?

A. Other than the fields connected to EBGS, only one deepwater field currently produces into HIOS, East Breaks Block 430, also known as Horseshoe Southwest. Horseshoe Southwest connects to HIOS at HI A-573 via a subsea tieback to a platform in East Breaks 165, as shown on Exhibit No. HIO-67. EBGS gathers deepwater gas and transports such gas from the Diana/Hoover platform located in 4,500 feet of water 80 miles northeast to a connection with HIOS in 350 feet of water at High Island Area Block 573. I have considered gas volumes expected to be produced into EBGS, including the Diana, South Diana, Hoover, Madison, Marshall and Rockefeller fields. My staff prepared forecasts for Horseshoe

Southwest and the fields connected to EBGS, using a decline analysis methodology based on publicly available data on reserves, production, geology, reservoir characteristics, and analogous fields. The HIOS Deepwater Existing Wells and EBGS forecasts are the result of that analysis, again without taking into consideration any economic limits on the ability to produce and transport those supplies.

Q. With regard to your fourth category, how did you forecast volumes accessible from the West Cameron 167 lateral?

A. In October 2006, Norsk Hydro ("Hydro"), now StatoilHydro ("Statoil") connected the West Cameron 167 lateral, which used to flow to ANR Pipeline, to HIOS. The West Cameron 167 lateral is shown on Exhibit No. HIO-67. Statoil later sold the lateral to Mariner, who subsequently split-connected it with Targa, such that the gas connected to that lateral now has two outlets. As a result, nine leases along the lateral have access to HIOS and Targa. My staff prepared forecasts for those leases using decline analysis methodology based on publicly available data on reserves, production, geology, reservoir characteristics, and analogous fields. The gross production volumes have been multiplied by the fraction of HIOS receipts compared to total production since October 1, 2006, or 55 percent, to account for volumes that were moved on to the Targa system rather than on to HIOS.

Q. Are there any additional volumes of gas which should be considered to estimate reserve life for HIOS?

A. Perhaps. In order to represent the total potential picture, volumes from Shelf wells that are expected to be completed in the future and which would likely be connected to HIOS, should be included. I refer to these wells as HIOS Shelf New Wells.

Q. Please describe the methodology you used to forecast the production from HIOS Shelf New Wells.

A. The statistics derived from the historical vintage data for the HIOS Shelf Existing Wells were used to forecast future vintages of HIOS Shelf New Wells. Exhibit No. HIO-84 shows the parameters used. Exhibit No. HIO-85 shows the summation of the vintage forecasts for HIOS Shelf Existing Wells and HIOS Shelf New Wells, again with no economic limits applied for production and transportation. HIOS Shelf New Wells are wells which have yet to be drilled on the Shelf in this mature producing province, but can be forecast in aggregate with some degree of certainty through "vintaging" analysis of historical trends. My understanding is that HIOS Shelf New Wells would not meet SEC criteria for proven reserves.

Q. Is "vintaging" a concept that is used in the industry to forecast gas resources?

A. Yes. Vintaging is used by several organizations within the industry, including the PGC, to analyze historical production trends. Enterprise's Supply Appraisal group has previously applied these techniques in many "mature" producing areas to forecast future production. My assumption is that HIOS will have access to new Shelf supplies represented by this vintaging approach, although there is no guarantee that such production will occur or be connected to HIOS.

Q. What reserve life is possible for HIOS if the resources from HIOS Shelf New Wells are considered?

A. Exhibit No. HIO-86 shows the total of existing supply sources and HIOS Shelf New Wells essentially depletes in 2023. If no economic limits on production and transportation are applied, a reserves life of 15 years is possible under those assumptions.

Q. Are there additional volumes of gas that could possibly be considered to estimate reserve life for HIOS?

A. Additional speculative volumes from undrilled prospects in water depths greater than 1000 feet of water ("Deepwater Future Tiebacks") and in water depths less than 1000 feet to total depths exceeding 25000 feet ("Ultra-deep Shelf") which may produce gas in the future and could also possibly be considered, but it is my opinion that they are too speculative to be included in my recommendation.

Q. Why do you consider Deepwater Future Tiebacks and Ultra-deep Shelf volumes to be too speculative?

A. There can be no assurance that such additional future prospects will be drilled and connected to HIOS. Geology, geophysics, and economics drive exploration and development decisions for the companies that drill and produce gas. For these prospects, individual wells cost between 25 and 150 million dollars, and production systems, which vary from subsea wellheads to floating platforms, can cost anywhere from 50 million to over 1 billion dollars. Pipelines in the offshore area typically cost over one million dollars per mile to construct, which must be factored into production decisions. Further, the geology is complex, including the presence of structural, stratigraphic and combination traps influenced by salt movements and faulting. Even though improved seismic technology has helped to image these potential traps prior to drilling, such technology still lacks much of the detail that would reduce the risk of drilling, especially near salt bodies or salt welds typically associated with the larger prospects. The high risk of commercial failure and high exploration costs dictate that only prospects with large potential will be drilled. Once a commercial discovery is made it takes 2 to 10 years to develop. Commercial development of gas supplies is very difficult to achieve due to the complex geology and geophysics, and the enormous cost of drilling and development. For example, despite high oil prices and record bidding elsewhere in the Gulf of Mexico, 353 leases have expired or been relinquished while only 144 blocks have been leased since July 2006 in the Alaminos Canyon protraction area south of HIOS, indicating large portions of the area have been downgraded.

In addition to these costs and risks, deepwater developments tend to be oil prone with gas as a by-product. Associated gas produced with the oil may be re-injected into the reservoir to improve oil recovery. Technology is also being developed to convert the gas to liquids. Thus, under these scenarios, the gas in a deepwater project might never be produced into a gas pipeline such as HIOS.

Finally the bottomhole temperature for Ultra-deep Shelf prospects is expected to exceed 350 degrees Fahrenheit, increasing the chance of impurities such as carbon dioxide and hydrogen sulfide which would increase development cost. Assuming sandstone is even present to form a reservoir, the high temperatures reduce porosity and permeability, reducing the chance of achieving commercial production. In short, there is no assurance that any of this additional deepwater or ultra-deep shelf gas will be produced or transported on HIOS.

Q. How have you determined the existence of any of these Deepwater Future Tieback and Ultra-deep Shelf volumes?

A. The Deepwater Future Tiebacks and Ultra-deep Shelf volumes that I have included in my study are derived from Enterprise's proprietary database which has estimates on all active prospects in the Gulf of Mexico. The database estimates start with resource potential for each active prospect. This potential is then reduced for various elements of risk related to geology, commercial considerations, and the competition by pipelines for connection of such future supplies. Production profiles based on existing fields were applied to each prospect to generate a forecast of future production. Such individual prospect forecasts were added together to generate a "risked" portfolio, or one which has been adjusted for the various risk elements I have just described. I am then forecasting that this "risked" portfolio may be accessible to HIOS in the future, although there is no realistic assurance that any such future volumes will be produced or, even if produced, connected to HIOS. The portfolio of prospects potentially accessible to HIOS or EBGS in the future contains no large discoveries with reserves sufficient to justify a new platform. Instead it contains numerous undrilled prospects, which, even if they are proved commercial by future drilling, are likely to be small fields developed as tiebacks from subsea wellheads to existing platforms.

Q. Is such forecasting of future production reliable?

A. While the individual estimates of prospects can be inaccurate, experience has demonstrated that a portfolio estimate of the type I have formulated can give an approximation of total future supplies, assuming HIOS is able to successfully compete for the connection of new deepwater supplies. However, as HIOS witness Guion explains, HIOS has been unsuccessful in attempts to secure connection of any sizeable deepwater projects in the last 8 years. Assuming the addition of the speculative Deepwater Future Tiebacks layer to the total HIOS forecast, the projected HIOS gas supply depletes in 2026 for a reserve life of 18 years, again, assuming that no economic limits on the ability to produce and transport those supplies are considered. (Exhibit No. HIO-86)

Q. How does your gas supply forecast in this case compare with the forecast that you provided in HIOS's last rate case?

A. The current forecast is lower after 2011. This is primarily due to the loss of connection of Shell's Perdido Regional Host deepwater platform in southern Alaminos Canyon to HIOS's competitor Williams. The speculative Deepwater Future Tieback volumes are now known to be more oil prone with higher commercial risks, and it has become apparent that there are significantly reduced chances of connection to HIOS due to increased competition.

Q. Does this conclude your testimony?

A. Yes.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

In the matter of	)	
High Island Offshore System, L.L.C.	)	Docket No. RP09-___-000

Affidavit of James Scott Jenkins

James Scott Jenkins, being first duly sworn according to law, on oath deposes and says that he is the witness whose prepared direct testimony in the above entitled proceeding accompanies this affidavit; that if asked the questions which appear in the text of the aforesaid prepared testimony, affiant would give the answers that are therein set forth; and that affiant adopts the aforesaid testimony as his sworn, direct testimony in these proceedings.

/s/ James Scott Jenkins
James Scott Jenkins

Subscribed and sworn to before me this 25th day of March, 2009.

FRONELL SINGLETERRY
Notary Public, State of Texas
My Commission Expires
December 19, 2010

/s/ Fronell Singleterry
Notary Public

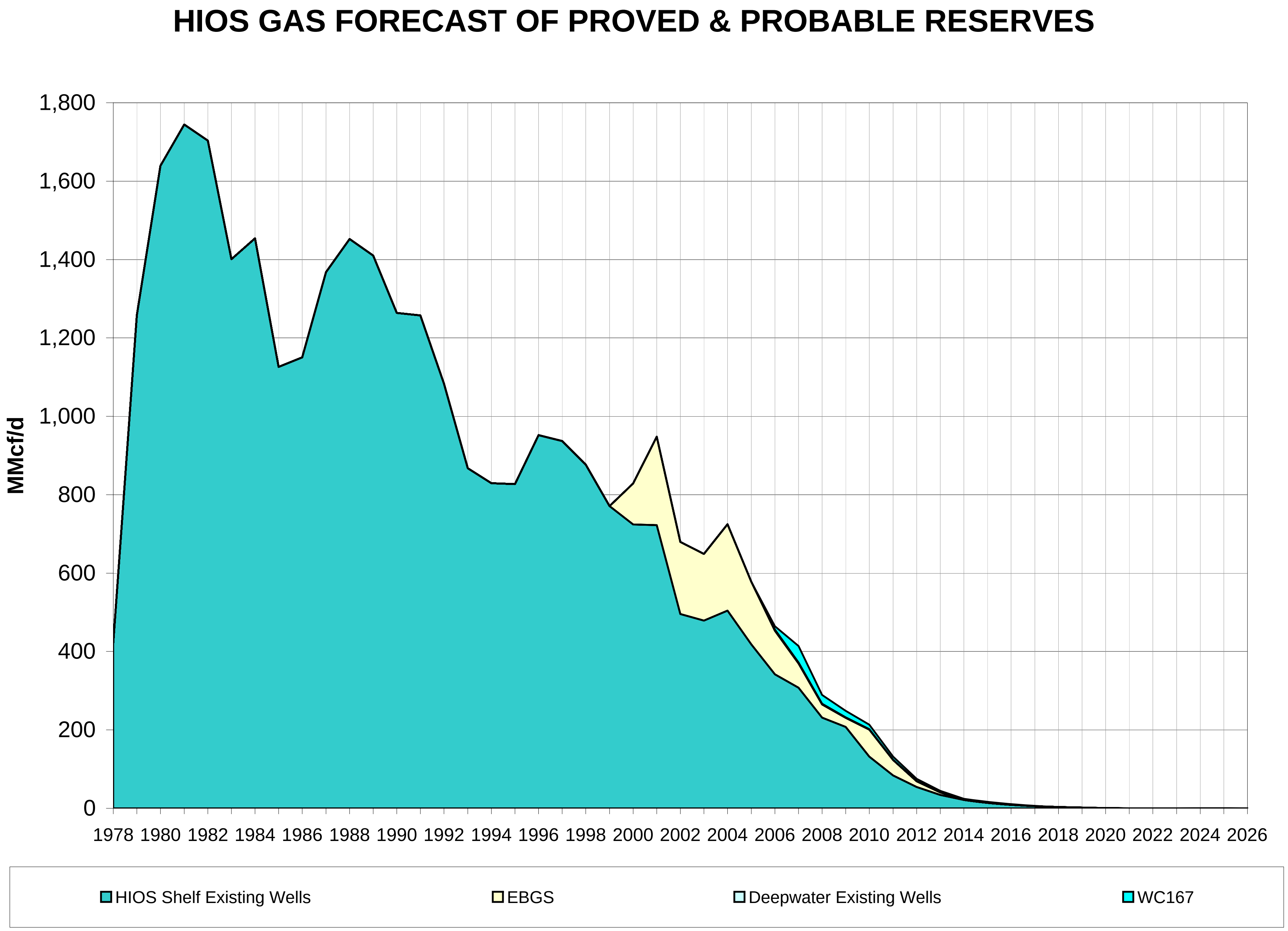

Exhibit No. HIO-80
Docket No. RP09-

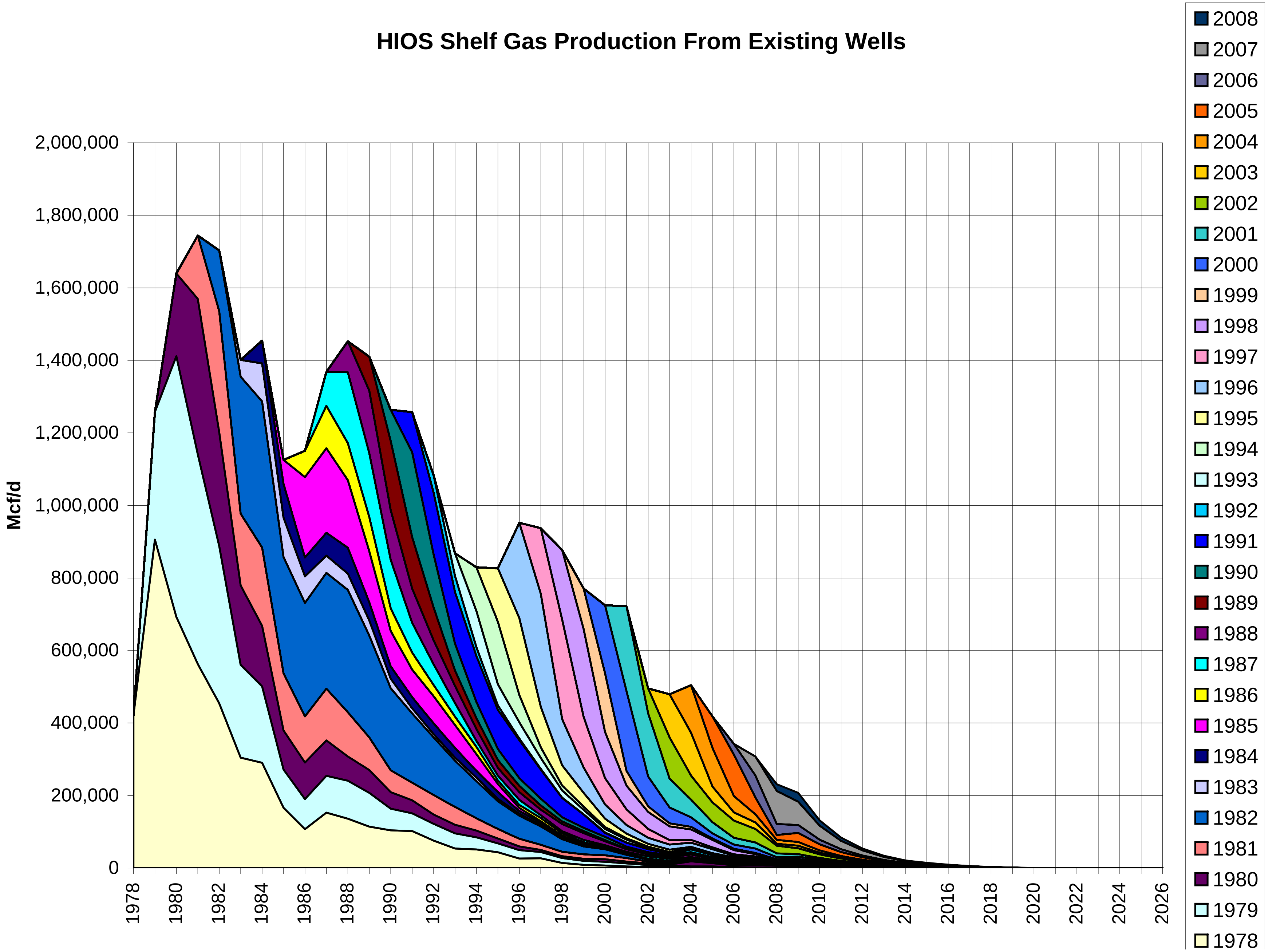

Exhibit No. HIO-81
Docket No. RP09-

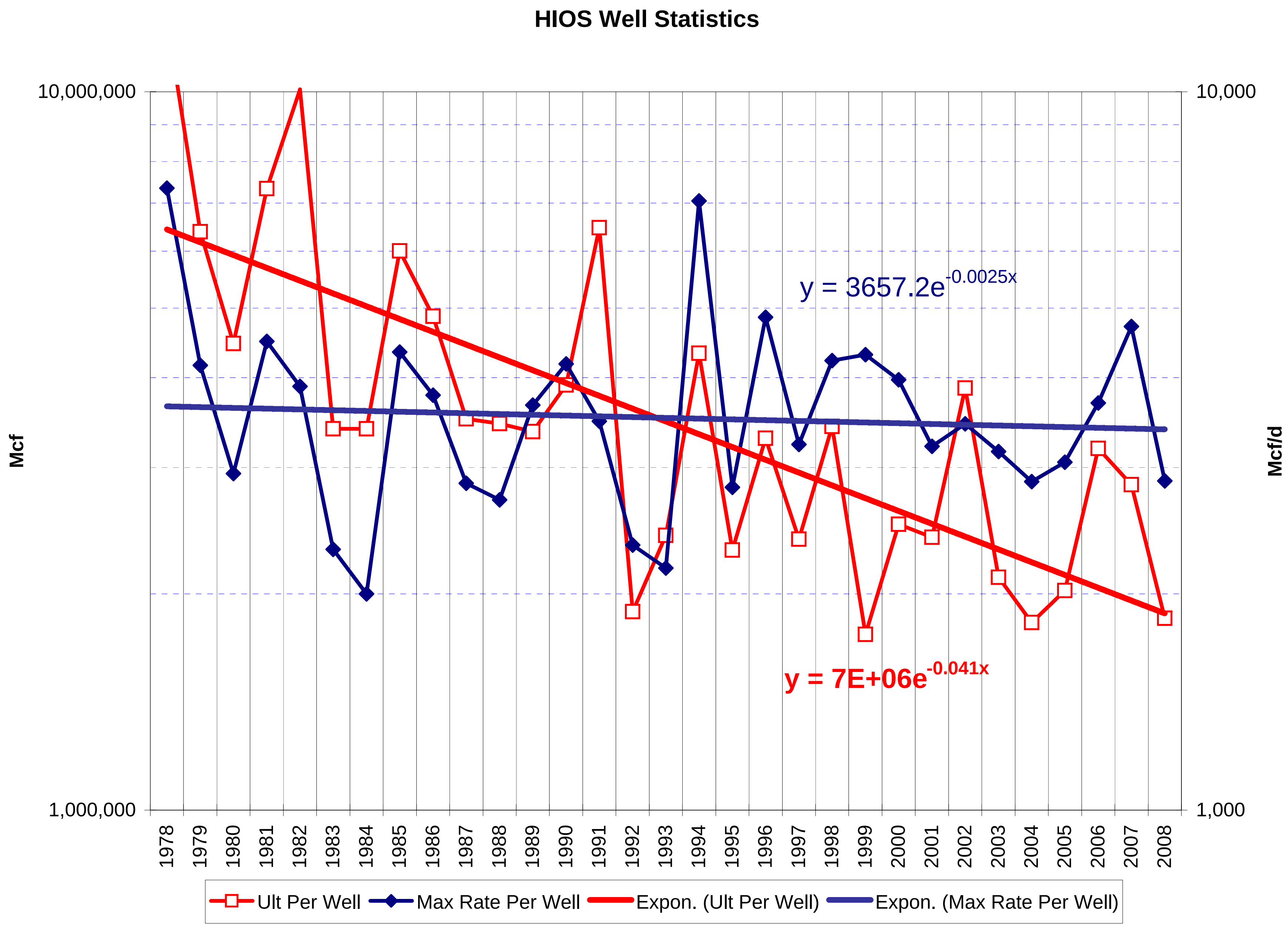

Exhibit No. HIO-82
Docket No. RP09-

HIOS Reserves Statistics

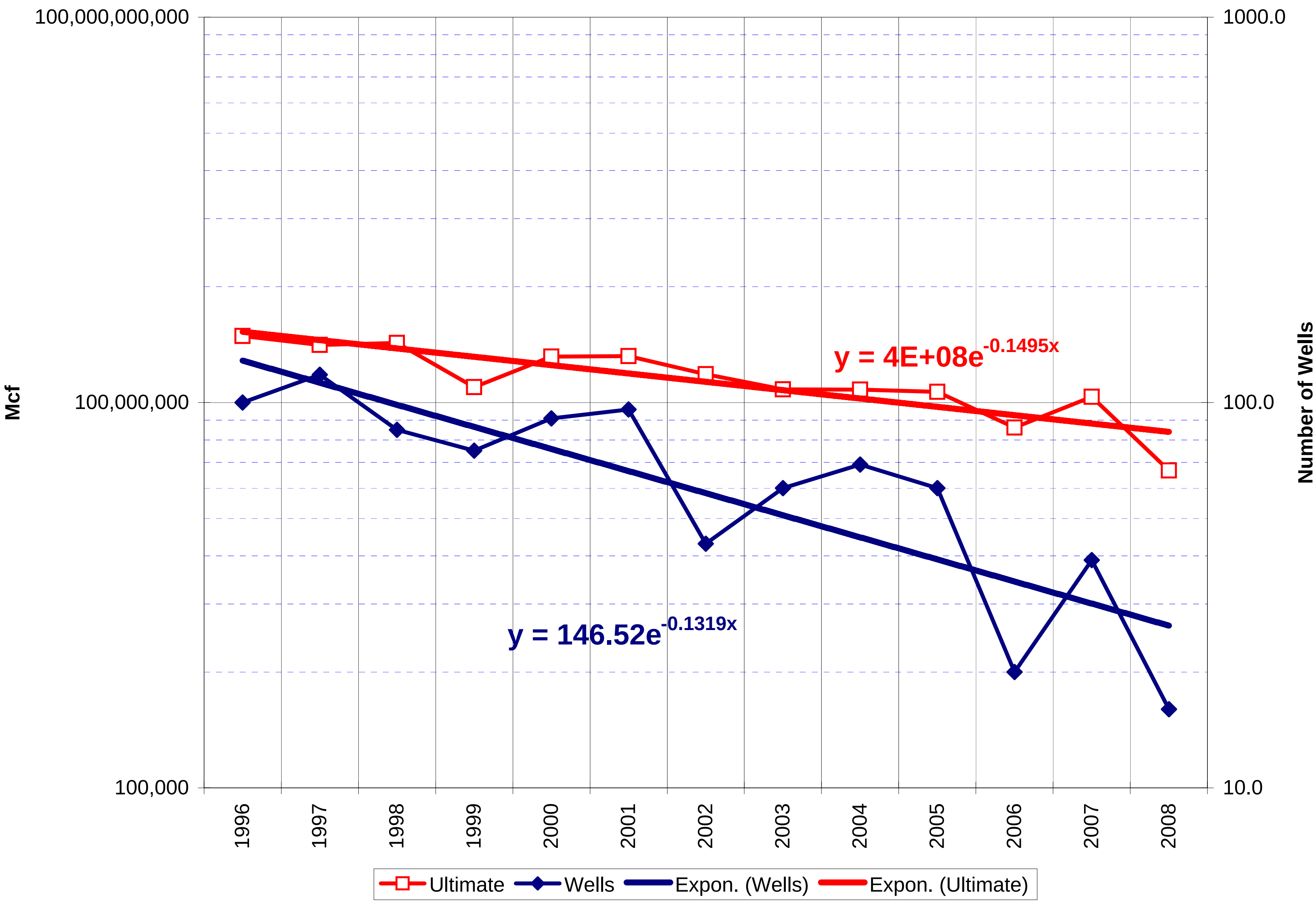

Exhibit No. HIO-83
Docket No. RP09-

	A	B	C	D	E	F
1	**HIOS SHELF FORECAST PARAMETERS**	**Variables in Red**				
2						
3	Start Date	1/1/2009				
4	Starting Number of Wells Completed Per Year	23.0				
5	Annual Decline in Number of Wells Added	13.00%				
6	Starting Ultimate Reserves Per Well	1,800,000	Mcf			
7	Annual Decline in Reserves Added Per Well	4.00%				
8	Starting Ultimate Reserves	41,400,000	Mcf			
9	Annual Decline in Reserves Added	16.48%				
10	Start Rate Per Well	1,423,500	Mcf/Yr	Or	3,900	Mcf/d
11	Annual Decline in Start Rate Per Well	0.00%				
12	Start Rate	32,740,500	Mcf/Yr	Or	89,700	Mcf/d
13	Annual Decline in Start Rate	13.00%				
14	End Rate Per Well	1,000	Mcf/Yr	Or	3	Mcf/d
15	End Rate	23,000	Mcf/Yr	Or	63	Mcf/d
16	Production Profile of Each Vintage Year	Exponential				
17	For each vintage year the number of wells and the per well start rate and recoverable reserves may be modified by a constant percentage each year.					

Exhibit No. HIO-84
Docket No. RP09-

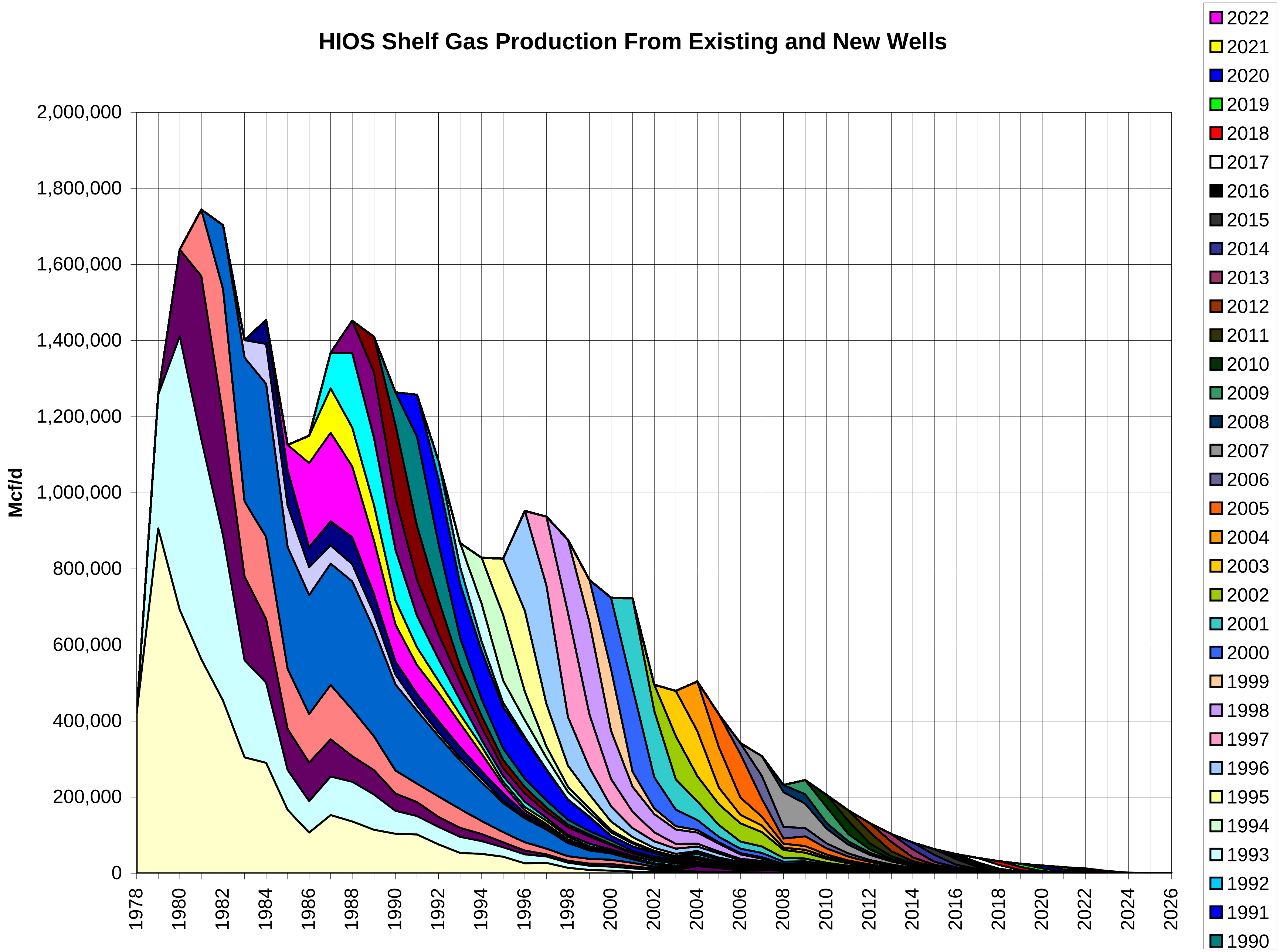

Exhibit No. HIO-85
Docket No. RP09-

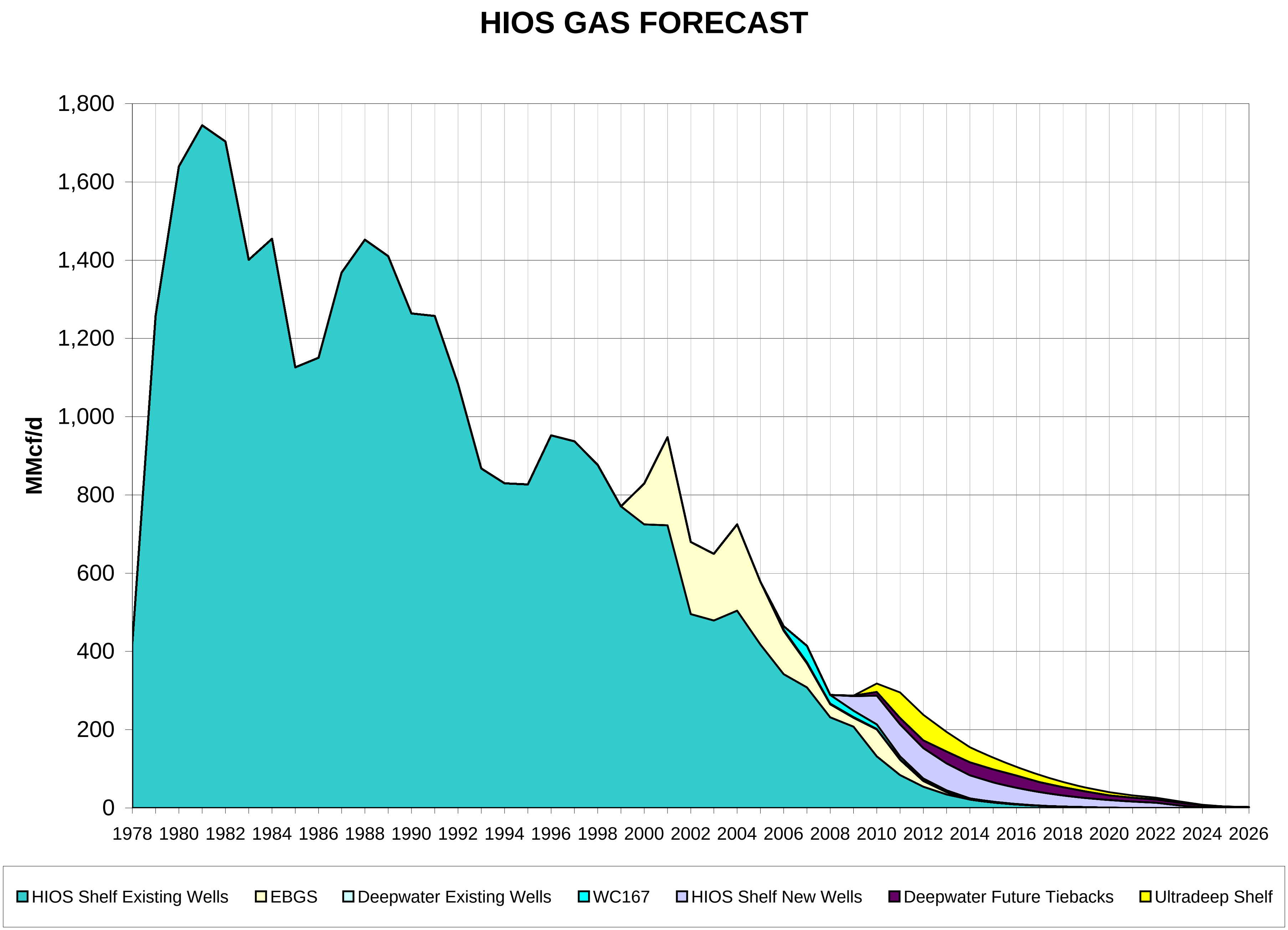

Exhibit No. HIO-86
Docket No. RP09-

Exhibit No. HIO-87

UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

High Island Offshore System, L.L.C.) Docket No. RP09-

Prepared Direct Testimony
Of
Robert C. Byrd, Ph.D., P.E.

Q. Please state your name and business address.

A. My name is Robert C. Byrd. My business address is 13105 Northwest Freeway, Suite 250, Houston, Texas, 77040.

Q. By whom are you employed and in what capacity?

A. I am employed by Proserv Decommissioning Contractors & Engineers, Inc. (formerly Twachtman Snyder & Byrd, Inc.) as Senior Vice President.

Q. Please describe your education and business experience.

A. I attended the U.S. Coast Guard Academy and received a Bachelor of Science in Marine Engineering in 1966. I also attended graduate schools at the University of Alaska, receiving a Master of Science in Ocean Engineering in 1972, and at the University of California at Berkeley where I received a Master of Science in Structural Engineering in 1977 and a Ph. D. in Engineering in 1978. I am a licensed Professional Engineer in Texas (No. 47767). I am a licensed Contractor for Oil and Gas Field Construction in Louisiana (No. 37462) and I have been certified as a Project Management Professional (Certificate No. 01577). I served as a Coast Guard officer for four years from 1966 to 1970 as an engineering officer on two different ships. Between graduate schools I worked in Norway as a research engineer on North Sea offshore platform designs.

Following graduation from UC Berkeley in June 1978, I joined a small engineering company in Houston named Brian Watt Associates, Inc. (BWA). I worked on a wide variety of offshore field developments, initially as a structural engineer and later as a project manager. I reached the level of Vice President and Head of the Marine Engineering Department. I was also a Director of the company. I left BWA in August 1984 to become President and Chief Operating Officer for an international marine construction contractor named IMODCO, Inc., based in Los Angeles, California. From the beginning of 1986 through 1987, I served concurrently as the company's Chief Engineer. Our business was turn-key design and construction of marine terminals for tankers and floating production, storage, and offloading systems (FPSO's). We sold the company and I returned to Houston in August 1993 to join the predecessor company which is now PROSERV. Founded in 1987, PROSERV is a contracting and consulting engineering firm focused on providing the offshore oil and gas industry with contracting services and technical support for all aspects of offshore facility construction and removal. PROSERV specializes in platform and pipeline decommissioning, and the removal and reuse of offshore facilities and associated major components such as jackets and decks.

Q. What is the purpose and scope of your testimony in this proceeding?

A. I was requested by High Island Offshore System (HIOS) to review the level of the negative salvage value of the HIOS system that I last prepared in 2006 and to make any necessary adjustments. Our original work in this area dates back to 2002. At that time, our study had indicated that the cost to decommission the HIOS system, or the negative salvage value, was approximately $27.5 million. The 2006 review and update of these costs indicated a negative salvage value of approximately $48.1 million net. The current update shows the negative salvage to be $48,005,611 net, i.e., essentially unchanged from 2006. The current study, which was prepared under my supervision and direction, developed decommissioning liability cost estimates for the entire HIOS system. As described below, decommissioning liability costs are those required in connection with the abandonment and removal of offshore facilities and pipelines.

Q. Why will HIOS incur costs in connection with the removal and abandonment of offshore facilities and pipelines?

A. When offshore facilities and the associated pipelines have served their useful purpose, government regulations require the removal of facilities, the abandonment of pipelines, and the return of the sea floor to its natural state in so much as is possible. The Minerals Management Service (MMS) requires the removal of all facilities rising above the sea floor, such as platforms, flare piles and risers (30 C.F.R. § 250.143). The Department of Transportation requires either abandonment "in-place" or complete removal of pipelines not in service (49 C.F.R. § 192.727). Abandonment "in-place" requires that pipelines be purged of all hydro-carbons, filled with seawater, disconnected from all sources and supplies of oil or gas, sealed on each end, buried a minimum of 3ft. below the mudline, and the ends covered with sandbags. Complete removal, if required, involves purging, filling with seawater, disconnecting, excavating, recovering and disposal of pipeline sections and components. As a result of complete compliance with these regulations, there are significant costs, well above any salvage value, associated with removal and abandonment of offshore facilities and pipelines. These are referred to broadly as decommissioning liability costs. When the facilities reach the end of their service life they have no value other than as scrap. As a result, when the decommissioning liability costs exceed the salvage value of the assets, the pipeline has a negative salvage value.

Q. What are the basic principles that underlie the offshore negative salvage study in this case?

A. The basic principles that underlie our study are as follows:

1) All costs are stated in today's dollars. The study does not reflect any increase in costs to a future year in which the costs would actually be incurred.

2) Costs reflect the industry work rates that were in effect at the end of the 2008 construction season.

3) All cost estimates were based on information supplied by HIOS, and relate to properties and equipment either wholly owned or held in partnership by HIOS.

4) All costs were based on current regulations of state and federal regulatory authorities. No allowance was made for the potential of increased costs due to more stringent regulations being enacted in the future.

5) All costs were estimated with a 15% allowance for miscellaneous work. No provisions were made for HIOS overhead, insurance, omissions, or unusual environmental conditions.

6) All costs were estimated with an 8% allowance for engineering, project management/supervision and inspection services. Allowance percentages for weather, miscellaneous work and project management were developed from years of actual experience with decommissioning projects in the Gulf of Mexico.

Q. Please explain how your company arrived at the estimated decommissioning liability costs reflected in the offshore negative salvage study.

A. To develop cost estimates of this type, some assumptions are used as a matter of standard practice. The following assumptions, are reflected in the final results of the study:

1) All decks and jackets are taken to shore and scrapped.

2) Removal contractor is responsible for transport and disposal of decks, jackets and associated additional equipment.

3) No salvage or resale value is included for the structures or equipment, and no additional cost is included for disposal of material.

4) One spread mobilization/demobilization cost is included for each location block, i.e., all facilities at one location are removed at the same time.

5) All mobilization times are estimated from a location known as the Eugene Island Sea Buoy. This is consistent with general offshore construction and salvage practice in the Gulf of Mexico.

6) No dockside mobilization or demobilization is required. Construction barge spreads are assumed to be readily available in the Gulf of Mexico.

7) All work is performed during the spring/summer optimal work season, which is May 15th to September 30th.

8) A total provision of 20% for weather is included in the cost. This constitutes a 6% provision for named tropical storms or hurricanes based on a historical review of such storms entry into the Gulf of Mexico and a 14% normal summer season down

time which is derived from project experience in the ten-year period from 1988 to 1998.

9) Current approved guidelines for the use of explosives are assumed.

10) No allowances are made for the presence of marine mammals or sea turtles, which can cause project delays.

11) Normally Occurring Radioactive Material ("NORM") is not encountered in the facility. The presence of NORM can increase platform preparation and disposal cost significantly.

12) All pipelines are abandoned "in-place". Riser bends and 100' of pipeline are removed at each end of a pipeline segment.

13) Pipeline ends are buried to a minimum of 3ft. below the mudline.

14) The ends of all pipelines are sealed using simple mechanical-type plugs (i.e. a "plumber's plug").

15) Site Clearance and Site Clearance Verification are performed in accordance with MMS NTL 98-26[1].

16) Hourly rates for construction and diving spreads are based on rates provided by offshore contractors in bids for recent projects.

17) Data related to the individual HIOS facilities, such as deck and equipment weights, jacket weights, etc., if not provided by HIOS, are based on previously developed estimates and models, and the on-site work experience of PROSERV personnel.

Q. What method did you use to prepare your negative salvage study?

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[1] MMS Notice to Lessees (NTL) regarding Minimum Interim Requirements for Site Clearance (and Verification) of Abandoned Oil and Gas Structures in the Gulf of Mexico dated November 30, 1998.

A. Estimating decommissioning liabilities requires an understanding of the facilities and pipelines, the decommissioning process, and the proper application of past experience. Over the past nineteen years we have been able to assist our clients with regular and accurate estimates of current liabilities and planning to reduce liabilities wherever possible. We have developed proprietary cost estimating software, known as "Platform Abandonment Estimating System" (“PAES”), that assists us in the development of pipeline decommissioning cost estimates. PAES was developed by the compilation of real cost data generated through actual decommissioning projects and experience, and by combining that data with the actual methodology used and the required tasks to execute the work. Once developed, the estimates are stored in a database where they can be updated and compared over time. PAES contains specific estimates for over 2,000 domestic and international platforms and pipelines. Decommissioning efforts are based on the assumption that a knowledgeable contractor will use the most efficient technology and equipment available at any given time to accomplish the task. New cost estimates are presented in current dollars. Decommissioning costs for each task are determined from actual cost data obtained from PROSERV work experience, and from rate schedules provided by the various contractors engaged in this type of work.

Based on the information obtained from HIOS, other operators and PROSERV's knowledge and experience in the construction and decommissioning of offshore structures, I identified the tasks to be undertaken for the HIOS study, and the time and the resources required to accomplish those tasks. The final study includes the assumptions, work variables, and cost data entered by task.

Q. Please describe Exhibit No. HIO-89 in more detail.

A. Exhibit No. HIO-89 sets forth the estimated cost of the abandonment and removal of the offshore facilities owned by HIOS as of December 31, 2008, based on the principles I discussed previously. The final report, as shown in Exhibit No. HIO-89, consists of the following sections:

Section 1: Executive Summary

Section 2: Summary Report

Section 3: General Methodology & Assumptions

Section 4: PAES

Section 5: Detailed estimates

The "Executive Summary" briefly states the parameters within which, and for whom, the report was generated. It also illustrates the total costs of decommissioning all facilities and pipelines, and the basic assumptions made in determining those costs. The "Executive Summary" also provides cost summaries for individual platforms and pipelines according to field location. Each platform owned by HIOS is summarized by platform location and function. The total gross cost of removal, including the cost to remove the platform and the cost to remove associated pipeline facilities, is identified. The net cost of removal, or the cost associated with HIOS' ownership share of the abandonment, is reflected in the last column for each platform identified. As summarized on page 1 of the Executive Summary report, PROSERV estimates that it will cost HIOS $48,005,611 to retire its offshore facilities.

The rest of the report provides detailed work-papers supporting each platform abandonment estimate. Behind each individual platform tab is a "General Methodology & Assumptions" section and a "PAES" section. The "General Methodology &

Assumptions" section provides a description of the methods used to develop costs, and the assumptions made in defining the various tasks. The “PAES” section consists of the detailed costing of each facility, and is divided into five (5) sections:

Section 1: Provides summary information related to the scope of work, disposal method, onsite conditions, operating assumptions, and total estimated cost. The "scope of work" outlines how the decommissioning work is to be accomplished. Disposal methods can vary from disposal onshore to disposal at sea, to partial reefing or full reefing; the most cost efficient method must be determined on an individual basis. Onsite conditions can be a factor that may limit available options. Operating assumptions help define the work, particularly when information is lacking or unavailable.

Section 2: Provides basic information such as general facility data and ownership data. General facility data would include platform name, co-ordinates, water depth, function, installation year, and lease number. Partnership data would include name and number of partners, and percent of ownership.

Section 3: Provides information related to platform removal including general data on piles, decks, conductors, jackets, tasks, equipment and resources required, and associated costs. General data would also include number, size and specifications for piles, decks, conductors and jackets. The listed tasks would include mobilization/de-mobilization of personnel and equipment, platform removal preparation, removal and disposal of major equipment packages, removal and disposal of decks, removal and disposal of jackets, site clearance and site clearance verification. The equipment and resources required to accomplish those tasks are also identified.

Section 4: Provides specific information on pipeline abandonment, including general data on facility location, pipeline specifications, tasks required, equipment and resources required, and associated costs to abandon. General data would include water depth, origin and terminus of pipeline, and operator. Pipeline data would include outside diameter and wall thickness, coatings, depth-of-bury, length and product transported. Listed pipeline abandonment tasks would include mobilization/demobilization of personnel and equipment, pigging and flushing, excavating, cutting, removal and disposal of riser bends and other removed pipe sections, plugging and burying ends of pipeline, and the equipment and resources required to accomplish those tasks.

Q. Please summarize your findings in HIOS' negative salvage study.

A. PROSERV estimated the present net cost that would be incurred for the decommissioning of the HIOS system, including the cost of removal of the HIOS platforms and associated piping and the abandonment "in-place" of HIOS pipelines, to be $48,005,611. This is essentially the same cost as that reported in 2006. This cost reflects the industry's experience in the last few years where costs were seen to increase after the 2005 hurricane season and then stabilize.

Q. Does this complete your direct testimony in this proceeding?

A. Yes.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

In the matter of	)	
High Island Offshore System, L.L.C.	)	Docket No. RP09-___-000

Affidavit of Robert C. Byrd

Robert C. Byrd, being first duly sworn according to law, on oath deposes and says that he is the witness whose prepared direct testimony in the above entitled proceeding accompanies this affidavit; that if asked the questions which appear in the text of the aforesaid prepared testimony, affiant would give the answers that are therein set forth; and that affiant adopts the aforesaid testimony as his sworn, direct testimony in these proceedings.

/s/ Robert C. Byrd
Robert C. Byrd

Subscribed and sworn to before me this 25th day of March, 2009.

KIMBERLY A. NATHLICH
Notary Public, State of Texas
My Commission Expires
July 17, 2011

/s/ Kimberly A. Nathlich
Notary Public

DECOMMISSIONING ESTIMATES UPDATE
HIOS STRUCTURES & PIPELINES

PREPARED FOR

Enterprise Products Partners L.P.

PREPARED BY

TWACHTMAN SNYDER & BYRD, INC.
PROJECT NO. 29027
FEBRUARY 2009

ENTERPRISE PRODUCTS PARTNERS L.P.

DECOMMISSIONING ESTIMATES UPDATE
HIOS SYSTEM

REPORT CONTROL SHEET

Date	Rev. No.	Revisions
02-2009	0	Final Report

PREPARED BY:

TWACHTMAN SNYDER & BYRD, INC.

Revision	Prepared By:	Checked By:	Approved By:	Issue Date
0	SMN	CIV	RCB	02-2009

LEGAL NOTICE

ENTERPRISE PRODUCTS PARTNERS L.P.

February 2009

This report to Enterprise Products Partners L.P. (Enterprise) presents cost estimates to decommission the platforms and pipelines associated with the High Island Offshore System in the Gulf of Mexico. Twachtman Snyder & Byrd, Inc. (TSB) prepared estimates solely for the benefit and private use of Enterprise.

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TWACHTMAN SNYDER & BYRD, INC.

ENTERPRISE PRODUCTS PARTNERS L.P.

DECOMMISSIONING ESTIMATES UPDATE
HIOS SYSTEM
TABLE OF CONTENTS

SECTION

TWACHTMAN SNYDER & BYRD, INC.

SECTION 1 - EXECUTIVE SUMMARY

Background

In 2002 El Paso Field Services (El Paso) engaged Twachtman Snyder & Byrd, Inc. (TSB) to estimate the decommissioning liabilities for platforms and pipelines associated with the High Island Offshore System. In 2006, Enterprise Products Partners L.P. (Enterprise) asked TSB to update these previously developed estimates. Enterprise has requested TSB to update these to reflect the current year end 2008 decommissioning costs.

The estimates were developed in a manner that satisfies the reporting and audit requirements of Financial Accounting Standards Board (FASB) Statement of Financial Accounting Standards No. 143, "Accounting for Asset Retirement" (SFAS 143); i.e., what a willing 3rd party would consider in today's costs with no future adjustments.

Results

A total of ten (11) structures and nine (9) pipelines* were included in the study. The gross and net decommissioning costs are estimated at **$50.3 MM** and **$48.0 MM**, respectively. Table 1.1 illustrates the cost breakdown.

Table 1.1 Platform Removal & Pipeline Abandonment Decommissioning Cost Summary

Platform Name	Platform Removal Gross	Platform Removal Net	*Pipeline Abandonment (In-situ) Gross*	*Pipeline Abandonment (In-situ) Net*	Total Gross Cost	Total Net Cost
HI A 264 HIOS A-LIQ	$2,726,622	$2,726,622	$1,490,857	$1,490,857	$4,217,479	$4,217,479
HI A 264 HIOS B-FLARE X 2	$2,247,879	$2,247,879		$0	$2,247,879	$2,247,879
HI A 264 HIOS B-COMP	$4,080,742	$4,080,742		$0	$4,080,742	$4,080,742
HI A 264 HIOS C-QTRS	$1,572,391	$1,572,391		$0	$1,572,391	$1,572,391
HI A 330 HIOS	$3,840,721	$1,920,361	$1,203,225	$1,203,225	$5,043,946	$3,123,586
HI A 343 HIOS	$3,605,454	$3,605,454	$1,250,196	$1,250,196	$4,855,650	$4,855,650
HI A 350 HIOS (Pipeline 4679)		$0	$782,421	$592,371	$782,421	$592,371
HI A 370 HIOS (Pipeline 4680)		$0	$631,464	$454,654	$631,464	$454,654
HI A 573 HIOS	$8,825,368	$8,825,368	$2,637,690	$2,637,690	$11,463,058	$11,463,058
HI A 582 HIOS	$8,788,135	$8,788,135	$2,668,672	$2,668,672	$11,456,807	$11,456,807
WC 167 HIOS	$2,763,552	$2,763,552		$0	$2,763,552	$2,763,552
WC 167 HIOS-FLARE	$1,177,443	$1,177,443		$0	$1,177,443	$1,177,443
TOTAL	**$39,628,307**	**$37,707,947**	**$10,664,524**	**$10,297,664**	**$50,292,831**	**$48,005,611**

* One pipeline was removed and one was added.

The estimates were updated using current 2008 and what has been made available for the start of 2009 resource rates that take into account the current market conditions. The significant increase in costs in 2006 was due to the rise in demand for support services such as derrick barges, lay barges, liftboats, dive boats, diving services, personnel and equipment, etc., as a result of the 2005 hurricane season. Because of the recent hurricanes since then, the rates have changed somewhat but remain high. The increase in structure count from 10 to 11 is to account for removing the second flare support structure with HI 264. This second support was noted in previous studies but time was not allocated to remove it. It is estimated there is a 4.5% increase in decommissioning liability.

The estimated overall decommissioning cost increased of $2.1 MM from 2006 to year end 2008 is presented in Table 1.2.

Table 1.2 Platform Removal & Pipeline Abandonment Decommissioning Cost Δ by Year

Asset	2002	2006	2008	Gross Δ Total Cost
Platform Removal	$23,932,904	$37,580,116	$39,628,307	$2,048,191
Pipeline Abandonment *(In-situ)*	$5,409,122	$10,562,356	$10,664,524	$102,168
TOTAL	**$29,342,026**	**$48,142,472**	**$50,292,831**	**$2,150,359**
				4.5% Δ

The decommissioning cost estimates are based on structure and facility information and documentation that were previously provided by El Paso & Enterprise and MMS database and recently by Enterprise. Where information was not available, TSB made an assumption based on previous experience and estimates developed.

For these estimates, it has been assumed that all the decks, jackets and facilities will be taken to shore and scrapped. Pipelines will be flushed, cleaned, plugged and left *in-situ* in Federal waters and removed in State waters. Pipeline abandonment estimates were estimated only for those originating from the platform and operated by the platform operator. Conductor severing and removal costs and wells P&A costs were not part of this study and are not included.

Estimate Accuracy

The cost estimates have been developed with the objective of producing P_{50} estimates, i.e., costs that have a 50% chance of being exceeded. Put another way, we have attempted to estimate the “average” or “median” cost. In general, we expect the cost estimate accuracy to within ±20%, with the assumptions stated in Section 3. TSB has taken a conventional approach to decommissioning based on what is known and by use of industry standard decommissioning assumptions. However, a potential increase or decrease in decommissioning costs may be driven by changes in cost and duration elements at any given facility. Based on experience, TSB considers these changes to be a possibility, but not easily quantifiable.

The results of this study are presented in one binder. Section 2 presents a summary report that provides the platform abandonment costs developed by TSB. Section 3 explains the methodology used in decommissioning a platform and assumptions used in deriving the estimates. The *Platform Abandonment Estimating System* (PAES), TSB's proprietary decommissioning software is explained in Section 4. The detailed decommissioning estimate for each platform is found in Section 5.

SECTION 2 - SUMMARY REPORT

This section is left blank.
The cost summary is presented in Table 1.1 in Section 1.

SECTION 3 - GENERAL METHODOLOGY & ASSUMPTIONS

This section provides an illustrated description of the methodology involved in the decommissioning of offshore platforms. The *Platform Abandonment Estimating System* (PAES) was used to calculate decommissioning cost estimates for each of the platforms. A description of PAES and details of the estimating process developed for PAES are included in Section 4.

Based on the TSB's knowledge and experience in the construction and decommissioning of offshore structures, the tasks, time, and resources required to decommission the facilities in question were identified.

Cost estimates are presented in current 2008 dollars. Decommissioning efforts are based on the assumption that a knowledgeable contractor will use the most efficient technology and equipment available at this time. The decommissioning costs for each task are determined from actual cost data obtained from TSB files and rental rate schedules issued by various contractors involved in this type of work.

The assumptions used in this decommissioning study are as follows:

1. All Deck and Jackets are taken to shore and scrapped.
2. Removal Contractor is responsible for transport and disposal of Decks, Jackets, and associated equipment.
3. No salvage or resale value has been considered for the structure or equipment.
4. One derrick mobilization/demobilization cost is included for each block.
5. Mobilization times are estimated from the Eugene Island sea buoy.
6. No dockside mobilization or demobilization is included, construction barge spreads are assumed to be readily available in the Gulf of Mexico.
7. All work will be performed during the summer work season.
8. Allowances have been made for named tropical storm downtime.
9. The current guidelines for the use of explosives are assumed.
10. No allowances have been made for the presence of sea turtles or marine mammals.
11. All NORM, NOW, and industrial waste are removed from the platforms prior to decommissioning.
12. All pipelines are abandoned-in-place. Tube Turns and 100' of pipeline are removed at each end of pipelines.
13. Tube Turns and pipelines are buried a minimum of 5ft. at the base of the platforms.
14. All pipeline ends can be sealed using mechanical-type plugs. No provisions are made for more stringent environmental or safety regulations.
15. Site clearance and verification is in accordance with latest NTL.
16. Hourly rates for construction and diving spreads are developed from offshore contractors published rates.
17. Engineering & Project Management cost 8% (company or other)
18. Work Contingency of 15% is included. This is work not currently itemized in our database, but is shown as necessary per actual removals in the Gulf of Mexico.
19. Weather allowance of 20%, consisting of 14% for regular weather and 6% for named tropical storms.
20. Ownership of all properties is assumed to be 100% High Island Offshore Systems.

The following data will be assumed based on previous estimates developed and work experience:

- Pile OD
- Deck Weights
- Jacket Weights
- Grout Weights
- Equipment Weights

General platform components. The basic components of an offshore platform (from the top) are the helideck, equipment, deck, jacket, pipelines, and piles (Figure 1). All figures are provided for information only and may not be specific to platforms in this study nor indicative of methods used.

Platform decommissioning. All work that can be performed prior to the arrival of the derrick barge is done during the decommissioning phase. All personnel and equipment are mobilized to the platform on a work boat. The decommissioning crew will be housed in the existing quarters or temporary quarters. The task "Decommission Platform" has not been included for 1-pile or 2-pile platforms.

In this phase, the crew flushes all piping and equipment which contained hydrocarbons. All equipment that will be removed separately from the deck is cut loose using oxygen-acetylene torches. The piping, electrical, and tubing interconnections between equipment are also cut. All work needed to prepare the components for lifting (such as installing lifting eyes etc.) is completed at this phase.

Any pipelines connected to the platform are decommissioned at this time. The decommissioning crew flushes the line by pumping (pushing) a cleaning plug (called a "pig") through the line with seawater (Figure 2). Divers will then expose the pipeline and cut the line approximately ten feet out from the base of the jacket. The severed end of the pipeline is then plugged and buried three feet below the mudline (Figure 3). The other end of the pipeline is also exposed, cut, plugged and buried.

Mobilizing. Cargo barges are outfitted at a fabrication yard with steel pads (load spreaders) to support the point loads of the jacket and deck. More than one cargo barge may be outfitted depending on the size of the deck and jacket. A tug boat then tows each cargo barge to the offshore location. Another tug boat moves the derrick barge (with its crew and equipment) to the offshore location (Figure 5).

Setting up derrick barge. When the derrick barge arrives on site, the derrick barge's anchor handling tug boat sets up the anchoring system. This anchoring system holds the derrick barge in position during the platform removal process. The derrick barge's anchoring system consists of eight anchors, each connected to a mooring winch by a cable. Each anchor is equipped with a pendant wire that is long enough to reach from the seabed to the surface where it is supported by a buoy (Figure 6). The anchor handling tug picks up the anchors by securing the pendant wire and winching up the anchor. The anchor handling tug then carries the anchor to the desired location. This process is repeated for each of the derrick barge's anchors.

Removing deck and equipment. Each piece of equipment that is on the top deck of the platform is removed and placed on a cargo barge. The equipment is secured by welding pieces of steel pipe (or plate) from the equipment to the deck of the cargo barge (Figure 7).

The deck is then removed by cutting the welded connections between the piles and the deck legs with oxygen-acetylene torches. Depending on the size of the deck, it may be cut into sections for removal. Slings are attached to the deck lifting eyes and to the derrick barge crane. The derrick barge's crane lifts the deck (or deck sections) from the piles. The platform deck is then seated in the load spreaders and secured by welding steel pipe from the platform's deck legs to the deck of the cargo barge (Figure 8).

Disposing deck and equipment. The cargo barge transporting the deck and equipment moves to the onshore fabrication yard. The equipment is lifted with cranes from the barge to the yard. The conductors are lifted with cranes from the barge to the yard. Finally, the deck is skidded off the barge into the yard. All of the structural components and equipment are cut into small pieces and disposed of as scrap.

Severing piles. A jetting process is necessary to clear the mud plug to allow the explosive charges to be placed fifteen feet below the mudline. The mud plug was formed when the piles were driven in the sea floor. The mud plug must be jetted from each pile.

After the mud plug is jetted from each pile, explosive charges are placed and detonated in each of the piles (Figure 9). The piles may be removed from the jacket legs if they are not grouted to reduce the lift weight. The jacket is then removed from its position on the seabed.

Disposal of jacket onshore. After severing the main piles, the jacket is lifted, set, and secured onto cargo barges (Figure 10). The cargo barge transporting the jacket travels to a fabrication yard. Skid rails and winches are rigged up, and the jacket is skidded off the barge into the yard. The jacket is cut into small pieces and disposed of as scrap.

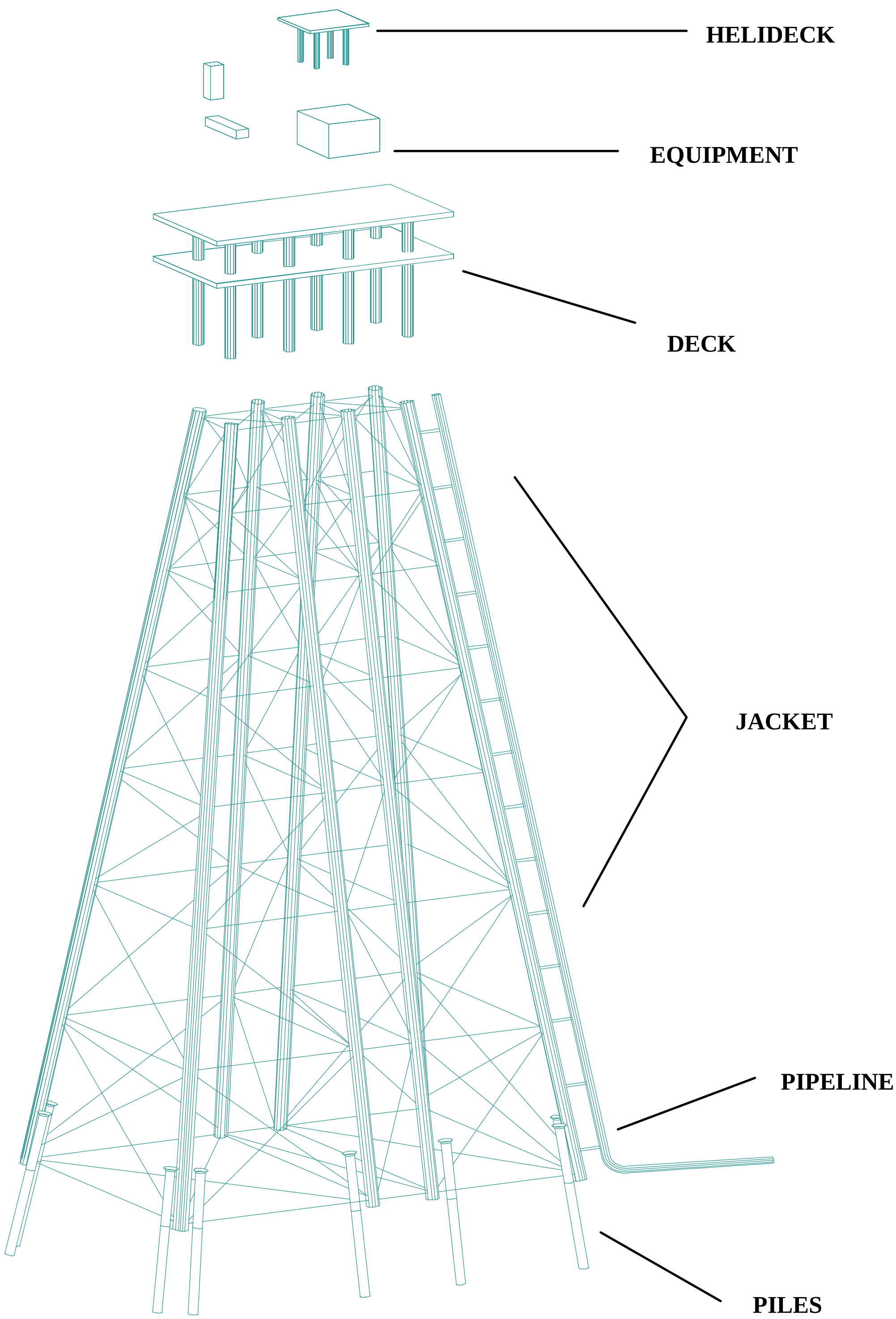
Disposal of jacket at remote reef site. If the jacket is to be disposed of at a remote reef location, the derrick barge rigs, lifts and secure the jacket (Figure 11). The jacket is then towed on the hook to the reef site. At the site, the derrick barge sets the jacket on the seafloor vertically. The derrick barge then topples the jacket creating an artificial reef site. A reef donation is included in the decommissioning estimate.

Toppling jacket in place. If the jacket is to be toppled in place (in-situ), the derrick barge or a specially equipped pull barge topples the jacket to create an artificial reef (Figure 12). The piles and conductors remain in the jacket as part of the reef. A reef donation is added to the decommissioning estimate.

Clearing the site. After the platform is removed, the area is cleared of debris by using specially equipped trawlers with nets, commonly called "Gorilla Nets". The trawlers remove all debris from around the platform site and send the debris to shore for disposal.

(Note, figures below are for description purposes only and are not reflective of individual platforms in this study, methods applied to this study nor are they indicative of all the removal methods available.)

FIGURE 1 - GENERAL PLATFORM COMPONENTS



PLATFORM DECOMMISSIONING

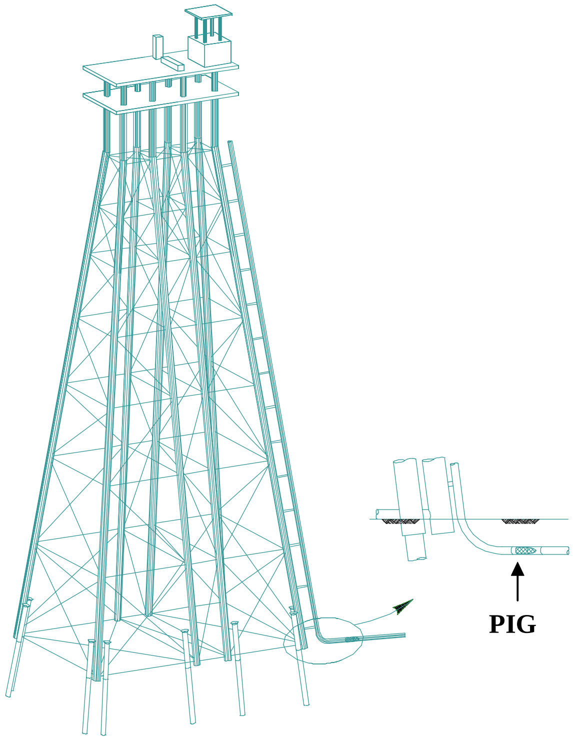


FIGURE 2

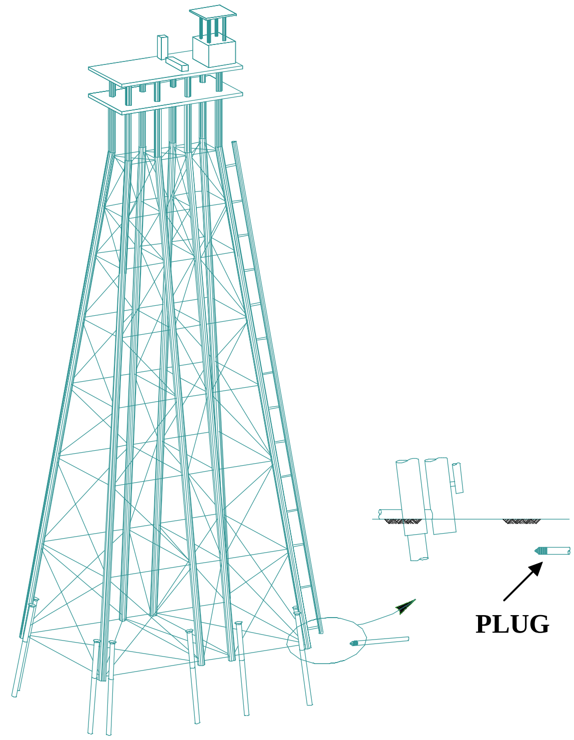


FIGURE 3

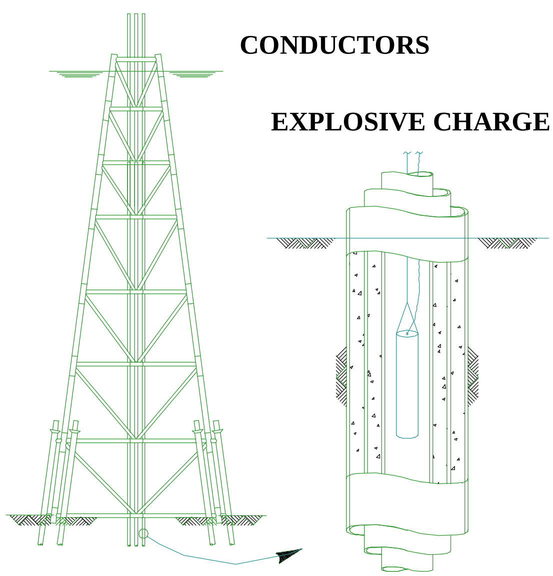


FIGURE 4

MOBILIZING

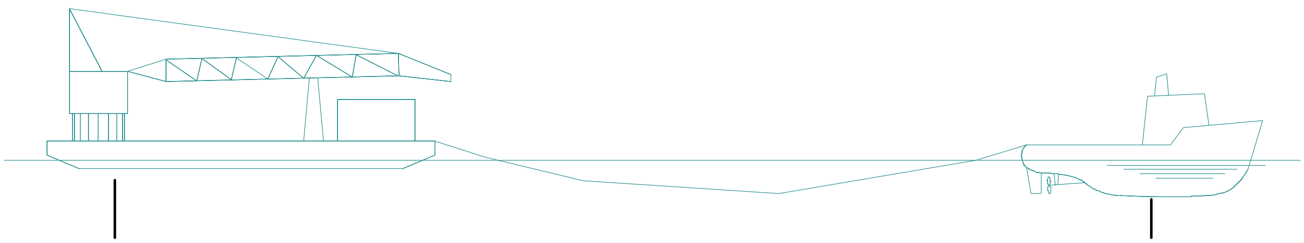


FIGURE 5

SETTING UP DERRICK BARGE

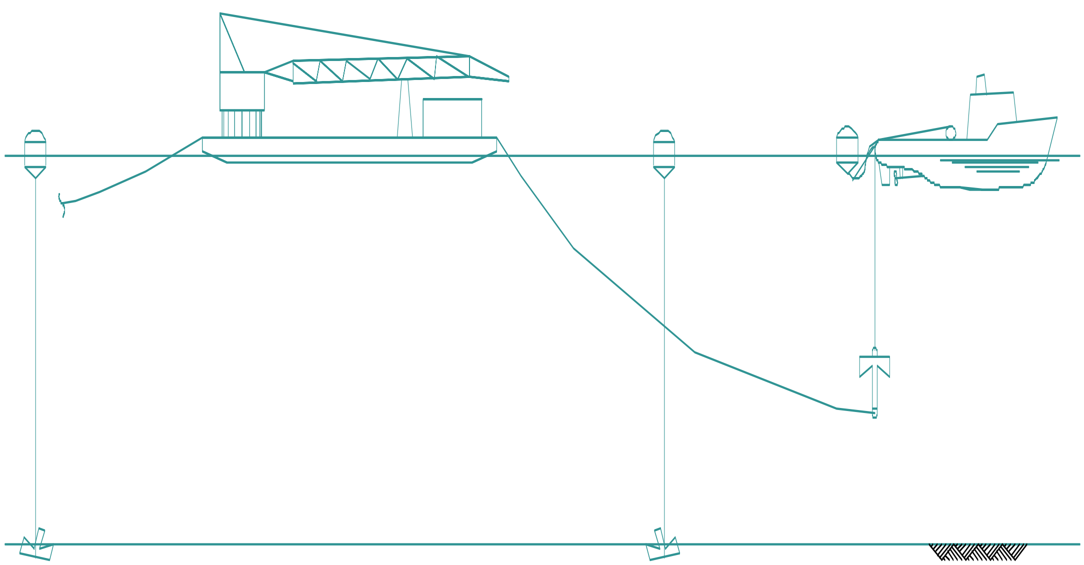


FIGURE 6

REMOVING DECK AND EQUIPMENT

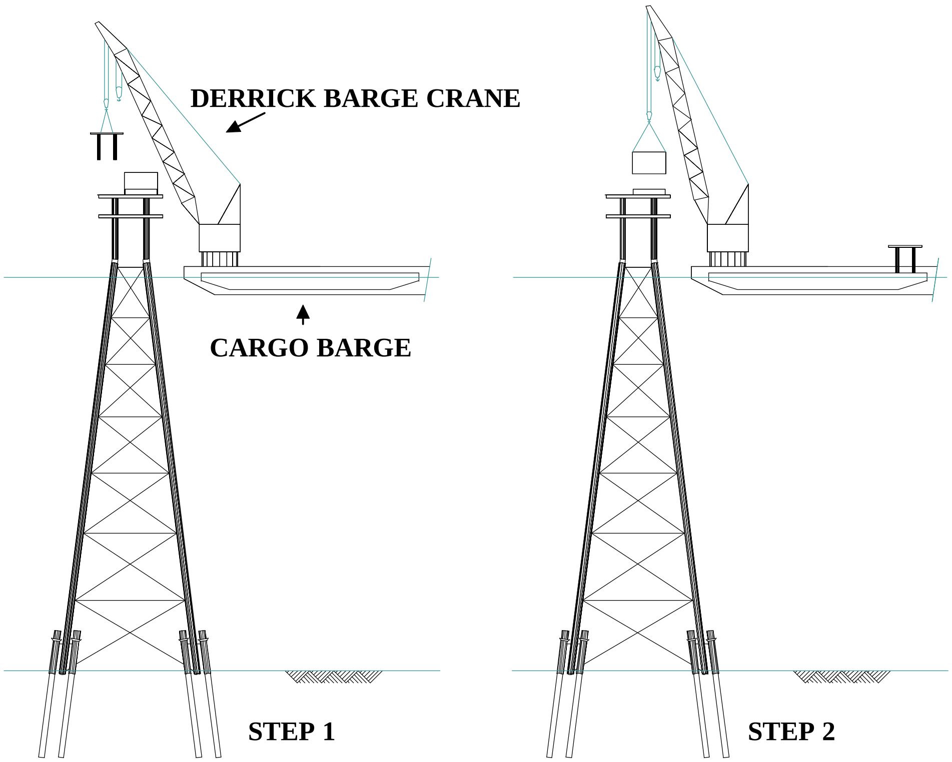


FIGURE 7

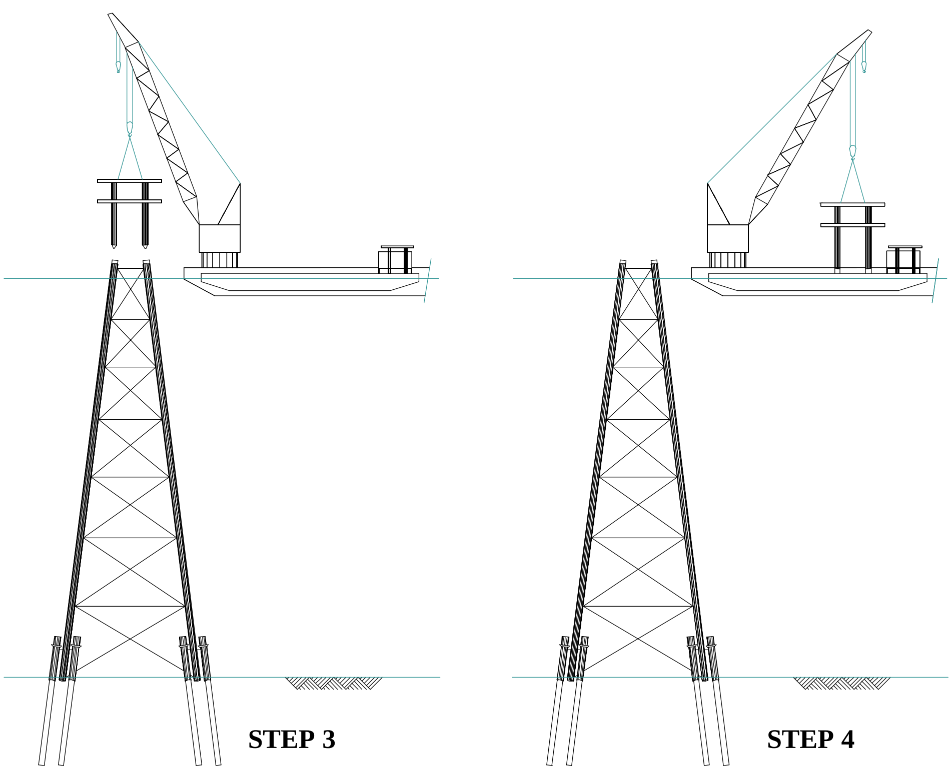


FIGURE 8

FIGURE 9 - SEVERING THE PILES

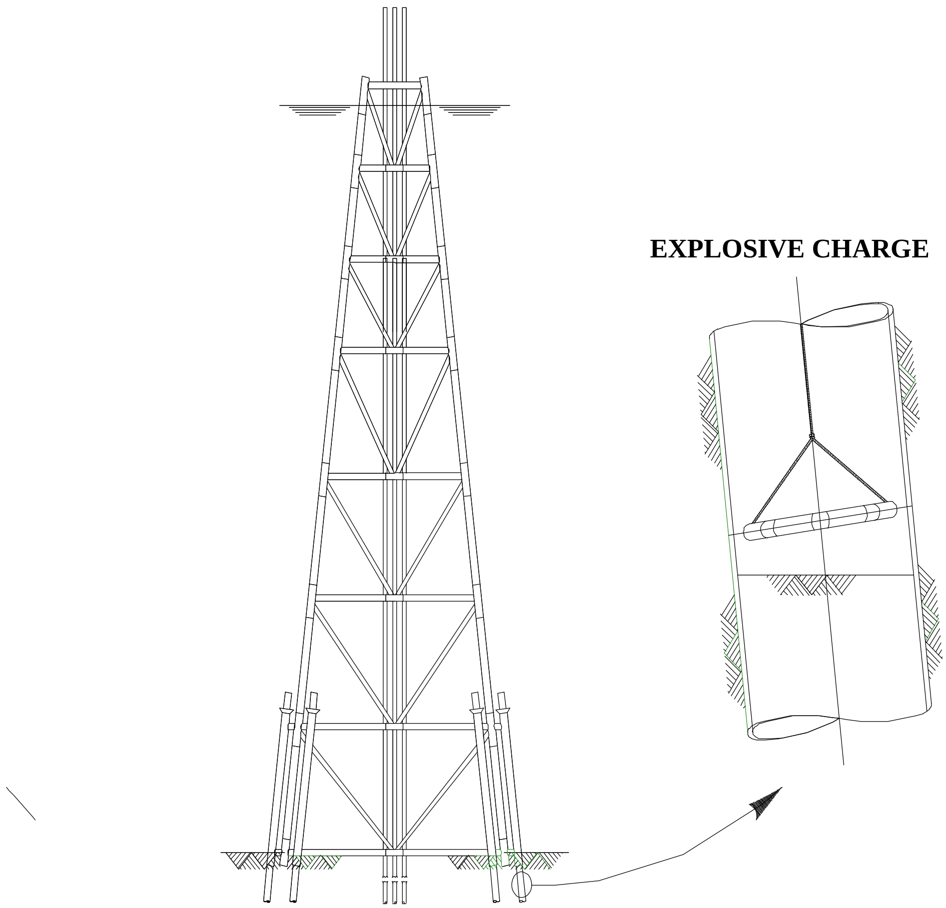
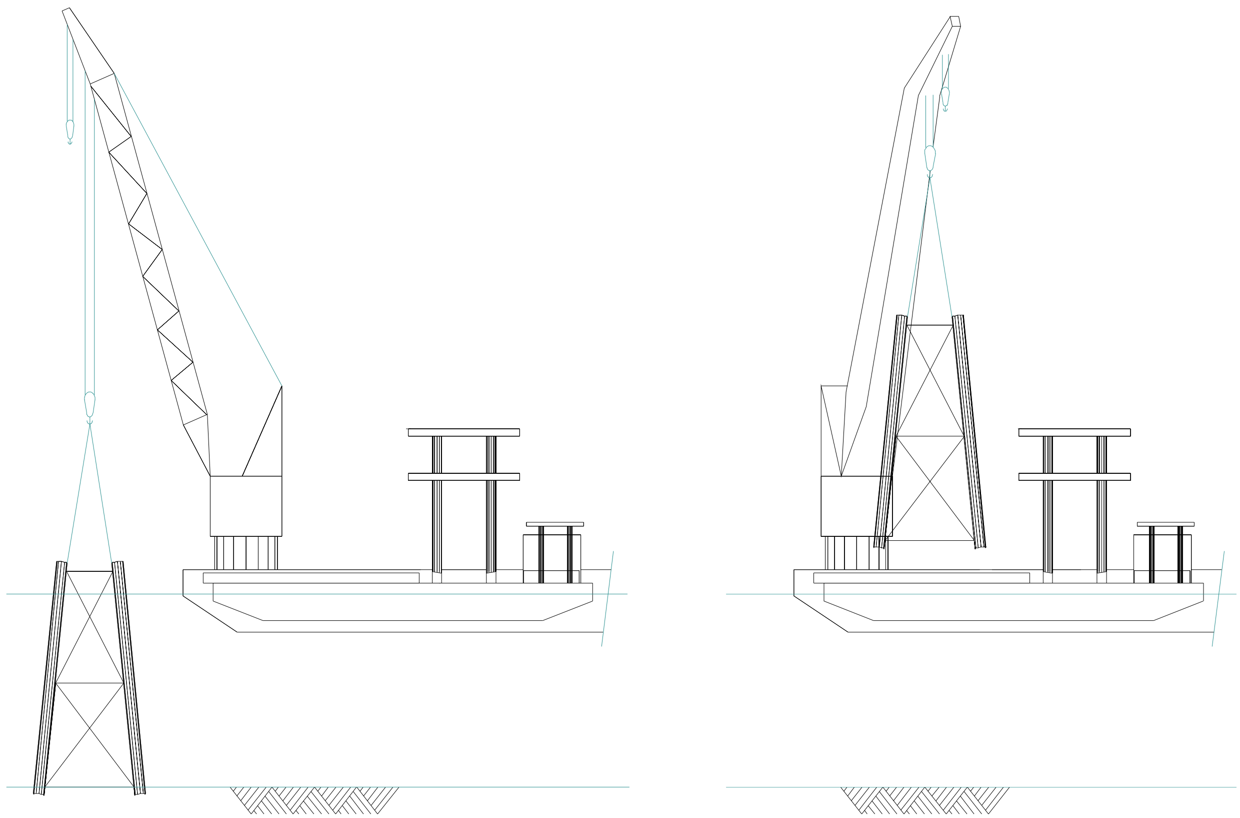


FIGURE 10 - SETTING JACKET ON CARGO BARGE



Lift Jacket from Seafloor **Set Jacket on Cargo Barge**

FIGURE 11 - TOWING AND TOPPLING THE JACKET AT A REMOTE REEF SITE

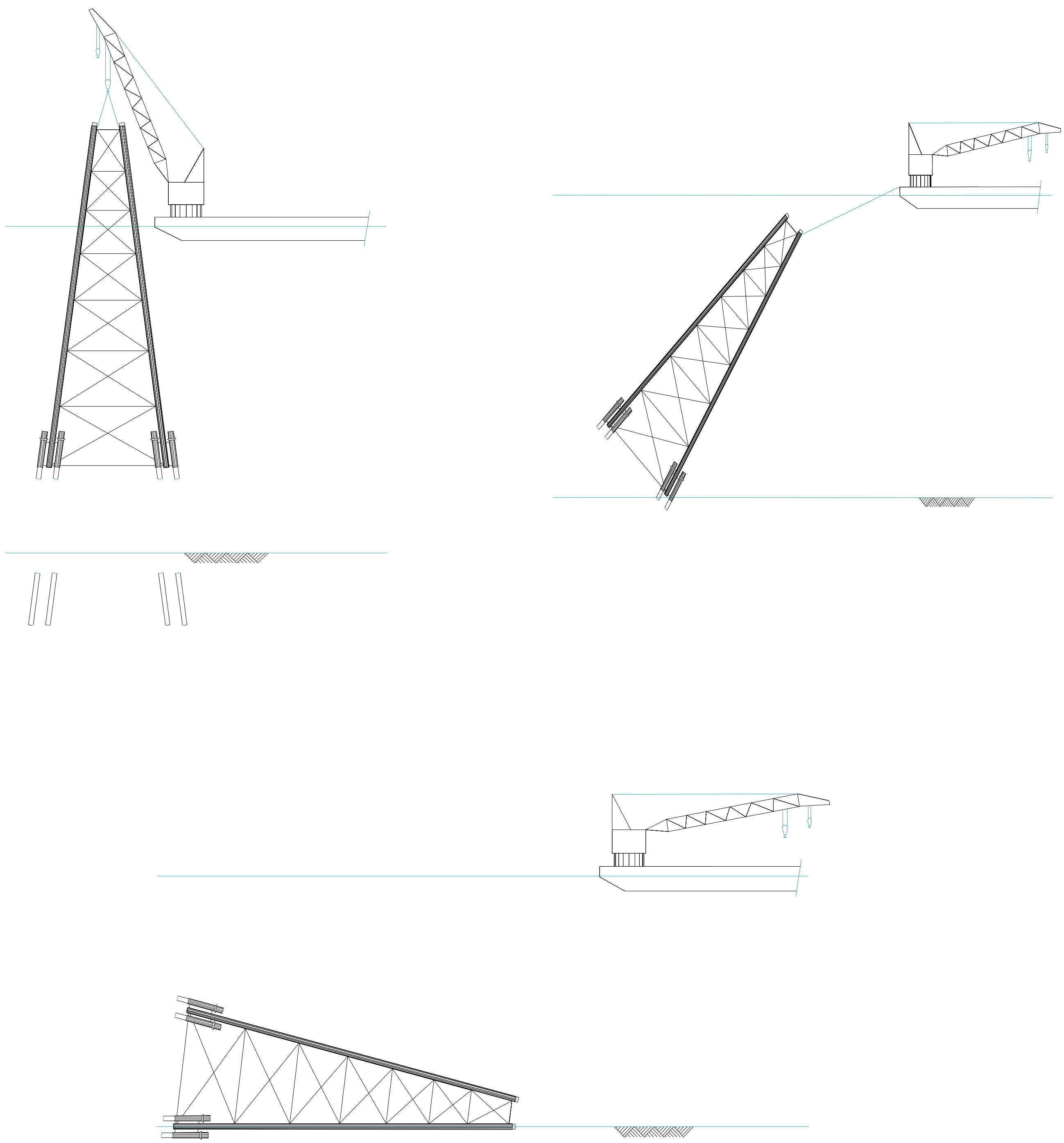
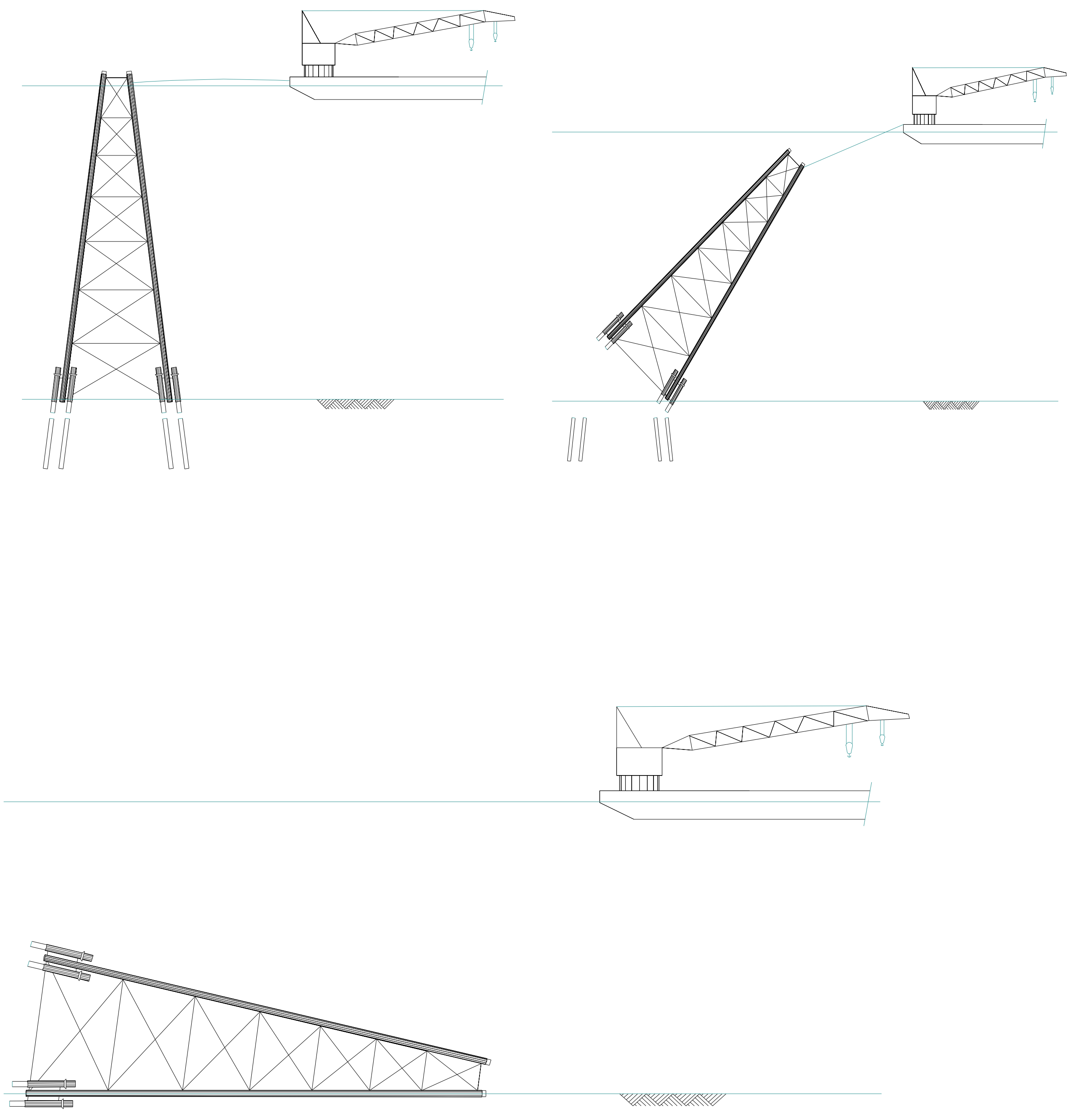


FIGURE 12 - TOPPLING JACKET IN PLACE (IN SITU)



SECTION 4 - PAES SOFTWARE

TSB's proprietary database program, *Platform Abandonment Estimating System* (PAES), was developed by TSB to provide reliable cost estimates for abandoning offshore platforms, pipelines, and wells. These estimates are useful in determining year-end financial reserves, tax reporting and support, abandonment AFE's, economic analysis of acquisitions, and bonding.

PAES contains specific data profiling of over 1,500 domestic and international platforms. Equipment rates are derived from actual projects. Assumptions, variables, and data are entered by section. Refer to Section 3 for a discussion of the methodology.

PAES printouts are organized into five sections designated by Roman numerals:

I Summary
scope of work, disposal method, conditions, operating assumptions, total estimated cost

II Basic Information
general data, partner data, estimated costs by platform, pipeline, well

III Platform
general data, piles, deck, conductors, jacket, equipment, tasks/resources, costs

IV Pipeline
general data, pipeline data, tasks and resources, costs

V Well
general data, well data, tasks and resources, costs

INFORMATION USED IN ESTIMATING PROCESS

This section provides a detailed description of the method used to estimate the cost of abandoning offshore platforms and pipelines using *Platform Abandonment Estimating System* (PAES). Each step in the process for Sections II-IV is explained.

The estimating process begins with a review of the documents contained in the file for each platform. From this review, a profile is created of physical characteristics of the structure, the purpose of the structure (e.g. drilling, production, etc.) and the partnership interests. A procedure for removal is then developed.

The description that follows is of a sample platform in the Gulf of Mexico. The selection criteria includes the date the platform was placed in service, water depth, number of piles, platform function, well information, and pipeline information. The following information is taken from the platform file.

BASIC INFORMATION [PAES - SECTION II]

General Data

Field
This is the name of the offshore field where the platform is located.

Function
This describes the purpose of the platform. Common platform functions include production, well protector, drilling, quarters, and caisson. The function indicates the type and quantity of equipment on the platform as well as deck lift weight. Platforms may be multifunctional.

Type
This describes the material used to construct the platform (steel, wood, or concrete). This is used in determining the method used to remove the platform.

Water Depth
This is the measure of the depth of water at the platform location.

Pre 461H
Platforms set before July 18, 1984 are not subject to the economic performance requirements of internal revenue code section 461H.

Year Installed
This is the year the platform was installed or placed in service.

Estimated Removal Year
This is the year being used for estimating the cost of the removal of the platform.

Actual Removal Year
This is the actual year the platform was removed.

District
This identifies the general area of the platform's location (Gulf of Mexico, California, etc.).

Lease Number
This is a number assigned by the Minerals Management Service at the time the lease is issued.

Wells Abandoned
This value equals the number of wells on the platform which are to be abandoned.

Pipelines Abandoned
This value equals the number of pipelines on the platform which are to be abandoned.

Partner Data

Partner
This identifies the partner(s) who own a share in the platform.

Working Interest
This is the percent ownership of each partner in the platform.

Estimated Costs

Platform Abandonment Gross Cost
This is the estimated gross (total) cost to abandon the platform. A reef donation is included in the decommissioning estimate, which is estimated as half of the savings realized by not removing the jacket to shore.

Platform Abandonment Net Cost
This is the net value of the platform abandonment cost determined by multiplying the working interest times the platform abandonment gross cost.

Well Abandonment Gross Cost
This is the estimated gross (total) cost to abandon the well(s) on the platform.

Well Abandonment Net Cost
The net value of the abandonment cost determined by multiplying working interest in each well times the abandonment cost for the well, then summing for all wells.

Pipeline Abandonment Gross Cost
This is the estimated gross (total) cost to abandon the pipeline(s) on the platform.

Pipeline Abandonment Net Cost
This is the net value of the pipeline abandonment cost for the pipeline(s) on the platform determined by multiplying the working interest times the platform abandonment gross cost.

Total Abandonment Gross Cost
This is the sum of the estimated gross platform, well, and pipeline abandonment costs.

Total Abandonment Net Cost
This is the sum of the estimated net platform, well, and pipeline abandonment costs.

SECTION 5 – DETAILED ESTIMATES

HI A264 HIOS-A-LIQ

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Salvage Option
HI A264 HIOS-A-LIQ (Ver 1)

High Island Block A264 has five structures that are operated by Enterprise Products Partners L.P. The structures will be removed in one mobilization and demobilization of a 2000-ton derrick barge. All production equipment will be flushed and purged of any hydrocarbons. The equipment that will be removed by the derrick barge will be cut free of the platform. Also the pipelines will be pigged, flushed, cleaned, plugged and left in-situ. (See #12 below.)

High Island A264 HIOS-A-LIQ is an 8-pile Liquid Gathering Platform installed in 1979 in 152' water depth and bridge connected to the HI A264 HIOS-C-QTR platform. Since the A and C platforms are bridge connected, one 48-hour turtle watch operation conducted by the National Marine Fisheries service will be needed. The top deck equipment, bridge and deck will be placed on a 240' x 72' cargo barge. The jacket piles will be explosively severed and removed from the jacket. The jacket section will be loaded onto a 240' x 72' cargo barge. The piles will be placed on a 180' x 54' cargo barge. The decks, facilities and jacket will be taken to shore and scrapped. A 1,400 ft radius will be needed to clear the High Island A-264 platform sites of any bottom debris.

This estimate is based on the following assumptions:

1. All decks and jackets and associated equipment are taken to shore and scrapped.
2. Removal Contractor is responsible for transport and disposal of decks, jackets, and associated equipment.
3. No salvage or resale value has been considered for the structure or equipment.
4. One derrick mobilization/demobilization cost is included for each block.
5. Mobilization times are estimated from the Eugene Island sea buoy.
6. No dockside mobilization or demobilization is included, construction barge spreads are assumed to be readily available in the Gulf of Mexico.
7. All work will be performed during the summer work season.
8. Allowances have been made for named tropical storm downtime.
9. The current guidelines for the use of explosives are assumed.
10. No allowances have been made for the presence of sea turtles or marine mammals.
11. All NORM, NOW, and industrial waste are removed from the platforms prior to decommissioning.
12. All pipelines are abandoned-in-place.
13. Tube Turns and 100' of pipeline are removed at each end of pipelines.
14. Tube Turns and pipelines are buried a minimum of 5ft. at the base of the platform.
15. All pipeline ends can be sealed using mechanical-type plugs. No provisions are made for more stringent environmental or safety regulations.
16. Site clearance and verification is in accordance with the latest NTL.
17. Hourly rates for construction and diving spreads are developed from offshore contractors published rates.
18. Engineering & Project Management cost 8% (company or other).

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Salvage Option
HI A264 HIOS-A-LIQ (Ver 1)

19. Work Contingency of 15% is included. This is work not currently itemized in our database, but is shown as necessary per actual removals in the Gulf of Mexico.
20. Weather allowance of 20%, consisting of 14% for regular weather and 6% for named tropical storms.

The following data will be assumed based on previous estimates developed and work experience:
Pile OD
Deck Weights
Jacket Weights
Grout Weights
Equipment Weights

Estimated Decommissioning Gross Cost =	$4,217,479
Estimated Decommissioning Net Cost =	$4,217,479

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Basic Information
HI A264 HIOS-A-LIQ (Ver 1)

General Data

Platform:	HI A264 HIOS-A-LIQ
Function:	DRILL/MANIFOLD
Type:	Steel
Water Depth:	152'
Pre 461H?:	Yes
Year Installed:	1979
Year Estimate Developed:	
District:	Gulf of Mexico
Lease Number:	
Account Code:	TSB - 29027
Amortization:	1.00
# Wells to P & A:	0
# Pipelines to Abandon:	2
Estimate Complete?:	Yes

Partner Data

	Partner	Working Intere
1	Enterprise Products Partners L.P.	100.00%

Estimated Costs

	Gross Cost	Net Cost
Platform Removal:	$2,726,622	$2,726,622
Well Plugging & Abandonment:	$0	$0
Pipeline Abandonment:	$1,490,857	$1,490,857
Total Decommissioning Cost:	$4,217,479	$4,217,479

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Information
HI A264 HIOS-A-LIQ (Ver 1)

Pile/Tendon Data

	Number	Outside Diameter	Wall Thickness	Grout Annulus	Grout Internal	Depth Below
Main:	8	36"	1.5"	No	No	
Skirt/Braced	0			No	No	
Anchor:	0					
Dolphin:	0					

Deck Dimensions

	Dimensions	Elevation
Upper:	135X70	
Middle:		
Lower:		

Conductors

Number of Slots:	0
Number Installed:	0
Outside Diameter:	
Wall Thickness:	
Number Slanted:	0

Jacket Data

	Weight (Tons)	With Piles	With Piles & Grout
Submerged:			
Dry:	1289.00		

Jacket Installation Date:

Jacket Contractor:

Deck Data

Deck Lift Weight with Equipment:	1100 Tons
Number of Padeyes Required:	0
Deck Installation Date:	3/30/79
Deck Contractor:	

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Information
HI A264 HIOS-A-LIQ (Ver 1)

Equipment Lift Weights

Equipmen	Weight (Tons)
Bridge 200'	75.00
Equipment Package 1	150.00
Equipment Package 2	150.00
Equipment Package 3	200.00
Heliport	30.00

Members to be Cut Data

Top Members

Size	Qty
14.00	1.00
16.00	2.00

Inderwater Member

Size	Qty
14.00	2.00
16.00	6.00
18.00	7.00
20.00	5.00
30.00	4.00

Cargo Descriptions

Cargo Barge Size	Cargo Description		
CB 240 x 72	Deck > 500T	Bridge	Equipment
CB 180 x 54	Piles		
CB 240 x 72	Jkt > 700T		

Miscellaneous Data

Derrick Barge Anchors:	8
Assist Derrick Barge Anchors:	0
Tow Distance:	0.00
Provision for Misc. Work%:	15.00%
Weather Contingency%:	20.00%
Engineering%:	8.00%

Miscellaneous Costs

Consumables:	$0.00
Waste Disposal:	$0.00
Structure & Equipment Disposal:	$0.00
Reef Donation:	$0.00
Cost of Engineering:	$171,266.00

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Comments
HI A264 HIOS-A-LIQ (Ver 1)

Assumed the following:
Jacket Weights, Deck Weights, Pile Sizes, Equipment Weights, Bridge Weights, Deck(s) Sizes

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Task Information
HI A264 HIOS-A-LIQ (Ver 1)

Task	Note	Contingency	Task Hours		Task Cost	
Fab Explosive Charges		☐	0.00	0.00%	$20,000.00	0.73%
Platform Removal Preparation		☐	504.00	26.72%	$504,000.00	18.48%
Mobilize Work Boat	Divided b/w the HIOS platforms in the field.	☐	4.30	0.23%	$2,691.80	0.10%
NMFS Marine Observation	Divided b/w the HIOS platforms in the field.	☐	12.00	0.64%	$7,512.00	0.28%
Demob Work Boat	Divided b/w the HIOS platforms in the field.	☐	4.30	0.23%	$2,150.00	0.08%
Mobilize DB 2000	Divided b/w the HIOS platforms in the field.	☐	5.08	0.27%	$48,232.20	1.77%
Mobilize CB 240 & Tug	Deck, Equipment & Bridge	☐	36.40	1.93%	$38,024.00	1.39%
Mobilize CB 180 & Tug	Piles (shared with B-Comp)	☐	18.20	0.96%	$18,010.00	0.66%
Mobilize CB 240 & Tug	Jacket	☐	36.40	1.93%	$38,024.00	1.39%
Setup Derrick Barge		☑	6.75	0.36%	$56,301.75	2.06%
Cut Deck/Equip/Misc		☑	3.85	0.20%	$34,653.85	1.27%
Remove Equipment		☑	8.00	0.42%	$72,008.00	2.64%
Remove 8 Pile Deck		☑	9.35	0.50%	$84,159.35	3.09%
Demob CB 240 & Tug		☐	36.40	1.93%	$24,024.00	0.88%
Jet/Airlift Pile Mud Plug		☑	31.00	1.64%	$275,621.00	10.11%
Standby for Daylight Det.		☑	8.00	0.42%	$71,128.00	2.61%
Pre/Post Detonat'n Survey		☑	1.00	0.05%	$15,391.00	0.56%
Sever Piles- Explosive		☑	4.84	0.26%	$43,032.44	1.58%
Remove Piles from Jackt Legs		☑	18.78	1.00%	$162,822.60	5.97%
Demob CB 180 & Tug	Piles (shared with B-Comp)	☐	18.20	0.96%	$10,010.00	0.37%
Remove Jacket - Meth 3		☑	21.70	1.15%	$190,526.00	6.99%
Demob CB 240 & Tug		☐	36.40	1.93%	$24,024.00	0.88%
Pick Up DB Anchors		☑	6.75	0.36%	$54,810.00	2.01%
Demob DB 2000	Divided between the HIOS platforms in the field.	☐	5.08	0.27%	$47,749.60	1.75%
Site Clearance - with Trawler	Divided between the HIOS platforms in the field.	☑	71.07	3.77%	$65,365.12	2.40%
Site Clearance Verify	Divided between the HIOS platforms in the field.	☑	106.14	5.63%	$58,554.24	2.15%
Offload CB 180	Piles (shared with B-Comp)	☐	48.00	2.55%	$26,000.00	0.95%
Offload CB 240		☐	720.00	38.18%	$146,000.00	5.35%
		Task Total	1781.99	94.48%	$2,140,824.95	78.52%
		Misc. Work Provision (15.00%)	44.58	2.36%	$177,656.00	6.52%
		Weather Contingency (20.00%)	59.45	3.15%	$236,874.70	8.69%
		Consumables			$0.00	0.00%
		Waste Disposal			$0.00	0.00%
		Structure & Equipment Disposal			$0.00	0.00%
		Offloading			$0.00	0.00%
		Storage / Scrapping			$0.00	0.00%
		Reef Donation			$0.00	0.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Task Information
HI A264 HIOS-A-LIQ (Ver 1)

Task	Note	Contingency	Task Hours		Task Cost	
		Cost of Engineering (8.00%)			$171,266.00	6.28%
		Total:	1886.02	100.00%	$2,726,621.65	100.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Resources Breakdown
HI A264 HIOS-A-LIQ (Ver 1)

Resource Used	Unit Cost		Cost	
Cargo Barge 180	$3,000.00	per Day per Barge	$6,000.00	0.22%
Cargo Barge 240	$4,200.00	per Day per Barge	$126,000.00	4.62%
CB 180 & Tug	$550.00	per Hour per Barge/Tug	$55,011.00	2.02%
CB 240 & Tug	$660.00	per Hour per Barge/Tug	$124,410.00	4.56%
CB Damage Deduct	$20,000.00	per Cargo Barge	$40,000.00	1.47%
Decomm Platform	$0.00	Calculated from tables	$252,000.00	9.24%
Derrick Barge 2000	$7,000.00	per Hour per barge	$911,260.00	33.42%
Dive Basic Spread- Mixed Gas	$890.00	Per Hour	$115,860.20	4.25%
Expl Charge - Piling	$10,000.00	per Pile	$20,000.00	0.73%
Expl Technician	$95.00	per Hour	$7,397.65	0.27%
Helicopter Trips	$6,500.00	per Round Trip	$19,500.00	0.72%
Nets (Heavy Duty, Non-Repairable)	$5,000.00	ea	$15,000.00	0.55%
Nets (Heavy Duty, Repairable)	$2,600.00	ea	$20,800.00	0.76%
Nets (Non-Repairable)	$2,200.00	ea	$6,600.00	0.24%
Nets (Repairable)	$1,300.00	ea	$7,800.00	0.29%
NMFS Observers (2)	$126.00	per Hour	$11,225.34	0.41%
Pipeline Survey	$230.00	per Hour	$29,941.40	1.10%
Rig Up CB 180	$8,000.00	per Barge	$8,000.00	0.29%
Rig Up CB 240	$14,000.00	per Barge	$28,000.00	1.03%
Trawler	$416.00	per Hour	$73,719.36	2.70%
Work Boat	$500.00	per Hour	$262,300.00	9.62%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A264 HIOS-A-LIQ (Ver 1)

Task		Task Hours		Task Cost	
Fab Explosive Charges		**0.00**	**0.00%**	**$20,000.00**	**0.73%**
Expl Charge - Piling	$20,000.00				
Platform Removal Preparation		**504.00**	**26.72%**	**$504,000.00**	**18.48%**
Decomm Platform	$252,000.00				
Work Boat	$252,000.00				
Mobilize Work Boat		**4.30**	**0.23%**	**$2,691.80**	**0.10%**
Work Boat	$2,150.00				
NMFS Observers (2)	$541.80				
NMFS Marine Observation		**12.00**	**0.64%**	**$7,512.00**	**0.28%**
Work Boat	$6,000.00				
NMFS Observers (2)	$1,512.00				
Demob Work Boat		**4.30**	**0.23%**	**$2,150.00**	**0.08%**
Work Boat	$2,150.00				
Mobilize DB 2000		**5.08**	**0.27%**	**$48,232.20**	**1.77%**
Derrick Barge 2000	$35,560.00				
Dive Basic Spread- Mixed Gas	$4,521.20				
Pipeline Survey	$1,168.40				
Expl Technician	$482.60				
Helicopter Trips	$6,500.00				
Mobilize CB 240 & Tug		**36.40**	**1.93%**	**$38,024.00**	**1.39%**
CB 240 & Tug	$24,024.00				
Rig Up CB 240	$14,000.00				
Mobilize CB 180 & Tug		**18.20**	**0.96%**	**$18,010.00**	**0.66%**
CB 180 & Tug	$10,010.00				
Rig Up CB 180	$8,000.00				
Mobilize CB 240 & Tug		**36.40**	**1.93%**	**$38,024.00**	**1.39%**
CB 240 & Tug	$24,024.00				
Rig Up CB 240	$14,000.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A264 HIOS-A-LIQ (Ver 1)

Task		Task Hours		Task Cost	
Setup Derrick Barge		**6.75**	**0.36%**	**$56,301.75**	**2.06%**
Derrick Barge 2000	$47,250.00				
Dive Basic Spread- Mixed Gas	$6,007.50				
Pipeline Survey	$1,552.50				
Expl Technician	$641.25				
NMFS Observers (2)	$850.50				
Cut Deck/Equip/Misc		**3.85**	**0.20%**	**$34,653.85**	**1.27%**
Derrick Barge 2000	$26,950.00				
Dive Basic Spread- Mixed Gas	$3,426.50				
Pipeline Survey	$885.50				
Expl Technician	$365.75				
NMFS Observers (2)	$485.10				
CB 240 & Tug	$2,541.00				
Remove Equipment		**8.00**	**0.42%**	**$72,008.00**	**2.64%**
Derrick Barge 2000	$56,000.00				
Dive Basic Spread- Mixed Gas	$7,120.00				
Pipeline Survey	$1,840.00				
Expl Technician	$760.00				
NMFS Observers (2)	$1,008.00				
CB 240 & Tug	$5,280.00				
Remove 8 Pile Deck		**9.35**	**0.50%**	**$84,159.35**	**3.09%**
Derrick Barge 2000	$65,450.00				
Dive Basic Spread- Mixed Gas	$8,321.50				
Pipeline Survey	$2,150.50				
Expl Technician	$888.25				
NMFS Observers (2)	$1,178.10				
CB 240 & Tug	$6,171.00				
Demob CB 240 & Tug		**36.40**	**1.93%**	**$24,024.00**	**0.88%**
CB 240 & Tug	$24,024.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A264 HIOS-A-LIQ (Ver 1)

Task		Task Hours		Task Cost	
Jet/Airlift Pile Mud Plug		**31.00**	**1.64%**	**$275,621.00**	**10.11%**
Derrick Barge 2000	$217,000.00				
Dive Basic Spread- Mixed Gas	$27,590.00				
Pipeline Survey	$7,130.00				
Expl Technician	$2,945.00				
NMFS Observers (2)	$3,906.00				
CB 180 & Tug	$17,050.00				
Standby for Daylight Det.		**8.00**	**0.42%**	**$71,128.00**	**2.61%**
Derrick Barge 2000	$56,000.00				
Dive Basic Spread- Mixed Gas	$7,120.00				
Pipeline Survey	$1,840.00				
Expl Technician	$760.00				
NMFS Observers (2)	$1,008.00				
CB 180 & Tug	$4,400.00				
Pre/Post Detonat'n Survey		**1.00**	**0.05%**	**$15,391.00**	**0.56%**
Derrick Barge 2000	$7,000.00				
Dive Basic Spread- Mixed Gas	$890.00				
Pipeline Survey	$230.00				
Expl Technician	$95.00				
NMFS Observers (2)	$126.00				
CB 180 & Tug	$550.00				
Helicopter Trips	$6,500.00				
Sever Piles- Explosive		**4.84**	**0.26%**	**$43,032.44**	**1.58%**
Derrick Barge 2000	$33,880.00				
Dive Basic Spread- Mixed Gas	$4,307.60				
Pipeline Survey	$1,113.20				
Expl Technician	$459.80				
NMFS Observers (2)	$609.84				
CB 180 & Tug	$2,662.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A264 HIOS-A-LIQ (Ver 1)

Task		Task Hours		Task Cost	
Remove Piles from Jackt Legs		**18.78**	**1.00%**	**$162,822.60**	**5.97%**
Derrick Barge 2000	$131,460.00				
Dive Basic Spread- Mixed Gas	$16,714.20				
Pipeline Survey	$4,319.40				
CB 180 & Tug	$10,329.00				
Demob CB 180 & Tug		**18.20**	**0.96%**	**$10,010.00**	**0.37%**
CB 180 & Tug	$10,010.00				
Remove Jacket - Meth 3		**21.70**	**1.15%**	**$190,526.00**	**6.99%**
Derrick Barge 2000	$151,900.00				
Dive Basic Spread- Mixed Gas	$19,313.00				
Pipeline Survey	$4,991.00				
CB 240 & Tug	$14,322.00				
Demob CB 240 & Tug		**36.40**	**1.93%**	**$24,024.00**	**0.88%**
CB 240 & Tug	$24,024.00				
Pick Up DB Anchors		**6.75**	**0.36%**	**$54,810.00**	**2.01%**
Derrick Barge 2000	$47,250.00				
Dive Basic Spread- Mixed Gas	$6,007.50				
Pipeline Survey	$1,552.50				
Demob DB 2000		**5.08**	**0.27%**	**$47,749.60**	**1.75%**
Derrick Barge 2000	$35,560.00				
Dive Basic Spread- Mixed Gas	$4,521.20				
Pipeline Survey	$1,168.40				
Helicopter Trips	$6,500.00				
Site Clearance - with Trawler		**71.07**	**3.77%**	**$65,365.12**	**2.40%**
Trawler	$29,565.12				
Nets (Heavy Duty, Non-Repairable)	$15,000.00				
Nets (Heavy Duty, Repairable)	$20,800.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A264 HIOS-A-LIQ (Ver 1)

Task		Task Hours		Task Cost	
Site Clearance Verify		**106.14**	**5.63%**	**$58,554.24**	**2.15%**
Trawler	$44,154.24				
Nets (Non-Repairable)	$6,600.00				
Nets (Repairable)	$7,800.00				
Offload CB 180		**48.00**	**2.55%**	**$26,000.00**	**0.95%**
Cargo Barge 180	$6,000.00				
CB Damage Deduct	$20,000.00				
Offload CB 240		**720.00**	**;8.18%**	**$146,000.00**	**5.35%**
Cargo Barge 240	$126,000.00				
CB Damage Deduct	$20,000.00				
	Total	**1781.99**	**)4.48%**	**;2,140,824.95**	**78.52%**

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Information
HI A264 HIOS-A-LIQ (Ver1) Segment#:0001

General Data

Water Depth:	152'
Origin / Terminus:	Origin
Opposite End Name:	HI A 264 B
Opposite End Water Depth:	152'
Pipeline Operator:	El Paso Field Services
Provision for Misc. Work%:	15.00%
Weather Contingency %:	20.00%

Pipeline Data

Outside Diameter:	36"	Wall Thickness:		Length:	300'
Depth of Burial:		# Crossings:		Product:	
Installation Date:		Weight Coating:	No	J Tube:	No
Riser?:	No	Riser Guard?:	No		

Comments

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Information
HI A264 HIOS-A-LIQ (Ver1) Segment#:7364

General Data

Water Depth:	152'
Origin / Terminus:	Origin
Opposite End Name:	WC 167
Opposite End Water Depth:	46'
Pipeline Operator:	Enterprise Products Partners L.
Provision for Misc. Work%:	15.00%
Weather Contingency %:	20.00%

Pipeline Data

Outside Diameter:	42"	Wall Thickness:		Length:	348734'
Depth of Burial:		# Crossings:		Product:	Gas/Cond
Installation Date:		Weight Coating:	No	J Tube:	No
Riser?:	No	Riser Guard?:	No		

Comments

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Task Information
HI A264 HIOS-A-LIQ (Ver 1) Segment#:0001

Task	Note	Contingency	Task Hours		Task Cost	
Rig Up Decomm Equipment		☑	5.00	9.03%	$3,477.50	0.92%
Pig & Flush Pipeline		☑	4.00	7.23%	$2,782.00	0.74%
Derig Decomm Equipment		☑	2.00	3.61%	$1,391.00	0.37%
Remove Pipeline		☑	30.00	54.20%	$256,350.00	67.90%
		Task Total	41.00	74.07%	$264,000.50	69.93%
		Misc. Work Provision (15.00%)	6.15	11.11%	$39,600.08	10.49%
		her Contingency (20.00%)	8.20	14.81%	$52,800.10	13.99%
		Consumables			$0.00	0.00%
		Waste Disposal			$0.00	0.00%
		Structure & Equipment Disposal			$0.00	0.00%
		Offloading			$0.00	0.00%
		Storage / Scrapping			$0.00	0.00%
		Reef Donation			$0.00	0.00%
		Cost of Engineering (8.00%)			$21,120.04	5.59%
		Total:	55.35	100.00%	$377,520.72	100.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Task Information
HI A264 HIOS-A-LIQ (Ver 1) Segment#:7364

Task	Note	Contingency	Task Hours		Task Cost	
Mobilize Work Boat		☑	17.20	2.25%	$11,962.60	1.07%
Rig Up Decomm Equipment		☑	5.00	0.65%	$3,477.50	0.31%
Pig & Flush Pipeline		☑	405.37	53.05%	$281,934.82	25.32%
Derig Decomm Equipment		☑	2.00	0.26%	$1,391.00	0.12%
Demob Work Boat		☑	17.20	2.25%	$11,962.60	1.07%
Mobilize Dive Boat		☐	17.20	2.25%	$32,637.00	2.93%
Set Up Dive Boat		☑	3.00	0.39%	$5,692.50	0.51%
Expose Pipeline		☑	4.76	0.62%	$9,032.10	0.81%
Cut & Plug Pipeline	Cut pipeline 100' from platform	☑	4.76	0.62%	$9,032.10	0.81%
Cut Pipeline Riser		☑	3.17	0.41%	$6,015.08	0.54%
Remove Tube Turn		☑	3.17	0.41%	$6,015.08	0.54%
Expose Pipeline		☑	4.76	0.62%	$9,032.10	0.81%
Bury Pipeline		☑	3.17	0.41%	$6,015.08	0.54%
Pick Up Dive Boat Anchors		☑	3.00	0.39%	$5,692.50	0.51%
Mobilize Dive Boat	Mobilize Dive Boat to other end.	☑	5.73	0.75%	$10,872.68	0.98%
Set Up Dive Boat		☑	3.00	0.39%	$5,692.50	0.51%
Expose Pipeline		☑	4.76	0.62%	$9,032.10	0.81%
Cut & Plug Pipeline		☑	4.76	0.62%	$9,032.10	0.81%
Cut Pipeline Riser	Cut pipeline 100' from platform	☑	3.17	0.41%	$6,015.08	0.54%
Remove Tube Turn		☑	3.17	0.41%	$6,015.08	0.54%
Bury Pipeline		☑	3.17	0.41%	$6,015.08	0.54%
Demob Dive Boat		☐	17.20	2.25%	$32,637.00	2.93%
Demob P/L Removal Spread	Mobilize platform removal derrick barge to other end of pipeline	☑	8.20	1.07%	$70,069.00	6.29%
Remove Pipeline	Remove Tube Turns & 100' of pipeline at each end	☑	28.00	3.66%	$239,260.00	21.49%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Task Information

Task Total	574.92	75.24%	$794,532.68	71.37%
Misc. Work Provision (15.00%)	81.08	10.61%	$109,388.81	9.83%
her Contingency (20.00%)	108.10	14.15%	$145,851.74	13.10%
Consumables			$0.00	0.00%
Waste Disposal			$0.00	0.00%
Structure & Equipment Disposal			$0.00	0.00%
Offloading			$0.00	0.00%
Storage / Scrapping			$0.00	0.00%
Reef Donation			$0.00	0.00%
Cost of Engineering (8.00%)			$63,562.61	5.71%
Total:	764.10	100.00%	$1,113,335.84	100.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Resources Breakdown
HI A264 HIOS-A-LIQ (Ver 1) Segment#:0001

Resource Used	Unit Cost		Cost	
CB 240 & Tug	$660.00	per Hour per Barge/Tug	$19,800.00	5.24%
DB 2000	$7,000.00	per Hour per Barge	$210,000.00	55.63%
Decommissioning Crew	$0.00	Calculated from tables	$1,237.50	0.33%
Dive Basic Spread- Mixed Gas	$885.00	Per Hour	$26,550.00	7.03%
Work Boat	$583.00	per Hour	$6,413.00	1.70%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Resources Breakdown
HI A264 HIOS-A-LIQ (Ver 1) Segment#:7364

Resource Used	Unit Cost		Cost	
CB 240 & Tug	$660.00	per Hour per Barge/Tug	$23,892.00	2.16%
DB 2000	$7,000.00	per Hour per Barge	$253,400.00	22.87%
Decommissioning Crew	$0.00	Calculated from tables	$60,606.03	5.47%
Dive Basic Spread- Mixed Gas	$885.00	Per Hour	$113,412.75	10.23%
Dive Boat	$900.00	Calculated from tables	$82,755.00	7.47%
Manual Calculation	$0.00	Independently Calculated	$0.00	0.00%
Work Boat	$583.00	per Hour	$260,466.90	23.51%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown

HI A264 HIOS-A-LIQ (Ver 1) Segment#:0001

Task		Task Hours		Task Cost	
Rig Up Decomm Equipment		**5.00**	**9.03%**	**$3,477.50**	**0.92%**
Work Boat	$2,915.00				
Decommissioning Crew	$562.50				
Pig & Flush Pipeline		**4.00**	**7.23%**	**$2,782.00**	**0.74%**
Work Boat	$2,332.00				
Decommissioning Crew	$450.00				
Derig Decomm Equipment		**2.00**	**3.61%**	**$1,391.00**	**0.37%**
Work Boat	$1,166.00				
Decommissioning Crew	$225.00				
Remove Pipeline		**30.00**	**54.20%**	**$256,350.00**	**67.90%**
DB 2000	$210,000.00				
Dive Basic Spread- Mixed Gas	$26,550.00				
CB 240 & Tug	$19,800.00				
	Total	**41.00**	**74.07%**	**$264,000.50**	**69.93%**

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown
HI A264 HIOS-A-LIQ (Ver 1) Segment#:7364

Task		Task Hours		Task Cost	
Mobilize Work Boat		17.20	2.25%	$11,962.60	1.08%
Work Boat	$10,027.60				
Decommissioning Crew	$1,935.00				
Rig Up Decomm Equipment		5.00	0.65%	$3,477.50	0.31%
Work Boat	$2,915.00				
Decommissioning Crew	$562.50				
Pig & Flush Pipeline		405.37	53.05%	$281,934.82	25.44%
Work Boat	$236,330.70				
Decommissioning Crew	$45,604.12				
Derig Decomm Equipment		2.00	0.26%	$1,391.00	0.13%
Work Boat	$1,166.00				
Decommissioning Crew	$225.00				
Demob Work Boat		17.20	2.25%	$11,962.60	1.08%
Work Boat	$10,027.60				
Decommissioning Crew	$1,935.00				
Mobilize Dive Boat		17.20	2.25%	$32,637.00	2.95%
Dive Boat	$15,480.00				
Dive Basic Spread- Mixed Gas	$15,222.00				
Decommissioning Crew	$1,935.00				
Set Up Dive Boat		3.00	0.39%	$5,692.50	0.51%
Dive Boat	$2,700.00				
Dive Basic Spread- Mixed Gas	$2,655.00				
Decommissioning Crew	$337.50				
Expose Pipeline		4.76	0.62%	$9,032.10	0.82%
Dive Boat	$4,284.00				
Dive Basic Spread- Mixed Gas	$4,212.60				
Decommissioning Crew	$535.50				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.

Pipeline Decommission Cost Breakdown

Cut & Plug Pipeline		**4.76**	**0.62%**	**$9,032.10**	**0.82%**
Dive Boat	$4,284.00				
Dive Basic Spread- Mixed Gas	$4,212.60				
Decommissioning Crew	$535.50				
Cut Pipeline Riser		**3.17**	**0.41%**	**$6,015.08**	**0.54%**
Dive Boat	$2,853.00				
Dive Basic Spread- Mixed Gas	$2,805.45				
Decommissioning Crew	$356.63				
Remove Tube Turn		**3.17**	**0.41%**	**$6,015.08**	**0.54%**
Dive Boat	$2,853.00				
Dive Basic Spread- Mixed Gas	$2,805.45				
Decommissioning Crew	$356.63				
Manual Calculation	$0.00				
Expose Pipeline		**4.76**	**0.62%**	**$9,032.10**	**0.82%**
Dive Boat	$4,284.00				
Dive Basic Spread- Mixed Gas	$4,212.60				
Decommissioning Crew	$535.50				
Bury Pipeline		**3.17**	**0.41%**	**$6,015.08**	**0.54%**
Dive Boat	$2,853.00				
Dive Basic Spread- Mixed Gas	$2,805.45				
Decommissioning Crew	$356.63				
Pick Up Dive Boat Anchors		**3.00**	**0.39%**	**$5,692.50**	**0.51%**
Dive Boat	$2,700.00				
Dive Basic Spread- Mixed Gas	$2,655.00				
Decommissioning Crew	$337.50				
Mobilize Dive Boat		**5.73**	**0.75%**	**$10,872.68**	**0.98%**
Dive Boat	$5,157.00				
Dive Basic Spread- Mixed Gas	$5,071.05				
Decommissioning Crew	$644.63				
Set Up Dive Boat		**3.00**	**0.39%**	**$5,692.50**	**0.51%**
Dive Boat	$2,700.00				
Dive Basic Spread- Mixed Gas	$2,655.00				
Decommissioning Crew	$337.50				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown

Expose Pipeline		**4.76**	**0.62%**	**$9,032.10**	**0.82%**
Dive Boat	$4,284.00				
Dive Basic Spread- Mixed Gas	$4,212.60				
Decommissioning Crew	$535.50				
Cut & Plug Pipeline		**4.76**	**0.62%**	**$9,032.10**	**0.82%**
Dive Boat	$4,284.00				
Dive Basic Spread- Mixed Gas	$4,212.60				
Decommissioning Crew	$535.50				
Cut Pipeline Riser		**3.17**	**0.41%**	**$6,015.08**	**0.54%**
Dive Boat	$2,853.00				
Dive Basic Spread- Mixed Gas	$2,805.45				
Decommissioning Crew	$356.63				
Remove Tube Turn		**3.17**	**0.41%**	**$6,015.08**	**0.54%**
Dive Boat	$2,853.00				
Dive Basic Spread- Mixed Gas	$2,805.45				
Decommissioning Crew	$356.63				
Bury Pipeline		**3.17**	**0.41%**	**$6,015.08**	**0.54%**
Dive Boat	$2,853.00				
Dive Basic Spread- Mixed Gas	$2,805.45				
Decommissioning Crew	$356.63				
Demob Dive Boat		**17.20**	**2.25%**	**$32,637.00**	**2.95%**
Dive Boat	$15,480.00				
Dive Basic Spread- Mixed Gas	$15,222.00				
Decommissioning Crew	$1,935.00				
Demob P/L Removal Spread		**8.20**	**1.07%**	**$70,069.00**	**6.32%**
DB 2000	$57,400.00				
Dive Basic Spread- Mixed Gas	$7,257.00				
CB 240 & Tug	$5,412.00				
Remove Pipeline		**28.00**	**3.66%**	**$239,260.00**	**21.59%**
DB 2000	$196,000.00				
Dive Basic Spread- Mixed Gas	$24,780.00				
CB 240 & Tug	$18,480.00				
	Total	**574.92**	**75.24%**	**$794,532.68**	**71.70%**

HI A264 HIOS-B Flare

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Salvage Option
HI A264 HIOS-B Flare (Ver 1)

High Island Block A264 has five structures that are operated by Enterprise Products Partners L.P. The structures will be removed in one mobilization and demobilization of a 2000-ton derrick barge. All production equipment will be flushed and purged of any hydrocarbons. The equipment that will be removed by the derrick barge will be cut free of the platform.
Also the pipelines will be pigged, flushed, cleaned, plugged and left in-situ. (See #12 below.)

High Island A264 HIOS-B Flare is a bridge supported by two 3-pile structures installed in 1979 in 152' water depth and bridge connected to HI A264 HIOS-B-CMP structure. Since the structures are bridge connected, one 48-hour turtle watch operation conducted by the National Marine Fisheries service will be needed. The walkway will be placed on a 300' x 100' cargo barge. Piles will be explosively severed and the 300' x 100 cargo barge will also be used for the jacket. The decks, facilities and jackets will be taken to shore and scrapped. A 1,400 ft radius will be needed to clear the platform sites of any bottom debris.

This estimate is based on the following assumptions:

1. All decks and jackets and associated equipment are taken to shore and scrapped.
2. Removal Contractor is responsible for transport and disposal of decks, jackets, and associated equipment.
3. No salvage or resale value has been considered for the structure or equipment.
4. One derrick mobilization/demobilization cost is included for each block.
5. Mobilization times are estimated from the Eugene Island sea buoy.
6. No dockside mobilization or demobilization is included, construction barge spreads are assumed to be readily available in the Gulf of Mexico.
7. All work will be performed during the summer work season.
8. Allowances have been made for named tropical storm downtime.
9. The current guidelines for the use of explosives are assumed.
10. No allowances have been made for the presence of sea turtles or marine mammals.
11. All NORM, NOW, and industrial waste are removed from the platforms prior to decommissioning.
12. All pipelines are abandoned-in-place.
13. Tube Turns and 100' of pipeline are removed at each end of pipelines.
14. Tube Turns and pipelines are buried a minimum of 5ft. at the base of the platform.
15. All pipeline ends can be sealed using mechanical-type plugs. No provisions are made for more stringent environmental or safety regulations.
16. Site clearance and verification is in accordance with the latest NTL.
17. Hourly rates for construction and diving spreads are developed from offshore contractors published rates.
18. Engineering & Project Management cost 8% (company or other).

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Salvage Option
HI A264 HIOS-B Flare (Ver 1)

19. Work Contingency of 15% is included. This is work not currently itemized in our database, but is shown as necessary per actual removals in the Gulf of Mexico.
20. Weather allowance of 20%, consisting of 14% for regular weather and 6% for named tropical storms.

The following data will be assumed based on previous estimates developed and work experience:
Pile OD
Deck Weights
Jacket Weights
Grout Weights
Equipment Weights

Estimated Decommissioning Gross Cost =	$2,247,879
Estimated Decommissioning Net Cost =	$2,247,879

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Basic Information
HI A264 HIOS-B Flare (Ver 1)

General Data

Platform:	HI A264 HIOS-B Flare
Function:	AUXILIARY
Type:	Steel
Water Depth:	152'
Pre 461H?:	Yes
Year Installed:	1979
Year Estimate Developed:	
District:	Gulf of Mexico
Lease Number:	
Account Code:	TSB - 29027
Amortization:	1.00
# Wells to P & A:	0
# Pipelines to Abandon:	0
Estimate Complete?:	Yes

Partner Data

	Partner	Working Intere
1	Enterprise Products Partners L.P.	100.00%

Estimated Costs

	Gross Cost	Net Cost
Platform Removal:	$2,247,879	$2,247,879
Well Plugging & Abandonment:	$0	$0
Pipeline Abandonment:	$0	$0
Total Decommissioning Cost:	$2,247,879	$2,247,879

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Information
HI A264 HIOS-B Flare (Ver 1)

Pile/Tendon Data

	Number	Outside Diameter	Wall Thickness	Grout Annulus	Grout Internal	Depth Below
Main:	3	30"	1.5"	No	No	
Skirt/Braced	0			No	No	
Anchor:	0					
Dolphin:	0					

Deck Dimensions

	Dimensions	Elevation
Upper:		
Middle:		
Lower:		

Conductors

Number of Slots: 0
Number Installed: 0
Outside Diameter:
Wall Thickness:
Number Slanted: 0

Jacket Data

	Weight (Tons)	With Piles	With Piles & Grout
Submerged:			
Dry:	230.00		

Jacket Installation Date:
Jacket Contractor:

Deck Data

Deck Lift Weight with Equipment:
Number of Padeyes Required: 0
Deck Installation Date:
Deck Contractor:

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Information
HI A264 HIOS-B Flare (Ver 1)

Equipment Lift Weights

Equipmen	Weight (Tons)
Bridge	75.00
Flare Boom	12.00

Members to be Cut Data

Inderwater Members

Size	Qty

Cargo Descriptions

Cargo Barge Size	Cargo Description			
CB 300 x 100	Equipment	Jkt < 300T	Jkt < 300T	Bridge

Miscellaneous Data

Derrick Barge Anchors: 8

Assist Derrick Barge Anchors: 0

Tow Distance: 0.00

Provision for Misc. Work%: 15.00%

Weather Contingency%: 20.00%

Engineering%: 8.00%

Miscellaneous Costs

Consumables: $0.00

Waste Disposal: $0.00

Structure & Equipment Disposal: $0.00

Reef Donation: $0.00

Cost of Engineering: $146,951.06

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Comments
HI A264 HIOS-B Flare (Ver 1)

Assumed the following:
Jacket Weights, Deck Weights, Pile Sizes, Equipment Weights

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Task Information
HI A264 HIOS-B Flare (Ver 1)

Task	Note	Contingency	Task Hours		Task Cost	
Fab Explosive Charges		☐	0.00	0.00%	$15,000.00	0.67%
Platform Removal Preparation		☐	48.00	3.14%	$24,000.00	1.07%
Mobilize Work Boat	Divided between the HIOS platforms in the field.	☐	4.30	0.28%	$2,691.80	0.12%
NMFS Marine Observation	Divided between the HIOS platforms in the field.	☐	12.00	0.79%	$7,512.00	0.33%
Demob Work Boat	Divided between the HIOS platforms in the field.	☐	4.30	0.28%	$2,150.00	0.10%
Mobilize DB 2000	Divided between the HIOS platforms in the field.	☐	5.07	0.33%	$48,150.05	2.14%
Mobilize CB 300 & Tug		☐	36.40	2.38%	$49,672.00	2.21%
Setup Derrick Barge		☑	6.75	0.44%	$56,301.75	2.50%
Cut Deck/Equip/Misc		☑	3.46	0.23%	$32,250.66	1.43%
Remove Equipment	Flare Boom	☑	1.50	0.10%	$13,981.50	0.62%
Remove Tripod Deck	Bridge to Flare	☑	3.00	0.20%	$27,963.00	1.24%
Jet/Airlift Pile Mud Plug	Both 3-Pile Supports	☑	6.00	0.39%	$106,512.00	4.74%
Standby for Daylight Det.		☑	8.00	0.52%	$74,568.00	3.32%
Pre/Post Detonat'n Survey		☑	1.00	0.07%	$15,821.00	0.70%
Sever Piles- Explosive	Both 3-Pile Supports	☑	4.88	0.32%	$47,072.48	2.09%
Remove Jacket - Meth 3	modified	☐	21.70	1.42%	$375,627.00	16.71%
Remove Jacket - Meth 3	modified	☐	21.70	1.42%	$375,627.00	16.71%
Demob CB 300 & Tug		☐	36.40	2.38%	$35,672.00	1.59%
Pick Up DB Anchors		☑	6.75	0.44%	$54,810.00	2.44%
Demob DB 2000	Divided between the HIOS platforms in the field.	☐	5.07	0.33%	$47,668.40	2.12%
Site Clearance - with Trawler	Divided between the HIOS platforms in the field.	☑	260.29	17.05%	$144,080.60	6.41%
Site Clearance Verify	Divided between the HIOS platforms in the field.	☑	400.57	26.23%	$181,037.09	8.05%
Offload CB 300		☐	384.00	25.15%	$98,720.00	4.39%
		Task Total	1281.14	83.90%	$1,836,888.33	81.72%
		Misc. Work Provision (15.00%)	105.33	6.90%	$113,159.70	5.03%
		Weather Contingency (20.00%)	140.44	9.20%	$150,879.60	6.71%
		Consumables			$0.00	0.00%
		Waste Disposal			$0.00	0.00%
		Structure & Equipment Disposal			$0.00	0.00%
		Offloading			$0.00	0.00%
		Storage / Scrapping			$0.00	0.00%
		Reef Donation			$0.00	0.00%
		Cost of Engineering (8.00%)			$146,951.10	6.54%
		Total:	1526.91	100.00%	$2,247,878.73	100.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Resources Breakdown
HI A264 HIOS-B Flare (Ver 1)

Resource Used	Unit Cost		Cost	
Cargo Barge 300	$4,920.00	per Day per Barge	$78,720.00	3.50%
CB 300 & Tug	$980.00	per Hour per Barge/Tug	$189,571.20	8.43%
CB Damage Deduct	$20,000.00	per Cargo Barge	$20,000.00	0.89%
Decomm Platform	$0.00	Calculated from tables	$0.00	0.00%
Derrick Barge 2000	$7,000.00	per Hour per barge	$1,009,960.00	44.93%
Dive Basic Spread- Mixed Gas	$890.00	Per Hour	$84,443.20	3.76%
Expl Charge - Piling	$10,000.00	per Pile	$15,000.00	0.67%
Expl Technician	$95.00	per Hour	$4,801.30	0.21%
Helicopter Trips	$6,500.00	per Round Trip	$19,500.00	0.87%
Nets (Heavy Duty, Non-Repairable)	$5,000.00	ea	$15,000.00	0.67%
Nets (Heavy Duty, Repairable)	$2,600.00	ea	$20,800.00	0.93%
Nets (Non-Repairable)	$2,200.00	ea	$6,600.00	0.29%
Nets (Repairable)	$1,300.00	ea	$7,800.00	0.35%
NMFS Observers (2)	$126.00	per Hour	$7,168.14	0.32%
Pipeline Survey	$230.00	per Hour	$34,306.80	1.53%
Rig Up CB 300	$14,000.00	per Barge	$14,000.00	0.62%
Trawler	$416.00	per Hour	$274,917.70	12.23%
Work Boat	$500.00	per Hour	$34,300.00	1.53%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A264 HIOS-B Flare (Ver 1)

Task		Task Hours		Task Cost	
Fab Explosive Charges		0.00	0.00%	$15,000.00	0.67%
Expl Charge - Piling	$15,000.00				
Platform Removal Preparation		48.00	3.14%	$24,000.00	1.07%
Decomm Platform	$0.00				
Work Boat	$24,000.00				
Mobilize Work Boat		4.30	0.28%	$2,691.80	0.12%
Work Boat	$2,150.00				
NMFS Observers (2)	$541.80				
NMFS Marine Observation		12.00	0.79%	$7,512.00	0.33%
Work Boat	$6,000.00				
NMFS Observers (2)	$1,512.00				
Demob Work Boat		4.30	0.28%	$2,150.00	0.10%
Work Boat	$2,150.00				
Mobilize DB 2000		5.07	0.33%	$48,150.05	2.14%
Derrick Barge 2000	$35,490.00				
Dive Basic Spread- Mixed Gas	$4,512.30				
Pipeline Survey	$1,166.10				
Expl Technician	$481.65				
Helicopter Trips	$6,500.00				
Mobilize CB 300 & Tug		36.40	2.38%	$49,672.00	2.21%
CB 300 & Tug	$35,672.00				
Rig Up CB 300	$14,000.00				
Setup Derrick Barge		6.75	0.44%	$56,301.75	2.50%
Derrick Barge 2000	$47,250.00				
Dive Basic Spread- Mixed Gas	$6,007.50				
Pipeline Survey	$1,552.50				
NMFS Observers (2)	$850.50				
Expl Technician	$641.25				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A264 HIOS-B Flare (Ver 1)

Task		Task Hours		Task Cost	
Cut Deck/Equip/Misc		3.46	0.23%	$32,250.66	1.43%
CB 300 & Tug	$3,390.80				
Dive Basic Spread- Mixed Gas	$3,079.40				
Derrick Barge 2000	$24,220.00				
Expl Technician	$328.70				
Pipeline Survey	$795.80				
NMFS Observers (2)	$435.96				
Remove Equipment		1.50	0.10%	$13,981.50	0.62%
CB 300 & Tug	$1,470.00				
Dive Basic Spread- Mixed Gas	$1,335.00				
Derrick Barge 2000	$10,500.00				
Pipeline Survey	$345.00				
NMFS Observers (2)	$189.00				
Expl Technician	$142.50				
Remove Tripod Deck		3.00	0.20%	$27,963.00	1.24%
CB 300 & Tug	$2,940.00				
Dive Basic Spread- Mixed Gas	$2,670.00				
Derrick Barge 2000	$21,000.00				
Expl Technician	$285.00				
Pipeline Survey	$690.00				
NMFS Observers (2)	$378.00				
Jet/Airlift Pile Mud Plug		6.00	0.39%	$106,512.00	4.74%
CB 300 & Tug	$11,760.00				
Dive Basic Spread- Mixed Gas	$5,340.00				
Derrick Barge 2000	$84,000.00				
Expl Technician	$1,140.00				
Pipeline Survey	$2,760.00				
NMFS Observers (2)	$1,512.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A264 HIOS-B Flare (Ver 1)

Task		Task Hours		Task Cost	
Standby for Daylight Det.		**8.00**	**0.52%**	**$74,568.00**	**3.32%**
Derrick Barge 2000	$56,000.00				
Dive Basic Spread- Mixed Gas	$7,120.00				
CB 300 & Tug	$7,840.00				
Expl Technician	$760.00				
NMFS Observers (2)	$1,008.00				
Pipeline Survey	$1,840.00				
Pre/Post Detonat'n Survey		**1.00**	**0.07%**	**$15,821.00**	**0.70%**
CB 300 & Tug	$980.00				
Dive Basic Spread- Mixed Gas	$890.00				
Derrick Barge 2000	$7,000.00				
Expl Technician	$95.00				
Pipeline Survey	$230.00				
Helicopter Trips	$6,500.00				
NMFS Observers (2)	$126.00				
Sever Piles- Explosive		**4.88**	**0.32%**	**$47,072.48**	**2.09%**
CB 300 & Tug	$4,782.40				
Dive Basic Spread- Mixed Gas	$4,343.20				
Derrick Barge 2000	$34,160.00				
Expl Technician	$927.20				
Pipeline Survey	$2,244.80				
NMFS Observers (2)	$614.88				
Remove Jacket - Meth 3		**21.70**	**1.42%**	**$375,627.00**	**16.71%**
CB 300 & Tug	$42,532.00				
Dive Basic Spread- Mixed Gas	$19,313.00				
Derrick Barge 2000	$303,800.00				
Pipeline Survey	$9,982.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A264 HIOS-B Flare (Ver 1)

Task			Task Hours		Task Cost	
Remove Jacket - Meth 3			**21.70**	**1.42%**	**$375,627.00**	**16.71%**
	CB 300 & Tug	$42,532.00				
	Derrick Barge 2000	$303,800.00				
	Dive Basic Spread- Mixed Gas	$19,313.00				
	Pipeline Survey	$9,982.00				
Demob CB 300 & Tug			**36.40**	**2.38%**	**$35,672.00**	**1.59%**
	CB 300 & Tug	$35,672.00				
Pick Up DB Anchors			**6.75**	**0.44%**	**$54,810.00**	**2.44%**
	Dive Basic Spread- Mixed Gas	$6,007.50				
	Derrick Barge 2000	$47,250.00				
	Pipeline Survey	$1,552.50				
Demob DB 2000			**5.07**	**0.33%**	**$47,668.40**	**2.12%**
	Derrick Barge 2000	$35,490.00				
	Dive Basic Spread- Mixed Gas	$4,512.30				
	Pipeline Survey	$1,166.10				
	Helicopter Trips	$6,500.00				
Site Clearance - with Trawler			**260.29**	**.7.05%**	**$144,080.60**	**6.41%**
	Trawler	$108,280.60				
	Nets (Heavy Duty, Non-Repairable)	$15,000.00				
	Nets (Heavy Duty, Repairable)	$20,800.00				
Site Clearance Verify			**400.57**	**!6.23%**	**$181,037.09**	**8.05%**
	Trawler	$166,637.09				
	Nets (Non-Repairable)	$6,600.00				
	Nets (Repairable)	$7,800.00				
Offload CB 300			**384.00**	**!5.15%**	**$98,720.00**	**4.39%**
	Cargo Barge 300	$78,720.00				
	CB Damage Deduct	$20,000.00				
		Total	**1281.14**	**!3.90%**	**$1,836,888.33**	**81.72%**

HI A264 HIOS-B-CMP

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Salvage Option
HI A264 HIOS-B-CMP (Ver 1)

High Island Block A264 has five structures that are operated by Enterprise Products Partners L.P. The structures will be removed in one mobilization and demobilization of a 2000-ton derrick barge. All production equipment will be flushed and purged of any hydrocarbons. The equipment that will be removed by the derrick barge will be cut free of the platform.
Also the pipelines will be pigged, flushed, cleaned, plugged and left in-situ. (See #12 below.)

High Island A264 HIOS-B-CMP is a 10-pile Compressor Platform installed in 1979 in 152' water depth and bridge connected to the HI A264 HIOS-C-QTR platform and to the HI A264-B Flare structure. Since the platforms are bridge connected, one 48-hour turtle watch operation conducted by the National Marine Fisheries service will be needed. The top deck equipment, bridge and deck will be placed on a 240' x 72' cargo barge. The piles will be explosively severed, removed from the jacket and placed onto a 180' x 54' cargo barge. The jacket will be cut vertically underwater into two pieces. The first jacket section (4-pile) will be placed on a 240' x 72' cargo barge. The second jacket section (6-pile) will be placed on a separate 300' x 100' cargo barge. The decks, facilities and jacket will be taken to shore and scrapped. A 1,400 ft radius will be needed to clear the platform sites of any bottom debris.

This estimate is based on the following assumptions:

1. All decks and jackets and associated equipment are taken to shore and scrapped.
2. Removal Contractor is responsible for transport and disposal of decks, jackets, and associated equipment.
3. No salvage or resale value has been considered for the structure or equipment.
4. One derrick mobilization/demobilization cost is included for each block.
5. Mobilization times are estimated from the Eugene Island sea buoy.
6. No dockside mobilization or demobilization is included, construction barge spreads are assumed to be readily available in the Gulf of Mexico.
7. All work will be performed during the summer work season.
8. Allowances have been made for named tropical storm downtime.
9. The current guidelines for the use of explosives are assumed.
10. No allowances have been made for the presence of sea turtles or marine mammals.
11. All NORM, NOW, and industrial waste are removed from the platforms prior to decommissioning.
12. All pipelines are abandoned-in-place.
13. Tube Turns and 100' of pipeline are removed at each end of pipelines.
14. Tube Turns and pipelines are buried a minimum of 5ft. at the base of the platform.
15. All pipeline ends can be sealed using mechanical-type plugs. No provisions are made for more stringent environmental or safety regulations.
16. Site clearance and verification is in accordance with the latest NTL.

Enterprise Products Partners L.P.
Platform Salvage Option
HI A264 HIOS-B-CMP (Ver 1)

17. Hourly rates for construction and diving spreads are developed from offshore contractors published rates.
18. Engineering & Project Management cost 8% (company or other).
19. Work Contingency of 15% is included. This is work not currently itemized in our database, but is shown as necessary per actual removals in the Gulf of Mexico.
20. Weather allowance of 20%, consisting of 14% for regular weather and 6% for named tropical storms.

The following data will be assumed based on previous estimates developed and work experience:
Pile OD
Deck Weights
Jacket Weights
Grout Weights
Equipment Weights

Estimated Decommissioning Gross Cost =	$4,080,742
Estimated Decommissioning Net Cost =	$4,080,742

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Basic Information
HI A264 HIOS-B-CMP (Ver 1)

General Data

Platform:	HI A264 HIOS-B-CMP
Function:	COMPRESSOR
Type:	Steel
Water Depth:	152'
Pre 461H?:	Yes
Year Installed:	1979
Year Estimate Developed:	
District:	Gulf of Mexico
Lease Number:	
Account Code:	TSB - 29027
Amortization:	1.00
# Wells to P & A:	0
# Pipelines to Abandon:	0
Estimate Complete?:	Yes

Partner Data

	Partner	Working Intere
1	Enterprise Products Partners L.P.	100.00%

Estimated Costs

	Gross Cost	Net Cost
Platform Removal:	$4,080,742	$4,080,742
Well Plugging & Abandonment:	$0	$0
Pipeline Abandonment:	$0	$0
Total Decommissioning Cost:	$4,080,742	$4,080,742

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Information
HI A264 HIOS-B-CMP (Ver 1)

Pile/Tendon Data

	Number	Outside Diameter	Wall Thickness	Grout Annulus	Grout Internal	Depth Below
Main:	10	48"	1.5"	No	No	
Skirt/Braced	0			No	No	
Anchor:	0					
Dolphin:	0					

Deck Dimensions

	Dimensions	Elevation
Upper:	195X80	75
Middle:		
Lower:	99X214	53

Conductors

Number of Slots: 0
Number Installed: 0
Outside Diameter:
Wall Thickness:
Number Slanted: 0

Jacket Data

	Weight (Tons)	With Piles	With Piles & Grout
Submerged:			
Dry:	1518.00		

Jacket Installation Date:
Jacket Contractor:

Deck Data

Deck Lift Weight with Equipment: 1300 Tons
Number of Padeyes Required: 0
Deck Installation Date: 3/30/79
Deck Contractor:

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Information
HI A264 HIOS-B-CMP (Ver 1)

Equipment Lift Weights

Equipmen	Weight (Tons)
Compressor	200.00
Heliport	30.00

Members to be Cut Data

Top Members		Inderwater Members	
Size	Qty	Size	Qty
16.00	5.00	24.00	24.00

Cargo Descriptions

Cargo Barge Size	Cargo Description	
CB 240 x 72	Deck > 500T	Equipment
CB 180 x 54	Piles	
CB 240 x 72	Jkt > 700T	
CB 300 x 100	Jkt > 700T	

Miscellaneous Data

Derrick Barge Anchors:	8
Assist Derrick Barge Anchors:	0
Tow Distance:	0.00
Provision for Misc. Work%:	15.00%
Weather Contingency%:	20.00%
Engineering%:	8.00%

Miscellaneous Costs

Consumables:	$0.00
Waste Disposal:	$0.00
Structure & Equipment Disposal:	$0.00
Reef Donation:	$0.00
Cost of Engineering:	$244,944.31

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Comments
HI A264 HIOS-B-CMP (Ver 1)

Assumed the following:
Jacket Weights, Deck Weights, Pile Sizes, Equipment Weights, Deck(s) Sizes

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Task Information
HI A264 HIOS-B-CMP (Ver 1)

Task	Note	Contingency	Task Hours		Task Cost	
Fab Explosive Charges		☐	0.00	0.00%	$85,000.00	2.08%
Platform Removal Preparation		☐	168.00	8.11%	$168,000.00	4.12%
Mobilize Work Boat	Divided between the HIOS platforms in the field.	☐	4.30	0.21%	$2,691.80	0.07%
NMFS Marine Observation	Divided between the HIOS platforms in the field.	☐	12.00	0.58%	$7,512.00	0.18%
Demob Work Boat	Divided between the HIOS platforms in the field.	☐	4.30	0.21%	$2,150.00	0.05%
Mobilize DB 2000	Divided between the HIOS platforms in the field.	☐	5.07	0.24%	$48,150.05	1.18%
Mobilize CB 180 & Tug	Piles (shared with A-LIQ)	☐	18.20	0.88%	$18,010.00	0.44%
Mobilize CB 240 & Tug	Deck, Equipment & Bridge	☐	36.40	1.76%	$38,024.00	0.93%
Mobilize CB 240 & Tug	Jacket (4-Pile Section)	☐	36.40	1.76%	$38,024.00	0.93%
Mobilize CB 300 & Tug	Jacket (6-Pile Section	☐	36.40	1.76%	$49,672.00	1.22%
Setup Derrick Barge		☑	6.75	0.33%	$56,301.75	1.38%
Cut Deck/Equip/Misc		☑	4.64	0.22%	$41,764.64	1.02%
Remove Equipment		☑	3.00	0.14%	$27,003.00	0.66%
Remove 4 Pile Deck		☑	9.35	0.45%	$84,159.35	2.06%
Remove 6 Pile Deck		☑	9.35	0.45%	$84,159.35	2.06%
Demob CB 240 & Tug		☐	36.40	1.76%	$24,024.00	0.59%
Jet/Airlift Pile Mud Plug		☑	38.50	1.86%	$321,128.50	7.87%
Standby for Daylight Det.		☑	8.00	0.39%	$66,728.00	1.64%
Pre/Post Detonat'n Survey		☑	1.00	0.05%	$15,391.00	0.38%
Sever Piles- Explosive		☑	5.80	0.28%	$51,567.80	1.26%
Remove Piles from Jackt Legs		☑	21.94	1.06%	$190,219.80	4.66%
Demob CB 180 & Tug	Piles (shared with A-LIQ)	☐	18.20	0.88%	$10,010.00	0.25%
Cut Jacket		☑	56.94	2.75%	$499,933.20	12.25%
Install Closure Plates		☑	11.00	0.53%	$96,580.00	2.37%
Deballast Piles or Jkt Lg		☑	12.50	0.60%	$109,750.00	2.69%
Remove Jacket - Meth 3	4-Pile Jacket Section	☑	21.70	1.05%	$190,526.00	4.67%
Demob CB 240 & Tug		☐	36.40	1.76%	$24,024.00	0.59%
Remove Jacket - Meth 3	6-Pile Jacket Section	☑	21.70	1.05%	$197,470.00	4.84%
Demob CB 300 & Tug		☐	36.40	1.76%	$35,672.00	0.87%
Pick Up DB Anchors		☑	6.75	0.33%	$54,810.00	1.34%
Demob DB 2000	Divided between the HIOS platforms in the field.	☐	5.07	0.24%	$47,668.40	1.17%
Site Clearance - with Trawler	Divided between the HIOS platforms in the field.	☑	71.07	3.43%	$65,365.12	1.60%
Site Clearance Verify	Divided between the HIOS platforms in the field.	☑	106.14	5.12%	$58,554.24	1.43%
Offload CB 180	Piles (shared with A-LIQ)	☐	48.00	2.32%	$26,000.00	0.64%
Offload CB 240		☐	696.00	33.60%	$141,800.00	3.47%
Offload CB 300		☐	312.00	15.06%	$83,960.00	2.06%
		Task Total	1925.67	92.97%	$3,061,804.00	75.03%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Task Information
HI A264 HIOS-B-CMP (Ver 1)

Task	Note	Contingency	Task Hours		Task Cost	
		Misc. Work Provision (15.00%)	62.42	3.01%	$331,711.80	8.13%
		Weather Contingency (20.00%)	83.23	4.02%	$442,282.40	10.84%
		Consumables			$0.00	0.00%
		Waste Disposal			$0.00	0.00%
		Structure & Equipment Disposal			$0.00	0.00%
		Offloading			$0.00	0.00%
		Storage / Scrapping			$0.00	0.00%
		Reef Donation			$0.00	0.00%
		Cost of Engineering (8.00%)			$244,944.30	6.00%
		Total:	2071.32	100.00%	$4,080,742.50	100.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Resources Breakdown
HI A264 HIOS-B-CMP (Ver 1)

Resource Used	Unit Cost		Cost	
Cargo Barge 180	$3,000.00	per Day per Barge	$6,000.00	0.15%
Cargo Barge 240	$4,200.00	per Day per Barge	$121,800.00	2.98%
Cargo Barge 300	$4,920.00	per Day per Barge	$63,960.00	1.57%
CB 180 & Tug	$550.00	per Hour per Barge/Tug	$35,827.00	0.88%
CB 240 & Tug	$660.00	per Hour per Barge/Tug	$180,892.80	4.43%
CB 300 & Tug	$980.00	per Hour per Barge/Tug	$92,610.00	2.27%
CB Damage Deduct	$20,000.00	per Cargo Barge	$60,000.00	1.47%
Decomm Platform	$0.00	Calculated from tables	$84,000.00	2.06%
Derrick Barge 2000	$7,000.00	per Hour per barge	$1,743,420.00	42.72%
Dive Basic Spread- Mixed Gas	$890.00	Per Hour	$221,663.40	5.43%
Expl Charge - Piling	$10,000.00	per Pile	$85,000.00	2.08%
Expl Technician	$95.00	per Hour	$8,688.70	0.21%
Helicopter Trips	$6,500.00	per Round Trip	$19,500.00	0.48%
Nets (Heavy Duty, Non-Repairable)	$5,000.00	ea	$15,000.00	0.37%
Nets (Heavy Duty, Repairable)	$2,600.00	ea	$20,800.00	0.51%
Nets (Non-Repairable)	$2,200.00	ea	$6,600.00	0.16%
Nets (Repairable)	$1,300.00	ea	$7,800.00	0.19%
NMFS Observers (2)	$126.00	per Hour	$12,938.94	0.32%
Pipeline Survey	$230.00	per Hour	$57,283.80	1.40%
Rig Up CB 180	$8,000.00	per Barge	$8,000.00	0.20%
Rig Up CB 240	$14,000.00	per Barge	$28,000.00	0.69%
Rig Up CB 300	$14,000.00	per Barge	$14,000.00	0.34%
Trawler	$416.00	per Hour	$73,719.36	1.81%
Work Boat	$500.00	per Hour	$94,300.00	2.31%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A264 HIOS-B-CMP (Ver 1)

Task		Task Hours		Task Cost	
Fab Explosive Charges		**0.00**	**0.00%**	**$85,000.00**	**2.08%**
Expl Charge - Piling	$85,000.00				
Platform Removal Preparation		**168.00**	**8.11%**	**$168,000.00**	**4.12%**
Decomm Platform	$84,000.00				
Work Boat	$84,000.00				
Mobilize Work Boat		**4.30**	**0.21%**	**$2,691.80**	**0.07%**
Work Boat	$2,150.00				
NMFS Observers (2)	$541.80				
NMFS Marine Observation		**12.00**	**0.58%**	**$7,512.00**	**0.18%**
Work Boat	$6,000.00				
NMFS Observers (2)	$1,512.00				
Demob Work Boat		**4.30**	**0.21%**	**$2,150.00**	**0.05%**
Work Boat	$2,150.00				
Mobilize DB 2000		**5.07**	**0.24%**	**$48,150.05**	**1.18%**
Derrick Barge 2000	$35,490.00				
Dive Basic Spread- Mixed Gas	$4,512.30				
Pipeline Survey	$1,166.10				
Expl Technician	$481.65				
Helicopter Trips	$6,500.00				
Mobilize CB 180 & Tug		**18.20**	**0.88%**	**$18,010.00**	**0.44%**
CB 180 & Tug	$10,010.00				
Rig Up CB 180	$8,000.00				
Mobilize CB 240 & Tug		**36.40**	**1.76%**	**$38,024.00**	**0.93%**
CB 240 & Tug	$24,024.00				
Rig Up CB 240	$14,000.00				
Mobilize CB 240 & Tug		**36.40**	**1.76%**	**$38,024.00**	**0.93%**
CB 240 & Tug	$24,024.00				
Rig Up CB 240	$14,000.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A264 HIOS-B-CMP (Ver 1)

Task		Task Hours		Task Cost	
Mobilize CB 300 & Tug		**36.40**	**1.76%**	**$49,672.00**	**1.22%**
CB 300 & Tug	$35,672.00				
Rig Up CB 300	$14,000.00				
Setup Derrick Barge		**6.75**	**0.33%**	**$56,301.75**	**1.38%**
Derrick Barge 2000	$47,250.00				
Dive Basic Spread- Mixed Gas	$6,007.50				
Pipeline Survey	$1,552.50				
Expl Technician	$641.25				
NMFS Observers (2)	$850.50				
Cut Deck/Equip/Misc		**4.64**	**0.22%**	**$41,764.64**	**1.02%**
Derrick Barge 2000	$32,480.00				
Dive Basic Spread- Mixed Gas	$4,129.60				
Pipeline Survey	$1,067.20				
Expl Technician	$440.80				
NMFS Observers (2)	$584.64				
CB 240 & Tug	$3,062.40				
Remove Equipment		**3.00**	**0.14%**	**$27,003.00**	**0.66%**
Derrick Barge 2000	$21,000.00				
Dive Basic Spread- Mixed Gas	$2,670.00				
Pipeline Survey	$690.00				
Expl Technician	$285.00				
NMFS Observers (2)	$378.00				
CB 240 & Tug	$1,980.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A264 HIOS-B-CMP (Ver 1)

Task		Task Hours		Task Cost	
Remove 4 Pile Deck		**9.35**	**0.45%**	**$84,159.35**	**2.06%**
Derrick Barge 2000	$65,450.00				
Dive Basic Spread- Mixed Gas	$8,321.50				
Pipeline Survey	$2,150.50				
Expl Technician	$888.25				
NMFS Observers (2)	$1,178.10				
CB 240 & Tug	$6,171.00				
Remove 6 Pile Deck		**9.35**	**0.45%**	**$84,159.35**	**2.06%**
Derrick Barge 2000	$65,450.00				
Dive Basic Spread- Mixed Gas	$8,321.50				
Pipeline Survey	$2,150.50				
Expl Technician	$888.25				
NMFS Observers (2)	$1,178.10				
CB 240 & Tug	$6,171.00				
Demob CB 240 & Tug		**36.40**	**1.76%**	**$24,024.00**	**0.59%**
CB 240 & Tug	$24,024.00				
Jet/Airlift Pile Mud Plug		**38.50**	**1.86%**	**$321,128.50**	**7.87%**
Derrick Barge 2000	$269,500.00				
Dive Basic Spread- Mixed Gas	$34,265.00				
Pipeline Survey	$8,855.00				
Expl Technician	$3,657.50				
NMFS Observers (2)	$4,851.00				
Standby for Daylight Det.		**8.00**	**0.39%**	**$66,728.00**	**1.64%**
Derrick Barge 2000	$56,000.00				
Dive Basic Spread- Mixed Gas	$7,120.00				
Pipeline Survey	$1,840.00				
Expl Technician	$760.00				
NMFS Observers (2)	$1,008.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A264 HIOS-B-CMP (Ver 1)

Task		Task Hours		Task Cost	
Pre/Post Detonat'n Survey		1.00	0.05%	$15,391.00	0.38%
Derrick Barge 2000	$7,000.00				
Dive Basic Spread- Mixed Gas	$890.00				
Pipeline Survey	$230.00				
Expl Technician	$95.00				
NMFS Observers (2)	$126.00				
CB 180 & Tug	$550.00				
Helicopter Trips	$6,500.00				
Sever Piles- Explosive		5.80	0.28%	$51,567.80	1.26%
Derrick Barge 2000	$40,600.00				
Dive Basic Spread- Mixed Gas	$5,162.00				
Pipeline Survey	$1,334.00				
Expl Technician	$551.00				
NMFS Observers (2)	$730.80				
CB 180 & Tug	$3,190.00				
Remove Piles from Jackt Legs		21.94	1.06%	$190,219.80	4.66%
Derrick Barge 2000	$153,580.00				
Dive Basic Spread- Mixed Gas	$19,526.60				
Pipeline Survey	$5,046.20				
CB 180 & Tug	$12,067.00				
Demob CB 180 & Tug		18.20	0.88%	$10,010.00	0.25%
CB 180 & Tug	$10,010.00				
Cut Jacket		56.94	2.75%	$499,933.20	12.25%
Derrick Barge 2000	$398,580.00				
Dive Basic Spread- Mixed Gas	$50,676.60				
Pipeline Survey	$13,096.20				
CB 240 & Tug	$37,580.40				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A264 HIOS-B-CMP (Ver 1)

Task		Task Hours		Task Cost	
Install Closure Plates		**11.00**	**0.53%**	**$96,580.00**	**2.37%**
Derrick Barge 2000	$77,000.00				
Dive Basic Spread- Mixed Gas	$9,790.00				
Pipeline Survey	$2,530.00				
CB 240 & Tug	$7,260.00				
Deballast Piles or Jkt Lg		**12.50**	**0.60%**	**$109,750.00**	**2.69%**
Derrick Barge 2000	$87,500.00				
Dive Basic Spread- Mixed Gas	$11,125.00				
Pipeline Survey	$2,875.00				
CB 240 & Tug	$8,250.00				
Remove Jacket - Meth 3		**21.70**	**1.05%**	**$190,526.00**	**4.67%**
Derrick Barge 2000	$151,900.00				
Dive Basic Spread- Mixed Gas	$19,313.00				
Pipeline Survey	$4,991.00				
CB 240 & Tug	$14,322.00				
Demob CB 240 & Tug		**36.40**	**1.76%**	**$24,024.00**	**0.59%**
CB 240 & Tug	$24,024.00				
Remove Jacket - Meth 3		**21.70**	**1.05%**	**$197,470.00**	**4.84%**
Derrick Barge 2000	$151,900.00				
Dive Basic Spread- Mixed Gas	$19,313.00				
Pipeline Survey	$4,991.00				
CB 300 & Tug	$21,266.00				
Demob CB 300 & Tug		**36.40**	**1.76%**	**$35,672.00**	**0.87%**
CB 300 & Tug	$35,672.00				
Pick Up DB Anchors		**6.75**	**0.33%**	**$54,810.00**	**1.34%**
Derrick Barge 2000	$47,250.00				
Dive Basic Spread- Mixed Gas	$6,007.50				
Pipeline Survey	$1,552.50				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A264 HIOS-B-CMP (Ver 1)

Task		Task Hours		Task Cost	
Demob DB 2000		**5.07**	**0.24%**	**$47,668.40**	**1.17%**
Derrick Barge 2000	$35,490.00				
Dive Basic Spread- Mixed Gas	$4,512.30				
Pipeline Survey	$1,166.10				
Helicopter Trips	$6,500.00				
Site Clearance - with Trawler		**71.07**	**3.43%**	**$65,365.12**	**1.60%**
Trawler	$29,565.12				
Nets (Heavy Duty, Non-Repairable)	$15,000.00				
Nets (Heavy Duty, Repairable)	$20,800.00				
Site Clearance Verify		**106.14**	**5.12%**	**$58,554.24**	**1.43%**
Trawler	$44,154.24				
Nets (Non-Repairable)	$6,600.00				
Nets (Repairable)	$7,800.00				
Offload CB 180		**48.00**	**2.32%**	**$26,000.00**	**0.64%**
Cargo Barge 180	$6,000.00				
CB Damage Deduct	$20,000.00				
Offload CB 240		**696.00**	**3.60%**	**$141,800.00**	**3.47%**
Cargo Barge 240	$121,800.00				
CB Damage Deduct	$20,000.00				
Offload CB 300		**312.00**	**.5.06%**	**$83,960.00**	**2.06%**
Cargo Barge 300	$63,960.00				
CB Damage Deduct	$20,000.00				
	Total	**1925.67**	**2.97%**	**3,061,804.00**	**75.03%**

HI A264 HIOS-C QTRS

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Salvage Option
HI A264 HIOS-C QTRS (Ver 1)

High Island Block A264 has five structures that are operated by Enterprise Products Partners L.P. The structures will be removed in one mobilization and demobilization of a 2000-ton derrick barge. All production equipment will be flushed and purged of any hydrocarbons. The equipment that will be removed by the derrick barge will be cut free of the platform.
Also the pipelines will be pigged, flushed, cleaned, plugged and left in-situ. (See #12 below.)

High Island A264 HIOS-C QTRS is an 4-pile Quarters platform installed in 1979 in 152' water depth and bridge connected to the HI A264 HIOS-B Comp platform and HI A264-A-LIQ Platform. Since the A, B and C platforms are bridge connected, one 48-hour turtle watch operation conducted by the National Marine Fisheries service will be needed. The quarters, deck, bridge and jacket will be placed on a 240x 70' cargo barge. The piles will be explosively severed. The decks, facilities, piles and jacket sections will be taken to shore and scrapped. A 1,400 ft radius will be needed to clear the platform sites of any bottom debris.

This estimate is based on the following assumptions:

1. All decks and jackets and associated equipment are taken to shore and scrapped.
2. Removal Contractor is responsible for transport and disposal of decks, jackets, and associated equipment.
3. No salvage or resale value has been considered for the structure or equipment.
4. One derrick mobilization/demobilization cost is included for each block.
5. Mobilization times are estimated from the Eugene Island sea buoy.
6. No dockside mobilization or demobilization is included, construction barge spreads are assumed to be readily available in the Gulf of Mexico.
7. All work will be performed during the summer work season.
8. Allowances have been made for named tropical storm downtime.
9. The current guidelines for the use of explosives are assumed.
10. No allowances have been made for the presence of sea turtles or marine mammals.
11. All NORM, NOW, and industrial waste are removed from the platforms prior to decommissioning.
12. All pipelines are abandoned-in-place.
13. Tube Turns and 100' of pipeline are removed at each end of pipelines.
14. Tube Turns and pipelines are buried a minimum of 5ft. at the base of the platform.
15. All pipeline ends can be sealed using mechanical-type plugs. No provisions are made for more stringent environmental or safety regulations.
16. Site clearance and verification is in accordance with the latest NTL.
17. Hourly rates for construction and diving spreads are developed from offshore contractors published rates.
18. Engineering & Project Management cost 8% (company or other).

Enterprise Products Partners L.P.
Platform Salvage Option
HI A264 HIOS-C QTRS (Ver 1)

19. Work Contingency of 15% is included. This is work not currently itemized in our database, but is shown as necessary per actual removals in the Gulf of Mexico.
20. Weather allowance of 20%, consisting of 14% for regular weather and 6% for named tropical storms.

The following data will be assumed based on previous estimates developed and work experience:
Pile OD
Deck Weights
Jacket Weights
Grout Weights
Equipment Weights

Estimated Decommissioning Gross Cost =	$1,572,391
Estimated Decommissioning Net Cost =	$1,572,391

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Basic Information
HI A264 HIOS-C QTRS (Ver 1)

General Data

Platform:	HI A264 HIOS-C QTRS
Function:	QUARTERS
Type:	Steel
Water Depth:	152'
Pre 461H?:	Yes
Year Installed:	1979
Year Estimate Developed:	
District:	Gulf of Mexico
Lease Number:	
Account Code:	TSB - 29027
Amortization:	1.00
# Wells to P & A:	0
# Pipelines to Abandon:	0
Estimate Complete?:	Yes

Partner Data

	Partner	Working Intere
1	Enterprise Products Partners L.P.	100.00%

Estimated Costs

	Gross Cost	Net Cost
Platform Removal:	$1,572,391	$1,572,391
Well Plugging & Abandonment:	$0	$0
Pipeline Abandonment:	$0	$0
Total Decommissioning Cost:	$1,572,391	$1,572,391

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Information
HI A264 HIOS-C QTRS (Ver 1)

Pile/Tendon Data

	Number	Outside Diameter	Wall Thickness	Grout Annulus	Grout Internal	Depth Below
Main:	4	36"	1.5"	No	No	
Skirt/Braced	0			No	No	
Anchor:	0					
Dolphin:	0					

Deck Dimensions

	Dimensions	Elevation
Upper:	50X50	73
Middle:		
Lower:	40X40	53

Conductors

Number of Slots:	0
Number Installed:	0
Outside Diameter:	
Wall Thickness:	
Number Slanted:	0

Jacket Data

	Weight (Tons)	With Piles	With Piles & Grout
Submerged:			
Dry:	600.00		

Jacket Installation Date:

Jacket Contractor:

Deck Data

Deck Lift Weight with Equipment: 300 Tons

Number of Padeyes Required: 0

Deck Installation Date:

Deck Contractor:

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Information
HI A264 HIOS-C QTRS (Ver 1)

Equipment Lift Weights

Equipmen	Weight (Tons)
Heliport	30.00
Quarters Package	120.00

Members to be Cut Data

Inderwater Member:	
Size	Qty

Cargo Descriptions

Cargo Barge Size	Cargo Description			
CB 240 x 72	Deck 100-500T	Equipment	Bridge	Jkt 300-700T

Miscellaneous Data

Derrick Barge Anchors:	8
Assist Derrick Barge Anchors:	0
Tow Distance:	0.00
Provision for Misc. Work%:	15.00%
Weather Contingency%:	20.00%
Engineering%:	8.00%

Miscellaneous Costs

Consumables:	$0.00
Waste Disposal:	$0.00
Structure & Equipment Disposal:	$0.00
Reef Donation:	$0.00
Cost of Engineering:	$94,976.12

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Comments
HI A264 HIOS-C QTRS (Ver 1)

Assumed the following:
Jacket Weights, Deck Weights, Pile Sizes, Equipment Weights

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Task Information
HI A264 HIOS-C QTRS (Ver 1)

Task	Note	Contingency	Task Hours		Task Cost	
Fab Explosive Charges		☐	0.00	0.00%	$10,000.00	0.64%
Platform Removal Preparation		☐	96.00	9.58%	$78,000.00	4.96%
Mobilize Work Boat	Divided between the HIOS platforms in the field.	☐	4.30	0.43%	$2,691.80	0.17%
NMFS Marine Observation	Divided between the HIOS platforms in the field.	☐	12.00	1.20%	$7,512.00	0.48%
Demob Work Boat	Divided between the HIOS platforms in the field.	☐	4.30	0.43%	$2,150.00	0.14%
Mobilize DB 2000	Divided between the HIOS platforms in the field.	☐	5.07	0.51%	$48,150.05	3.06%
Mobilize CB 240 & Tug		☐	36.40	3.63%	$38,024.00	2.42%
Setup Derrick Barge		☑	6.75	0.67%	$56,301.75	3.58%
Cut Deck/Equip/Misc		☑	3.85	0.38%	$34,653.85	2.20%
Remove Equipment		☑	3.00	0.30%	$27,003.00	1.72%
Remove 4 Pile Deck		☑	9.35	0.93%	$84,159.35	5.35%
Jet/Airlift Pile Mud Plug		☑	16.00	1.60%	$144,016.00	9.16%
Standby for Daylight Det.		☑	8.00	0.80%	$72,008.00	4.58%
Pre/Post Detonat'n Survey		☑	1.00	0.10%	$15,501.00	0.99%
Sever Piles- Explosive		☑	2.92	0.29%	$26,282.92	1.67%
Remove Jacket - Meth 3		☑	21.70	2.17%	$190,526.00	12.12%
Demob CB 240 & Tug		☐	36.40	3.63%	$24,024.00	1.53%
Pick Up DB Anchors		☑	6.75	0.67%	$54,810.00	3.49%
Demob DB 2000	Divided between the HIOS platforms in the field.	☐	5.07	0.51%	$47,668.40	3.03%
Site Clearance - with Trawler	Divided between the HIOS platforms in the field.	☑	71.07	7.09%	$65,365.12	4.16%
Site Clearance Verify	Divided between the HIOS platforms in the field.	☑	106.14	10.59%	$58,554.24	3.72%
Offload CB 240		☐	456.00	45.52%	$99,800.00	6.35%
		Task Total	912.07	91.04%	$1,187,201.48	75.50%
		Misc. Work Provision (15.00%)	38.48	3.84%	$124,377.20	7.91%
		Weather Contingency (20.00%)	51.31	5.12%	$165,836.30	10.55%
		Consumables			$0.00	0.00%
		Waste Disposal			$0.00	0.00%
		Structure & Equipment Disposal			$0.00	0.00%
		Offloading			$0.00	0.00%
		Storage / Scrapping			$0.00	0.00%
		Reef Donation			$0.00	0.00%
		Cost of Engineering (8.00%)			$94,976.12	6.04%
		Total:	1001.86	100.00%	$1,572,391.10	100.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Resources Breakdown
HI A264 HIOS-C QTRS (Ver 1)

Resource Used	Unit Cost		Cost	
Cargo Barge 240	$4,200.00	per Day per Barge	$79,800.00	5.08%
CB 240 & Tug	$660.00	per Hour per Barge/Tug	$91,489.20	5.82%
CB Damage Deduct	$20,000.00	per Cargo Barge	$20,000.00	1.27%
Decomm Platform	$0.00	Calculated from tables	$30,000.00	1.91%
Derrick Barge 2000	$7,000.00	per Hour per barge	$626,220.00	39.83%
Dive Basic Spread- Mixed Gas	$890.00	Per Hour	$79,619.40	5.06%
Expl Charge - Piling	$10,000.00	per Pile	$10,000.00	0.64%
Expl Technician	$95.00	per Hour	$5,314.30	0.34%
Helicopter Trips	$6,500.00	per Round Trip	$19,500.00	1.24%
Nets (Heavy Duty, Non-Repairable)	$5,000.00	ea	$15,000.00	0.95%
Nets (Heavy Duty, Repairable)	$2,600.00	ea	$20,800.00	1.32%
Nets (Non-Repairable)	$2,200.00	ea	$6,600.00	0.42%
Nets (Repairable)	$1,300.00	ea	$7,800.00	0.50%
NMFS Observers (2)	$126.00	per Hour	$8,463.42	0.54%
Pipeline Survey	$230.00	per Hour	$20,575.80	1.31%
Rig Up CB 240	$14,000.00	per Barge	$14,000.00	0.89%
Trawler	$416.00	per Hour	$73,719.36	4.69%
Work Boat	$500.00	per Hour	$58,300.00	3.71%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A264 HIOS-C QTRS (Ver 1)

Task		Task Hours		Task Cost	
Fab Explosive Charges		0.00	0.00%	$10,000.00	0.64%
Expl Charge - Piling	$10,000.00				
Platform Removal Preparation		96.00	9.58%	$78,000.00	4.96%
Decomm Platform	$30,000.00				
Work Boat	$48,000.00				
Mobilize Work Boat		4.30	0.43%	$2,691.80	0.17%
Work Boat	$2,150.00				
NMFS Observers (2)	$541.80				
NMFS Marine Observation		12.00	1.20%	$7,512.00	0.48%
Work Boat	$6,000.00				
NMFS Observers (2)	$1,512.00				
Demob Work Boat		4.30	0.43%	$2,150.00	0.14%
Work Boat	$2,150.00				
Mobilize DB 2000		5.07	0.51%	$48,150.05	3.06%
Derrick Barge 2000	$35,490.00				
Dive Basic Spread- Mixed Gas	$4,512.30				
Pipeline Survey	$1,166.10				
Expl Technician	$481.65				
Helicopter Trips	$6,500.00				
Mobilize CB 240 & Tug		36.40	3.63%	$38,024.00	2.42%
CB 240 & Tug	$24,024.00				
Rig Up CB 240	$14,000.00				
Setup Derrick Barge		6.75	0.67%	$56,301.75	3.58%
Derrick Barge 2000	$47,250.00				
Dive Basic Spread- Mixed Gas	$6,007.50				
Pipeline Survey	$1,552.50				
Expl Technician	$641.25				
NMFS Observers (2)	$850.50				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A264 HIOS-C QTRS (Ver 1)

Task		Task Hours		Task Cost	
Cut Deck/Equip/Misc		**3.85**	**0.38%**	**$34,653.85**	**2.20%**
Derrick Barge 2000	$26,950.00				
Dive Basic Spread- Mixed Gas	$3,426.50				
Pipeline Survey	$885.50				
Expl Technician	$365.75				
NMFS Observers (2)	$485.10				
CB 240 & Tug	$2,541.00				
Remove Equipment		**3.00**	**0.30%**	**$27,003.00**	**1.72%**
Derrick Barge 2000	$21,000.00				
Dive Basic Spread- Mixed Gas	$2,670.00				
Pipeline Survey	$690.00				
Expl Technician	$285.00				
NMFS Observers (2)	$378.00				
CB 240 & Tug	$1,980.00				
Remove 4 Pile Deck		**9.35**	**0.93%**	**$84,159.35**	**5.35%**
Derrick Barge 2000	$65,450.00				
Dive Basic Spread- Mixed Gas	$8,321.50				
Pipeline Survey	$2,150.50				
Expl Technician	$888.25				
NMFS Observers (2)	$1,178.10				
CB 240 & Tug	$6,171.00				
Jet/Airlift Pile Mud Plug		**16.00**	**1.60%**	**$144,016.00**	**9.16%**
Derrick Barge 2000	$112,000.00				
Dive Basic Spread- Mixed Gas	$14,240.00				
Pipeline Survey	$3,680.00				
Expl Technician	$1,520.00				
NMFS Observers (2)	$2,016.00				
CB 240 & Tug	$10,560.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A264 HIOS-C QTRS (Ver 1)

Task		Task Hours		Task Cost	
Standby for Daylight Det.		**8.00**	**0.80%**	**$72,008.00**	**4.58%**
Derrick Barge 2000	$56,000.00				
Dive Basic Spread- Mixed Gas	$7,120.00				
Pipeline Survey	$1,840.00				
Expl Technician	$760.00				
NMFS Observers (2)	$1,008.00				
CB 240 & Tug	$5,280.00				
Pre/Post Detonat'n Survey		**1.00**	**0.10%**	**$15,501.00**	**0.99%**
Derrick Barge 2000	$7,000.00				
Dive Basic Spread- Mixed Gas	$890.00				
Pipeline Survey	$230.00				
Expl Technician	$95.00				
NMFS Observers (2)	$126.00				
CB 240 & Tug	$660.00				
Helicopter Trips	$6,500.00				
Sever Piles- Explosive		**2.92**	**0.29%**	**$26,282.92**	**1.67%**
Derrick Barge 2000	$20,440.00				
Dive Basic Spread- Mixed Gas	$2,598.80				
Pipeline Survey	$671.60				
Expl Technician	$277.40				
NMFS Observers (2)	$367.92				
CB 240 & Tug	$1,927.20				
Remove Jacket - Meth 3		**21.70**	**2.17%**	**$190,526.00**	**12.12%**
Derrick Barge 2000	$151,900.00				
Dive Basic Spread- Mixed Gas	$19,313.00				
Pipeline Survey	$4,991.00				
CB 240 & Tug	$14,322.00				
Demob CB 240 & Tug		**36.40**	**3.63%**	**$24,024.00**	**1.53%**
CB 240 & Tug	$24,024.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A264 HIOS-C QTRS (Ver 1)

Task			Task Hours		Task Cost	
Pick Up DB Anchors			**6.75**	**0.67%**	**$54,810.00**	**3.49%**
	Derrick Barge 2000	$47,250.00				
	Dive Basic Spread- Mixed Gas	$6,007.50				
	Pipeline Survey	$1,552.50				
Demob DB 2000			**5.07**	**0.51%**	**$47,668.40**	**3.03%**
	Derrick Barge 2000	$35,490.00				
	Dive Basic Spread- Mixed Gas	$4,512.30				
	Pipeline Survey	$1,166.10				
	Helicopter Trips	$6,500.00				
Site Clearance - with Trawler			**71.07**	**7.09%**	**$65,365.12**	**4.16%**
	Trawler	$29,565.12				
	Nets (Heavy Duty, Non-Repairable)	$15,000.00				
	Nets (Heavy Duty, Repairable)	$20,800.00				
Site Clearance Verify			**106.14**	**.0.59%**	**$58,554.24**	**3.72%**
	Trawler	$44,154.24				
	Nets (Non-Repairable)	$6,600.00				
	Nets (Repairable)	$7,800.00				
Offload CB 240			**456.00**	**15.52%**	**$99,800.00**	**6.35%**
	Cargo Barge 240	$79,800.00				
	CB Damage Deduct	$20,000.00				
		Total	**912.07**	**)1.04%**	**$1,187,201.48**	**75.50%**

HI A330 HIOS

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Salvage Option
HI A330 HIOS (Ver 1)

High Island Block A330 has 1 structure that is operated by Enterprise Products Partners L.P. The structure will be removed in one mobilization and demobilization of a 2000-ton derrick barge. All production equipment will be flushed and purged of any hydrocarbons. The equipment that will be removed by the derrick barge will be cut free of the platform.
Also the pipelines will be pigged, flushed, cleaned, plugged and left in-situ. (See #12 below.)

High Island A330 HIOS is a 4-pile Manifold platform installed in 1979 in 255' water depth. A 48-hour turtle watch operation conducted by the National Marine Fisheries service will be needed. The deck equipment and deck will be placed on a 180' x 54' cargo barge. The piles will be explosively severed, removed from the jacket, cut in half and placed on a 180' x 54' cargo barge. The jacket will be placed on a 300' x 100' cargo barge. The deck, facilities, piles and jacket will be taken to shore and scrapped. A 1,320 ft radius will be needed to clear site of any bottom debris.

This estimate is based on the following assumptions:

1. All decks and jackets and associated equipment are taken to shore and scrapped.
2. Removal Contractor is responsible for transport and disposal of decks, jackets, and associated equipment.
3. No salvage or resale value has been considered for the structure or equipment.
4. One derrick mobilization/demobilization cost is included for each block.
5. Mobilization times are estimated from the Eugene Island sea buoy.
6. No dockside mobilization or demobilization is included, construction barge spreads are assumed to be readily available in the Gulf of Mexico.
7. All work will be performed during the summer work season.
8. Allowances have been made for named tropical storm downtime.
9. The current guidelines for the use of explosives are assumed.
10. No allowances have been made for the presence of sea turtles or marine mammals.
11. All NORM, NOW, and industrial waste are removed from the platforms prior to decommissioning.
12. All pipelines are abandoned-in-place.
13. Tube Turns and 100' of pipeline are removed at each end of pipelines.
14. Tube Turns and pipelines are buried a minimum of 5ft. at the base of the platform.
15. All pipeline ends can be sealed using mechanical-type plugs. No provisions are made for more stringent environmental or safety regulations.
16. Site clearance and verification is in accordance with the latest NTL.
17. Hourly rates for construction and diving spreads are developed from offshore contractors published rates.
18. Engineering & Project Management cost 8% (company or other).
19. Work Contingency of 15% is included. This is work not currently itemized in our

Enterprise Products Partners L.P.
Platform Salvage Option
HI A330 HIOS (Ver 1)

database, but is shown as necessary per actual removals in the Gulf of Mexico.
20. Weather allowance of 20%, consisting of 14% for regular weather and 6% for named tropical storms.

The following data will be assumed based on previous estimates developed and work experience:
Pile OD
Deck Weights
Jacket Weights
Grout Weights
Equipment Weights

Estimated Decommissioning Gross Cost = $5,043,946

Estimated Decommissioning Net Cost = $3,123,586

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Basic Information
HI A330 HIOS (Ver 1)

General Data

Platform:	HI A330 HIOS
Function:	DRILL/MANIFOLD
Type:	Steel
Water Depth:	255'
Pre 461H?:	Yes
Year Installed:	1979
Year Estimate Developed:	
District:	Gulf of Mexico
Lease Number:	
Account Code:	TSB - 29027
Amortization:	1.00
# Wells to P & A:	0
# Pipelines to Abandon:	1
Estimate Complete?:	Yes

Partner Data

Partner	Working Intere
Enterprise Products Partners L.P.	50% PLTF & 100.00% PL

Estimated Costs

	Gross Cost	Net Cost
Platform Removal:	$3,840,721	$1,920,361
Well Plugging & Abandonment:	$0	$0
Pipeline Abandonment:	$1,203,225	$1,203,225
Total Decommissioning Cost:	$5,043,946	$3,123,586

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Information
HI A330 HIOS (Ver 1)

Pile/Tendon Data

	Number	Outside Diameter	Wall Thickness	Grout Annulus	Grout Internal	Depth Below
Main:	4	48"	1.5"	No	No	
Skirt/Braced	0			No	No	
Anchor:	0					
Dolphin:	0					

Deck Dimensions

	Dimensions	Elevation
Upper:	41X41	67
Middle:		
Lower:	70x70	48

Conductors

Number of Slots:	0
Number Installed:	0
Outside Diameter:	
Wall Thickness:	
Number Slanted:	0

Jacket Data

	Weight (Tons)	With Piles	With Piles & Grout
Submerged:			
Dry:	1100.00		

Jacket Installation Date:

Jacket Contractor:

Deck Data

Deck Lift Weight with Equipment:	300 Tons
Number of Padeyes Required:	0
Deck Installation Date:	3/3/79
Deck Contractor:	

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Information
HI A330 HIOS (Ver 1)

Equipment Lift Weights

Equipmen	Weight (Tons)
Equipment Package 1	150.00
Equipment Package 2	150.00
Heliport	30.00

Members to be Cut Data

Inderwater Member:

Size	Qty

Cargo Descriptions

Cargo Barge Size	Cargo Description	
CB 180 x 54	Deck 100-500T	Equipment
CB 180 x 54	Piles	
CB 300 x 100	Jkt > 700T	

Miscellaneous Data

Derrick Barge Anchors:	8
Assist Derrick Barge Anchors:	0
Tow Distance:	15.00
Provision for Misc. Work%:	15.00%
Weather Contingency%:	20.00%
Engineering%:	8.00%

Miscellaneous Costs

Consumables:	$0.00
Waste Disposal:	$0.00
Structure & Equipment Disposal:	$0.00
Reef Donation:	$0.00
Cost of Engineering:	$240,955.98

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Comments
HI A330 HIOS (Ver 1)

Assumed the following:
Jacket Weights, Deck Weights, Pile Sizes, Equipment Weights

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Task Information
HI A330 HIOS (Ver 1)

Task	Note	Contingency	Task Hours		Task Cost	
Fab Explosive Charges		☐	0.00	0.00%	$34,000.00	0.89%
Platform Removal Preparation		☐	504.00	19.99%	$504,000.00	13.12%
Mobilize Work Boat		☐	17.10	0.68%	$10,704.60	0.28%
NMFS Marine Observation		☐	48.00	1.90%	$30,048.00	0.78%
Demob Work Boat		☐	17.10	0.68%	$8,550.00	0.22%
Mobilize DB 2000		☐	20.14	0.80%	$217,768.60	5.67%
Mobilize CB 180 & Tug	Deck and Equipment	☐	36.20	1.44%	$27,910.00	0.73%
Mobilize CB 180 & Tug	Piles (Cut in half)	☐	36.20	1.44%	$27,910.00	0.73%
Mobilize CB 300 & Tug	Jacket	☐	36.20	1.44%	$49,476.00	1.29%
Setup Derrick Barge		☑	6.75	0.27%	$71,658.00	1.87%
Cut Deck/Equip/Misc		☑	4.64	0.18%	$51,810.24	1.35%
Remove Equipment		☑	5.00	0.20%	$55,830.00	1.45%
Remove 4 Pile Deck		☑	9.35	0.37%	$104,402.10	2.72%
Demob CB 180 & Tug		☐	36.20	1.44%	$19,910.00	0.52%
Jet/Airlift Pile Mud Plug		☑	16.00	0.63%	$178,656.00	4.65%
Standby for Daylight Det.		☑	8.00	0.32%	$89,328.00	2.33%
Pre/Post Detonat'n Survey		☑	1.00	0.04%	$17,666.00	0.46%
Sever Piles- Explosive		☑	2.92	0.12%	$32,604.72	0.85%
Remove Piles from Jackt Legs		☑	27.06	1.07%	$296,171.70	7.71%
Demob CB 180 & Tug		☐	36.20	1.44%	$19,910.00	0.52%
Install Closure Plates		☑	5.00	0.20%	$54,725.00	1.42%
Deballast Piles or Jkt Lg		☑	5.00	0.20%	$54,725.00	1.42%
Remove Jacket - Meth 3		☑	21.70	0.86%	$246,837.50	6.43%
Demob CB 300 & Tug		☐	36.20	1.44%	$35,476.00	0.92%
Pick Up DB Anchors		☑	6.75	0.27%	$70,166.25	1.83%
Demob DB 2000		☐	20.14	0.80%	$215,855.30	5.62%
Site Clearance - with Trawler		☑	284.14	11.27%	$154,002.30	4.01%
Site Clearance Verify		☑	448.29	17.78%	$200,888.59	5.23%
Offload CB 180		☐	216.00	8.57%	$47,000.00	1.22%
Offload CB 300		☐	312.00	12.37%	$83,960.00	2.19%
		Task Total	2223.28	88.18%	$3,011,949.90	78.42%
		Misc. Work Provision (15.00%)	127.74	5.07%	$251,920.70	6.56%
		Weather Contingency (20.00%)	170.32	6.76%	$335,894.30	8.75%
		Consumables			$0.00	0.00%
		Waste Disposal			$0.00	0.00%
		Structure & Equipment Disposal			$0.00	0.00%
		Offloading			$0.00	0.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Task Information
HI A330 HIOS (Ver 1)

Task	Note	Contingency	Task Hours		Task Cost	
		Storage / Scrapping			$0.00	0.00%
		Reef Donation			$0.00	0.00%
		Cost of Engineering (8.00%)			$240,956.00	6.27%
		Total:	2521.34	100.00%	$3,840,720.90	100.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Resources Breakdown
HI A330 HIOS (Ver 1)

Resource Used	Unit Cost		Cost	
Cargo Barge 180	$3,000.00	per Day per Barge	$27,000.00	0.70%
Cargo Barge 300	$4,920.00	per Day per Barge	$63,960.00	1.67%
CB 180 & Tug	$550.00	per Hour per Barge/Tug	$125,823.50	3.28%
CB 300 & Tug	$980.00	per Hour per Barge/Tug	$92,218.00	2.40%
CB Damage Deduct	$20,000.00	per Cargo Barge	$40,000.00	1.04%
Decomm Platform	$0.00	Calculated from tables	$252,000.00	6.56%
Derrick Barge 2000	$7,000.00	per Hour per barge	$1,116,150.00	29.06%
Dive Basic Spread Saturation	$3,165.00	Per Hour	$504,659.25	13.14%
Expl Charge - Piling	$10,000.00	per Pile	$34,000.00	0.89%
Expl Technician	$95.00	per Hour	$7,011.00	0.18%
Helicopter Trips	$6,500.00	per Round Trip	$19,500.00	0.51%
Nets (Heavy Duty, Non-Repairable)	$5,000.00	ea	$15,000.00	0.39%
Nets (Heavy Duty, Repairable)	$2,600.00	ea	$20,800.00	0.54%
Nets (Non-Repairable)	$2,200.00	ea	$6,600.00	0.17%
Nets (Repairable)	$1,300.00	ea	$7,800.00	0.20%
NMFS Observers (2)	$126.00	per Hour	$14,963.76	0.39%
Pipeline Survey	$230.00	per Hour	$36,673.50	0.95%
Rig Up CB 180	$8,000.00	per Barge	$16,000.00	0.42%
Rig Up CB 300	$14,000.00	per Barge	$14,000.00	0.36%
Trawler	$416.00	per Hour	$304,690.89	7.93%
Work Boat	$500.00	per Hour	$293,100.00	7.63%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A330 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Fab Explosive Charges		**0.00**	**0.00%**	**$34,000.00**	**0.89%**
Expl Charge - Piling	$34,000.00				
Platform Removal Preparation		**504.00**	**.9.99%**	**$504,000.00**	**13.12%**
Decomm Platform	$252,000.00				
Work Boat	$252,000.00				
Mobilize Work Boat		**17.10**	**0.68%**	**$10,704.60**	**0.28%**
Work Boat	$8,550.00				
NMFS Observers (2)	$2,154.60				
NMFS Marine Observation		**48.00**	**1.90%**	**$30,048.00**	**0.78%**
Work Boat	$24,000.00				
NMFS Observers (2)	$6,048.00				
Demob Work Boat		**17.10**	**0.68%**	**$8,550.00**	**0.22%**
Work Boat	$8,550.00				
Mobilize DB 2000		**20.14**	**0.80%**	**$217,768.60**	**5.67%**
Derrick Barge 2000	$140,980.00				
Dive Basic Spread Saturation	$63,743.10				
Pipeline Survey	$4,632.20				
Expl Technician	$1,913.30				
Helicopter Trips	$6,500.00				
Mobilize CB 180 & Tug		**36.20**	**1.44%**	**$27,910.00**	**0.73%**
CB 180 & Tug	$19,910.00				
Rig Up CB 180	$8,000.00				
Mobilize CB 180 & Tug		**36.20**	**1.44%**	**$27,910.00**	**0.73%**
CB 180 & Tug	$19,910.00				
Rig Up CB 180	$8,000.00				
Mobilize CB 300 & Tug		**36.20**	**1.44%**	**$49,476.00**	**1.29%**
CB 300 & Tug	$35,476.00				
Rig Up CB 300	$14,000.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A330 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Setup Derrick Barge		**6.75**	**0.27%**	**$71,658.00**	**1.87%**
Derrick Barge 2000	$47,250.00				
Dive Basic Spread Saturation	$21,363.75				
Pipeline Survey	$1,552.50				
Expl Technician	$641.25				
NMFS Observers (2)	$850.50				
Cut Deck/Equip/Misc		**4.64**	**0.18%**	**$51,810.24**	**1.35%**
Derrick Barge 2000	$32,480.00				
Dive Basic Spread Saturation	$14,685.60				
Pipeline Survey	$1,067.20				
Expl Technician	$440.80				
NMFS Observers (2)	$584.64				
CB 180 & Tug	$2,552.00				
Remove Equipment		**5.00**	**0.20%**	**$55,830.00**	**1.45%**
Derrick Barge 2000	$35,000.00				
Dive Basic Spread Saturation	$15,825.00				
Pipeline Survey	$1,150.00				
Expl Technician	$475.00				
NMFS Observers (2)	$630.00				
CB 180 & Tug	$2,750.00				
Remove 4 Pile Deck		**9.35**	**0.37%**	**$104,402.10**	**2.72%**
Derrick Barge 2000	$65,450.00				
Dive Basic Spread Saturation	$29,592.75				
Pipeline Survey	$2,150.50				
Expl Technician	$888.25				
NMFS Observers (2)	$1,178.10				
CB 180 & Tug	$5,142.50				
Demob CB 180 & Tug		**36.20**	**1.44%**	**$19,910.00**	**0.52%**
CB 180 & Tug	$19,910.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A330 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Jet/Airlift Pile Mud Plug		**16.00**	**0.63%**	**$178,656.00**	**4.65%**
Derrick Barge 2000	$112,000.00				
Dive Basic Spread Saturation	$50,640.00				
Pipeline Survey	$3,680.00				
Expl Technician	$1,520.00				
NMFS Observers (2)	$2,016.00				
CB 180 & Tug	$8,800.00				
Standby for Daylight Det.		**8.00**	**0.32%**	**$89,328.00**	**2.33%**
Derrick Barge 2000	$56,000.00				
Dive Basic Spread Saturation	$25,320.00				
Pipeline Survey	$1,840.00				
Expl Technician	$760.00				
NMFS Observers (2)	$1,008.00				
CB 180 & Tug	$4,400.00				
Pre/Post Detonat'n Survey		**1.00**	**0.04%**	**$17,666.00**	**0.46%**
Derrick Barge 2000	$7,000.00				
Dive Basic Spread Saturation	$3,165.00				
Pipeline Survey	$230.00				
Expl Technician	$95.00				
NMFS Observers (2)	$126.00				
Helicopter Trips	$6,500.00				
CB 180 & Tug	$550.00				
Sever Piles- Explosive		**2.92**	**0.12%**	**$32,604.72**	**0.85%**
Derrick Barge 2000	$20,440.00				
Dive Basic Spread Saturation	$9,241.80				
Pipeline Survey	$671.60				
Expl Technician	$277.40				
NMFS Observers (2)	$367.92				
CB 180 & Tug	$1,606.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A330 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Remove Piles from Jackt Legs		**27.06**	**1.07%**	**$296,171.70**	**7.71%**
Derrick Barge 2000	$189,420.00				
Dive Basic Spread Saturation	$85,644.90				
Pipeline Survey	$6,223.80				
CB 180 & Tug	$14,883.00				
Demob CB 180 & Tug		**36.20**	**1.44%**	**$19,910.00**	**0.52%**
CB 180 & Tug	$19,910.00				
Install Closure Plates		**5.00**	**0.20%**	**$54,725.00**	**1.42%**
Derrick Barge 2000	$35,000.00				
Dive Basic Spread Saturation	$15,825.00				
Pipeline Survey	$1,150.00				
CB 180 & Tug	$2,750.00				
Deballast Piles or Jkt Lg		**5.00**	**0.20%**	**$54,725.00**	**1.42%**
Derrick Barge 2000	$35,000.00				
Dive Basic Spread Saturation	$15,825.00				
Pipeline Survey	$1,150.00				
CB 180 & Tug	$2,750.00				
Remove Jacket - Meth 3		**21.70**	**0.86%**	**$246,837.50**	**6.43%**
Derrick Barge 2000	$151,900.00				
Dive Basic Spread Saturation	$68,680.50				
Pipeline Survey	$4,991.00				
CB 300 & Tug	$21,266.00				
Demob CB 300 & Tug		**36.20**	**1.44%**	**$35,476.00**	**0.92%**
CB 300 & Tug	$35,476.00				
Pick Up DB Anchors		**6.75**	**0.27%**	**$70,166.25**	**1.83%**
Derrick Barge 2000	$47,250.00				
Dive Basic Spread Saturation	$21,363.75				
Pipeline Survey	$1,552.50				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A330 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Demob DB 2000		**20.14**	**0.80%**	**$215,855.30**	**5.62%**
Derrick Barge 2000	$140,980.00				
Dive Basic Spread Saturation	$63,743.10				
Pipeline Survey	$4,632.20				
Helicopter Trips	$6,500.00				
Site Clearance - with Trawler		**284.14**	**.1.27%**	**$154,002.30**	**4.01%**
Trawler	$118,202.30				
Nets (Heavy Duty, Non-Repairable)	$15,000.00				
Nets (Heavy Duty, Repairable)	$20,800.00				
Site Clearance Verify		**448.29**	**.7.78%**	**$200,888.59**	**5.23%**
Trawler	$186,488.59				
Nets (Non-Repairable)	$6,600.00				
Nets (Repairable)	$7,800.00				
Offload CB 180		**216.00**	**8.57%**	**$47,000.00**	**1.22%**
Cargo Barge 180	$27,000.00				
CB Damage Deduct	$20,000.00				
Offload CB 300		**312.00**	**.2.37%**	**$83,960.00**	**2.19%**
Cargo Barge 300	$63,960.00				
CB Damage Deduct	$20,000.00				
	Total	**2223.28**	**8.18%**	**$3,011,949.90**	**78.42%**

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Information
HI A330 HIOS (Ver1) Segment#:4087

General Data

Water Depth:	255'
Origin / Terminus:	Origin
Opposite End Name:	HIA 343 H
Opposite End Water Depth:	235'
Pipeline Operator:	Enterprise Products Partners L.
Provision for Misc. Work%:	15.00%
Weather Contingency %:	20.00%

Pipeline Data

Outside Diameter:	30"	Wall Thickness:		Length:	77513'
Depth of Burial:		# Crossings:		Product:	Gas/Cond
Installation Date:		Weight Coating:	No	J Tube:	No
Riser?:	No	Riser Guard?:	No		

Comments

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Task Information
HI A330 HIOS (Ver 1) Segment#:4087

Task	Note	Contingency	Task Hours		Task Cost	
Mobilize Work Boat		☑	17.10	5.52%	$11,893.05	0.99%
Rig Up Decomm Equipment		☑	5.00	1.61%	$3,477.50	0.29%
Pig & Flush Pipeline		☑	50.19	16.19%	$34,907.14	2.90%
Derig Decomm Equipment		☑	2.00	0.65%	$1,391.00	0.12%
Demob Work Boat		☑	17.10	5.52%	$11,893.05	0.99%
Mobilize Dive Boat		☐	17.10	5.52%	$71,435.25	5.94%
Set Up Dive Boat		☑	3.00	0.97%	$12,532.50	1.04%
Expose Pipeline		☑	9.10	2.94%	$38,015.25	3.16%
Cut & Plug Pipeline	Cut pipeline 100' from platform	☑	9.10	2.94%	$38,015.25	3.16%
Cut Pipeline Riser		☑	6.07	1.96%	$25,357.43	2.11%
Remove Tube Turn		☑	6.07	1.96%	$25,357.43	2.11%
Bury Pipeline		☑	6.07	1.96%	$25,357.43	2.11%
Pick Up Dive Boat Anchors		☑	3.00	0.97%	$12,532.50	1.04%
Mobilize Dive Boat	Mobilize Dive Boat to other end.	☑	1.28	0.41%	$5,347.20	0.44%
Set Up Dive Boat		☑	3.00	0.97%	$12,532.50	1.04%
Expose Pipeline		☑	9.10	2.94%	$38,015.25	3.16%
Cut & Plug Pipeline	Cut pipeline 100' from platform	☑	9.10	2.94%	$38,015.25	3.16%
Cut Pipeline Riser		☑	6.07	1.96%	$25,357.43	2.11%
Remove Tube Turn		☑	6.07	1.96%	$25,357.43	2.11%
Bury Pipeline		☑	6.07	1.96%	$25,357.43	2.11%
Demob Dive Boat		☐	17.10	5.52%	$71,435.25	5.94%
Demob P/L Removal Spread	Mobilize platform removal derrick barge to other end of pipeline	☑	1.82	0.59%	$19,701.50	1.64%
Remove Pipeline	Remove Tube Turns & 100' of pipeline at each end	☑	28.00	9.03%	$303,100.00	25.19%
		Task Total	238.51	76.93%	$876,384.02	72.84%
		Misc. Work Provision (15.00%)	30.65	9.89%	$110,027.03	9.14%
		her Contingency (20.00%)	40.86	13.18%	$146,702.71	12.19%
		Consumables			$0.00	0.00%
		Waste Disposal			$0.00	0.00%
		Structure & Equipment Disposal			$0.00	0.00%
		Offloading			$0.00	0.00%
		Storage / Scrapping			$0.00	0.00%
		Reef Donation			$0.00	0.00%
		Cost of Engineering (8.00%)			$70,110.72	5.83%
		Total:	310.02	100.00%	$1,203,224.48	100.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Resources Breakdown
HI A330 HIOS (Ver 1) Segment#:4087

Resource Used	Unit Cost		Cost	
CB 240 & Tug	$660.00	per Hour per Barge/Tug	$19,681.20	1.65%
DB 2000	$7,000.00	per Hour per Barge	$208,740.00	17.51%
Decommissioning Crew	$0.00	Calculated from tables	$23,477.65	1.97%
Dive Basic Spread Saturation	$3,165.00	Per Hour	$465,634.80	39.07%
Dive Boat	$900.00	Calculated from tables	$105,570.00	8.86%
Manual Calculation	$0.00	Independently Calculated	$0.00	0.00%
Work Boat	$583.00	per Hour	$53,280.37	4.47%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown
HI A330 HIOS (Ver 1) Segment#:4087

Task		Task Hours		Task Cost	
Mobilize Work Boat		**17.10**	**5.52%**	**$11,893.05**	**1.00%**
Work Boat	$9,969.30				
Decommissioning Crew	$1,923.75				
Rig Up Decomm Equipment		**5.00**	**1.61%**	**$3,477.50**	**0.29%**
Work Boat	$2,915.00				
Decommissioning Crew	$562.50				
Pig & Flush Pipeline		**50.19**	**16.19%**	**$34,907.14**	**2.93%**
Work Boat	$29,260.77				
Decommissioning Crew	$5,646.37				
Derig Decomm Equipment		**2.00**	**0.65%**	**$1,391.00**	**0.12%**
Work Boat	$1,166.00				
Decommissioning Crew	$225.00				
Demob Work Boat		**17.10**	**5.52%**	**$11,893.05**	**1.00%**
Work Boat	$9,969.30				
Decommissioning Crew	$1,923.75				
Mobilize Dive Boat		**17.10**	**5.52%**	**$71,435.25**	**5.99%**
Dive Boat	$15,390.00				
Dive Basic Spread Saturation	$54,121.50				
Decommissioning Crew	$1,923.75				
Set Up Dive Boat		**3.00**	**0.97%**	**$12,532.50**	**1.05%**
Dive Boat	$2,700.00				
Dive Basic Spread Saturation	$9,495.00				
Decommissioning Crew	$337.50				
Expose Pipeline		**9.10**	**2.94%**	**$38,015.25**	**3.19%**
Dive Boat	$8,190.00				
Dive Basic Spread Saturation	$28,801.50				
Decommissioning Crew	$1,023.75				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown

Cut & Plug Pipeline		**9.10**	**2.94%**	**$38,015.25**	**3.19%**
Dive Boat	$8,190.00				
Dive Basic Spread Saturation	$28,801.50				
Decommissioning Crew	$1,023.75				
Cut Pipeline Riser		**6.07**	**1.96%**	**$25,357.43**	**2.13%**
Dive Boat	$5,463.00				
Dive Basic Spread Saturation	$19,211.55				
Decommissioning Crew	$682.88				
Remove Tube Turn		**6.07**	**1.96%**	**$25,357.43**	**2.13%**
Dive Boat	$5,463.00				
Dive Basic Spread Saturation	$19,211.55				
Decommissioning Crew	$682.88				
Manual Calculation	$0.00				
Bury Pipeline		**6.07**	**1.96%**	**$25,357.43**	**2.13%**
Dive Boat	$5,463.00				
Dive Basic Spread Saturation	$19,211.55				
Decommissioning Crew	$682.88				
Pick Up Dive Boat Anchors		**3.00**	**0.97%**	**$12,532.50**	**1.05%**
Dive Boat	$2,700.00				
Dive Basic Spread Saturation	$9,495.00				
Decommissioning Crew	$337.50				
Mobilize Dive Boat		**1.28**	**0.41%**	**$5,347.20**	**0.45%**
Dive Boat	$1,152.00				
Dive Basic Spread Saturation	$4,051.20				
Decommissioning Crew	$144.00				
Set Up Dive Boat		**3.00**	**0.97%**	**$12,532.50**	**1.05%**
Dive Boat	$2,700.00				
Dive Basic Spread Saturation	$9,495.00				
Decommissioning Crew	$337.50				
Expose Pipeline		**9.10**	**2.94%**	**$38,015.25**	**3.19%**
Dive Boat	$8,190.00				
Dive Basic Spread Saturation	$28,801.50				
Decommissioning Crew	$1,023.75				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown

Cut & Plug Pipeline		**9.10**	**2.94%**	**$38,015.25**	**3.19%**
Dive Boat	$8,190.00				
Dive Basic Spread Saturation	$28,801.50				
Decommissioning Crew	$1,023.75				
Cut Pipeline Riser		**6.07**	**1.96%**	**$25,357.43**	**2.13%**
Dive Boat	$5,463.00				
Dive Basic Spread Saturation	$19,211.55				
Decommissioning Crew	$682.88				
Remove Tube Turn		**6.07**	**1.96%**	**$25,357.43**	**2.13%**
Dive Boat	$5,463.00				
Dive Basic Spread Saturation	$19,211.55				
Decommissioning Crew	$682.88				
Bury Pipeline		**6.07**	**1.96%**	**$25,357.43**	**2.13%**
Dive Boat	$5,463.00				
Dive Basic Spread Saturation	$19,211.55				
Decommissioning Crew	$682.88				
Demob Dive Boat		**17.10**	**5.52%**	**$71,435.25**	**5.99%**
Dive Boat	$15,390.00				
Dive Basic Spread Saturation	$54,121.50				
Decommissioning Crew	$1,923.75				
Demob P/L Removal Spread		**1.82**	**0.59%**	**$19,701.50**	**1.65%**
DB 2000	$12,740.00				
Dive Basic Spread Saturation	$5,760.30				
CB 240 & Tug	$1,201.20				
Remove Pipeline		**28.00**	**9.03%**	**$303,100.00**	**25.43%**
DB 2000	$196,000.00				
Dive Basic Spread Saturation	$88,620.00				
CB 240 & Tug	$18,480.00				
	Total	**238.51**	**76.93%**	**$876,384.02**	**73.53%**

HI A343 HIOS

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Salvage Option
HI A343 HIOS (Ver 1)

High Island Block A343 has 1 structure that is operated by Enterprise Products Partners L.P. The structure will be removed in one mobilization and demobilization of a 2000-ton derrick barge. All production equipment will be flushed and purged of any hydrocarbons. The equipment that will be removed by the derrick barge will be cut free of the platform. Also the pipelines will be pigged, flushed, cleaned, plugged and left in-situ. (See #12 below.)

High Island A343 HIOS is a 4-pile Manifold platform installed in 1979 in 235' water depth. A 48-hour turtle watch operation conducted by the National Marine Fisheries service will be needed. The equipment and deck will be placed on a 180' x 54' cargo barge. The piles will be explosively severed, removed from the jacket, cut in half and placed on a 180' x 54' cargo barge. The jacket will be placed on a 240' x 72' cargo barge. The deck, facilities, piles and jacket will be taken to shore and scrapped. A 1,320 ft radius will be needed to clear site of any bottom debris.

This estimate is based on the following assumptions:

1. All decks and jackets and associated equipment are taken to shore and scrapped.
2. Removal Contractor is responsible for transport and disposal of decks, jackets, and associated equipment.
3. No salvage or resale value has been considered for the structure or equipment.
4. One derrick mobilization/demobilization cost is included for each block.
5. Mobilization times are estimated from the Eugene Island sea buoy.
6. No dockside mobilization or demobilization is included, construction barge spreads are assumed to be readily available in the Gulf of Mexico.
7. All work will be performed during the summer work season.
8. Allowances have been made for named tropical storm downtime.
9. The current guidelines for the use of explosives are assumed.
10. No allowances have been made for the presence of sea turtles or marine mammals.
11. All NORM, NOW, and industrial waste are removed from the platforms prior to decommissioning.
12. All pipelines are abandoned-in-place.
13. Tube Turns and 100' of pipeline are removed at each end of pipelines.
14. Tube Turns and pipelines are buried a minimum of 5ft. at the base of the platform.
15. All pipeline ends can be sealed using mechanical-type plugs. No provisions are made for more stringent environmental or safety regulations.
16. Site clearance and verification is in accordance with the latest NTL.
17. Hourly rates for construction and diving spreads are developed from offshore contractors published rates.
18. Engineering & Project Management cost 8% (company or other).
19. Work Contingency of 15% is included. This is work not currently itemized in our database, but is shown as necessary per actual removals in the Gulf of Mexico.

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Salvage Option
HI A343 HIOS (Ver 1)

20. Weather allowance of 20%, consisting of 14% for regular weather and 6% for named tropical storms.

The following data will be assumed based on previous estimates developed and work experience:
Pile OD
Deck Weights
Jacket Weights
Grout Weights
Equipment Weights

Estimated Decommissioning Gross Cost =	$4,855,650
Estimated Decommissioning Net Cost =	$4,855,650

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Basic Information
HI A343 HIOS (Ver 1)

General Data

Platform:	HI A343 HIOS
Function:	DRILL/MANIFOLD
Type:	Steel
Water Depth:	235'
Pre 461H?:	Yes
Year Installed:	1979
Year Estimate Developed:	
District:	Gulf of Mexico
Lease Number:	
Account Code:	TSB - 29027
Amortization:	1.00
# Wells to P & A:	0
# Pipelines to Abandon:	1
Estimate Complete?:	Yes

Partner Data

	Partner	Working Intere
1	Enterprise Products Partners L.P.	100.00%

Estimated Costs

	Gross Cost	Net Cost
Platform Removal:	$3,605,454	$3,605,454
Well Plugging & Abandonment:	$0	$0
Pipeline Abandonment:	$1,250,196	$1,250,196
Total Decommissioning Cost:	$4,855,650	$4,855,650

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Information
HI A343 HIOS (Ver 1)

Pile/Tendon Data

	Number	Outside Diameter	Wall Thickness	Grout Annulus	Grout Internal	Depth Below
Main:	4	48"	1.5"	No	No	
Skirt/Braced	0			No	No	
Anchor:	0					
Dolphin:	0					

Deck Dimensions

	Dimensions	Elevation
Upper:	70X70	70
Middle:		
Lower:		

Conductors

Number of Slots:	0
Number Installed:	0
Outside Diameter:	
Wall Thickness:	
Number Slanted:	0

Jacket Data

	Weight (Tons)	With Piles	With Piles & Grout
Submerged:			
Dry:	800.00		

Jacket Installation Date:

Jacket Contractor:

Deck Data

Deck Lift Weight with Equipment:	550 Tons
Number of Padeyes Required:	0
Deck Installation Date:	3/30/79
Deck Contractor:	

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Information
HI A343 HIOS (Ver 1)

Equipment Lift Weights

Equipmen	Weight (Tons)
Heliport	20.00

Members to be Cut Data

Inderwater Members	
Size	Qty

Cargo Descriptions

Cargo Barge Size	Cargo Description	
CB 180 x 54	Deck 100-500T	Equipment
CB 180 x 54	Piles	
CB 240 x 72	Jkt > 700T	

Miscellaneous Data

Derrick Barge Anchors:	8
Assist Derrick Barge Anchors:	0
Tow Distance:	4.00
Provision for Misc. Work%:	15.00%
Weather Contingency%:	20.00%
Engineering%:	8.00%

Miscellaneous Costs

Consumables:	$0.00
Waste Disposal:	$0.00
Structure & Equipment Disposal:	$0.00
Reef Donation:	$0.00
Cost of Engineering:	$228,052.52

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Comments
HI A343 HIOS (Ver 1)

Assumed the following:
Jacket Weights, Deck Weights, Pile Sizes, Equipment Weights

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Task Information
HI A343 HIOS (Ver 1)

Task	Note	Contingency	Task Hours		Task Cost	
Fab Explosive Charges		☐	0.00	0.00%	$34,000.00	0.94%
Platform Removal Preparation		☐	504.00	20.19%	$504,000.00	13.98%
Mobilize Work Boat		☐	18.30	0.73%	$11,455.80	0.32%
NMFS Marine Observation		☐	48.00	1.92%	$30,048.00	0.83%
Demob Work Boat		☐	18.30	0.73%	$9,150.00	0.25%
Mobilize DB 2000		☐	21.86	0.88%	$235,811.40	6.54%
Mobilize CB 180 & Tug	Deck and Equipment	☐	38.60	1.55%	$29,230.00	0.81%
Mobilize CB 180 & Tug	Piles (Cut in half)	☐	38.60	1.55%	$29,230.00	0.81%
Mobilize CB 240 & Tug	Jacket	☐	38.60	1.55%	$39,476.00	1.09%
Setup Derrick Barge		☑	6.75	0.27%	$71,658.00	1.99%
Cut Deck/Equip/Misc		☑	4.64	0.19%	$51,810.24	1.44%
Remove Equipment		☑	0.50	0.02%	$5,583.00	0.15%
Remove 4 Pile Deck		☑	9.35	0.37%	$104,402.10	2.90%
Demob CB 180 & Tug		☐	38.60	1.55%	$21,230.00	0.59%
Standby for Daylight Det.		☑	8.00	0.32%	$89,328.00	2.48%
Jet/Airlift Pile Mud Plug		☑	16.00	0.64%	$178,656.00	4.96%
Pre/Post Detonat'n Survey		☑	1.00	0.04%	$17,666.00	0.49%
Sever Piles- Explosive		☑	2.92	0.12%	$32,604.72	0.90%
Remove Piles from Jackt Legs		☑	27.06	1.08%	$296,171.70	8.21%
Demob CB 180 & Tug		☐	38.60	1.55%	$21,230.00	0.59%
Remove Jacket - Meth 3		☑	21.70	0.87%	$239,893.50	6.65%
Demob CB 240 & Tug		☐	38.60	1.55%	$25,476.00	0.71%
Pick Up DB Anchors		☑	6.75	0.27%	$70,166.25	1.95%
Demob DB 2000		☐	21.86	0.88%	$233,734.70	6.48%
Site Clearance - with Trawler		☑	285.86	11.45%	$154,717.80	4.29%
Site Clearance Verify		☑	427.71	17.13%	$192,327.41	5.33%
Offload CB 180		☐	216.00	8.65%	$47,000.00	1.30%
Offload CB 240		☐	312.00	12.50%	$74,600.00	2.07%
		Task Total	2210.16	88.53%	$2,850,656.61	79.07%
		Misc. Work Provision (15.00%)	122.74	4.92%	$225,747.70	6.26%
		Weather Contingency (20.00%)	163.65	6.56%	$300,996.90	8.35%
		Consumables			$0.00	0.00%
		Waste Disposal			$0.00	0.00%
		Structure & Equipment Disposal			$0.00	0.00%
		Offloading			$0.00	0.00%
		Storage / Scrapping			$0.00	0.00%
		Reef Donation			$0.00	0.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Task Information
HI A343 HIOS (Ver 1)

Task	Note	Contingency	Task Hours		Task Cost	
		Cost of Engineering (8.00%)			$228,052.50	6.33%
		Total:	2496.55	100.00%	$3,605,453.71	100.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Resources Breakdown
HI A343 HIOS (Ver 1)

Resource Used	Unit Cost		Cost	
Cargo Barge 180	$3,000.00	per Day per Barge	$27,000.00	0.75%
Cargo Barge 240	$4,200.00	per Day per Barge	$54,600.00	1.51%
CB 180 & Tug	$550.00	per Hour per Barge/Tug	$123,128.50	3.42%
CB 240 & Tug	$660.00	per Hour per Barge/Tug	$65,274.00	1.81%
CB Damage Deduct	$20,000.00	per Cargo Barge	$40,000.00	1.11%
Decomm Platform	$0.00	Calculated from tables	$252,000.00	6.99%
Derrick Barge 2000	$7,000.00	per Hour per barge	$1,038,730.00	28.81%
Dive Basic Spread Saturation	$3,165.00	Per Hour	$469,654.34	13.03%
Expl Charge - Piling	$10,000.00	per Pile	$34,000.00	0.94%
Expl Technician	$95.00	per Hour	$6,746.90	0.19%
Helicopter Trips	$6,500.00	per Round Trip	$19,500.00	0.54%
Nets (Heavy Duty, Non-Repairable)	$5,000.00	ea	$15,000.00	0.42%
Nets (Heavy Duty, Repairable)	$2,600.00	ea	$20,800.00	0.58%
Nets (Non-Repairable)	$2,200.00	ea	$6,600.00	0.18%
Nets (Repairable)	$1,300.00	ea	$7,800.00	0.22%
NMFS Observers (2)	$126.00	per Hour	$14,547.96	0.40%
Pipeline Survey	$230.00	per Hour	$34,129.70	0.95%
Rig Up CB 180	$8,000.00	per Barge	$16,000.00	0.44%
Rig Up CB 240	$14,000.00	per Barge	$14,000.00	0.39%
Trawler	$416.00	per Hour	$296,845.20	8.23%
Work Boat	$500.00	per Hour	$294,300.00	8.16%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A343 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Fab Explosive Charges		**0.00**	**0.00%**	**$34,000.00**	**0.94%**
Expl Charge - Piling	$34,000.00				
Platform Removal Preparation		**504.00**	**20.19%**	**$504,000.00**	**13.98%**
Decomm Platform	$252,000.00				
Work Boat	$252,000.00				
Mobilize Work Boat		**18.30**	**0.73%**	**$11,455.80**	**0.32%**
Work Boat	$9,150.00				
NMFS Observers (2)	$2,305.80				
NMFS Marine Observation		**48.00**	**1.92%**	**$30,048.00**	**0.83%**
Work Boat	$24,000.00				
NMFS Observers (2)	$6,048.00				
Demob Work Boat		**18.30**	**0.73%**	**$9,150.00**	**0.25%**
Work Boat	$9,150.00				
Mobilize DB 2000		**21.86**	**0.88%**	**$235,811.40**	**6.54%**
Derrick Barge 2000	$153,020.00				
Dive Basic Spread Saturation	$69,186.90				
Pipeline Survey	$5,027.80				
Expl Technician	$2,076.70				
Helicopter Trips	$6,500.00				
Mobilize CB 180 & Tug		**38.60**	**1.55%**	**$29,230.00**	**0.81%**
CB 180 & Tug	$21,230.00				
Rig Up CB 180	$8,000.00				
Mobilize CB 180 & Tug		**38.60**	**1.55%**	**$29,230.00**	**0.81%**
CB 180 & Tug	$21,230.00				
Rig Up CB 180	$8,000.00				
Mobilize CB 240 & Tug		**38.60**	**1.55%**	**$39,476.00**	**1.09%**
CB 240 & Tug	$25,476.00				
Rig Up CB 240	$14,000.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A343 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Setup Derrick Barge		6.75	0.27%	$71,658.00	1.99%
Derrick Barge 2000	$47,250.00				
Dive Basic Spread Saturation	$21,363.75				
Pipeline Survey	$1,552.50				
Expl Technician	$641.25				
NMFS Observers (2)	$850.50				
Cut Deck/Equip/Misc		4.64	0.19%	$51,810.24	1.44%
Derrick Barge 2000	$32,480.00				
Dive Basic Spread Saturation	$14,685.60				
Pipeline Survey	$1,067.20				
Expl Technician	$440.80				
NMFS Observers (2)	$584.64				
CB 180 & Tug	$2,552.00				
Remove Equipment		0.50	0.02%	$5,583.00	0.15%
Derrick Barge 2000	$3,500.00				
Dive Basic Spread Saturation	$1,582.50				
Pipeline Survey	$115.00				
Expl Technician	$47.50				
NMFS Observers (2)	$63.00				
CB 180 & Tug	$275.00				
Remove 4 Pile Deck		9.35	0.37%	$104,402.10	2.90%
Derrick Barge 2000	$65,450.00				
Dive Basic Spread Saturation	$29,592.75				
Pipeline Survey	$2,150.50				
Expl Technician	$888.25				
NMFS Observers (2)	$1,178.10				
CB 180 & Tug	$5,142.50				
Demob CB 180 & Tug		38.60	1.55%	$21,230.00	0.59%
CB 180 & Tug	$21,230.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A343 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Standby for Daylight Det.		**8.00**	**0.32%**	**$89,328.00**	**2.48%**
Derrick Barge 2000	$56,000.00				
Dive Basic Spread Saturation	$25,320.00				
Pipeline Survey	$1,840.00				
Expl Technician	$760.00				
NMFS Observers (2)	$1,008.00				
CB 180 & Tug	$4,400.00				
Jet/Airlift Pile Mud Plug		**16.00**	**0.64%**	**$178,656.00**	**4.96%**
Derrick Barge 2000	$112,000.00				
Dive Basic Spread Saturation	$50,640.00				
Pipeline Survey	$3,680.00				
Expl Technician	$1,520.00				
NMFS Observers (2)	$2,016.00				
CB 180 & Tug	$8,800.00				
Pre/Post Detonat'n Survey		**1.00**	**0.04%**	**$17,666.00**	**0.49%**
Derrick Barge 2000	$7,000.00				
Dive Basic Spread Saturation	$3,165.00				
Pipeline Survey	$230.00				
Expl Technician	$95.00				
NMFS Observers (2)	$126.00				
CB 180 & Tug	$550.00				
Helicopter Trips	$6,500.00				
Sever Piles- Explosive		**2.92**	**0.12%**	**$32,604.72**	**0.90%**
Derrick Barge 2000	$20,440.00				
Dive Basic Spread Saturation	$9,241.80				
Pipeline Survey	$671.60				
Expl Technician	$277.40				
NMFS Observers (2)	$367.92				
CB 180 & Tug	$1,606.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A343 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Remove Piles from Jackt Legs		**27.06**	**1.08%**	**$296,171.70**	**8.21%**
Derrick Barge 2000	$189,420.00				
Dive Basic Spread Saturation	$85,644.90				
Pipeline Survey	$6,223.80				
CB 180 & Tug	$14,883.00				
Demob CB 180 & Tug		**38.60**	**1.55%**	**$21,230.00**	**0.59%**
CB 180 & Tug	$21,230.00				
Remove Jacket - Meth 3		**21.70**	**0.87%**	**$239,893.50**	**6.65%**
Derrick Barge 2000	$151,900.00				
Dive Basic Spread Saturation	$68,680.50				
Pipeline Survey	$4,991.00				
CB 240 & Tug	$14,322.00				
Demob CB 240 & Tug		**38.60**	**1.55%**	**$25,476.00**	**0.71%**
CB 240 & Tug	$25,476.00				
Pick Up DB Anchors		**6.75**	**0.27%**	**$70,166.25**	**1.95%**
Derrick Barge 2000	$47,250.00				
Dive Basic Spread Saturation	$21,363.75				
Pipeline Survey	$1,552.50				
Demob DB 2000		**21.86**	**0.88%**	**$233,734.70**	**6.48%**
Derrick Barge 2000	$153,020.00				
Dive Basic Spread Saturation	$69,186.90				
Pipeline Survey	$5,027.80				
Helicopter Trips	$6,500.00				
Site Clearance - with Trawler		**285.86**	**.1.45%**	**$154,717.80**	**4.29%**
Trawler	$118,917.80				
Nets (Heavy Duty, Non-Repairable)	$15,000.00				
Nets (Heavy Duty, Repairable)	$20,800.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A343 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Site Clearance Verify		**427.71**	**.7.13%**	**$192,327.41**	**5.33%**
Trawler	$177,927.41				
Nets (Non-Repairable)	$6,600.00				
Nets (Repairable)	$7,800.00				
Offload CB 180		**216.00**	**8.65%**	**$47,000.00**	**1.30%**
Cargo Barge 180	$27,000.00				
CB Damage Deduct	$20,000.00				
Offload CB 240		**312.00**	**.2.50%**	**$74,600.00**	**2.07%**
Cargo Barge 240	$54,600.00				
CB Damage Deduct	$20,000.00				
	Total	**2210.16**	**18.53%**	**$2,850,656.61**	**79.07%**

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Information
HI A343 HIOS (Ver1) Segment#:4088

General Data

Water Depth:	235'
Origin / Terminus:	Origin
Opposite End Name:	HI A264 A
Opposite End Water Depth:	152'
Pipeline Operator:	Enterprise Products Partners L.
Provision for Misc. Work%:	15.00%
Weather Contingency %:	20.00%

Pipeline Data

Outside Diameter:	36"	Wall Thickness:		Length:	138125'
Depth of Burial:		# Crossings:		Product:	Gas/Cond
Installation Date:		Weight Coating:	No	J Tube:	No
Riser?:	No	Riser Guard?:	No		

Comments

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Task Information
HI A343 HIOS (Ver 1) Segment#:4088

Task	Note	Contingency	Task Hours		Task Cost	
Mobilize Work Boat		☑	18.30	4.54%	$12,727.65	1.02%
Rig Up Decomm Equipment		☑	5.00	1.24%	$3,477.50	0.28%
Pig & Flush Pipeline		☑	123.68	30.70%	$86,019.44	6.88%
Derig Decomm Equipment		☑	2.00	0.50%	$1,391.00	0.11%
Demob Work Boat		☑	18.30	4.54%	$12,727.65	1.02%
Mobilize Dive Boat		☐	18.30	4.54%	$76,448.25	6.11%
Set Up Dive Boat		☑	3.00	0.74%	$12,532.50	1.00%
Expose Pipeline		☑	7.69	1.91%	$32,124.98	2.57%
Cut & Plug Pipeline	Cut pipeline 100' from platform	☑	7.69	1.91%	$32,124.98	2.57%
Cut Pipeline Riser		☑	5.13	1.27%	$21,430.58	1.71%
Remove Tube Turn		☑	5.13	1.27%	$21,430.58	1.71%
Bury Pipeline		☑	5.13	1.27%	$21,430.58	1.71%
Pick Up Dive Boat Anchors		☑	3.00	0.74%	$12,532.50	1.00%
Mobilize Dive Boat	Mobilize Dive Boat to other end.	☑	2.27	0.56%	$9,482.92	0.76%
Set Up Dive Boat		☑	3.00	0.74%	$12,532.50	1.00%
Expose Pipeline		☑	7.69	1.91%	$32,124.98	2.57%
Cut & Plug Pipeline	Cut pipeline 100' from platform	☑	7.69	1.91%	$32,124.98	2.57%
Cut Pipeline Riser		☑	5.13	1.27%	$21,430.58	1.71%
Remove Tube Turn		☑	5.13	1.27%	$21,430.58	1.71%
Bury Pipeline		☑	5.13	1.27%	$21,430.58	1.71%
Demob Dive Boat		☐	18.30	4.54%	$76,448.25	6.11%
Demob P/L Removal Spread	Mobilize platform removal derrick barge to other end of pipeline	☑	3.25	0.81%	$35,181.25	2.81%
Remove Pipeline	Remove Tube Turns & 100' of pipeline at each end	☑	28.00	6.95%	$303,100.00	24.24%
		Task Total	307.94	76.43%	$911,684.81	72.92%
		Misc. Work Provision (15.00%)	40.70	10.10%	$113,818.25	9.10%
		her Contingency (20.00%)	54.27	13.47%	$151,757.66	12.14%
		Consumables			$0.00	0.00%
		Waste Disposal			$0.00	0.00%
		Structure & Equipment Disposal			$0.00	0.00%
		Offloading			$0.00	0.00%
		Storage / Scrapping			$0.00	0.00%
		Reef Donation			$0.00	0.00%
		Cost of Engineering (8.00%)			$72,934.78	5.83%
		Total:	402.91	100.00%	$1,250,195.51	100.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Resources Breakdown
HI A343 HIOS (Ver 1) Segment#:4088

Resource Used	Unit Cost		Cost	
CB 240 & Tug	$660.00	per Hour per Barge/Tug	$20,625.00	1.67%
DB 2000	$7,000.00	per Hour per Barge	$218,750.00	17.67%
Decommissioning Crew	$0.00	Calculated from tables	$31,127.67	2.51%
Dive Basic Spread Saturation	$3,165.00	Per Hour	$445,188.90	35.96%
Dive Boat	$900.00	Calculated from tables	$98,469.00	7.95%
Manual Calculation	$0.00	Independently Calculated	$0.00	0.00%
Work Boat	$583.00	per Hour	$97,524.24	7.88%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown
HI A343 HIOS (Ver 1) Segment#:4088

Task		Task Hours		Task Cost	
Mobilize Work Boat		18.30	4.54%	$12,727.65	1.03%
Work Boat	$10,668.90				
Decommissioning Crew	$2,058.75				
Rig Up Decomm Equipment		5.00	1.24%	$3,477.50	0.28%
Work Boat	$2,915.00				
Decommissioning Crew	$562.50				
Pig & Flush Pipeline		123.68	30.70%	$86,019.44	6.95%
Work Boat	$72,105.44				
Decommissioning Crew	$13,914.00				
Derig Decomm Equipment		2.00	0.50%	$1,391.00	0.11%
Work Boat	$1,166.00				
Decommissioning Crew	$225.00				
Demob Work Boat		18.30	4.54%	$12,727.65	1.03%
Work Boat	$10,668.90				
Decommissioning Crew	$2,058.75				
Mobilize Dive Boat		18.30	4.54%	$76,448.25	6.18%
Dive Boat	$16,470.00				
Dive Basic Spread Saturation	$57,919.50				
Decommissioning Crew	$2,058.75				
Set Up Dive Boat		3.00	0.74%	$12,532.50	1.01%
Dive Boat	$2,700.00				
Dive Basic Spread Saturation	$9,495.00				
Decommissioning Crew	$337.50				
Expose Pipeline		7.69	1.91%	$32,124.98	2.59%
Dive Boat	$6,921.00				
Dive Basic Spread Saturation	$24,338.85				
Decommissioning Crew	$865.13				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown

Cut & Plug Pipeline		**7.69**	**1.91%**	**$32,124.98**	**2.59%**
Dive Boat	$6,921.00				
Dive Basic Spread Saturation	$24,338.85				
Decommissioning Crew	$865.13				
Cut Pipeline Riser		**5.13**	**1.27%**	**$21,430.58**	**1.73%**
Dive Boat	$4,617.00				
Dive Basic Spread Saturation	$16,236.45				
Decommissioning Crew	$577.13				
Remove Tube Turn		**5.13**	**1.27%**	**$21,430.58**	**1.73%**
Dive Boat	$4,617.00				
Dive Basic Spread Saturation	$16,236.45				
Decommissioning Crew	$577.13				
Manual Calculation	$0.00				
Bury Pipeline		**5.13**	**1.27%**	**$21,430.58**	**1.73%**
Dive Boat	$4,617.00				
Dive Basic Spread Saturation	$16,236.45				
Decommissioning Crew	$577.13				
Pick Up Dive Boat Anchors		**3.00**	**0.74%**	**$12,532.50**	**1.01%**
Dive Boat	$2,700.00				
Dive Basic Spread Saturation	$9,495.00				
Decommissioning Crew	$337.50				
Mobilize Dive Boat		**2.27**	**0.56%**	**$9,482.92**	**0.77%**
Dive Boat	$2,043.00				
Dive Basic Spread Saturation	$7,184.55				
Decommissioning Crew	$255.37				
Set Up Dive Boat		**3.00**	**0.74%**	**$12,532.50**	**1.01%**
Dive Boat	$2,700.00				
Dive Basic Spread Saturation	$9,495.00				
Decommissioning Crew	$337.50				
Expose Pipeline		**7.69**	**1.91%**	**$32,124.98**	**2.59%**
Dive Boat	$6,921.00				
Dive Basic Spread Saturation	$24,338.85				
Decommissioning Crew	$865.13				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown

Cut & Plug Pipeline		**7.69**	**1.91%**	**$32,124.98**	**2.59%**
Dive Boat	$6,921.00				
Dive Basic Spread Saturation	$24,338.85				
Decommissioning Crew	$865.13				
Cut Pipeline Riser		**5.13**	**1.27%**	**$21,430.58**	**1.73%**
Dive Boat	$4,617.00				
Dive Basic Spread Saturation	$16,236.45				
Decommissioning Crew	$577.13				
Remove Tube Turn		**5.13**	**1.27%**	**$21,430.58**	**1.73%**
Dive Boat	$4,617.00				
Dive Basic Spread Saturation	$16,236.45				
Decommissioning Crew	$577.13				
Bury Pipeline		**5.13**	**1.27%**	**$21,430.58**	**1.73%**
Dive Boat	$4,617.00				
Dive Basic Spread Saturation	$16,236.45				
Decommissioning Crew	$577.13				
Demob Dive Boat		**18.30**	**4.54%**	**$76,448.25**	**6.18%**
Dive Boat	$16,470.00				
Dive Basic Spread Saturation	$57,919.50				
Decommissioning Crew	$2,058.75				
Demob P/L Removal Spread		**3.25**	**0.81%**	**$35,181.25**	**2.84%**
DB 2000	$22,750.00				
Dive Basic Spread Saturation	$10,286.25				
CB 240 & Tug	$2,145.00				
Remove Pipeline		**28.00**	**6.95%**	**$303,100.00**	**24.48%**
DB 2000	$196,000.00				
Dive Basic Spread Saturation	$88,620.00				
CB 240 & Tug	$18,480.00				
	Total	**307.94**	**76.43%**	**$911,684.81**	**73.64%**

HI A350 Pipeline

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Salvage Option
HI A350 Pipeline (Ver 1)

This estimate includes only pipeline abandonment costs.

Estimated Decommissioning Gross Cost =	$782,421
Estimated Decommissioning Net Cost =	$592,371

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Information
HI A350 Pipeline (Ver1) Segment#:4679

General Data

Water Depth:	305'
Origin / Terminus:	Origin
Opposite End Name:	HI A350 24 SSTI
Opposite End Water Depth:	305'
Pipeline Operator:	Enterprise Products Partners L.
Provision for Misc. Work%:	15.00%
Weather Contingency %:	20.00%

Pipeline Data

Outside Diameter:	20"	Wall Thickness:		Length:	350'
Depth of Burial:		# Crossings:		Product:	Gas
Installation Date:		Weight Coating:	No	J Tube:	No
Riser?:	No	Riser Guard?:	No		

Comments

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Task Information
HI A350 Pipeline (Ver 1) Segment#:4679

Task	Note	Contingency	Task Hours		Task Cost	
Mobilize Dive Boat		☐	17.10	17.31%	$71,435.25	9.13%
Set Up Dive Boat		☑	3.00	3.04%	$12,532.50	1.60%
Rig Up Decomm Equipment		☑	5.00	5.06%	$20,887.50	2.67%
Pig & Flush Pipeline		☑	1.86	1.88%	$7,770.15	0.99%
Derig Decomm Equipment		☑	2.00	2.02%	$8,355.00	1.07%
Demob Dive Boat		☐	17.10	17.31%	$71,435.25	9.13%
Remove Pipeline		☑	36.00	36.43%	$389,700.00	49.81%
		Task Total	82.06	83.05%	$582,115.65	74.40%
		Misc. Work Provision (15.00%)	7.18	7.27%	$65,886.78	8.42%
		her Contingency (20.00%)	9.57	9.69%	$87,849.03	11.23%
		Consumables			$0.00	0.00%
		Waste Disposal			$0.00	0.00%
		Structure & Equipment Disposal			$0.00	0.00%
		Offloading			$0.00	0.00%
		Storage / Scrapping			$0.00	0.00%
		Reef Donation			$0.00	0.00%
		Cost of Engineering (8.00%)			$46,569.25	5.95%
		Total:	98.81	100.00%	$782,420.71	100.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Resources Breakdown
HI A350 Pipeline (Ver 1) Segment#:4679

Resource Used	Unit Cost		Cost	
CB 240 & Tug	$660.00	per Hour per Barge/Tug	$23,760.00	3.08%
DB 2000	$7,000.00	per Hour per Barge	$252,000.00	32.69%
Decommissioning Crew	$0.00	Calculated from tables	$5,181.75	0.67%
Dive Basic Spread Saturation	$3,165.00	Per Hour	$259,719.90	33.69%
Dive Boat	$900.00	Calculated from tables	$41,454.00	5.38%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown
HI A350 Pipeline (Ver 1) Segment#:4679

Task		Task Hours		Task Cost	
Mobilize Dive Boat		17.10	17.31%	$71,435.25	9.27%
Dive Boat	$15,390.00				
Dive Basic Spread Saturation	$54,121.50				
Decommissioning Crew	$1,923.75				
Set Up Dive Boat		3.00	3.04%	$12,532.50	1.63%
Dive Boat	$2,700.00				
Dive Basic Spread Saturation	$9,495.00				
Decommissioning Crew	$337.50				
Rig Up Decomm Equipment		5.00	5.06%	$20,887.50	2.71%
Dive Boat	$4,500.00				
Dive Basic Spread Saturation	$15,825.00				
Decommissioning Crew	$562.50				
Pig & Flush Pipeline		1.86	1.88%	$7,770.15	1.01%
Dive Basic Spread Saturation	$5,886.90				
Dive Boat	$1,674.00				
Decommissioning Crew	$209.25				
Derig Decomm Equipment		2.00	2.02%	$8,355.00	1.08%
Dive Boat	$1,800.00				
Dive Basic Spread Saturation	$6,330.00				
Decommissioning Crew	$225.00				
Demob Dive Boat		17.10	17.31%	$71,435.25	9.27%
Dive Boat	$15,390.00				
Dive Basic Spread Saturation	$54,121.50				
Decommissioning Crew	$1,923.75				
Remove Pipeline		36.00	36.43%	$389,700.00	50.55%
DB 2000	$252,000.00				
Dive Basic Spread Saturation	$113,940.00				
CB 240 & Tug	$23,760.00				
	Total	82.06	83.05%	$582,115.65	75.50%

HI A370 Pipeline

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Salvage Option
HI A370 Pipeline (Ver 1)

This estimate includes only pipeline abandonment costs.

Estimated Decommissioning Gross Cost =	$631,464
Estimated Decommissioning Net Cost =	$454,654

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Information
HI A370 Pipeline (Ver1) Segment#:4680

General Data

Water Depth:	350'
Origin / Terminus:	Origin
Opposite End Name:	HI A 330 HIOS
Opposite End Water Depth:	255'
Pipeline Operator:	Enterprise Products Partners L.
Provision for Misc. Work%:	15.00%
Weather Contingency %:	20.00%

Pipeline Data

Outside Diameter:	24"	Wall Thickness:		Length:	43975'
Depth of Burial:		# Crossings:		Product:	
Installation Date:		Weight Coating:	No	J Tube:	No
Riser?:	No	Riser Guard?:	No		

Comments

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Task Information
HI A370 Pipeline (Ver 1) Segment#:4680

Task	Note	Contingency	Task Hours		Task Cost	
Mobilize Dive Boat		☐	17.10	15.39%	$71,435.25	11.31%
Set Up Dive Boat		☑	3.00	2.70%	$12,532.50	1.98%
Rig Up Decomm Equipment		☑	5.00	4.50%	$3,477.50	0.55%
Pig & Flush Pipeline		☑	18.95	17.06%	$13,179.73	2.09%
Derig Decomm Equipment		☑	2.00	1.80%	$1,391.00	0.22%
Demob Dive Boat		☐	17.10	15.39%	$71,435.25	11.31%
Remove Pipeline	Remove 100' of Pipeline from Tube Turn at both ends	☑	28.00	25.21%	$303,100.00	48.00%
		Task Total	91.15	82.06%	$476,551.23	75.47%
		Misc. Work Provision (15.00%)	8.54	7.69%	$50,052.11	7.93%
		her Contingency (20.00%)	11.39	10.25%	$66,736.15	10.57%
		Consumables			$0.00	0.00%
		Waste Disposal			$0.00	0.00%
		Structure & Equipment Disposal			$0.00	0.00%
		Offloading			$0.00	0.00%
		Storage / Scrapping			$0.00	0.00%
		Reef Donation			$0.00	0.00%
		Cost of Engineering (8.00%)			$38,124.10	6.04%
		Total:	111.08	100.00%	$631,463.59	100.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Resources Breakdown
HI A370 Pipeline (Ver 1) Segment#:4680

Resource Used	Unit Cost		Cost	
CB 240 & Tug	$660.00	per Hour per Barge/Tug	$18,480.00	2.98%
DB 2000	$7,000.00	per Hour per Barge	$196,000.00	31.61%
Decommissioning Crew	$0.00	Calculated from tables	$7,104.38	1.15%
Dive Basic Spread Saturation	$3,165.00	Per Hour	$206,358.00	33.28%
Dive Boat	$900.00	Calculated from tables	$33,480.00	5.40%
Work Boat	$583.00	per Hour	$15,128.85	2.44%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown
HI A370 Pipeline (Ver 1) Segment#:4680

Task		Task Hours		Task Cost	
Mobilize Dive Boat		17.10	15.39%	$71,435.25	11.52%
Dive Boat	$15,390.00				
Dive Basic Spread Saturation	$54,121.50				
Decommissioning Crew	$1,923.75				
Set Up Dive Boat		3.00	2.70%	$12,532.50	2.02%
Dive Boat	$2,700.00				
Dive Basic Spread Saturation	$9,495.00				
Decommissioning Crew	$337.50				
Rig Up Decomm Equipment		5.00	4.50%	$3,477.50	0.56%
Work Boat	$2,915.00				
Decommissioning Crew	$562.50				
Pig & Flush Pipeline		18.95	17.06%	$13,179.73	2.13%
Work Boat	$11,047.85				
Decommissioning Crew	$2,131.88				
Derig Decomm Equipment		2.00	1.80%	$1,391.00	0.22%
Work Boat	$1,166.00				
Decommissioning Crew	$225.00				
Demob Dive Boat		17.10	15.39%	$71,435.25	11.52%
Dive Boat	$15,390.00				
Dive Basic Spread Saturation	$54,121.50				
Decommissioning Crew	$1,923.75				
Remove Pipeline		28.00	25.21%	$303,100.00	48.88%
DB 2000	$196,000.00				
Dive Basic Spread Saturation	$88,620.00				
CB 240 & Tug	$18,480.00				
	Total	91.15	82.06%	$476,551.23	76.86%

HI A573 HIOS

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Salvage Option
HI A573 HIOS (Ver 1)

High Island Block A573 has one platform that is operated by Enterprise Products Partners L.P. The platform will be removed with a 2000-ton derrick barge. All production equipment will be flushed and purged of any hydrocarbons. The equipment that will be removed by the derrick barge will be cut free of the platform. Also the pipelines will be flushed, cleaned, plugged and left in-situ. (See #12 below.)

High Island A573 HIOS is a 4-pile manifold platform installed in 1979 in 340' water depth. One 48-hour turtle watch operation conducted by the National Marine Fisheries service will be needed. The top deck equipment, and deck will be placed on a 240' x 72' cargo barge. Piles will be explosively severed and the jacket will be towed to shallow water, cut into manageable pieces and placed on additional 240' x 72' cargo barges. The decks, facilities and jacket will be taken to shore and scrapped. Side Scan Sonar and Divers will perform a bottom sweep to verify the site is clear.

This estimate is based on the following assumptions:

1. All decks and jackets and associated equipment are taken to shore and scrapped.
2. Removal Contractor is responsible for transport and disposal of decks, jackets, and associated equipment.
3. No salvage or resale value has been considered for the structure or equipment.
4. One derrick mobilization/demobilization cost is included for each block.
5. Mobilization times are estimated from the Eugene Island sea buoy.
6. No dockside mobilization or demobilization is included, construction barge spreads are assumed to be readily available in the Gulf of Mexico.
7. All work will be performed during the summer work season.
8. Allowances have been made for named tropical storm downtime.
9. The current guidelines for the use of explosives are assumed.
10. No allowances have been made for the presence of sea turtles or marine mammals.
11. All NORM, NOW, and industrial waste are removed from the platforms prior to decommissioning.
12. All pipelines are abandoned-in-place.
13. Tube Turns and 100' of pipeline are removed at each end of pipelines.
14. Tube Turns and pipelines are buried a minimum of 5ft. at the base of the platform.
15. All pipeline ends can be sealed using mechanical-type plugs. No provisions are made for more stringent environmental or safety regulations.
16. Site clearance and verification is in accordance with the latest NTL.
17. Hourly rates for construction and diving spreads are developed from offshore contractors published rates.
18. Engineering & Project Management cost 8% (company or other).
19. Work Contingency of 15% is included. This is work not currently itemized in our database, but is shown as necessary per actual removals in the Gulf of Mexico.
20. Weather allowance of 20%, consisting of 14% for regular weather and 6% for named

Enterprise Products Partners L.P.
Platform Salvage Option
HI A573 HIOS (Ver 1)

tropical storms.

The following data will be assumed based on previous estimates developed and work experience:
Pile OD
Deck Weights
Jacket Weights
Grout Weights
Equipment Weights

Estimated Decommissioning Gross Cost = $11,463,058

Estimated Decommissioning Net Cost = $11,463,058

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Basic Information
HI A573 HIOS (Ver 1)

General Data

Platform:	HI A573 HIOS
Function:	DRILL/MANIFOLD
Type:	Steel
Water Depth:	340'
Pre 461H?:	Yes
Year Installed:	1979
Year Estimate Developed:	
District:	Gulf of Mexico
Lease Number:	
Account Code:	TSB - 29027
Amortization:	1.00
# Wells to P & A:	0
# Pipelines to Abandon:	2
Estimate Complete?:	Yes

Partner Data

	Partner	Working Intere
1	Enterprise Products Partners L.P.	100.00%

Estimated Costs

	Gross Cost	Net Cost
Platform Removal:	$8,825,368	$8,825,368
Well Plugging & Abandonment:	$0	$0
Pipeline Abandonment:	$2,637,690	$2,637,690
Total Decommissioning Cost:	$11,463,058	$11,463,058

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Information
HI A573 HIOS (Ver 1)

Pile/Tendon Data

	Number	Outside Diameter	Wall Thickness	Grout Annulus	Grout Internal	Depth Below
Main:	4	36"	1.5"	No	No	
Skirt/Braced	4	36"	1.5"	No	No	
Anchor:	0					
Dolphin:	0					

Deck Dimensions

	Dimensions	Elevation
Upper:	60X60	92
Middle:	60X30	73
Lower:	80X80	48

Conductors

Number of Slots:	0
Number Installed:	0
Outside Diameter:	
Wall Thickness:	
Number Slanted:	0

Jacket Data

	Weight (Tons)	With Piles	With Piles & Grout
Submerged:			
Dry:	1901.00	✍	✍

Jacket Installation Date:

Jacket Contractor:

Deck Data

Deck Lift Weight with Equipment:	300 Tons
Number of Padeyes Required:	0
Deck Installation Date:	3/3/97
Deck Contractor:	

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Information
HI A573 HIOS (Ver 1)

Equipment Lift Weights

Equipmen	Weight (Tons)
Boom	10.00
Equipment	200.00
Heliport	20.00

Members to be Cut Data

Top Members

Size	Qty
16.00	32.00
40.00	16.00

Cargo Descriptions

Cargo Barge Size	Cargo Description	
CB 240 x 72	Deck > 500T	Equipment
CB 240 x 72	Jkt 300-700T	
CB 240 x 72	Jkt 300-700T	
CB 240 x 72	Jkt 300-700T	
CB 240 x 72	Jkt 300-700T	

Miscellaneous Data

Derrick Barge Anchors:	8
Assist Derrick Barge Anchors:	0
Tow Distance:	0.00
Provision for Misc. Work%:	15.00%
Weather Contingency%:	20.00%
Engineering%:	8.00%

Miscellaneous Costs

Consumables:	$0.00
Waste Disposal:	$0.00
Structure & Equipment Disposal:	$0.00
Reef Donation:	$0.00
Cost of Engineering:	$530,507.13

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Comments
HI A573 HIOS (Ver 1)

Assumed the following:
Jacket Weights, Deck Weights, Pile Sizes, Grout Weights, Equipment Weights, Deck(s) Sizes

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Task Information
HI A573 HIOS (Ver 1)

Task	Note	Contingency	Task Hours		Task Cost	
Fab Explosive Charges	Includes four (4) skirt piles	☐	0.00	0.00%	$20,000.00	0.23%
Platform Removal Preparation		☐	504.00	16.03%	$504,000.00	5.71%
Mobilize Work Boat		☐	20.10	0.64%	$12,582.60	0.14%
NMFS Marine Observation		☐	48.00	1.53%	$30,048.00	0.34%
Mobilize DB 2000		☐	24.43	0.78%	$262,770.70	2.98%
Mobilize CB 240 & Tug		☐	42.20	1.34%	$41,852.00	0.47%
Mobilize CB 240 & Tug		☐	42.20	1.34%	$41,852.00	0.47%
Mobilize CB 240 & Tug		☐	42.20	1.34%	$41,852.00	0.47%
Mobilize CB 240 & Tug		☐	42.20	1.34%	$41,852.00	0.47%
Mobilize CB 240 & Tug		☐	42.20	1.34%	$41,852.00	0.47%
Route Survey to Reef Site	Shallow water for cutting jacket	☐	48.00	1.53%	$38,640.00	0.44%
Demob Work Boat		☐	20.10	0.64%	$10,050.00	0.11%
Setup Derrick Barge		☑	6.75	0.21%	$71,658.00	0.81%
Cut Deck/Equip/Misc		☑	3.85	0.12%	$43,412.60	0.49%
Remove Equipment		☑	3.00	0.10%	$33,828.00	0.38%
Remove 4 Pile Deck		☑	9.35	0.30%	$105,430.60	1.19%
Demob CB 240 & Tug		☐	42.20	1.34%	$27,852.00	0.32%
Jet/Airlift Pile Mud Plug		☑	16.00	0.51%	$169,856.00	1.92%
Jet/Air Skrt Pile Mud Plg		☑	30.80	0.98%	$326,972.80	3.70%
Standby for Daylight Det.		☑	8.00	0.25%	$84,928.00	0.96%
Set Charges in Skirt Piles		☑	10.50	0.33%	$111,468.00	1.26%
Pre/Post Detonat'n Survey		☑	1.00	0.03%	$16,886.00	0.19%
Sever Piles- Explosive		☑	2.92	0.09%	$30,998.72	0.35%
Sever Piles- Explosive	Skirt Piles	☑	1.92	0.06%	$20,382.72	0.23%
Install Closure Plates		☑	5.00	0.16%	$51,975.00	0.59%
Deballast Piles or Jkt Lg		☑	5.00	0.16%	$51,975.00	0.59%
Lift/Secure Jkt for Tow		☑	6.00	0.19%	$66,330.00	0.75%
Tow Jckt to Shallow Water	Tow to 232' water depth	☑	10.00	0.32%	$110,550.00	1.25%
Setup Derrick Barge		☑	6.75	0.21%	$74,621.25	0.85%
Cut Jacket	Cut at -88' elev.	☑	49.33	1.57%	$545,343.20	6.18%
Remove Jacket - Meth 1		☑	13.75	0.44%	$152,006.25	1.72%
Demob CB 240 & Tug		☐	42.20	1.34%	$27,852.00	0.32%
Install Closure Plates		☑	5.00	0.16%	$51,975.00	0.59%
Deballast Piles or Jkt Lg		☑	5.00	0.16%	$51,975.00	0.59%
Lift/Secure Jkt for Tow		☑	6.00	0.19%	$66,330.00	0.75%
Tow Jckt to Shallow Water	Tow to 158' water depth	☑	8.00	0.25%	$88,440.00	1.00%
Setup Derrick Barge		☑	6.75	0.21%	$74,621.25	0.85%
Cut Jacket	Cut at -168' elev.	☑	49.33	1.57%	$545,343.20	6.18%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Task Information
HI A573 HIOS (Ver 1)

Task	Note	Contingency	Task Hours		Task Cost	
Remove Jacket - Meth 2		☑	26.50	0.84%	$292,957.50	3.32%
Demob CB 240 & Tug		☐	42.20	1.34%	$27,852.00	0.32%
Install Closure Plates		☑	5.00	0.16%	$51,975.00	0.59%
Deballast Piles or Jkt Lg		☑	5.00	0.16%	$51,975.00	0.59%
Lift/Secure Jkt for Tow		☑	6.00	0.19%	$66,330.00	0.75%
Tow Jckt to Shallow Water	Tow to 70' water depth	☑	6.00	0.19%	$66,330.00	0.75%
Setup Derrick Barge		☑	6.75	0.21%	$74,621.25	0.85%
Cut Jacket	Cut at -252' elev.	☑	49.33	1.57%	$545,343.20	6.18%
Remove Jacket - Meth 2		☑	26.50	0.84%	$292,957.50	3.32%
Demob CB 240 & Tug		☐	42.20	1.34%	$27,852.00	0.32%
Remove Jacket - Meth 2	Removal of base section	☑	26.50	0.84%	$292,957.50	3.32%
Demob CB 240 & Tug		☐	42.20	1.34%	$27,852.00	0.32%
Pick Up DB Anchors		☑	6.75	0.21%	$70,166.25	0.80%
Demob DB 2000		☐	24.43	0.78%	$260,449.85	2.95%
Site Clearance - with Divers	Does not include debris removal	☐	6.00	0.19%	$119,358.00	1.35%
Offload CB 240		☐	1440.00	45.81%	$272,000.00	3.08%
		Task Total	2991.39	95.16%	$6,631,338.95	75.14%
		Misc. Work Provision (15.00%)	65.15	2.07%	$712,938.00	8.08%
		Weather Contingency (20.00%)	86.87	2.76%	$950,584.00	10.77%
		Consumables			$0.00	0.00%
		Waste Disposal			$0.00	0.00%
		Structure & Equipment Disposal			$0.00	0.00%
		Offloading			$0.00	0.00%
		Storage / Scrapping			$0.00	0.00%
		Reef Donation			$0.00	0.00%
		Cost of Engineering (8.00%)			$530,507.10	6.01%
		Total:	3143.41	100.00%	$8,825,368.05	100.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Resources Breakdown
HI A573 HIOS (Ver 1)

Resource Used	Unit Cost		Cost	
Cargo Barge 240	$4,200.00	per Day per Barge	$252,000.00	2.86%
CB 240 & Tug	$660.00	per Hour per Barge/Tug	$489,515.40	5.55%
CB Damage Deduct	$20,000.00	per Cargo Barge	$20,000.00	0.23%
Decomm Platform	$0.00	Calculated from tables	$252,000.00	2.86%
Derrick Barge 2000	$7,000.00	per Hour per barge	$3,382,330.00	38.33%
Dive Basic Spread Saturation	$3,165.00	Per Hour	$1,586,266.51	17.97%
Dive Boat	$900.00	per Hour	$5,400.00	0.06%
Dive Serv - Suppl	$0.00	Calculated from tables	$56,988.00	0.65%
Expl Charge - Piling	$10,000.00	per Pile	$20,000.00	0.23%
Expl Technician	$95.00	per Hour	$11,259.40	0.13%
Helicopter Trips	$6,500.00	per Round Trip	$19,500.00	0.22%
NMFS Observers (2)	$126.00	per Hour	$20,435.94	0.23%
Pipeline Survey	$230.00	per Hour	$121,943.70	1.38%
Rig Up CB 240	$14,000.00	per Barge	$70,000.00	0.79%
Side Scan Sonar	$75.00	per Hour	$3,600.00	0.04%
Work Boat	$500.00	per Hour	$320,100.00	3.63%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A573 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Fab Explosive Charges		**0.00**	**0.00%**	**$20,000.00**	**0.23%**
Expl Charge - Piling	$10,000.00				
Expl Charge - Piling	$10,000.00				
Platform Removal Preparation		**504.00**	**.6.03%**	**$504,000.00**	**5.71%**
Decomm Platform	$252,000.00				
Work Boat	$252,000.00				
Mobilize Work Boat		**20.10**	**0.64%**	**$12,582.60**	**0.14%**
Work Boat	$10,050.00				
NMFS Observers (2)	$2,532.60				
NMFS Marine Observation		**48.00**	**1.53%**	**$30,048.00**	**0.34%**
Work Boat	$24,000.00				
NMFS Observers (2)	$6,048.00				
Mobilize DB 2000		**24.43**	**0.78%**	**$262,770.70**	**2.98%**
Derrick Barge 2000	$171,010.00				
Dive Basic Spread Saturation	$77,320.95				
Pipeline Survey	$5,618.90				
Expl Technician	$2,320.85				
Helicopter Trips	$6,500.00				
Mobilize CB 240 & Tug		**42.20**	**1.34%**	**$41,852.00**	**0.47%**
CB 240 & Tug	$27,852.00				
Rig Up CB 240	$14,000.00				
Mobilize CB 240 & Tug		**42.20**	**1.34%**	**$41,852.00**	**0.47%**
CB 240 & Tug	$27,852.00				
Rig Up CB 240	$14,000.00				
Mobilize CB 240 & Tug		**42.20**	**1.34%**	**$41,852.00**	**0.47%**
CB 240 & Tug	$27,852.00				
Rig Up CB 240	$14,000.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A573 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Mobilize CB 240 & Tug		**42.20**	**1.34%**	**$41,852.00**	**0.47%**
CB 240 & Tug	$27,852.00				
Rig Up CB 240	$14,000.00				
Mobilize CB 240 & Tug		**42.20**	**1.34%**	**$41,852.00**	**0.47%**
CB 240 & Tug	$27,852.00				
Rig Up CB 240	$14,000.00				
Route Survey to Reef Site		**48.00**	**1.53%**	**$38,640.00**	**0.44%**
Pipeline Survey	$11,040.00				
Side Scan Sonar	$3,600.00				
Work Boat	$24,000.00				
Demob Work Boat		**20.10**	**0.64%**	**$10,050.00**	**0.11%**
Work Boat	$10,050.00				
Setup Derrick Barge		**6.75**	**0.21%**	**$71,658.00**	**0.81%**
Derrick Barge 2000	$47,250.00				
Dive Basic Spread Saturation	$21,363.75				
Pipeline Survey	$1,552.50				
Expl Technician	$641.25				
NMFS Observers (2)	$850.50				
Cut Deck/Equip/Misc		**3.85**	**0.12%**	**$43,412.60**	**0.49%**
Derrick Barge 2000	$26,950.00				
Dive Basic Spread Saturation	$12,185.25				
Pipeline Survey	$885.50				
Expl Technician	$365.75				
NMFS Observers (2)	$485.10				
CB 240 & Tug	$2,541.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A573 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Remove Equipment		**3.00**	**0.10%**	**$33,828.00**	**0.38%**
Derrick Barge 2000	$21,000.00				
Dive Basic Spread Saturation	$9,495.00				
Pipeline Survey	$690.00				
Expl Technician	$285.00				
NMFS Observers (2)	$378.00				
CB 240 & Tug	$1,980.00				
Remove 4 Pile Deck		**9.35**	**0.30%**	**$105,430.60**	**1.19%**
Derrick Barge 2000	$65,450.00				
Dive Basic Spread Saturation	$29,592.75				
Pipeline Survey	$2,150.50				
Expl Technician	$888.25				
NMFS Observers (2)	$1,178.10				
CB 240 & Tug	$6,171.00				
Demob CB 240 & Tug		**42.20**	**1.34%**	**$27,852.00**	**0.32%**
CB 240 & Tug	$27,852.00				
Jet/Airlift Pile Mud Plug		**16.00**	**0.51%**	**$169,856.00**	**1.92%**
Derrick Barge 2000	$112,000.00				
Dive Basic Spread Saturation	$50,640.00				
Pipeline Survey	$3,680.00				
Expl Technician	$1,520.00				
NMFS Observers (2)	$2,016.00				
Jet/Air Skrt Pile Mud Plg		**30.80**	**0.98%**	**$326,972.80**	**3.70%**
Derrick Barge 2000	$215,600.00				
Dive Basic Spread Saturation	$97,482.00				
Pipeline Survey	$7,084.00				
Expl Technician	$2,926.00				
NMFS Observers (2)	$3,880.80				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A573 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Standby for Daylight Det.		**8.00**	**0.25%**	**$84,928.00**	**0.96%**
Derrick Barge 2000	$56,000.00				
Dive Basic Spread Saturation	$25,320.00				
Pipeline Survey	$1,840.00				
Expl Technician	$760.00				
NMFS Observers (2)	$1,008.00				
Set Charges in Skirt Piles		**10.50**	**0.33%**	**$111,468.00**	**1.26%**
Derrick Barge 2000	$73,500.00				
Dive Basic Spread Saturation	$33,232.50				
Pipeline Survey	$2,415.00				
Expl Technician	$997.50				
NMFS Observers (2)	$1,323.00				
Pre/Post Detonat'n Survey		**1.00**	**0.03%**	**$16,886.00**	**0.19%**
Derrick Barge 2000	$7,000.00				
Dive Basic Spread Saturation	$3,165.00				
Expl Technician	$95.00				
NMFS Observers (2)	$126.00				
Helicopter Trips	$6,500.00				
Sever Piles- Explosive		**2.92**	**0.09%**	**$30,998.72**	**0.35%**
Derrick Barge 2000	$20,440.00				
Dive Basic Spread Saturation	$9,241.80				
Pipeline Survey	$671.60				
Expl Technician	$277.40				
NMFS Observers (2)	$367.92				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A573 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Sever Piles- Explosive		**1.92**	**0.06%**	**$20,382.72**	**0.23%**
Derrick Barge 2000	$13,440.00				
Dive Basic Spread Saturation	$6,076.80				
Pipeline Survey	$441.60				
Expl Technician	$182.40				
NMFS Observers (2)	$241.92				
Install Closure Plates		**5.00**	**0.16%**	**$51,975.00**	**0.59%**
Derrick Barge 2000	$35,000.00				
Dive Basic Spread Saturation	$15,825.00				
Pipeline Survey	$1,150.00				
Deballast Piles or Jkt Lg		**5.00**	**0.16%**	**$51,975.00**	**0.59%**
Derrick Barge 2000	$35,000.00				
Dive Basic Spread Saturation	$15,825.00				
Pipeline Survey	$1,150.00				
Lift/Secure Jkt for Tow		**6.00**	**0.19%**	**$66,330.00**	**0.75%**
Derrick Barge 2000	$42,000.00				
Dive Basic Spread Saturation	$18,990.00				
Pipeline Survey	$1,380.00				
CB 240 & Tug	$3,960.00				
Tow Jckt to Shallow Water		**10.00**	**0.32%**	**$110,550.00**	**1.25%**
Derrick Barge 2000	$70,000.00				
Dive Basic Spread Saturation	$31,650.00				
Pipeline Survey	$2,300.00				
CB 240 & Tug	$6,600.00				
Setup Derrick Barge		**6.75**	**0.21%**	**$74,621.25**	**0.85%**
Derrick Barge 2000	$47,250.00				
Dive Basic Spread Saturation	$21,363.75				
Pipeline Survey	$1,552.50				
CB 240 & Tug	$4,455.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A573 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Cut Jacket		49.33	1.57%	$545,343.20	6.18%
Derrick Barge 2000	$345,310.00				
Dive Basic Spread Saturation	$156,129.50				
Pipeline Survey	$11,345.90				
CB 240 & Tug	$32,557.80				
Remove Jacket - Meth 1		13.75	0.44%	$152,006.25	1.72%
Derrick Barge 2000	$96,250.00				
Dive Basic Spread Saturation	$43,518.75				
Pipeline Survey	$3,162.50				
CB 240 & Tug	$9,075.00				
Demob CB 240 & Tug		42.20	1.34%	$27,852.00	0.32%
CB 240 & Tug	$27,852.00				
Install Closure Plates		5.00	0.16%	$51,975.00	0.59%
Derrick Barge 2000	$35,000.00				
Dive Basic Spread Saturation	$15,825.00				
Pipeline Survey	$1,150.00				
Deballast Piles or Jkt Lg		5.00	0.16%	$51,975.00	0.59%
Derrick Barge 2000	$35,000.00				
Dive Basic Spread Saturation	$15,825.00				
Pipeline Survey	$1,150.00				
Lift/Secure Jkt for Tow		6.00	0.19%	$66,330.00	0.75%
Derrick Barge 2000	$42,000.00				
Dive Basic Spread Saturation	$18,990.00				
Pipeline Survey	$1,380.00				
CB 240 & Tug	$3,960.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A573 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Tow Jckt to Shallow Water		**8.00**	**0.25%**	**$88,440.00**	**1.00%**
Derrick Barge 2000	$56,000.00				
Dive Basic Spread Saturation	$25,320.00				
Pipeline Survey	$1,840.00				
CB 240 & Tug	$5,280.00				
Setup Derrick Barge		**6.75**	**0.21%**	**$74,621.25**	**0.85%**
Derrick Barge 2000	$47,250.00				
Dive Basic Spread Saturation	$21,363.75				
Pipeline Survey	$1,552.50				
CB 240 & Tug	$4,455.00				
Cut Jacket		**49.33**	**1.57%**	**$545,343.20**	**6.18%**
Derrick Barge 2000	$345,310.00				
Dive Basic Spread Saturation	$156,129.50				
Pipeline Survey	$11,345.90				
CB 240 & Tug	$32,557.80				
Remove Jacket - Meth 2		**26.50**	**0.84%**	**$292,957.50**	**3.32%**
Derrick Barge 2000	$185,500.00				
Dive Basic Spread Saturation	$83,872.50				
Pipeline Survey	$6,095.00				
CB 240 & Tug	$17,490.00				
Demob CB 240 & Tug		**42.20**	**1.34%**	**$27,852.00**	**0.32%**
CB 240 & Tug	$27,852.00				
Install Closure Plates		**5.00**	**0.16%**	**$51,975.00**	**0.59%**
Derrick Barge 2000	$35,000.00				
Dive Basic Spread Saturation	$15,825.00				
Pipeline Survey	$1,150.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A573 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Deballast Piles or Jkt Lg		**5.00**	**0.16%**	**$51,975.00**	**0.59%**
Derrick Barge 2000	$35,000.00				
Dive Basic Spread Saturation	$15,825.00				
Pipeline Survey	$1,150.00				
Lift/Secure Jkt for Tow		**6.00**	**0.19%**	**$66,330.00**	**0.75%**
Derrick Barge 2000	$42,000.00				
Dive Basic Spread Saturation	$18,990.00				
Pipeline Survey	$1,380.00				
CB 240 & Tug	$3,960.00				
Tow Jckt to Shallow Water		**6.00**	**0.19%**	**$66,330.00**	**0.75%**
Derrick Barge 2000	$42,000.00				
Dive Basic Spread Saturation	$18,990.00				
Pipeline Survey	$1,380.00				
CB 240 & Tug	$3,960.00				
Setup Derrick Barge		**6.75**	**0.21%**	**$74,621.25**	**0.85%**
Derrick Barge 2000	$47,250.00				
Dive Basic Spread Saturation	$21,363.75				
Pipeline Survey	$1,552.50				
CB 240 & Tug	$4,455.00				
Cut Jacket		**49.33**	**1.57%**	**$545,343.20**	**6.18%**
Derrick Barge 2000	$345,310.00				
Dive Basic Spread Saturation	$156,129.50				
Pipeline Survey	$11,345.90				
CB 240 & Tug	$32,557.80				
Remove Jacket - Meth 2		**26.50**	**0.84%**	**$292,957.50**	**3.32%**
Derrick Barge 2000	$185,500.00				
Dive Basic Spread Saturation	$83,872.50				
Pipeline Survey	$6,095.00				
CB 240 & Tug	$17,490.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A573 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Demob CB 240 & Tug		**42.20**	**1.34%**	**$27,852.00**	**0.32%**
CB 240 & Tug	$27,852.00				
Remove Jacket - Meth 2		**26.50**	**0.84%**	**$292,957.50**	**3.32%**
Derrick Barge 2000	$185,500.00				
Dive Basic Spread Saturation	$83,872.50				
Pipeline Survey	$6,095.00				
CB 240 & Tug	$17,490.00				
Demob CB 240 & Tug		**42.20**	**1.34%**	**$27,852.00**	**0.32%**
CB 240 & Tug	$27,852.00				
Pick Up DB Anchors		**6.75**	**0.21%**	**$70,166.25**	**0.80%**
Derrick Barge 2000	$47,250.00				
Dive Basic Spread Saturation	$21,363.75				
Pipeline Survey	$1,552.50				
Demob DB 2000		**24.43**	**0.78%**	**$260,449.85**	**2.95%**
Derrick Barge 2000	$171,010.00				
Dive Basic Spread Saturation	$77,320.95				
Pipeline Survey	$5,618.90				
Helicopter Trips	$6,500.00				
Site Clearance - with Divers		**6.00**	**0.19%**	**$119,358.00**	**1.35%**
Dive Boat	$5,400.00				
Dive Basic Spread Saturation	$56,970.00				
Dive Serv - Suppl	$56,988.00				
Offload CB 240		**1440.00**	**5.81%**	**$272,000.00**	**3.08%**
Cargo Barge 240	$252,000.00				
CB Damage Deduct	$20,000.00				
	Total	**2991.39**	**5.16%**	**6,631,338.95**	**75.14%**

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Information
HI A573 HIOS (Ver1) Segment#:11903

General Data

Water Depth:	340'
Origin / Terminus:	Terminus
Opposite End Name:	AC 25 A
Opposite End Water Depth:	4825'
Pipeline Operator:	Enterprise Products Partners L.
Provision for Misc. Work%:	15.00%
Weather Contingency %:	20.00%

Pipeline Data

Outside Diameter:	20"	Wall Thickness:		Length:	45423'
Depth of Burial:		# Crossings:		Product:	G/C
Installation Date:	4/22/2000	Weight Coating:	No	J Tube:	No
Riser?:	No	Riser Guard?:	No		

Comments

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Information
HI A573 HIOS (Ver1) Segment#:4591

General Data

Water Depth:	340'
Origin / Terminus:	Origin
Opposite End Name:	HI 264
Opposite End Water Depth:	152'
Pipeline Operator:	Enterprise Products Partners L.
Provision for Misc. Work%:	15.00%
Weather Contingency %:	20.00%

Pipeline Data

Outside Diameter:	30"	Wall Thickness:		Length:	216480'
Depth of Burial:		# Crossings:		Product:	Gas/Cond
Installation Date:		Weight Coating:	No	J Tube:	No
Riser?:	No	Riser Guard?:	No		

Comments

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Task Information
HI A573 HIOS (Ver 1) Segment#:11903

Task	Note	Contingency	Task Hours		Task Cost	
Mobilize Work Boat		☑	20.10	4.10%	$13,979.55	1.17%
Rig Up Decomm Equipment		☑	5.00	1.02%	$3,477.50	0.29%
Pig & Flush Pipeline		☑	180.00	36.69%	$125,190.00	10.44%
Derig Decomm Equipment		☑	2.00	0.41%	$1,391.00	0.12%
Demob Work Boat		☑	20.10	4.10%	$13,979.55	1.17%
Mobilize Dive Boat		☐	20.10	4.10%	$100,047.75	8.34%
Set Up Dive Boat		☑	3.00	0.61%	$14,932.50	1.24%
Expose Pipeline		☑	11.55	2.35%	$57,490.13	4.79%
Cut & Plug Pipeline	Cut pipeline 100' from platform	☑	11.55	2.35%	$57,490.13	4.79%
Cut Pipeline Riser		☑	7.70	1.57%	$38,326.75	3.19%
Remove Tube Turn		☑	7.70	1.57%	$38,326.75	3.19%
Bury Pipeline		☑	7.70	1.57%	$38,326.75	3.19%
Pick Up Dive Boat Anchors		☑	3.00	0.61%	$14,932.50	1.24%
Mobilize Dive Boat	Mobilize Dive Boat to other end.	☑	0.74	0.15%	$3,683.35	0.31%
Set Up Dive Boat		☑	3.00	0.61%	$14,932.50	1.24%
Expose Pipeline		☑	11.55	2.35%	$57,490.13	4.79%
Cut & Plug Pipeline	Cut pipeline 100' from platform	☑	11.55	2.35%	$57,490.13	4.79%
Cut Pipeline Riser		☑	7.70	1.57%	$38,326.75	3.19%
Remove Tube Turn	Remove tube turn and 100' section	☑	12.00	2.45%	$59,730.00	4.98%
Bury Pipeline		☑	7.70	1.57%	$38,326.75	3.19%
Demob Dive Boat		☐	20.10	4.10%	$100,047.75	8.34%
		Task Total	373.84	76.20%	$887,918.22	74.01%
		Misc. Work Provision (15.00%)	50.05	10.20%	$103,173.41	8.60%
		her Contingency (20.00%)	66.73	13.60%	$137,564.55	11.47%
		Consumables			$0.00	0.00%
		Waste Disposal			$0.00	0.00%
		Structure & Equipment Disposal			$0.00	0.00%
		Offloading			$0.00	0.00%
		Storage / Scrapping			$0.00	0.00%
		Reef Donation			$0.00	0.00%
		Cost of Engineering (8.00%)			$71,033.46	5.92%
		Total:	490.61	100.00%	$1,199,689.63	100.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Task Information
HI A573 HIOS (Ver 1) Segment#:4591

Task	Note	Contingency	Task Hours		Task Cost	
Mobilize Work Boat		☑	20.10	4.33%	$13,979.55	0.97%
Rig Up Decomm Equipment		☑	5.00	1.08%	$3,477.50	0.24%
Pig & Flush Pipeline		☑	136.40	29.38%	$94,866.20	6.60%
Derig Decomm Equipment		☑	2.00	0.43%	$1,391.00	0.10%
Demob Work Boat		☑	20.10	4.33%	$13,979.55	0.97%
Mobilize Dive Boat		☐	20.10	4.33%	$83,967.75	5.84%
Set Up Dive Boat		☑	3.00	0.65%	$12,532.50	0.87%
Expose Pipeline		☑	11.55	2.49%	$48,250.13	3.36%
Cut & Plug Pipeline	Cut pipeline 100' from platform	☑	11.55	2.49%	$48,250.13	3.36%
Cut Pipeline Riser		☑	7.70	1.66%	$32,166.75	2.24%
Remove Tube Turn		☑	7.70	1.66%	$32,166.75	2.24%
Bury Pipeline		☑	7.70	1.66%	$32,166.75	2.24%
Pick Up Dive Boat Anchors		☑	3.00	0.65%	$12,532.50	0.87%
Mobilize Dive Boat	Mobilize Dive Boat to other end.	☑	3.75	0.81%	$15,665.63	1.09%
Set Up Dive Boat		☑	3.00	0.65%	$12,532.50	0.87%
Expose Pipeline		☑	11.55	2.49%	$48,250.13	3.36%
Cut & Plug Pipeline	Cut pipeline 100' from platform	☑	11.55	2.49%	$48,250.13	3.36%
Cut Pipeline Riser		☑	7.70	1.66%	$32,166.75	2.24%
Remove Tube Turn		☑	7.70	1.66%	$32,166.75	2.24%
Demob Dive Boat		☐	20.10	4.33%	$83,967.75	5.84%
Demob P/L Removal Spread	Mobilize platform removal derrick barge to other end of pipeline	☑	5.09	1.10%	$52,910.55	3.68%
Remove Pipeline	Remove 100' of Pipeline from Tube Turn at both ends	☑	28.00	6.03%	$291,060.00	20.24%
		Task Total	354.34	76.32%	$1,046,697.25	72.79%
		Misc. Work Provision (15.00%)	47.12	10.15%	$131,814.27	9.17%
		her Contingency (20.00%)	62.83	13.53%	$175,752.35	12.22%
		Consumables			$0.00	0.00%
		Waste Disposal			$0.00	0.00%
		Structure & Equipment Disposal			$0.00	0.00%
		Offloading			$0.00	0.00%
		Storage / Scrapping			$0.00	0.00%
		Reef Donation			$0.00	0.00%
		Cost of Engineering (8.00%)			$83,735.78	5.82%
		Total:	464.29	100.00%	$1,437,999.65	100.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Resources Breakdown
HI A573 HIOS (Ver 1) Segment#:11903

Resource Used	Unit Cost		Cost	
Decommissioning Crew	$0.00	Calculated from tables	$42,057.02	3.55%
Dive Basic Spread Saturation	$3,165.00	Per Hour	$464,115.60	39.21%
Dive Boat	$900.00	Calculated from tables	$131,976.00	11.15%
Rem. Operated Vehicle	$800.00	per Hour	$117,312.00	9.91%
Work Boat	$583.00	per Hour	$132,457.60	11.19%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Resources Breakdown
HI A573 HIOS (Ver 1) Segment#:4591

Resource Used	Unit Cost		Cost	
DB 2000	$7,000.00	per Hour per Barge	$231,630.00	16.26%
Decommissioning Crew	$0.00	Calculated from tables	$36,140.65	2.54%
Dive Basic Spread Saturation	$3,165.00	Per Hour	$540,392.10	37.93%
Dive Boat	$900.00	Calculated from tables	$123,885.00	8.70%
Pipeline Surveying	$230.00	per Hour	$7,610.70	0.53%
Work Boat	$583.00	per Hour	$107,038.80	7.51%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown
HI A573 HIOS (Ver 1) Segment#:11903

Task		Task Hours		Task Cost	
Mobilize Work Boat		**20.10**	**4.10%**	**$13,979.55**	**1.18%**
Work Boat	$11,718.30				
Decommissioning Crew	$2,261.25				
Rig Up Decomm Equipment		**5.00**	**1.02%**	**$3,477.50**	**0.29%**
Work Boat	$2,915.00				
Decommissioning Crew	$562.50				
Pig & Flush Pipeline		**180.00**	**36.69%**	**$125,190.00**	**10.58%**
Work Boat	$104,940.00				
Decommissioning Crew	$20,250.00				
Derig Decomm Equipment		**2.00**	**0.41%**	**$1,391.00**	**0.12%**
Work Boat	$1,166.00				
Decommissioning Crew	$225.00				
Demob Work Boat		**20.10**	**4.10%**	**$13,979.55**	**1.18%**
Work Boat	$11,718.30				
Decommissioning Crew	$2,261.25				
Mobilize Dive Boat		**20.10**	**4.10%**	**$100,047.75**	**8.45%**
Dive Boat	$18,090.00				
Dive Basic Spread Saturation	$63,616.50				
Decommissioning Crew	$2,261.25				
Rem. Operated Vehicle	$16,080.00				
Set Up Dive Boat		**3.00**	**0.61%**	**$14,932.50**	**1.26%**
Dive Boat	$2,700.00				
Dive Basic Spread Saturation	$9,495.00				
Decommissioning Crew	$337.50				
Rem. Operated Vehicle	$2,400.00				
Expose Pipeline		**11.55**	**2.35%**	**$57,490.13**	**4.86%**
Dive Boat	$10,395.00				
Dive Basic Spread Saturation	$36,555.75				
Decommissioning Crew	$1,299.38				
Rem. Operated Vehicle	$9,240.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown

Cut & Plug Pipeline		**11.55**	**2.35%**	**$57,490.13**	**4.86%**
Dive Boat	$10,395.00				
Dive Basic Spread Saturation	$36,555.75				
Decommissioning Crew	$1,299.38				
Rem. Operated Vehicle	$9,240.00				
Cut Pipeline Riser		**7.70**	**1.57%**	**$38,326.75**	**3.24%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Rem. Operated Vehicle	$6,160.00				
Remove Tube Turn		**7.70**	**1.57%**	**$38,326.75**	**3.24%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Rem. Operated Vehicle	$6,160.00				
Bury Pipeline		**7.70**	**1.57%**	**$38,326.75**	**3.24%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Rem. Operated Vehicle	$6,160.00				
Pick Up Dive Boat Anchors		**3.00**	**0.61%**	**$14,932.50**	**1.26%**
Dive Boat	$2,700.00				
Dive Basic Spread Saturation	$9,495.00				
Decommissioning Crew	$337.50				
Rem. Operated Vehicle	$2,400.00				
Mobilize Dive Boat		**0.74**	**0.15%**	**$3,683.35**	**0.31%**
Dive Boat	$666.00				
Dive Basic Spread Saturation	$2,342.10				
Decommissioning Crew	$83.25				
Rem. Operated Vehicle	$592.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown

Set Up Dive Boat		**3.00**	**0.61%**	**$14,932.50**	**1.26%**
Dive Boat	$2,700.00				
Dive Basic Spread Saturation	$9,495.00				
Decommissioning Crew	$337.50				
Rem. Operated Vehicle	$2,400.00				
Expose Pipeline		**11.55**	**2.35%**	**$57,490.13**	**4.86%**
Dive Boat	$10,395.00				
Dive Basic Spread Saturation	$36,555.75				
Decommissioning Crew	$1,299.38				
Rem. Operated Vehicle	$9,240.00				
Cut & Plug Pipeline		**11.55**	**2.35%**	**$57,490.13**	**4.86%**
Dive Boat	$10,395.00				
Dive Basic Spread Saturation	$36,555.75				
Decommissioning Crew	$1,299.38				
Rem. Operated Vehicle	$9,240.00				
Cut Pipeline Riser		**7.70**	**1.57%**	**$38,326.75**	**3.24%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Rem. Operated Vehicle	$6,160.00				
Remove Tube Turn		**12.00**	**2.45%**	**$59,730.00**	**5.05%**
Dive Boat	$10,800.00				
Dive Basic Spread Saturation	$37,980.00				
Decommissioning Crew	$1,350.00				
Rem. Operated Vehicle	$9,600.00				
Bury Pipeline		**7.70**	**1.57%**	**$38,326.75**	**3.24%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Rem. Operated Vehicle	$6,160.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown

Demob Dive Boat		**20.10**	**4.10%**	**$100,047.75**	**8.45%**
Dive Boat	$18,090.00				
Dive Basic Spread Saturation	$63,616.50				
Decommissioning Crew	$2,261.25				
Rem. Operated Vehicle	$16,080.00				
	Total	**373.84**	**76.20%**	**$887,918.22**	**75.01%**

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown
HI A573 HIOS (Ver 1) Segment#:4591

Task		Task Hours		Task Cost	
Mobilize Work Boat		20.10	4.33%	$13,979.55	0.98%
Work Boat	$11,718.30				
Decommissioning Crew	$2,261.25				
Rig Up Decomm Equipment		5.00	1.08%	$3,477.50	0.24%
Work Boat	$2,915.00				
Decommissioning Crew	$562.50				
Pig & Flush Pipeline		136.40	29.38%	$94,866.20	6.66%
Work Boat	$79,521.20				
Decommissioning Crew	$15,345.00				
Derig Decomm Equipment		2.00	0.43%	$1,391.00	0.10%
Work Boat	$1,166.00				
Decommissioning Crew	$225.00				
Demob Work Boat		20.10	4.33%	$13,979.55	0.98%
Work Boat	$11,718.30				
Decommissioning Crew	$2,261.25				
Mobilize Dive Boat		20.10	4.33%	$83,967.75	5.89%
Dive Boat	$18,090.00				
Dive Basic Spread Saturation	$63,616.50				
Decommissioning Crew	$2,261.25				
Set Up Dive Boat		3.00	0.65%	$12,532.50	0.88%
Dive Boat	$2,700.00				
Dive Basic Spread Saturation	$9,495.00				
Decommissioning Crew	$337.50				
Expose Pipeline		11.55	2.49%	$48,250.13	3.39%
Dive Boat	$10,395.00				
Dive Basic Spread Saturation	$36,555.75				
Decommissioning Crew	$1,299.38				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown

Cut & Plug Pipeline		**11.55**	**2.49%**	**$48,250.13**	**3.39%**
Dive Boat	$10,395.00				
Dive Basic Spread Saturation	$36,555.75				
Decommissioning Crew	$1,299.38				
Cut Pipeline Riser		**7.70**	**1.66%**	**$32,166.75**	**2.26%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Remove Tube Turn		**7.70**	**1.66%**	**$32,166.75**	**2.26%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Bury Pipeline		**7.70**	**1.66%**	**$32,166.75**	**2.26%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Pick Up Dive Boat Anchors		**3.00**	**0.65%**	**$12,532.50**	**0.88%**
Dive Boat	$2,700.00				
Dive Basic Spread Saturation	$9,495.00				
Decommissioning Crew	$337.50				
Mobilize Dive Boat		**3.75**	**0.81%**	**$15,665.63**	**1.10%**
Dive Boat	$3,375.00				
Dive Basic Spread Saturation	$11,868.75				
Decommissioning Crew	$421.88				
Set Up Dive Boat		**3.00**	**0.65%**	**$12,532.50**	**0.88%**
Dive Boat	$2,700.00				
Dive Basic Spread Saturation	$9,495.00				
Decommissioning Crew	$337.50				
Expose Pipeline		**11.55**	**2.49%**	**$48,250.13**	**3.39%**
Dive Boat	$10,395.00				
Dive Basic Spread Saturation	$36,555.75				
Decommissioning Crew	$1,299.38				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown

Cut & Plug Pipeline		**11.55**	**2.49%**	**$48,250.13**	**3.39%**
Dive Boat	$10,395.00				
Dive Basic Spread Saturation	$36,555.75				
Decommissioning Crew	$1,299.38				
Cut Pipeline Riser		**7.70**	**1.66%**	**$32,166.75**	**2.26%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Remove Tube Turn		**7.70**	**1.66%**	**$32,166.75**	**2.26%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Demob Dive Boat		**20.10**	**4.33%**	**$83,967.75**	**5.89%**
Dive Boat	$18,090.00				
Dive Basic Spread Saturation	$63,616.50				
Decommissioning Crew	$2,261.25				
Demob P/L Removal Spread		**5.09**	**1.10%**	**$52,910.55**	**3.71%**
DB 2000	$35,630.00				
Dive Basic Spread Saturation	$16,109.85				
Pipeline Surveying	$1,170.70				
Remove Pipeline		**28.00**	**6.03%**	**$291,060.00**	**20.43%**
DB 2000	$196,000.00				
Dive Basic Spread Saturation	$88,620.00				
Pipeline Surveying	$6,440.00				
	Total	**354.34**	**76.32%**	**$1,046,697.25**	**73.47%**

HI A582 HIOS

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Salvage Option
HI A582 HIOS (Ver 1)

High Island Block A582 has one platform that is operated by Enterprise Products Partners L.P. The platform will be with a 2000-ton derrick barge. All production equipment will be flushed and purged of any hydrocarbons. The equipment that will be removed by the derrick barge will be cut free of the platform. Also the pipelines will be flushed, cleaned, plugged and left in-situ. (See #12 below.)

High Island A582 HIOS is a 4-pile manifold platform installed in 1979 in 330’ water depth. One 48-hour turtle watch operation conducted by the National Marine Fisheries service will be needed. The top deck equipment, and deck will be placed on a 240’ x 72’ cargo barge. Piles will be explosively severed and the jacket will be towed to shallow water, cut into manageable pieces and placed on additional 240' x 72' cargo barges. The decks, facilities and jacket will be taken to shore and scrapped. Side Scan Sonar and Divers (if necessary) will perform a bottom sweep to verify the site is clear.

This estimate is based on the following assumptions:

1. All decks and jackets and associated equipment are taken to shore and scrapped.
2. Removal Contractor is responsible for transport and disposal of decks, jackets, and associated equipment.
3. No salvage or resale value has been considered for the structure or equipment.
4. One derrick mobilization/demobilization cost is included for each block.
5. Mobilization times are estimated from the Eugene Island sea buoy.
6. No dockside mobilization or demobilization is included, construction barge spreads are assumed to be readily available in the Gulf of Mexico.
7. All work will be performed during the summer work season.
8. Allowances have been made for named tropical storm downtime.
9. The current guidelines for the use of explosives are assumed.
10. No allowances have been made for the presence of sea turtles or marine mammals.
11. All NORM, NOW, and industrial waste are removed from the platforms prior to decommissioning.
12. All pipelines are abandoned-in-place.
13. Tube Turns and 100' of pipeline are removed at each end of pipelines.
14. Tube Turns and pipelines are buried a minimum of 5ft. at the base of the platform.
15. All pipeline ends can be sealed using mechanical-type plugs. No provisions are made for more stringent environmental or safety regulations.
16. Site clearance and verification is in accordance with the latest NTL.
17. Hourly rates for construction and diving spreads are developed from offshore contractors published rates.
18. Engineering & Project Management cost 8% (company or other).
19. Work Contingency of 15% is included. This is work not currently itemized in our database, but is shown as necessary per actual removals in the Gulf of Mexico.
20. Weather allowance of 20%, consisting of 14% for regular weather and 6% for named

Enterprise Products Partners L.P.
Platform Salvage Option
HI A582 HIOS (Ver 1)

tropical storms.

The following data will be assumed based on previous estimates developed and work experience:
Pile OD
Deck Weights
Jacket Weights
Grout Weights
Equipment Weights

Estimated Decommissioning Gross Cost = $11,456,807

Estimated Decommissioning Net Cost = $11,456,807

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Basic Information
HI A582 HIOS (Ver 1)

General Data

Platform:	HI A582 HIOS
Function:	DRILL/MANIFOLD
Type:	Steel
Water Depth:	330'
Pre 461H?:	Yes
Year Installed:	1979
Year Estimate Developed:	
District:	Gulf of Mexico
Lease Number:	
Account Code:	TSB - 29027
Amortization:	1.00
# Wells to P & A:	0
# Pipelines to Abandon:	2
Estimate Complete?:	Yes

Partner Data

	Partner	Working Intere
1	Enterprise Products Partners L.P.	100.00%

Estimated Costs

	Gross Cost	Net Cost
Platform Removal:	$8,788,135	$8,788,135
Well Plugging & Abandonment:	$0	$0
Pipeline Abandonment:	$2,668,672	$2,668,672
Total Decommissioning Cost:	$11,456,807	$11,456,807

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Information
HI A582 HIOS (Ver 1)

Pile/Tendon Data

	Number	Outside Diameter	Wall Thickness	Grout Annulus	Grout Internal	Depth Below
Main:	4	36"	1.5"	No	No	
Skirt/Braced	4	36"	1.5"	No	No	
Anchor:	0					
Dolphin:	0					

Deck Dimensions

	Dimensions	Elevation
Upper:	60X60	92
Middle:	60X30	73
Lower:	80X80	48

Conductors

Number of Slots:	0
Number Installed:	0
Outside Diameter:	
Wall Thickness:	
Number Slanted:	0

Jacket Data

	Weight (Tons)	With Piles	With Piles & Grout
Submerged:			
Dry:	1701.00	✍	✍

Jacket Installation Date:

Jacket Contractor:

Deck Data

Deck Lift Weight with Equipment:	300 Tons
Number of Padeyes Required:	0
Deck Installation Date:	3/3/97
Deck Contractor:	

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Information
HI A582 HIOS (Ver 1)

Equipment Lift Weights

Equipmen	Weight (Tons)
Boom	10.00
Equipment	0.00
Heliport	20.00

Members to be Cut Data

Top Members

Size	Qty
16.00	8.00
20.00	8.00
22.00	8.00
40.00	12.00

Cargo Descriptions

Cargo Barge Size	Cargo Description	
CB 240 x 72	Deck > 500T	Equipment
CB 240 x 72	Jkt 300-700T	
CB 240 x 72	Jkt 300-700T	
CB 240 x 72	Jkt 300-700T	
CB 240 x 72	Jkt 300-700T	

Miscellaneous Data

Derrick Barge Anchors:	8
Assist Derrick Barge Anchors:	0
Tow Distance:	0.00
Provision for Misc. Work%:	15.00%
Weather Contingency%:	20.00%
Engineering%:	8.00%

Miscellaneous Costs

Consumables:	$0.00
Waste Disposal:	$0.00
Structure & Equipment Disposal:	$0.00
Reef Donation:	$0.00
Cost of Engineering:	$528,424.13

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Comments
HI A582 HIOS (Ver 1)

Assumed the following:
Jacket Weights, Deck Weights, Pile Sizes, Grout Weights, Equipment Weights

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Task Information
HI A582 HIOS (Ver 1)

Task	Note	Contingency	Task Hours		Task Cost	
Fab Explosive Charges	Includes four (4) skirt piles	☐	0.00	0.00%	$20,000.00	0.23%
Platform Removal Preparation		☐	504.00	16.05%	$504,000.00	5.74%
Mobilize Work Boat		☐	20.10	0.64%	$12,582.60	0.14%
NMFS Marine Observation		☐	48.00	1.53%	$30,048.00	0.34%
Mobilize DB 2000		☐	24.43	0.78%	$262,770.70	2.99%
Mobilize CB 240 & Tug		☐	42.20	1.34%	$41,852.00	0.48%
Mobilize CB 240 & Tug		☐	42.20	1.34%	$41,852.00	0.48%
Mobilize CB 240 & Tug		☐	42.20	1.34%	$41,852.00	0.48%
Mobilize CB 240 & Tug		☐	42.20	1.34%	$41,852.00	0.48%
Mobilize CB 240 & Tug		☐	42.20	1.34%	$41,852.00	0.48%
Route Survey to Reef Site	Shallow water for cutting jacket	☐	48.00	1.53%	$38,640.00	0.44%
Demob Work Boat		☐	20.10	0.64%	$10,050.00	0.11%
Setup Derrick Barge		☑	6.75	0.21%	$71,658.00	0.82%
Cut Deck/Equip/Misc		☑	3.85	0.12%	$43,412.60	0.49%
Remove Equipment		☑	1.00	0.03%	$11,276.00	0.13%
Remove 4 Pile Deck		☑	9.35	0.30%	$105,430.60	1.20%
Demob CB 240 & Tug		☐	42.20	1.34%	$27,852.00	0.32%
Jet/Airlift Pile Mud Plug		☑	16.00	0.51%	$169,856.00	1.93%
Jet/Air Skrt Pile Mud Plg		☑	30.80	0.98%	$326,972.80	3.72%
Standby for Daylight Det.		☑	8.00	0.25%	$84,928.00	0.97%
Set Charges in Skirt Piles		☑	10.15	0.32%	$107,752.40	1.23%
Pre/Post Detonat'n Survey		☑	1.00	0.03%	$17,116.00	0.19%
Sever Piles- Explosive		☑	2.92	0.09%	$30,998.72	0.35%
Sever Piles- Explosive	Skirt Piles	☑	1.92	0.06%	$20,382.72	0.23%
Install Closure Plates		☑	5.00	0.16%	$51,975.00	0.59%
Deballast Piles or Jkt Lg		☑	5.00	0.16%	$51,975.00	0.59%
Lift/Secure Jkt for Tow		☑	6.00	0.19%	$66,330.00	0.75%
Tow Jckt to Shallow Water	Tow to 232' water depth	☑	10.00	0.32%	$110,550.00	1.26%
Setup Derrick Barge		☑	6.75	0.21%	$74,621.25	0.85%
Cut Jacket	Cut at -88' elev.	☑	49.33	1.57%	$545,343.20	6.21%
Remove Jacket - Meth 1		☑	13.75	0.44%	$152,006.25	1.73%
Demob CB 240 & Tug		☐	42.20	1.34%	$27,852.00	0.32%
Install Closure Plates		☑	5.00	0.16%	$51,975.00	0.59%
Deballast Piles or Jkt Lg		☑	5.00	0.16%	$51,975.00	0.59%
Lift/Secure Jkt for Tow		☑	6.00	0.19%	$66,330.00	0.75%
Tow Jckt to Shallow Water	Tow to 158' water depth	☑	8.00	0.25%	$88,440.00	1.01%
Setup Derrick Barge		☑	6.75	0.21%	$74,621.25	0.85%
Cut Jacket	Cut at -168' elevation.	☑	49.33	1.57%	$545,343.20	6.21%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Task Information
HI A582 HIOS (Ver 1)

Task	Note	Contingency	Task Hours		Task Cost	
Remove Jacket - Meth 2		☑	26.50	0.84%	$292,957.50	3.33%
Demob CB 240 & Tug		☐	42.20	1.34%	$27,852.00	0.32%
Install Closure Plates		☑	5.00	0.16%	$51,975.00	0.59%
Deballast Piles or Jkt Lg		☑	5.00	0.16%	$51,975.00	0.59%
Lift/Secure Jkt for Tow		☑	6.00	0.19%	$66,330.00	0.75%
Tow Jckt to Shallow Water	Tow to 70' water depth.	☑	6.00	0.19%	$66,330.00	0.75%
Setup Derrick Barge		☑	6.75	0.21%	$74,621.25	0.85%
Cut Jacket	Cut at -252' elevation	☑	49.33	1.57%	$545,343.20	6.21%
Remove Jacket - Meth 2		☑	26.50	0.84%	$292,957.50	3.33%
Demob CB 240 & Tug		☐	42.20	1.34%	$27,852.00	0.32%
Remove Jacket - Meth 2	Remove base section	☑	26.50	0.84%	$292,957.50	3.33%
Demob CB 240 & Tug		☐	42.20	1.34%	$27,852.00	0.32%
Pick Up DB Anchors		☑	6.75	0.21%	$70,166.25	0.80%
Demob DB 2000		☐	24.43	0.78%	$260,449.85	2.96%
Site Clearance - with Divers	Does not include debris removal	☐	6.00	0.19%	$119,358.00	1.36%
Offload CB 240		☐	1440.00	45.86%	$272,000.00	3.10%
		Task Total	2989.04	95.19%	$6,605,301.35	75.16%
		Misc. Work Provision (15.00%)	64.8	2.06%	$709,032.40	8.07%
		Weather Contingency (20.00%)	86.4	2.75%	$945,376.40	10.76%
		Consumables			$0.00	0.00%
		Waste Disposal			$0.00	0.00%
		Structure & Equipment Disposal			$0.00	0.00%
		Offloading			$0.00	0.00%
		Storage / Scrapping			$0.00	0.00%
		Reef Donation			$0.00	0.00%
		Cost of Engineering (8.00%)			$528,424.10	6.01%
		Total:	3140.24	100.00%	$8,788,134.25	100.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Resources Breakdown
HI A582 HIOS (Ver 1)

Resource Used	Unit Cost		Cost	
Cargo Barge 240	$4,200.00	per Day per Barge	$252,000.00	2.87%
CB 240 & Tug	$660.00	per Hour per Barge/Tug	$488,195.40	5.56%
CB Damage Deduct	$20,000.00	per Cargo Barge	$20,000.00	0.23%
Decomm Platform	$0.00	Calculated from tables	$252,000.00	2.87%
Derrick Barge 2000	$7,000.00	per Hour per barge	$3,365,880.00	38.30%
Dive Basic Spread Saturation	$3,165.00	Per Hour	$1,578,828.76	17.97%
Dive Boat	$900.00	per Hour	$5,400.00	0.06%
Dive Serv - Suppl	$0.00	Calculated from tables	$56,988.00	0.65%
Expl Charge - Piling	$10,000.00	per Pile	$20,000.00	0.23%
Expl Technician	$95.00	per Hour	$11,036.15	0.13%
Helicopter Trips	$6,500.00	per Round Trip	$19,500.00	0.22%
NMFS Observers (2)	$126.00	per Hour	$20,139.84	0.23%
Pipeline Survey	$230.00	per Hour	$121,633.20	1.38%
Rig Up CB 240	$14,000.00	per Barge	$70,000.00	0.80%
Side Scan Sonar	$75.00	per Hour	$3,600.00	0.04%
Work Boat	$500.00	per Hour	$320,100.00	3.64%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A582 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Fab Explosive Charges		**0.00**	**0.00%**	**$20,000.00**	**0.23%**
Expl Charge - Piling	$10,000.00				
Expl Charge - Piling	$10,000.00				
Platform Removal Preparation		**504.00**	**.6.05%**	**$504,000.00**	**5.74%**
Decomm Platform	$252,000.00				
Work Boat	$252,000.00				
Mobilize Work Boat		**20.10**	**0.64%**	**$12,582.60**	**0.14%**
Work Boat	$10,050.00				
NMFS Observers (2)	$2,532.60				
NMFS Marine Observation		**48.00**	**1.53%**	**$30,048.00**	**0.34%**
Work Boat	$24,000.00				
NMFS Observers (2)	$6,048.00				
Mobilize DB 2000		**24.43**	**0.78%**	**$262,770.70**	**2.99%**
Derrick Barge 2000	$171,010.00				
Dive Basic Spread Saturation	$77,320.95				
Pipeline Survey	$5,618.90				
Expl Technician	$2,320.85				
Helicopter Trips	$6,500.00				
Mobilize CB 240 & Tug		**42.20**	**1.34%**	**$41,852.00**	**0.48%**
CB 240 & Tug	$27,852.00				
Rig Up CB 240	$14,000.00				
Mobilize CB 240 & Tug		**42.20**	**1.34%**	**$41,852.00**	**0.48%**
CB 240 & Tug	$27,852.00				
Rig Up CB 240	$14,000.00				
Mobilize CB 240 & Tug		**42.20**	**1.34%**	**$41,852.00**	**0.48%**
CB 240 & Tug	$27,852.00				
Rig Up CB 240	$14,000.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A582 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Mobilize CB 240 & Tug		42.20	1.34%	$41,852.00	0.48%
CB 240 & Tug	$27,852.00				
Rig Up CB 240	$14,000.00				
Mobilize CB 240 & Tug		42.20	1.34%	$41,852.00	0.48%
CB 240 & Tug	$27,852.00				
Rig Up CB 240	$14,000.00				
Route Survey to Reef Site		48.00	1.53%	$38,640.00	0.44%
Pipeline Survey	$11,040.00				
Side Scan Sonar	$3,600.00				
Work Boat	$24,000.00				
Demob Work Boat		20.10	0.64%	$10,050.00	0.11%
Work Boat	$10,050.00				
Setup Derrick Barge		6.75	0.21%	$71,658.00	0.82%
Derrick Barge 2000	$47,250.00				
Dive Basic Spread Saturation	$21,363.75				
Pipeline Survey	$1,552.50				
Expl Technician	$641.25				
NMFS Observers (2)	$850.50				
Cut Deck/Equip/Misc		3.85	0.12%	$43,412.60	0.49%
Derrick Barge 2000	$26,950.00				
Dive Basic Spread Saturation	$12,185.25				
Pipeline Survey	$885.50				
Expl Technician	$365.75				
NMFS Observers (2)	$485.10				
CB 240 & Tug	$2,541.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A582 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Remove Equipment		**1.00**	**0.03%**	**$11,276.00**	**0.13%**
Derrick Barge 2000	$7,000.00				
Dive Basic Spread Saturation	$3,165.00				
Pipeline Survey	$230.00				
Expl Technician	$95.00				
NMFS Observers (2)	$126.00				
CB 240 & Tug	$660.00				
Remove 4 Pile Deck		**9.35**	**0.30%**	**$105,430.60**	**1.20%**
Derrick Barge 2000	$65,450.00				
Dive Basic Spread Saturation	$29,592.75				
Pipeline Survey	$2,150.50				
Expl Technician	$888.25				
NMFS Observers (2)	$1,178.10				
CB 240 & Tug	$6,171.00				
Demob CB 240 & Tug		**42.20**	**1.34%**	**$27,852.00**	**0.32%**
CB 240 & Tug	$27,852.00				
Jet/Airlift Pile Mud Plug		**16.00**	**0.51%**	**$169,856.00**	**1.93%**
Derrick Barge 2000	$112,000.00				
Dive Basic Spread Saturation	$50,640.00				
Pipeline Survey	$3,680.00				
Expl Technician	$1,520.00				
NMFS Observers (2)	$2,016.00				
Jet/Air Skrt Pile Mud Plg		**30.80**	**0.98%**	**$326,972.80**	**3.72%**
Derrick Barge 2000	$215,600.00				
Dive Basic Spread Saturation	$97,482.00				
Pipeline Survey	$7,084.00				
Expl Technician	$2,926.00				
NMFS Observers (2)	$3,880.80				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A582 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Standby for Daylight Det.		**8.00**	**0.25%**	**$84,928.00**	**0.97%**
Derrick Barge 2000	$56,000.00				
Dive Basic Spread Saturation	$25,320.00				
Pipeline Survey	$1,840.00				
Expl Technician	$760.00				
NMFS Observers (2)	$1,008.00				
Set Charges in Skirt Piles		**10.15**	**0.32%**	**$107,752.40**	**1.23%**
Derrick Barge 2000	$71,050.00				
Dive Basic Spread Saturation	$32,124.75				
Pipeline Survey	$2,334.50				
Expl Technician	$964.25				
NMFS Observers (2)	$1,278.90				
Pre/Post Detonat'n Survey		**1.00**	**0.03%**	**$17,116.00**	**0.19%**
Derrick Barge 2000	$7,000.00				
Dive Basic Spread Saturation	$3,165.00				
Pipeline Survey	$230.00				
Expl Technician	$95.00				
NMFS Observers (2)	$126.00				
Helicopter Trips	$6,500.00				
Sever Piles- Explosive		**2.92**	**0.09%**	**$30,998.72**	**0.35%**
Derrick Barge 2000	$20,440.00				
Dive Basic Spread Saturation	$9,241.80				
Pipeline Survey	$671.60				
Expl Technician	$277.40				
NMFS Observers (2)	$367.92				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A582 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Sever Piles- Explosive		**1.92**	**0.06%**	**$20,382.72**	**0.23%**
Derrick Barge 2000	$13,440.00				
Dive Basic Spread Saturation	$6,076.80				
Pipeline Survey	$441.60				
Expl Technician	$182.40				
NMFS Observers (2)	$241.92				
Install Closure Plates		**5.00**	**0.16%**	**$51,975.00**	**0.59%**
Derrick Barge 2000	$35,000.00				
Dive Basic Spread Saturation	$15,825.00				
Pipeline Survey	$1,150.00				
Deballast Piles or Jkt Lg		**5.00**	**0.16%**	**$51,975.00**	**0.59%**
Derrick Barge 2000	$35,000.00				
Dive Basic Spread Saturation	$15,825.00				
Pipeline Survey	$1,150.00				
Lift/Secure Jkt for Tow		**6.00**	**0.19%**	**$66,330.00**	**0.75%**
Derrick Barge 2000	$42,000.00				
Dive Basic Spread Saturation	$18,990.00				
Pipeline Survey	$1,380.00				
CB 240 & Tug	$3,960.00				
Tow Jckt to Shallow Water		**10.00**	**0.32%**	**$110,550.00**	**1.26%**
Derrick Barge 2000	$70,000.00				
Dive Basic Spread Saturation	$31,650.00				
Pipeline Survey	$2,300.00				
CB 240 & Tug	$6,600.00				
Setup Derrick Barge		**6.75**	**0.21%**	**$74,621.25**	**0.85%**
Derrick Barge 2000	$47,250.00				
Dive Basic Spread Saturation	$21,363.75				
Pipeline Survey	$1,552.50				
CB 240 & Tug	$4,455.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A582 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Cut Jacket		49.33	1.57%	$545,343.20	6.21%
Derrick Barge 2000	$345,310.00				
Dive Basic Spread Saturation	$156,129.50				
Pipeline Survey	$11,345.90				
CB 240 & Tug	$32,557.80				
Remove Jacket - Meth 1		13.75	0.44%	$152,006.25	1.73%
Derrick Barge 2000	$96,250.00				
Dive Basic Spread Saturation	$43,518.75				
Pipeline Survey	$3,162.50				
CB 240 & Tug	$9,075.00				
Demob CB 240 & Tug		42.20	1.34%	$27,852.00	0.32%
CB 240 & Tug	$27,852.00				
Install Closure Plates		5.00	0.16%	$51,975.00	0.59%
Derrick Barge 2000	$35,000.00				
Dive Basic Spread Saturation	$15,825.00				
Pipeline Survey	$1,150.00				
Deballast Piles or Jkt Lg		5.00	0.16%	$51,975.00	0.59%
Derrick Barge 2000	$35,000.00				
Dive Basic Spread Saturation	$15,825.00				
Pipeline Survey	$1,150.00				
Lift/Secure Jkt for Tow		6.00	0.19%	$66,330.00	0.75%
Derrick Barge 2000	$42,000.00				
Dive Basic Spread Saturation	$18,990.00				
Pipeline Survey	$1,380.00				
CB 240 & Tug	$3,960.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A582 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Tow Jckt to Shallow Water		**8.00**	**0.25%**	**$88,440.00**	**1.01%**
Derrick Barge 2000	$56,000.00				
Dive Basic Spread Saturation	$25,320.00				
Pipeline Survey	$1,840.00				
CB 240 & Tug	$5,280.00				
Setup Derrick Barge		**6.75**	**0.21%**	**$74,621.25**	**0.85%**
Derrick Barge 2000	$47,250.00				
Dive Basic Spread Saturation	$21,363.75				
Pipeline Survey	$1,552.50				
CB 240 & Tug	$4,455.00				
Cut Jacket		**49.33**	**1.57%**	**$545,343.20**	**6.21%**
Derrick Barge 2000	$345,310.00				
Dive Basic Spread Saturation	$156,129.50				
Pipeline Survey	$11,345.90				
CB 240 & Tug	$32,557.80				
Remove Jacket - Meth 2		**26.50**	**0.84%**	**$292,957.50**	**3.33%**
Derrick Barge 2000	$185,500.00				
Dive Basic Spread Saturation	$83,872.50				
Pipeline Survey	$6,095.00				
CB 240 & Tug	$17,490.00				
Demob CB 240 & Tug		**42.20**	**1.34%**	**$27,852.00**	**0.32%**
CB 240 & Tug	$27,852.00				
Install Closure Plates		**5.00**	**0.16%**	**$51,975.00**	**0.59%**
Derrick Barge 2000	$35,000.00				
Dive Basic Spread Saturation	$15,825.00				
Pipeline Survey	$1,150.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A582 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Deballast Piles or Jkt Lg		**5.00**	**0.16%**	**$51,975.00**	**0.59%**
Derrick Barge 2000	$35,000.00				
Dive Basic Spread Saturation	$15,825.00				
Pipeline Survey	$1,150.00				
Lift/Secure Jkt for Tow		**6.00**	**0.19%**	**$66,330.00**	**0.75%**
Derrick Barge 2000	$42,000.00				
Dive Basic Spread Saturation	$18,990.00				
Pipeline Survey	$1,380.00				
CB 240 & Tug	$3,960.00				
Tow Jckt to Shallow Water		**6.00**	**0.19%**	**$66,330.00**	**0.75%**
Derrick Barge 2000	$42,000.00				
Dive Basic Spread Saturation	$18,990.00				
Pipeline Survey	$1,380.00				
CB 240 & Tug	$3,960.00				
Setup Derrick Barge		**6.75**	**0.21%**	**$74,621.25**	**0.85%**
Derrick Barge 2000	$47,250.00				
Dive Basic Spread Saturation	$21,363.75				
Pipeline Survey	$1,552.50				
CB 240 & Tug	$4,455.00				
Cut Jacket		**49.33**	**1.57%**	**$545,343.20**	**6.21%**
Derrick Barge 2000	$345,310.00				
Dive Basic Spread Saturation	$156,129.50				
Pipeline Survey	$11,345.90				
CB 240 & Tug	$32,557.80				
Remove Jacket - Meth 2		**26.50**	**0.84%**	**$292,957.50**	**3.33%**
Derrick Barge 2000	$185,500.00				
Dive Basic Spread Saturation	$83,872.50				
Pipeline Survey	$6,095.00				
CB 240 & Tug	$17,490.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
HI A582 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Demob CB 240 & Tug		**42.20**	**1.34%**	**$27,852.00**	**0.32%**
CB 240 & Tug	$27,852.00				
Remove Jacket - Meth 2		**26.50**	**0.84%**	**$292,957.50**	**3.33%**
Derrick Barge 2000	$185,500.00				
Dive Basic Spread Saturation	$83,872.50				
Pipeline Survey	$6,095.00				
CB 240 & Tug	$17,490.00				
Demob CB 240 & Tug		**42.20**	**1.34%**	**$27,852.00**	**0.32%**
CB 240 & Tug	$27,852.00				
Pick Up DB Anchors		**6.75**	**0.21%**	**$70,166.25**	**0.80%**
Derrick Barge 2000	$47,250.00				
Dive Basic Spread Saturation	$21,363.75				
Pipeline Survey	$1,552.50				
Demob DB 2000		**24.43**	**0.78%**	**$260,449.85**	**2.96%**
Derrick Barge 2000	$171,010.00				
Dive Basic Spread Saturation	$77,320.95				
Pipeline Survey	$5,618.90				
Helicopter Trips	$6,500.00				
Site Clearance - with Divers		**6.00**	**0.19%**	**$119,358.00**	**1.36%**
Dive Boat	$5,400.00				
Dive Basic Spread Saturation	$56,970.00				
Dive Serv - Suppl	$56,988.00				
Offload CB 240		**1440.00**	**⁞5.86%**	**$272,000.00**	**3.10%**
Cargo Barge 240	$252,000.00				
CB Damage Deduct	$20,000.00				
	Total	**2989.04**	**⁞5.19%**	**⁞6,605,301.35**	**75.16%**

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Information
HI A582 HIOS (Ver1) Segment#:4592

General Data

Water Depth:	330'
Origin / Terminus:	Origin
Opposite End Name:	HI A264 A
Opposite End Water Depth:	152'
Pipeline Operator:	Enterprise Products Partners L.
Provision for Misc. Work%:	15.00%
Weather Contingency %:	20.00%

Pipeline Data

Outside Diameter:	30"	Wall Thickness:		Length:	283574'
Depth of Burial:		# Crossings:		Product:	Gas/Cond
Installation Date:		Weight Coating:	No	J Tube:	No
Riser?:	No	Riser Guard?:	No		

Comments

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Information
HI A582 HIOS (Ver1) Segment#:7869

General Data

Water Depth:	330'
Origin / Terminus:	Origin
Opposite End Name:	HI A582 A
Opposite End Water Depth:	330'
Pipeline Operator:	El Paso
Provision for Misc. Work%:	15.00%
Weather Contingency %:	20.00%

Pipeline Data

Outside Diameter:	30"	Wall Thickness:		Length:	4469'
Depth of Burial:		# Crossings:		Product:	Gas/Cond
Installation Date:		Weight Coating:	No	J Tube:	No
Riser?:	No	Riser Guard?:	No		

Comments

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.

Pipeline Decommission Task Information

HI A582 HIOS (Ver 1) Segment#:4592

Task	Note	Contingency	Task Hours		Task Cost	
Mobilize Work Boat		☑	20.10	3.89%	$13,979.55	0.97%
Rig Up Decomm Equipment		☑	5.00	0.97%	$3,477.50	0.24%
Pig & Flush Pipeline		☑	183.14	35.46%	$127,373.85	8.86%
Derig Decomm Equipment		☑	2.00	0.39%	$1,391.00	0.10%
Demob Work Boat		☑	20.10	3.89%	$13,979.55	0.97%
Mobilize Dive Boat	Shared with Segment No. 7869	☐	10.05	1.95%	$41,983.88	2.92%
Set Up Dive Boat		☑	3.00	0.58%	$12,532.50	0.87%
Expose Pipeline		☑	11.55	2.24%	$48,250.13	3.36%
Cut & Plug Pipeline	Cut pipeline 100' from platform	☑	11.55	2.24%	$48,250.13	3.36%
Cut Pipeline Riser		☑	7.70	1.49%	$32,166.75	2.24%
Remove Tube Turn		☑	7.70	1.49%	$32,166.75	2.24%
Bury Pipeline		☑	7.70	1.49%	$32,166.75	2.24%
Pick Up Dive Boat Anchors		☑	3.00	0.58%	$12,532.50	0.87%
Mobilize Dive Boat	Mobilize Dive Boat to other end.	☑	4.67	0.90%	$19,508.93	1.36%
Set Up Dive Boat		☑	3.00	0.58%	$12,532.50	0.87%
Expose Pipeline		☑	11.55	2.24%	$48,250.13	3.36%
Cut & Plug Pipeline	Cut pipeline 100' from platform	☑	11.55	2.24%	$48,250.13	3.36%
Cut Pipeline Riser		☑	7.70	1.49%	$32,166.75	2.24%
Remove Tube Turn		☑	7.70	1.49%	$32,166.75	2.24%
Bury Pipeline		☑	7.70	1.49%	$32,166.75	2.24%
Demob Dive Boat	Shared with Segment No. 7869	☐	10.05	1.95%	$41,983.88	2.92%
Demob P/L Removal Spread	Mobilize platform removal derrick barge to other end of pipeline	☑	3.25	0.63%	$35,181.25	2.45%
Remove Pipeline	Remove Tube Turns & 100' of pipeline at each end	☑	28.00	5.42%	$303,100.00	21.09%
		Task Total	387.76	75.08%	$1,025,557.91	71.36%
		Misc. Work Provision (15.00%)	55.15	10.68%	$141,238.53	9.83%
		her Contingency (20.00%)	73.53	14.24%	$188,318.03	13.10%
		Consumables			$0.00	0.00%
		Waste Disposal			$0.00	0.00%
		Structure & Equipment Disposal			$0.00	0.00%
		Offloading			$0.00	0.00%
		Storage / Scrapping			$0.00	0.00%
		Reef Donation			$0.00	0.00%
		Cost of Engineering (8.00%)			$82,044.63	5.71%
		Total:	516.44	100.00%	$1,437,159.10	100.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Task Information
HI A582 HIOS (Ver 1) Segment#:7869

Task	Note	Contingency	Task Hours		Task Cost	
Mobilize Work Boat		☑	20.10	7.49%	$13,979.55	1.14%
Rig Up Decomm Equipment		☑	5.00	1.86%	$3,477.50	0.28%
Pig & Flush Pipeline		☑	4.00	1.49%	$2,782.00	0.23%
Derig Decomm Equipment		☑	2.00	0.75%	$1,391.00	0.11%
Demob Work Boat		☑	20.10	7.49%	$13,979.55	1.14%
Mobilize Dive Boat	Shared with Segment 4592	☐	10.05	3.74%	$41,983.88	3.41%
Set Up Dive Boat		☑	3.00	1.12%	$12,532.50	1.02%
Expose Pipeline		☑	11.55	4.30%	$48,250.13	3.92%
Cut & Plug Pipeline		☑	11.55	4.30%	$48,250.13	3.92%
Cut Pipeline Riser	Cut pipeline 100' from platform	☑	7.70	2.87%	$32,166.75	2.61%
Remove Tube Turn		☑	7.70	2.87%	$32,166.75	2.61%
Bury Pipeline		☑	7.70	2.87%	$32,166.75	2.61%
Pick Up Dive Boat Anchors		☑	3.00	1.12%	$12,532.50	1.02%
Mobilize Dive Boat	Mobilize Dive Boat to other end.	☑	0.07	0.03%	$292.43	0.02%
Set Up Dive Boat		☑	3.00	1.12%	$12,532.50	1.02%
Expose Pipeline		☑	11.55	4.30%	$48,250.13	3.92%
Cut & Plug Pipeline	Cut pipeline 100' from platform	☑	11.55	4.30%	$48,250.13	3.92%
Cut Pipeline Riser		☑	7.70	2.87%	$32,166.75	2.61%
Remove Tube Turn		☑	7.70	2.87%	$32,166.75	2.61%
Bury Pipeline		☑	7.70	2.87%	$32,166.75	2.61%
Demob Dive Boat	Shared with Segment 4592	☐	10.05	3.74%	$41,983.88	3.41%
Demob P/L Removal Spread	Mobilize platform removal derrick barge to other end of pipeline	☑	3.25	1.21%	$35,181.25	2.86%
Remove Pipeline	Remove Tube Turns & 100' of pipeline at each end	☑	28.00	10.43%	$303,100.00	24.61%
		Task Total	204.02	76.02%	$881,749.56	71.60%
		Misc. Work Provision (15.00%)	27.59	10.28%	$119,667.27	9.72%
		her Contingency (20.00%)	36.78	13.71%	$159,556.36	12.96%
		Consumables			$0.00	0.00%
		Waste Disposal			$0.00	0.00%
		Structure & Equipment Disposal			$0.00	0.00%
		Offloading			$0.00	0.00%
		Storage / Scrapping			$0.00	0.00%
		Reef Donation			$0.00	0.00%
		Cost of Engineering (8.00%)			$70,539.96	5.73%
		Total:	268.39	100.00%	$1,231,513.16	100.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Resources Breakdown
HI A582 HIOS (Ver 1) Segment#:4592

Resource Used	Unit Cost		Cost	
CB 240 & Tug	$660.00	per Hour per Barge/Tug	$20,625.00	1.44%
DB 2000	$7,000.00	per Hour per Barge	$218,750.00	15.29%
Decommissioning Crew	$0.00	Calculated from tables	$40,107.41	2.80%
Dive Basic Spread Saturation	$3,165.00	Per Hour	$498,234.30	34.83%
Dive Boat	$900.00	Calculated from tables	$113,553.00	7.94%
Manual Calculation	$0.00	Independently Calculated	$0.00	0.00%
Work Boat	$583.00	per Hour	$134,288.20	9.39%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Resources Breakdown
HI A582 HIOS (Ver 1) Segment#:7869

Resource Used	Unit Cost		Cost	
CB 240 & Tug	$660.00	per Hour per Barge/Tug	$20,625.00	1.68%
DB 2000	$7,000.00	per Hour per Barge	$218,750.00	17.86%
Decommissioning Crew	$0.00	Calculated from tables	$19,436.66	1.59%
Dive Basic Spread Saturation	$3,165.00	Per Hour	$483,675.30	39.49%
Dive Boat	$900.00	Calculated from tables	$109,413.00	8.93%
Work Boat	$583.00	per Hour	$29,849.60	2.44%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown
HI A582 HIOS (Ver 1) Segment#:4592

Task		Task Hours		Task Cost	
Mobilize Work Boat		20.10	3.89%	$13,979.55	0.98%
Work Boat	$11,718.30				
Decommissioning Crew	$2,261.25				
Rig Up Decomm Equipment		5.00	0.97%	$3,477.50	0.24%
Work Boat	$2,915.00				
Decommissioning Crew	$562.50				
Pig & Flush Pipeline		183.14	35.46%	$127,373.85	8.90%
Work Boat	$106,770.60				
Decommissioning Crew	$20,603.25				
Derig Decomm Equipment		2.00	0.39%	$1,391.00	0.10%
Work Boat	$1,166.00				
Decommissioning Crew	$225.00				
Demob Work Boat		20.10	3.89%	$13,979.55	0.98%
Work Boat	$11,718.30				
Decommissioning Crew	$2,261.25				
Mobilize Dive Boat		10.05	1.95%	$41,983.88	2.94%
Dive Boat	$9,045.00				
Dive Basic Spread Saturation	$31,808.25				
Decommissioning Crew	$1,130.63				
Set Up Dive Boat		3.00	0.58%	$12,532.50	0.88%
Dive Boat	$2,700.00				
Dive Basic Spread Saturation	$9,495.00				
Decommissioning Crew	$337.50				
Expose Pipeline		11.55	2.24%	$48,250.13	3.37%
Dive Boat	$10,395.00				
Dive Basic Spread Saturation	$36,555.75				
Decommissioning Crew	$1,299.38				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown

Cut & Plug Pipeline		**11.55**	**2.24%**	**$48,250.13**	**3.37%**
Dive Boat	$10,395.00				
Dive Basic Spread Saturation	$36,555.75				
Decommissioning Crew	$1,299.38				
Cut Pipeline Riser		**7.70**	**1.49%**	**$32,166.75**	**2.25%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Remove Tube Turn		**7.70**	**1.49%**	**$32,166.75**	**2.25%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Manual Calculation	$0.00				
Bury Pipeline		**7.70**	**1.49%**	**$32,166.75**	**2.25%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Pick Up Dive Boat Anchors		**3.00**	**0.58%**	**$12,532.50**	**0.88%**
Dive Boat	$2,700.00				
Dive Basic Spread Saturation	$9,495.00				
Decommissioning Crew	$337.50				
Mobilize Dive Boat		**4.67**	**0.90%**	**$19,508.93**	**1.36%**
Dive Boat	$4,203.00				
Dive Basic Spread Saturation	$14,780.55				
Decommissioning Crew	$525.38				
Set Up Dive Boat		**3.00**	**0.58%**	**$12,532.50**	**0.88%**
Dive Boat	$2,700.00				
Dive Basic Spread Saturation	$9,495.00				
Decommissioning Crew	$337.50				
Expose Pipeline		**11.55**	**2.24%**	**$48,250.13**	**3.37%**
Dive Boat	$10,395.00				
Dive Basic Spread Saturation	$36,555.75				
Decommissioning Crew	$1,299.38				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown

Cut & Plug Pipeline		**11.55**	**2.24%**	**$48,250.13**	**3.37%**
Dive Boat	$10,395.00				
Dive Basic Spread Saturation	$36,555.75				
Decommissioning Crew	$1,299.38				
Cut Pipeline Riser		**7.70**	**1.49%**	**$32,166.75**	**2.25%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Remove Tube Turn		**7.70**	**1.49%**	**$32,166.75**	**2.25%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Bury Pipeline		**7.70**	**1.49%**	**$32,166.75**	**2.25%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Demob Dive Boat		**10.05**	**1.95%**	**$41,983.88**	**2.94%**
Dive Boat	$9,045.00				
Dive Basic Spread Saturation	$31,808.25				
Decommissioning Crew	$1,130.63				
Demob P/L Removal Spread		**3.25**	**0.63%**	**$35,181.25**	**2.46%**
DB 2000	$22,750.00				
Dive Basic Spread Saturation	$10,286.25				
CB 240 & Tug	$2,145.00				
Remove Pipeline		**28.00**	**5.42%**	**$303,100.00**	**21.19%**
DB 2000	$196,000.00				
Dive Basic Spread Saturation	$88,620.00				
CB 240 & Tug	$18,480.00				
	Total	**387.76**	**75.08%**	**$1,025,557.91**	**71.70%**

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown
HI A582 HIOS (Ver 1) Segment#:7869

Task		Task Hours		Task Cost	
Mobilize Work Boat		**20.10**	**7.49%**	**$13,979.55**	**1.14%**
Work Boat	$11,718.30				
Decommissioning Crew	$2,261.25				
Rig Up Decomm Equipment		**5.00**	**1.86%**	**$3,477.50**	**0.28%**
Work Boat	$2,915.00				
Decommissioning Crew	$562.50				
Pig & Flush Pipeline		**4.00**	**1.49%**	**$2,782.00**	**0.23%**
Work Boat	$2,332.00				
Decommissioning Crew	$450.00				
Derig Decomm Equipment		**2.00**	**0.75%**	**$1,391.00**	**0.11%**
Work Boat	$1,166.00				
Decommissioning Crew	$225.00				
Demob Work Boat		**20.10**	**7.49%**	**$13,979.55**	**1.14%**
Work Boat	$11,718.30				
Decommissioning Crew	$2,261.25				
Mobilize Dive Boat		**10.05**	**3.74%**	**$41,983.88**	**3.43%**
Dive Boat	$9,045.00				
Dive Basic Spread Saturation	$31,808.25				
Decommissioning Crew	$1,130.63				
Set Up Dive Boat		**3.00**	**1.12%**	**$12,532.50**	**1.02%**
Dive Boat	$2,700.00				
Dive Basic Spread Saturation	$9,495.00				
Decommissioning Crew	$337.50				
Expose Pipeline		**11.55**	**4.30%**	**$48,250.13**	**3.94%**
Dive Boat	$10,395.00				
Dive Basic Spread Saturation	$36,555.75				
Decommissioning Crew	$1,299.38				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown

Cut & Plug Pipeline		**11.55**	**4.30%**	**$48,250.13**	**3.94%**
Dive Boat	$10,395.00				
Dive Basic Spread Saturation	$36,555.75				
Decommissioning Crew	$1,299.38				
Cut Pipeline Riser		**7.70**	**2.87%**	**$32,166.75**	**2.63%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Remove Tube Turn		**7.70**	**2.87%**	**$32,166.75**	**2.63%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Bury Pipeline		**7.70**	**2.87%**	**$32,166.75**	**2.63%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Pick Up Dive Boat Anchors		**3.00**	**1.12%**	**$12,532.50**	**1.02%**
Dive Boat	$2,700.00				
Dive Basic Spread Saturation	$9,495.00				
Decommissioning Crew	$337.50				
Mobilize Dive Boat		**0.07**	**0.03%**	**$292.43**	**0.02%**
Dive Boat	$63.00				
Dive Basic Spread Saturation	$221.55				
Decommissioning Crew	$7.88				
Set Up Dive Boat		**3.00**	**1.12%**	**$12,532.50**	**1.02%**
Dive Boat	$2,700.00				
Dive Basic Spread Saturation	$9,495.00				
Decommissioning Crew	$337.50				
Expose Pipeline		**11.55**	**4.30%**	**$48,250.13**	**3.94%**
Dive Boat	$10,395.00				
Dive Basic Spread Saturation	$36,555.75				
Decommissioning Crew	$1,299.38				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Pipeline Decommission Cost Breakdown

Cut & Plug Pipeline		**11.55**	**4.30%**	**$48,250.13**	**3.94%**
Dive Boat	$10,395.00				
Dive Basic Spread Saturation	$36,555.75				
Decommissioning Crew	$1,299.38				
Cut Pipeline Riser		**7.70**	**2.87%**	**$32,166.75**	**2.63%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Remove Tube Turn		**7.70**	**2.87%**	**$32,166.75**	**2.63%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Bury Pipeline		**7.70**	**2.87%**	**$32,166.75**	**2.63%**
Dive Boat	$6,930.00				
Dive Basic Spread Saturation	$24,370.50				
Decommissioning Crew	$866.25				
Demob Dive Boat		**10.05**	**3.74%**	**$41,983.88**	**3.43%**
Dive Boat	$9,045.00				
Dive Basic Spread Saturation	$31,808.25				
Decommissioning Crew	$1,130.63				
Demob P/L Removal Spread		**3.25**	**1.21%**	**$35,181.25**	**2.87%**
DB 2000	$22,750.00				
Dive Basic Spread Saturation	$10,286.25				
CB 240 & Tug	$2,145.00				
Remove Pipeline		**28.00**	**10.43%**	**$303,100.00**	**24.75%**
DB 2000	$196,000.00				
Dive Basic Spread Saturation	$88,620.00				
CB 240 & Tug	$18,480.00				
	Total	**204.02**	**76.02%**	**$881,749.56**	**71.99%**

WC 167 HIOS

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Salvage Option
WC 167 HIOS (Ver 1)

West Cameron Block 167 has 3 structures that are operated by Enterprise Products Partners L.P. The structures will be removed in one mobilization and demobilization of a 600-ton derrick barge. All production equipment will be flushed and purged of any hydrocarbons. The equipment that will be removed by the derrick barge will be cut free of the platform.
Also the pipelines will be flushed, cleaned, plugged and left in-situ. (See #12 below.)

West Cameron Block 167 HIOS is an 8-pile Manifold platform installed in 1979 in 46' water depth and bridge connected to two Flare support structures. Since the structures are bridge connected, one 48-hour turtle watch operation conducted by the National Marine Fisheries service will be needed. The top deck equipment (of WC 167 HIOS) and deck will be placed on a 240 x 72 cargo barge. Piles will be explosively severed and a second 240 x 72 cargo barge will be used for the jacket. The decks, facilities and jacket will be taken to shore and scrapped. A 1,400 ft radius will be needed to clear both platform sites of any bottom debris.

This estimate is based on the following assumptions:

1. All decks and jackets and associated equipment are taken to shore and scrapped.
2. Removal Contractor is responsible for transport and disposal of decks, jackets, and associated equipment.
3. No salvage or resale value has been considered for the structure or equipment.
4. One derrick mobilization/demobilization cost is included for each block.
5. Mobilization times are estimated from the Eugene Island sea buoy.
6. No dockside mobilization or demobilization is included, construction barge spreads are assumed to be readily available in the Gulf of Mexico.
7. All work will be performed during the summer work season.
8. Allowances have been made for named tropical storm downtime.
9. The current guidelines for the use of explosives are assumed.
10. No allowances have been made for the presence of sea turtles or marine mammals.
11. All NORM, NOW, and industrial waste are removed from the platforms prior to decommissioning.
12. All pipelines are abandoned-in-place.
13. Tube Turns and 100' of pipeline are removed at each end of pipelines.
14. Tube Turns and pipelines are buried a minimum of 5ft. at the base of the platform.
15. All pipeline ends can be sealed using mechanical-type plugs. No provisions are made for more stringent environmental or safety regulations.
16. Site clearance and verification is in accordance with the latest NTL.
17. Hourly rates for construction and diving spreads are developed from offshore contractors published rates.
18. Engineering & Project Management cost 8% (company or other).
19. Work Contingency of 15% is included. This is work not currently itemized in our

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Salvage Option
WC 167 HIOS (Ver 1)

database, but is shown as necessary per actual removals in the Gulf of Mexico.
20. Weather allowance of 20%, consisting of 14% for regular weather and 6% for named tropical storms.

The following data will be assumed based on previous estimates developed and work experience:
Pile OD
Deck Weights
Jacket Weights
Grout Weights
Equipment Weights

Estimated Decommissioning Gross Cost =	$2,763,552
Estimated Decommissioning Net Cost =	$2,763,552

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Basic Information
WC 167 HIOS (Ver 1)

General Data

Platform:	WC 167 HIOS
Function:	DRILL/MANIFOLD
Type:	Steel
Water Depth:	46'
Pre 461H?:	Yes
Year Installed:	1979
Year Estimate Developed:	
District:	Gulf of Mexico
Lease Number:	
Account Code:	TSB - 29027
Amortization:	1.00
# Wells to P & A:	0
# Pipelines to Abandon:	0
Estimate Complete?:	Yes

Partner Data

	Partner	Working Intere
1	Enterprise Products Partners L.P.	100.00%

Estimated Costs

	Gross Cost	Net Cost
Platform Removal:	$2,763,552	$2,763,552
Well Plugging & Abandonment:	$0	$0
Pipeline Abandonment:	$0	$0
Total Decommissioning Cost:	$2,763,552	$2,763,552

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Information
WC 167 HIOS (Ver 1)

Pile/Tendon Data

	Number	Outside Diameter	Wall Thickness	Grout Annulus	Grout Internal	Depth Below
Main:	8	36"	1.5"	No	No	
Skirt/Braced	0			No	No	
Anchor:	0					
Dolphin:	0					

Deck Dimensions

	Dimensions	Elevation
Upper:	166X56	
Middle:		
Lower:		

Conductors

Number of Slots:	0
Number Installed:	0
Outside Diameter:	
Wall Thickness:	
Number Slanted:	0

Jacket Data

	Weight (Tons)	With Piles	With Piles & Grout
Submerged:			
Dry:	389.00		

Jacket Installation Date:

Jacket Contractor:

Deck Data

Deck Lift Weight with Equipment:	311 Tons
Number of Padeyes Required:	0
Deck Installation Date:	3/3/79
Deck Contractor:	

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Information
WC 167 HIOS (Ver 1)

Equipment Lift Weights

Equipmen	Weight (Tons)
Heliport	20.00

Members to be Cut Data

Underwater Members	
Size	Qty

Cargo Descriptions

Cargo Barge Size		Cargo Description
CB 240 x 72	Deck 100-500T	Equipment
CB 180 x 54	Jkt 300-700T	

Miscellaneous Data

Derrick Barge Anchors:	6
Assist Derrick Barge Anchors:	0
Tow Distance:	0.00
Provision for Misc. Work%:	15.00%
Weather Contingency%:	20.00%
Engineering%:	8.00%

Miscellaneous Costs

Consumables:	$0.00
Waste Disposal:	$0.00
Structure & Equipment Disposal:	$0.00
Reef Donation:	$0.00
Cost of Engineering:	$181,183.69

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Comments
WC 167 HIOS (Ver 1)

Assumed the following:
Jacket Weights, Deck Weights, Pile Sizes, Grout Weights, Equipment Weights, Deck(s) Sizes

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Task Information
WC 167 HIOS (Ver 1)

Task	Note	Contingency	Task Hours		Task Cost	
Fab Explosive Charges		☐	0.00	0.00%	$20,000.00	0.72%
Platform Removal Preparation		☐	504.00	23.69%	$504,000.00	18.24%
Mobilize Work Boat		☐	14.70	0.69%	$9,202.20	0.33%
NMFS Marine Observation		☐	48.00	2.26%	$30,048.00	1.09%
Demob Work Boat		☐	14.70	0.69%	$7,350.00	0.27%
Mobilize DB 600/800		☐	38.00	1.79%	$295,034.00	10.68%
Mobilize CB 180 & Tug		☐	31.40	1.48%	$25,270.00	0.91%
Mobilize CB 240 & Tug		☐	31.40	1.48%	$34,724.00	1.26%
Setup Derrick Barge		☑	5.25	0.25%	$40,524.75	1.47%
Cut Deck/Equip/Misc		☑	3.85	0.18%	$32,259.15	1.17%
Remove Equipment		☑	0.50	0.02%	$4,189.50	0.15%
Remove 8 Pile Deck		☑	9.35	0.44%	$78,343.65	2.83%
Demob CB 240 & Tug		☐	31.40	1.48%	$20,724.00	0.75%
Jet/Airlift Pile Mud Plug		☑	15.00	0.71%	$124,035.00	4.49%
Standby for Daylight Det.		☑	8.00	0.38%	$66,152.00	2.39%
Pre/Post Detonat'n Survey		☑	1.00	0.05%	$14,769.00	0.53%
Sever Piles- Explosive		☑	4.84	0.23%	$40,021.96	1.45%
Remove Jacket - Meth 1		☑	20.75	0.98%	$166,996.00	6.04%
Demob CB 180 & Tug		☐	31.40	1.48%	$17,270.00	0.62%
Pick Up DB Anchors		☑	5.25	0.25%	$39,364.50	1.42%
Demob DB 600/800		☐	38.00	1.79%	$291,424.00	10.55%
Site Clearance - with Trawler		☑	256.72	12.07%	$142,595.50	5.16%
Site Clearance Verify		☑	345.43	16.24%	$158,098.91	5.72%
Offload CB 240		☐	168.00	7.90%	$49,400.00	1.79%
Offload CB 180		☐	264.00	12.41%	$53,000.00	1.92%
		Task Total	1890.94	88.88%	$2,264,796.12	81.95%
		Misc. Work Provision (15.00%)	101.39	4.77%	$136,102.50	4.92%
		Weather Contingency (20.00%)	135.19	6.35%	$181,470.00	6.57%
		Consumables			$0.00	0.00%
		Waste Disposal			$0.00	0.00%
		Structure & Equipment Disposal			$0.00	0.00%
		Offloading			$0.00	0.00%
		Storage / Scrapping			$0.00	0.00%
		Reef Donation			$0.00	0.00%
		Cost of Engineering (8.00%)			$181,183.70	6.56%
		Total:	2127.52	100.00%	$2,763,552.32	100.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Resources Breakdown
WC 167 HIOS (Ver 1)

Resource Used	Unit Cost		Cost	
Cargo Barge 180	$3,000.00	per Day per Barge	$33,000.00	1.19%
Cargo Barge 240	$4,200.00	per Day per Barge	$29,400.00	1.06%
CB 180 & Tug	$550.00	per Hour per Barge/Tug	$61,814.50	2.24%
CB 240 & Tug	$660.00	per Hour per Barge/Tug	$50,490.00	1.83%
CB Damage Deduct	$20,000.00	per Cargo Barge	$40,000.00	1.45%
Decomm Platform	$0.00	Calculated from tables	$252,000.00	9.12%
Derrick Barge 600/800	$6,500.00	per Hour per barge	$973,635.00	35.23%
Dive Basic Spread- Surface Air	$768.00	Per Hour	$115,038.72	4.16%
Expl Charge - Piling	$10,000.00	per Pile	$20,000.00	0.72%
Expl Technician	$95.00	per Hour	$8,150.05	0.29%
Helicopter Trips	$6,500.00	per Round Trip	$19,500.00	0.71%
Nets (Heavy Duty, Non-Repairable)	$5,000.00	ea	$15,000.00	0.54%
Nets (Heavy Duty, Repairable)	$2,600.00	ea	$20,800.00	0.75%
Nets (Non-Repairable)	$2,200.00	ea	$6,600.00	0.24%
Nets (Repairable)	$1,300.00	ea	$7,800.00	0.28%
NMFS Observers (2)	$126.00	per Hour	$13,921.74	0.50%
Pipeline Survey	$230.00	per Hour	$34,451.70	1.25%
Rig Up CB 180	$8,000.00	per Barge	$8,000.00	0.29%
Rig Up CB 240	$14,000.00	per Barge	$14,000.00	0.51%
Trawler	$416.00	per Hour	$250,494.41	9.06%
Work Boat	$500.00	per Hour	$290,700.00	10.52%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
WC 167 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Fab Explosive Charges		**0.00**	**0.00%**	**$20,000.00**	**0.72%**
Expl Charge - Piling	$20,000.00				
Platform Removal Preparation		**504.00**	**!3.69%**	**$504,000.00**	**18.24%**
Decomm Platform	$252,000.00				
Work Boat	$252,000.00				
Mobilize Work Boat		**14.70**	**0.69%**	**$9,202.20**	**0.33%**
Work Boat	$7,350.00				
NMFS Observers (2)	$1,852.20				
NMFS Marine Observation		**48.00**	**2.26%**	**$30,048.00**	**1.09%**
Work Boat	$24,000.00				
NMFS Observers (2)	$6,048.00				
Demob Work Boat		**14.70**	**0.69%**	**$7,350.00**	**0.27%**
Work Boat	$7,350.00				
Mobilize DB 600/800		**38.00**	**1.79%**	**$295,034.00**	**10.68%**
Derrick Barge 600/800	$247,000.00				
Dive Basic Spread- Surface Air	$29,184.00				
Pipeline Survey	$8,740.00				
Expl Technician	$3,610.00				
Helicopter Trips	$6,500.00				
Mobilize CB 180 & Tug		**31.40**	**1.48%**	**$25,270.00**	**0.91%**
CB 180 & Tug	$17,270.00				
Rig Up CB 180	$8,000.00				
Mobilize CB 240 & Tug		**31.40**	**1.48%**	**$34,724.00**	**1.26%**
CB 240 & Tug	$20,724.00				
Rig Up CB 240	$14,000.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
WC 167 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Setup Derrick Barge		**5.25**	**0.25%**	**$40,524.75**	**1.47%**
Derrick Barge 600/800	$34,125.00				
Dive Basic Spread- Surface Air	$4,032.00				
Pipeline Survey	$1,207.50				
Expl Technician	$498.75				
NMFS Observers (2)	$661.50				
Cut Deck/Equip/Misc		**3.85**	**0.18%**	**$32,259.15**	**1.17%**
Derrick Barge 600/800	$25,025.00				
Dive Basic Spread- Surface Air	$2,956.80				
Pipeline Survey	$885.50				
Expl Technician	$365.75				
NMFS Observers (2)	$485.10				
CB 240 & Tug	$2,541.00				
Remove Equipment		**0.50**	**0.02%**	**$4,189.50**	**0.15%**
Derrick Barge 600/800	$3,250.00				
Dive Basic Spread- Surface Air	$384.00				
Pipeline Survey	$115.00				
Expl Technician	$47.50				
NMFS Observers (2)	$63.00				
CB 240 & Tug	$330.00				
Remove 8 Pile Deck		**9.35**	**0.44%**	**$78,343.65**	**2.83%**
Derrick Barge 600/800	$60,775.00				
Dive Basic Spread- Surface Air	$7,180.80				
Pipeline Survey	$2,150.50				
Expl Technician	$888.25				
NMFS Observers (2)	$1,178.10				
CB 240 & Tug	$6,171.00				
Demob CB 240 & Tug		**31.40**	**1.48%**	**$20,724.00**	**0.75%**
CB 240 & Tug	$20,724.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
WC 167 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Jet/Airlift Pile Mud Plug		**15.00**	**0.71%**	**$124,035.00**	**4.49%**
Derrick Barge 600/800	$97,500.00				
Dive Basic Spread- Surface Air	$11,520.00				
Pipeline Survey	$3,450.00				
Expl Technician	$1,425.00				
NMFS Observers (2)	$1,890.00				
CB 180 & Tug	$8,250.00				
Standby for Daylight Det.		**8.00**	**0.38%**	**$66,152.00**	**2.39%**
Derrick Barge 600/800	$52,000.00				
Dive Basic Spread- Surface Air	$6,144.00				
Pipeline Survey	$1,840.00				
Expl Technician	$760.00				
NMFS Observers (2)	$1,008.00				
CB 180 & Tug	$4,400.00				
Pre/Post Detonat'n Survey		**1.00**	**0.05%**	**$14,769.00**	**0.53%**
Derrick Barge 600/800	$6,500.00				
Dive Basic Spread- Surface Air	$768.00				
Pipeline Survey	$230.00				
Expl Technician	$95.00				
NMFS Observers (2)	$126.00				
CB 180 & Tug	$550.00				
Helicopter Trips	$6,500.00				
Sever Piles- Explosive		**4.84**	**0.23%**	**$40,021.96**	**1.45%**
Derrick Barge 600/800	$31,460.00				
Dive Basic Spread- Surface Air	$3,717.12				
Pipeline Survey	$1,113.20				
Expl Technician	$459.80				
NMFS Observers (2)	$609.84				
CB 180 & Tug	$2,662.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
WC 167 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Remove Jacket - Meth 1		**20.75**	**0.98%**	**$166,996.00**	**6.04%**
Derrick Barge 600/800	$134,875.00				
Dive Basic Spread- Surface Air	$15,936.00				
Pipeline Survey	$4,772.50				
CB 180 & Tug	$11,412.50				
Demob CB 180 & Tug		**31.40**	**1.48%**	**$17,270.00**	**0.62%**
CB 180 & Tug	$17,270.00				
Pick Up DB Anchors		**5.25**	**0.25%**	**$39,364.50**	**1.42%**
Derrick Barge 600/800	$34,125.00				
Dive Basic Spread- Surface Air	$4,032.00				
Pipeline Survey	$1,207.50				
Demob DB 600/800		**38.00**	**1.79%**	**$291,424.00**	**10.55%**
Derrick Barge 600/800	$247,000.00				
Dive Basic Spread- Surface Air	$29,184.00				
Pipeline Survey	$8,740.00				
Helicopter Trips	$6,500.00				
Site Clearance - with Trawler		**256.72**	**.2.07%**	**$142,595.50**	**5.16%**
Trawler	$106,795.50				
Nets (Heavy Duty, Non-Repairable)	$15,000.00				
Nets (Heavy Duty, Repairable)	$20,800.00				
Site Clearance Verify		**345.43**	**.6.24%**	**$158,098.91**	**5.72%**
Trawler	$143,698.91				
Nets (Non-Repairable)	$6,600.00				
Nets (Repairable)	$7,800.00				
Offload CB 240		**168.00**	**7.90%**	**$49,400.00**	**1.79%**
Cargo Barge 240	$29,400.00				
CB Damage Deduct	$20,000.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
WC 167 HIOS (Ver 1)

Task		Task Hours		Task Cost	
Offload CB 180		**264.00**	**.2.41%**	**$53,000.00**	**1.92%**
Cargo Barge 180	$33,000.00				
CB Damage Deduct	$20,000.00				
	Total	**1890.94**	**\8.88%**	**\2,264,796.12**	**81.95%**

WC 167 HIOS-Flare

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Salvage Option
WC 167 HIOS-Flare (Ver 1)

West Cameron Block 167 has 3 structures that are operated by Enterprise Products Partners L.P. The structure will be removed in one mobilization and demobilization of a 600-ton derrick barge. All production equipment will be flushed and purged of any hydrocarbons. The equipment that will be removed by the derrick barge will be cut free of the platform.
Also the pipelines will be pigged, flushed, cleaned, plugged and left in-situ. (See #12 below.)

West Cameron 167 HIOS-Flare is a bridge supported by two 3-pile structures, installed in 1979 in 46' water depth, and bridge connected to the WC 167 HIOS structure. Since the structures is bridge connected, one 48-hour turtle watch operation conducted by the National Marine Fisheries service will be needed. The bridge will be placed on a 240' x 70' cargo barge. Piles will be explosively severed and the 240' x 70' cargo barge will also be used for the jacket. The bridge and jackets will be taken to shore and scrapped. A 1,400 ft radius will be needed to clear both platform sites of any bottom debris.

This estimate is based on the following assumptions:

1. All decks and jackets and associated equipment are taken to shore and scrapped.
2. Removal Contractor is responsible for transport and disposal of decks, jackets, and associated equipment.
3. No salvage or resale value has been considered for the structure or equipment.
4. One derrick mobilization/demobilization cost is included for each block.
5. Mobilization times are estimated from the Eugene Island sea buoy.
6. No dockside mobilization or demobilization is included, construction barge spreads are assumed to be readily available in the Gulf of Mexico.
7. All work will be performed during the summer work season.
8. Allowances have been made for named tropical storm downtime.
9. The current guidelines for the use of explosives are assumed.
10. No allowances have been made for the presence of sea turtles or marine mammals.
11. All NORM, NOW, and industrial waste are removed from the platforms prior to decommissioning.
12. All pipelines are abandoned-in-place.
13. Tube Turns and 100' of pipeline are removed at each end of pipelines.
14. Tube Turns and pipelines are buried a minimum of 5ft. at the base of the platform.
15. All pipeline ends can be sealed using mechanical-type plugs. No provisions are made for more stringent environmental or safety regulations.
16. Site clearance and verification is in accordance with the latest NTL.
17. Hourly rates for construction and diving spreads are developed from offshore contractors published rates.
18. Engineering & Project Management cost 8% (company or other).
19. Work Contingency of 15% is included. This is work not currently itemized in our

Enterprise Products Partners L.P.
Platform Salvage Option
WC 167 HIOS-Flare (Ver 1)

database, but is shown as necessary per actual removals in the Gulf of Mexico.
20. Weather allowance of 20%, consisting of 14% for regular weather and 6% for named tropical storms.

The following data will be assumed based on previous estimates developed and work experience:
Pile OD
Deck Weights
Jacket Weights
Grout Weights
Equipment Weights

Estimated Decommissioning Gross Cost =	$1,177,443
Estimated Decommissioning Net Cost =	$1,177,443

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Basic Information
WC 167 HIOS-Flare (Ver 1)

General Data

Platform:	WC 167 HIOS-Flare
Function:	AUXILIARY
Type:	Steel
Water Depth:	46'
Pre 461H?:	Yes
Year Installed:	1979
Year Estimate Developed:	
District:	Gulf of Mexico
Lease Number:	
Account Code:	TSB - 29027
Amortization:	1.00
# Wells to P & A:	0
# Pipelines to Abandon:	0
Estimate Complete?:	Yes

Partner Data

	Partner	Working Intere
1	Enterprise Products Partners L.P.	100.00%

Estimated Costs

	Gross Cost	Net Cost
Platform Removal:	$1,177,443	$1,177,443
Well Plugging & Abandonment:	$0	$0
Pipeline Abandonment:	$0	$0
Total Decommissioning Cost:	$1,177,443	$1,177,443

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Information
WC 167 HIOS-Flare (Ver 1)

Pile/Tendon Data

	Number	Outside Diameter	Wall Thickness	Grout Annulus	Grout Internal	Depth Below
Main:	3	30"	1.5"	No	No	
Skirt/Braced	0			No	No	
Anchor:	0					
Dolphin:	0					

Deck Dimensions

	Dimensions	Elevation
Upper:		
Middle:		
Lower:		

Conductors

Number of Slots:	0
Number Installed:	0
Outside Diameter:	
Wall Thickness:	
Number Slanted:	0

Jacket Data

	Weight (Tons)	With Piles	With Piles & Grout
Submerged:			
Dry:	100.00		

Jacket Installation Date:

Jacket Contractor:

Deck Data

Deck Lift Weight with Equipment:

Number of Padeyes Required: 0

Deck Installation Date:

Deck Contractor:

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Information
WC 167 HIOS-Flare (Ver 1)

Equipment Lift Weights

Equipmen	Weight (Tons)
Bridge	75.00
Flare	12.00

Members to be Cut Data

Inderwater Members

Size	Qty

Cargo Descriptions

Cargo Barge Size	Cargo Description			
CB 240 x 72	Deck 100-500T	Jkt 300-700T	Equipment	Bridge

Miscellaneous Data

Derrick Barge Anchors:	6
Assist Derrick Barge Anchors:	0
Tow Distance:	0.00
Provision for Misc. Work%:	15.00%
Weather Contingency%:	20.00%
Engineering%:	8.00%

Miscellaneous Costs

Consumables:	$0.00
Waste Disposal:	$0.00
Structure & Equipment Disposal:	$0.00
Reef Donation:	$0.00
Cost of Engineering:	$69,928.96

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Comments
WC 167 HIOS-Flare (Ver 1)

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Task Information
WC 167 HIOS-Flare (Ver 1)

Task	Note	Contingency	Task Hours		Task Cost	
Fab Explosive Charges		☐	0.00	0.00%	$15,000.00	1.27%
Platform Removal Preparation		☐	48.00	7.47%	$24,000.00	2.04%
Mobilize Work Boat	Cost assigned to WC 167 HIOS PLTF	☐	0.00	0.00%	$0.00	0.00%
NMFS Marine Observation	Cost assigned to WC 167 HIOS PLTF	☐	0.00	0.00%	$0.00	0.00%
Demob Work Boat	Cost assigned to WC 167 HIOS PLTF	☐	0.00	0.00%	$0.00	0.00%
Mobilize DB 600/800	Cost assigned to WC 167 HIOS PLTF	☐	0.00	0.00%	$6,500.00	0.55%
Mobilize CB 240 & Tug		☐	31.40	4.89%	$34,724.00	2.95%
Setup Derrick Barge		☑	5.25	0.82%	$40,524.75	3.44%
Cut Deck/Equip/Misc		☑	3.46	0.54%	$28,991.34	2.46%
Remove Equipment		☑	1.50	0.23%	$12,568.50	1.07%
Remove 4 Pile Deck	3-Pile	☑	9.35	1.45%	$78,343.65	6.65%
Jet/Airlift Pile Mud Plug		☑	6.25	0.97%	$99,937.50	8.49%
Standby for Daylight Det.		☑	8.00	1.24%	$67,032.00	5.69%
Pre/Post Detonat'n Survey		☑	1.00	0.16%	$14,879.00	1.26%
Sever Piles- Explosive		☑	2.44	0.38%	$21,237.76	1.80%
Remove Jacket - Meth 1		☑	13.75	2.14%	$213,785.00	18.16%
Demob CB 240 & Tug		☐	31.40	4.89%	$20,724.00	1.76%
Pick Up DB Anchors		☑	5.25	0.82%	$39,364.50	3.34%
Demob DB 600/800	Cost assigned to WC 167 HIOS PLTF	☐	0.00	0.00%	$6,500.00	0.55%
Site Clearance - with Trawler	Cost assigned to WC 167 HIOS PLTF	☑	0.00	0.00%	$35,800.00	3.04%
Site Clearance Verify	Cost assigned to WC 167 HIOS PLTF	☑	0.00	0.00%	$14,400.00	1.22%
Offload CB 240		☐	456.00	70.95%	$99,800.00	8.48%
		Task Total	623.05	96.94%	$874,112.00	74.24%
		Misc. Work Provision (15.00%)	8.44	1.31%	$100,029.60	8.50%
		Weather Contingency (20.00%)	11.25	1.75%	$133,372.80	11.33%
		Consumables			$0.00	0.00%
		Waste Disposal			$0.00	0.00%
		Structure & Equipment Disposal			$0.00	0.00%
		Offloading			$0.00	0.00%
		Storage / Scrapping			$0.00	0.00%
		Reef Donation			$0.00	0.00%
		Cost of Engineering (8.00%)			$69,928.96	5.94%
		Total:	642.74	100.00%	$1,177,443.36	100.00%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Resources Breakdown
WC 167 HIOS-Flare (Ver 1)

Resource Used	Unit Cost		Cost	
Cargo Barge 240	$4,200.00	per Day per Barge	$79,800.00	6.78%
CB 240 & Tug	$660.00	per Hour per Barge/Tug	$84,843.00	7.21%
CB Damage Deduct	$20,000.00	per Cargo Barge	$20,000.00	1.70%
Decomm Platform	$0.00	Calculated from tables	$0.00	0.00%
Derrick Barge 600/800	$6,500.00	per Hour per barge	$495,625.00	42.09%
Dive Basic Spread- Surface Air	$768.00	Per Hour	$43,200.00	3.67%
Expl Charge - Piling	$10,000.00	per Pile	$15,000.00	1.27%
Expl Technician	$95.00	per Hour	$4,364.30	0.37%
Helicopter Trips	$6,500.00	per Round Trip	$19,500.00	1.66%
Nets (Heavy Duty, Non-Repairable)	$5,000.00	ea	$15,000.00	1.27%
Nets (Heavy Duty, Repairable)	$2,600.00	ea	$20,800.00	1.77%
Nets (Non-Repairable)	$2,200.00	ea	$6,600.00	0.56%
Nets (Repairable)	$1,300.00	ea	$7,800.00	0.66%
NMFS Observers (2)	$126.00	per Hour	$5,481.00	0.47%
Pipeline Survey	$230.00	per Hour	$18,098.70	1.54%
Rig Up CB 240	$14,000.00	per Barge	$14,000.00	1.19%
Trawler	$416.00	per Hour	$0.00	0.00%
Work Boat	$500.00	per Hour	$24,000.00	2.04%

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
WC 167 HIOS-Flare (Ver 1)

Task		Task Hours		Task Cost	
Fab Explosive Charges		**0.00**	**0.00%**	**$15,000.00**	**1.27%**
Expl Charge - Piling	$15,000.00				
Platform Removal Preparation		**48.00**	**7.47%**	**$24,000.00**	**2.04%**
Decomm Platform	$0.00				
Work Boat	$24,000.00				
Mobilize Work Boat		**0.00**	**0.00%**	**$0.00**	**0.00%**
Work Boat	$0.00				
NMFS Observers (2)	$0.00				
NMFS Marine Observation		**0.00**	**0.00%**	**$0.00**	**0.00%**
Work Boat	$0.00				
NMFS Observers (2)	$0.00				
Demob Work Boat		**0.00**	**0.00%**	**$0.00**	**0.00%**
Work Boat	$0.00				
Mobilize DB 600/800		**0.00**	**0.00%**	**$6,500.00**	**0.55%**
Derrick Barge 600/800	$0.00				
Dive Basic Spread- Surface Air	$0.00				
Pipeline Survey	$0.00				
Expl Technician	$0.00				
Helicopter Trips	$6,500.00				
Mobilize CB 240 & Tug		**31.40**	**4.89%**	**$34,724.00**	**2.95%**
CB 240 & Tug	$20,724.00				
Rig Up CB 240	$14,000.00				
Setup Derrick Barge		**5.25**	**0.82%**	**$40,524.75**	**3.44%**
Derrick Barge 600/800	$34,125.00				
Dive Basic Spread- Surface Air	$4,032.00				
Pipeline Survey	$1,207.50				
Expl Technician	$498.75				
NMFS Observers (2)	$661.50				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
WC 167 HIOS-Flare (Ver 1)

Task		Task Hours		Task Cost	
Cut Deck/Equip/Misc		3.46	0.54%	$28,991.34	2.46%
Derrick Barge 600/800	$22,490.00				
Dive Basic Spread- Surface Air	$2,657.28				
Pipeline Survey	$795.80				
Expl Technician	$328.70				
NMFS Observers (2)	$435.96				
CB 240 & Tug	$2,283.60				
Remove Equipment		1.50	0.23%	$12,568.50	1.07%
Derrick Barge 600/800	$9,750.00				
Dive Basic Spread- Surface Air	$1,152.00				
Pipeline Survey	$345.00				
Expl Technician	$142.50				
NMFS Observers (2)	$189.00				
CB 240 & Tug	$990.00				
Remove 4 Pile Deck		9.35	1.45%	$78,343.65	6.65%
Derrick Barge 600/800	$60,775.00				
Dive Basic Spread- Surface Air	$7,180.80				
Pipeline Survey	$2,150.50				
Expl Technician	$888.25				
NMFS Observers (2)	$1,178.10				
CB 240 & Tug	$6,171.00				
Jet/Airlift Pile Mud Plug		6.25	0.97%	$99,937.50	8.49%
Derrick Barge 600/800	$81,250.00				
Dive Basic Spread- Surface Air	$4,800.00				
Pipeline Survey	$2,875.00				
Expl Technician	$1,187.50				
NMFS Observers (2)	$1,575.00				
CB 240 & Tug	$8,250.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
WC 167 HIOS-Flare (Ver 1)

Task		Task Hours		Task Cost	
Standby for Daylight Det.		**8.00**	**1.24%**	**$67,032.00**	**5.69%**
Derrick Barge 600/800	$52,000.00				
Dive Basic Spread- Surface Air	$6,144.00				
Pipeline Survey	$1,840.00				
Expl Technician	$760.00				
NMFS Observers (2)	$1,008.00				
CB 240 & Tug	$5,280.00				
Pre/Post Detonat'n Survey		**1.00**	**0.16%**	**$14,879.00**	**1.26%**
Derrick Barge 600/800	$6,500.00				
Dive Basic Spread- Surface Air	$768.00				
Pipeline Survey	$230.00				
Expl Technician	$95.00				
NMFS Observers (2)	$126.00				
CB 240 & Tug	$660.00				
Helicopter Trips	$6,500.00				
Sever Piles- Explosive		**2.44**	**0.38%**	**$21,237.76**	**1.80%**
Derrick Barge 600/800	$15,860.00				
Dive Basic Spread- Surface Air	$1,873.92				
Pipeline Survey	$1,122.40				
Expl Technician	$463.60				
NMFS Observers (2)	$307.44				
CB 240 & Tug	$1,610.40				
Remove Jacket - Meth 1		**13.75**	**2.14%**	**$213,785.00**	**18.16%**
Derrick Barge 600/800	$178,750.00				
Dive Basic Spread- Surface Air	$10,560.00				
Pipeline Survey	$6,325.00				
CB 240 & Tug	$18,150.00				
Demob CB 240 & Tug		**31.40**	**4.89%**	**$20,724.00**	**1.76%**
CB 240 & Tug	$20,724.00				

TWACHTMAN SNYDER & BYRD, INC.

Enterprise Products Partners L.P.
Platform Decommission Cost Breakdown
WC 167 HIOS-Flare (Ver 1)

Task		Task Hours		Task Cost	
Pick Up DB Anchors		**5.25**	**0.82%**	**$39,364.50**	**3.34%**
Derrick Barge 600/800	$34,125.00				
Dive Basic Spread- Surface Air	$4,032.00				
Pipeline Survey	$1,207.50				
Demob DB 600/800		**0.00**	**0.00%**	**$6,500.00**	**0.55%**
Derrick Barge 600/800	$0.00				
Dive Basic Spread- Surface Air	$0.00				
Pipeline Survey	$0.00				
Helicopter Trips	$6,500.00				
Site Clearance - with Trawler		**0.00**	**0.00%**	**$35,800.00**	**3.04%**
Trawler	$0.00				
Nets (Heavy Duty, Non-Repairable)	$15,000.00				
Nets (Heavy Duty, Repairable)	$20,800.00				
Site Clearance Verify		**0.00**	**0.00%**	**$14,400.00**	**1.22%**
Trawler	$0.00				
Nets (Non-Repairable)	$6,600.00				
Nets (Repairable)	$7,800.00				
Offload CB 240		**456.00**	**'0.95%**	**$99,800.00**	**8.48%**
Cargo Barge 240	$79,800.00				
CB Damage Deduct	$20,000.00				
	Total	**623.05**	**)6.94%**	**$874,112.00**	**74.24%**

Exhibit No. HIO-89

UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

High Island Offshore System, L.L.C.) Docket No. RP09-

Prepared Direct Testimony
Of
Lindsey E. McCartney

Q. Please state your name and address.

A. My name is Lindsey McCartney. My business address is 1100 Louisiana Street, Houston, Texas, 77002.

Q. By whom are you employed and what are your responsibilities?

A. I am employed by Enterprise Products Partners L. P. Company (“Enterprise”), which owns High Island Offshore System, L.L.C. (“HIOS”), as an Analyst in the Rates and Regulatory Affairs Department. My responsibilities include the regular filing of Texas Railroad Commission tariffs and reports, submission of HIOS's annual fuel tracker and the preparation of exhibits for rate filings.

Q. Please describe your educational background and work experience.

A. I graduated from the University of Houston in 2005 with a Bachelor of Arts in Political Science. From 2002 to 2004, I was employed by Peoples Energy Production and worked in the Regulatory Affairs Department. In 2004, I began working for Ballard Exploration Company as a Regulatory Analyst. In September 2006 I accepted my current position with Enterprise Products Partners L.P. in the Rates and Regulatory Affairs Department.

Q. Have you previously provided testimony in any proceedings before the Commission?

A. No.

Q. What is the purpose and scope of your testimony in this proceeding?

A. The purpose of my testimony is to present HIOS's operating and maintenance expenses.

Q. What exhibits are you sponsoring?

A. I am sponsoring the following exhibits, which were included in HIOS's filing:

Hearing Exhibit No.	**Schedule Reference**	**Description**.
HIO-27	Statement H-1	O&M Expenses
HIO-49	Schedule H-1.1	O&M Adjustments
HIO-50	Schedule H-1(1)(a)	O&M - Labor
HIO-51	Schedule H-1(1)(b)	O&M - Materials & Other
HIO-52	Schedule H-1(1)(c)	Quantities App. to Accts. 810-812
HIO-53	Schedule H-1(2)(a)	Fuel Used & Gas Losses
HIO-54	Schedule H-1(2)(b)	Advertising Expense
HIO-55	Schedule H-1(2)(c)	Office Supplies & Expenses
HIO-56	Schedule H-1(2)(d)	Administrative Expenses Transferred
HIO-57	Schedule H-1(2)(e)	Outside Services Employed
HIO-58	Schedule H-1(2)(f)	Employee Pension & Benefits
HIO-59	Schedule H-1(2)(g)	Regulatory Commission Expense
HIO-60	Schedule H-1(2)(h)	Duplicate Charges - Credit
HIO-61	Schedule H-1(2)(i)	Miscellaneous General Expenses
HIO-62	Schedule H-1(2)(j)	Interco. & Interdept. Transactions
HIO-63	Schedule H-1(2)(k)	Lease Payments

Q. Please explain Statement H-1 (Exhibit No. HIO-27).

A. Statement H-1 sets forth in detail the monthly operation and maintenance expenses ("O&M") for HIOS, as adjusted for known and measurable changes which have occurred during the base period ending December 31, 2008, or are expected to occur on or before September 30, 2009, the end of the test period. The base period expenses shown on Statement H-1 primarily reflect the amount of expenditures charged to HIOS from its operating company, Enterprise GTM Offshore Operating Company, LLC ("EGOOC"), as obtained from HIOS's books. Additionally, expenses not covered by the Operating Services Agreement ("OSA") and directly charged to HIOS are also reflected on Statement

H-1. Also shown on Statement H-1 are the total test period adjustments to these base period expenses (Col. 16), and the total test period O&M expenses by FERC Account (Col. 17).

Q. Please provide an overview of the adjusted O&M expenses compared to the base period.

A. Non-gas O&M expenses as adjusted total $32,648,404 (Col. 17, line 43) as compared to base period non-gas O&M of $24,771,650 (Calculation: $31,213,108 - Col. 15, line 43 less $6,441,458 – Col. 15, line 17). This represents an overall O&M increase of $7,876,754 (Calculation: $1,435,296 – Col. 16, line 43 less $(6,441,458) - Col. 16, line 17). Total O&M as adjusted is carried forward and reflected on Statement A (Exhibit No. HIO-1).

Q. What is the purpose of the schedules which support H-1?

A. Schedule H-1.1, Page 1 of 5 (Exhibit No. HIO-49), summarizes the test period adjustments made to O&M expense by HIOS. Schedule H-1.1, Pages 2 though 5, provides detailed support for each of the test period O&M adjustments according to FERC account and type of adjustment. These adjustments are discussed in further detail below.

Schedule H-1(1)(a) (Exhibit No. HIO-50) and H-1(1)(b) (Exhibit No. HIO-51) support total O&M reported on Statement H-1, with H-1(1)(a) detailing monthly labor expense by FERC account for the base period and test period, as adjusted. H-1(1)(b) details monthly materials and other expenses by FERC account for the base and test period, as adjusted. The additive of the amounts stated on the two schedules equals the amount stated on Statement H-1 for the base and test periods, as adjusted.

H-1(1)(c) (Exhibit No. HIO-52) details by month the quantities of gas, stated in Dth, associated with company-use fuel reflected in Acct. 854-Compressor Station Fuel for the base period and as adjusted. HIOS company-use fuel is recovered by a fuel tracker mechanism established by FERC Order dated January 24, 2005. Therefore, an adjustment is made to eliminate the Dth quantities in the test period to avoid double collection of costs associated with fuel.

Schedules H-1(2)(a) through H-1(2)(k) (Exhibit Nos. HIO-53 through HIO-63) provide a description of HIOS's base and test period O&M for specific FERC Accounts.

Q. Please explain the adjustments to O&M expense summarized on Page 1 of 5, Schedule H-1.1 (Exhibit No. HIO-49).

A. Adjustment No. 1, as shown on Schedule H-1.1, Page 2 of 5 (Exhibit No. HIO-49) reflects an annual increase in property insurance costs. In June 2009, insurance premiums will be increased by HIOS's insurance carrier from $452,176 to $580,467 per month, a monthly increase of $128,921. Based on this increase, test period insurance costs are projected at $6,965,604 (Col. 3, line 3) on an annualized basis as compared to $5,426,115 (Col. 3, line 4) in the base period, resulting in a test period adjustment of $1,539,489 (Col. 4, line 5) to Account 924 – Property Insurance.

Q. Are these insurance costs billed to HIOS by the operating company, EGOOC?

A. Yes, the insurance premiums are paid for by EGOOC and then passed directly on to HIOS. Such costs are defined as “Direct Flowthrough Costs” in Section 3.2.3 of the OSA.

Q. Please describe the purpose of Adjustment No. 2 as shown on H-1.1, Page 2 of 5 (Exhibit No. HIO-49).

A. Adjustment No. 2 as shown on Schedule H-1.1, Page 2 of 5 (Exhibit No. HIO-49) reflects the elimination of non-recurring and out-of-period expenses charged to HIOS during the base period. O&M expenses were normalized to eliminate both unusually high and unusually low expenses as well as any credits to expense accounts. After normalization, the resulting test period adjustment is $645,245 (Col. 3, line 23).

Q. Please describe Adjustment No. 2 in further detail.

A. Due to the impact of Hurricane Ike in September 2008, some accounts did not accurately reflect the expenses incurred in an average year. The single largest adjustment, of $515,804 (Col. 3, line 12), was due to an overpayment that occurred during the first six months of the year. This expense was removed to the balance sheet and amortized over the remaining six months of the year.

Q. Please describe the purpose of Adjustment 3 - Operating Agreement Turnkey Fee Adjustment as shown on H-1.1, Page 3 of 5 (Exhibit No.HIO-49).

A. Adjustment No. 3 reflects an adjustment to annualize an increase in the fixed monthly fee currently paid by HIOS to EGOOC per OSA, Section 2.2, and covers a comprehensive list of routine operating services. The Turnkey Fee is subject to an annual adjustment under an index mechanism as provided by the amended OSA, Section 3.2.2. The "Wage Index Adjustment Factor" published by the Council of Petroleum Accountant Societies ("COPAS Index") is utilized to make the annual adjustment. HIOS was notified by EGOOC that effective April 1, 2009, the monthly Turnkey Fee will be adjusted based on the COPAS Index, from $913,623 (Col. 3, line 3) to $986,387 (Col. 3, line 2). This will result in an annualized increase in the Turnkey Fee of $873,168 (Col. 3, line 5) reflected as an adjustment to various O&M accounts. The allocation of the annual adjustment to various FERC accounts is based on the same allocation of the turnkey to these accounts in the base period.

Q. Please explain Adjustment No. 4 – Account 854, Gas for Compressor Station Fuel as shown on H-1.1, Page 3 of 5 (Exhibit No. HIO-49).

A. This adjustment eliminates company use fuel expense booked to Account 854 totaling $(6,441,458) as shown in Col. 3, line 22. Such costs are recovered by a separate fuel tracker mechanism established by FERC Order dated January 24, 2005 as defined in the HIOS Tariff and therefore, are not included in the cost of service.

Q. Please describe Adjustment No. 5 – Account 928, Regulatory Commission Expenses as shown on H-1.1, Page 3 of 5 (Exhibit No. HIO-49).

A. The adjustment to Account 928 is made to reflect the latest FERC 2009 Annual Charge Billing of $400,000 (Col. 3, line 25) and regulatory consulting fees of $708,000 (Col. 3, line 31) incurred during the preparation of HIOS's rate filing application. This amount, when compared to the base period balance of $327,075 (Col. 3, line 26) results in an adjustment of $780,925 as shown in Col. 3, line 32.

Q. Please explain Adjustment No. 6 – Accounts 856 & 857, Amortization of Hurricane Repairs as shown on H-1.1, Page 4 of 5 (Exhibit No. HIO-49).

A. Adjustment No. 6 reflects costs associated with repairs resulting from Hurricanes Rita and Ike. These expenses are being amortized over a 3 year period, with the balance being reflected on B-2 (Exhibit No. HIO-4) which is more fully explained in the testimony of HIOS Witness Deborah E. Kwan. The test period adjustment of $3,208,781 (Col. 4, line 7) reflects one year of amortization.

Q. Please explain Adjustment No. 7 - Adjustment for acquisition of gathering system.

A. Adjustment No. 7 reflects the costs associated with the acquisition of a gathering system by HIOS as more fully explained in the testimony of HIOS Witness Richard W. Porter. The test period adjustment of $1,554,888 (Col. 3, line 12) is comprised of $325,000 for operating expenses and $1,229,888 in increased property insurance expense.

Q. Please explain Adjustment No. 8 – Adjustment in 36-Month Operating Budget as shown on H-1.1, Page 4 of 5 (Exhibit No. HIO-49).

A. Adjustment No. 8 reflects an adjustment to decrease the EGOOC OSA 36-month non-routine operating budget, covering calendar years 2009, 2010 and 2011, effective January 1, 2009, pursuant to the amended OSA, Section 3.2.2.

Q. Please describe Adjustment No. 8 in further detail.

A. Section 3.2.2 of the OSA includes a 36-month, budgeted operating plan encompassing calendar years 2009 through 2011, and includes significant non-routine expenditures necessary to ensure safe and efficient pipeline operation. The adjustment is comprised of the difference between the 2008 and 2009 non-routine budgeted services, $1,273,231 (Calculation: $10,386,534 - Col. 3, line 15 less $9,113,333 - Col. 3, line 16), multiplied by 57%, the percentage of costs anticipated to be expensed in 2009 by the budget. This amount was then allocated to various O&M accounts based on the same allocation of the 36-month, budgeted operating plan in the base period.

Q. Please explain Adjustment No. 9 - Adjustment to reflect rate design refunctionalization as shown on H-1.1, page 5 of 5 (Exhibit No. HIO-49)

A. Adjustment No. 9 reflects the allocation of expenses incurred in the base and test periods to refunctionalize certain HIOS assets from transmission to gathering, as explained by HIOS Witness Richard W. Porter. Expenses which can be attributed directly to gathering or transmission were subtracted from total adjusted O&M prior to allocation. A&G expenses and operating expenses associated with newly acquired gathering assets were also subtracted from the total prior to allocation. Total pipeline expenses of $7,290,026 (Col. 3, line 9) were allocated between gathering and transmission based on an inch mile study of pipeline assets. The resulting gathering and transmission expenses were allocated to various gathering and transmission O&M accounts.

Q. What is the total of all test period adjustments?

A. Test period adjustments total $1,435,296 as shown on H-1.1, Page 1of 5, Col. 13, line 43 (Exhibit No. HIO-49). This amount is comprised of $7,876,754 in non-gas test period adjustments (Calculation: $1,435,296 – Col. 16, line 43 less $(6,441,458) - Col. 16, line 17) and $(6,441,458) in gas cost adjustments.

Q. Does this conclude your testimony?

A. Yes.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

In the matter of	)	
High Island Offshore System, L.L.C.	)	Docket No. RP09-___-000

Affidavit of Lindsey E. McCartney

Lindsey E. McCartney, being first duly sworn according to law, on oath deposes and says that she is the witness whose prepared direct testimony in the above entitled proceeding accompanies this affidavit; that if asked the questions which appear in the text of the aforesaid prepared testimony, affiant would give the answers that are therein set forth; and that affiant adopts the aforesaid testimony as her sworn, direct testimony in these proceedings.

/s/ Lindsey E. McCartney
Lindsey E. McCartney

Subscribed and sworn to before me this 25th day of March, 2009.

FRONELL SINGLETERRY
Notary Public, State of Texas
My Commission Expires
December 19, 2010

/s/ Fronell Singleterry
Notary Public

Exhibit No. HIO-90

UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

High Island Offshore System, L.L.C.) Docket No. RP09-___-000

Prepared Direct Testimony
of
Ellen C. Eastham

Q. Please state your name and business address.

A. My name is Ellen C. Eastham. My business address is 1100 Louisiana Street, Houston, Texas 77002.

Q. By whom are you employed and what are your job responsibilities?

A. I am employed by Enterprise Products Partners, L.P. ("EPP"), as a Lead Rate Analyst. My responsibilities include rate analyses and studies pertaining to regulatory filings for High Island Offshore System, L.L.C. ("HIOS").

Q. Please describe your educational background and work experience.

A. I graduated from Emporia State University in 1977 and was awarded a Bachelor of Business degree with a major in Accounting. From 1977 to 1979, I was employed by Phillips Petroleum Company as an Oil Accountant and promoted to Cost Analyst in the Gas Accounting Department. In 1979, I accepted a position as General Accountant and promoted to Financial Analyst, with Celanese Chemical Company. In 1985, I accepted a position with Panhandle Eastern Pipe Line Company ("Panhandle") in the Regulatory Affairs Department as a Rate Analyst. While at Panhandle, I held increasing levels of responsibility in the Regulatory Affairs and Marketing Departments. I received a Masters in Business Administration degree,

Exhibit No. HIO-90

UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

High Island Offshore System, L.L.C.) Docket No. RP09-___-000

Prepared Direct Testimony
of
Ellen C. Eastham

Q. Please state your name and business address.

A. My name is Ellen C. Eastham. My business address is 1100 Louisiana Street, Houston, Texas 77002.

Q. By whom are you employed and what are your job responsibilities?

A. I am employed by Enterprise Products Partners, L.P. ("EPP"), as a Lead Rate Analyst. My responsibilities include rate analyses and studies pertaining to regulatory filings for High Island Offshore System, L.L.C. ("HIOS").

Q. Please describe your educational background and work experience.

A. I graduated from Emporia State University in 1977 and was awarded a Bachelor of Business degree with a major in Accounting. From 1977 to 1979, I was employed by Phillips Petroleum Company as an Oil Accountant and promoted to Cost Analyst in the Gas Accounting Department. In 1979, I accepted a position as General Accountant and promoted to Financial Analyst, with Celanese Chemical Company. In 1985, I accepted a position with Panhandle Eastern Pipe Line Company ("Panhandle") in the Regulatory Affairs Department as a Rate Analyst. While at Panhandle, I held increasing levels of responsibility in the Regulatory Affairs and Marketing Departments. I received a Masters in Business Administration degree, with a concentration in Finance, from the University of Houston-Clear Lake in 1987. In April, 2008, I accepted my current position with EPP in the Rates and Regulatory Affairs Department.

Q. Have you previously provided testimony before a regulatory commission?

A. Yes, I have prepared and filed written testimony before the State of Louisiana, Office of Conservation, with the Pipeline Division on behalf of Acadian Gas Pipeline System and Cypress Gas Pipeline, LLC, both subsidiaries of EPP.

Q. What exhibits are you sponsoring?

A. I am sponsoring the following exhibits, which were included in HIOS's filing:

Hearing Exhibit No.	**Schedule Reference**	**Description**
HIO- 31	Statement H-3	Income Taxes
HIO- 32	Statement H-4	Other Taxes
HIO- 64	Schedule H-3 (1)	State Income Taxes Paid
HIO- 65	Schedule H-3 (2)	Tax Reconciliation

Q. Why have you calculated an allowance for federal income tax expenses?

A In its Policy Statement on Income Tax Allowances issued May 4, 2005 in Docket No. PL05-5 ("the Policy Statement"), the Commission determined that Master Limited Partnerships ("MLP"s) were entitled to include an allowance for federal income taxes in their cost of service. This allowance was to reflect the potential federal income taxes due from the partnership's unit holders. The Commission has established a methodology to establish a weighted average income tax rate to use for purposes of calculating this allowance. The Commission also applies the Policy Statement to other tax pass-through entities such as limited liability companies ("LLC"s.)

Q. Please describe Statement H-3 (Exhibit No. HIO-31).

A. Statement H-3 shows the calculation of the federal and state income taxes in column 4, which total $3,716,991, and is included in the cost of service for the test period as reflected on Statement A (Exhibit No. HIO-1). The computation of HIOS's total income tax is based on a weighted average federal income tax rate of 28.8114%, and a weighted average state income tax rate of 5.3045%, both of which were determined in accordance with the Policy Statement.

Q. Please explain the basis of the income tax allowance calculation.

A. HIOS is structured as a single member LLC, 100% owned by EPP, a publicly traded partnership ("PTP"). Single member LLC's are classified as "disregarded entities" for federal income tax purposes and are treated as divisions of their parent entity. Therefore, HIOS does not file a separate income tax return, but reports its taxable income through the income tax return of EPP. As a pass-through entity, the taxable income of EPP is allocated to its partners who are in turn, responsible for reporting their income and paying income taxes to the appropriate federal and state government agencies. In the Policy Statement, the Commission stated that any pass-through entity seeking an income tax allowance in a specific rate proceeding must establish the tax status of its owners.

Q. How does EPP establish the tax status of the partners?

A. EPP categorized its investors into entity types, such as individuals, corporations, partnerships, estates, trusts, foreign citizen, other, exempt organization, IRA/SEP/KEOGH's and pension plans, utilizing the partner type classification as reported in the 2007 EPP tax return, Schedule K-1, Part II, question I.

Q. How was the federal income tax rate calculated?

A. The effective federal income tax rate was determined using a weighted average methodology based on the 2007 taxable income allocated to the partners of EPP. The partners of EPP were summarized according to their applicable federal income tax rates as follows: (1) for corporate partners the applicable rate is 35%, (2) for individual partners and flow through entities such as partnerships, trusts and IRA's which ultimately flow through to individuals, the applicable rate is 28%, (3) for tax exempt partners the applicable rate is 0%. A weighted average tax rate was computed using a ratio of the taxable income allocated to each partner group over the taxable income allocated to all partner groups, and the result was multiplied by each group's applicable federal income tax rate. The sum of the weighted federal tax rates computed for each partner group totals to 28.8114%.

Q. Why have you included an allowance for state income taxes in your calculations?

A. The Commission has previously affirmed in various pipeline rate cases that a MLP is entitled to a cost of service allowance for state income taxes. In those filings, the Commission also indicated that it would review various proposals as to the appropriate method to calculate the state income taxes. Consistent with the methodology utilized for purposes of calculating the federal income tax allowance, HIOS proposes that the relevant factor for a MLP is not the state income tax rates for the partnership, but rather the state income tax rates for the unit holders. Furthermore, the relevant tax rate is not the state income tax rate in the state where the partnership earns the income, but rather the state income tax rates where the unit holders receive and are taxed on the income. Although HIOS does not pay state income taxes, the revenues that it generates for the partnership unit holders may be subject to state income tax in the states where the unit holders reside. I have calculated an allowance for state income taxes using this methodology.

Q. Explain the computation for state income tax rate of 5.3045% as shown on Statement H-3, line 4.

A. The effective state income tax rate was determined using a weighted average methodology based on the 2007 state taxable income allocated to 267,077 partners that own EPP. The partners are comprised of a variety of individuals and entities such as corporations, trusts, partnerships, etc., that reside in various states.

Q. How did you determine the state to use for the partners and the state income tax rate to use in your calculations?

A. The partners of EPP were summarized according to their state of residence based on their mailing addresses. Partners structured as tax exempt organizations were grouped together regardless of state since their applicable state tax rate is 0%. Corporate partners were also grouped together regardless of state and a single state tax rate of 5% was assumed due to the complexity of determining a corporate partner's ultimate state income tax rate. Based on these partner groups, a weighted average state income tax rate was computed using a ratio of the taxable income allocated to each partner group over the taxable income allocated to all partner groups, and the result was multiplied by each group's applicable state income tax rate. The sum of the weighted state tax rates computed for each partner group totals to 5.3045%.

Q. Please explain the calculation of the income tax factor.

A. The federal income tax rate in column 3, line 5 has been adjusted to account for the federal tax benefit of the deduction for state income taxes, and results in a net federal tax rate of 27.2831%. I added the adjusted federal rate to the state income tax rate to calculate the total income tax rate in column 3, line 7. Then I "grossed-up" the income tax rates to account for the tax-on-tax effect and produced the income tax factor of 48.3410% in column 4, line 8. The income taxes of $3,716,991, shown in column 4, line 9, are the product of the income tax factor and the income tax base.

Q. What is shown on Statement H-4 (Exhibit No. HIO-32)?

A. This schedule details the taxes, other than income taxes, which are included in the cost of service. Statement H-4 reflects HIOS's base period level of ad valorem taxes. HIOS is responsible for ad valorem (property) taxes in the states of Louisiana and Texas. These taxes are associated with HIOS plant, property and equipment subject to property taxation in those states. As shown on Statement H-4, column 2, line 1, ad valorem taxes for the base period are $62,664, which are taxes paid for Jefferson County, Texas. An adjustment in column 3, line 1 of $15,162, reflects the payment in 2008 for ad valorem taxes for Cameron Parish, Louisiana. Column 4 is the adjusted ad valorem taxes paid for 2008 in the amount of $77,826.

As part of the Operating Services Agreement with HIOS's operator, payroll taxes totaling $252,518 (column 2, line 2) are billed as part of the monthly routine and non-routine services fee.

Q. Describe the sales tax adjustment in column 3, line 3 in the amount of $19.

A. Due to minimal, non-recurring expenses, I have adjusted sales tax to $0 in column 4.

Q. Please explain Exhibit No. HIO- 64, consisting of Schedule H-3 (1), which is entitled State Income Taxes Paid.

A. HIOS is an MLP and does not directly pay state income taxes. Consequently, this schedule is not applicable.

Q. Please explain Exhibit No. HIO-65, Schedule H-3 (2), which is entitled Reconciliation Between Book Depreciable Plant and Tax Depreciable Plant and Accumulated Provision for Deferred Income Taxes.

A. HIOS has provided the required information on Exhibit No. HIO-3, so this schedule is not applicable.

Q. Does this conclude your testimony?

A. Yes.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

In the matter of	)	
High Island Offshore System, L.L.C.	)	Docket No. RP09-___-000

Affidavit of Ellen C. Eastham

Ellen C. Eastham, being first duly sworn according to law, on oath deposes and says that she is the witness whose prepared direct testimony in the above entitled proceeding accompanies this affidavit; that if asked the questions which appear in the text of the aforesaid prepared testimony, affiant would give the answers that are therein set forth; and that affiant adopts the aforesaid testimony as her sworn, direct testimony in these proceedings.

/s/ Ellen C. Eastham
Ellen C. Eastham

Subscribed and sworn to before me this 25th day of March, 2009.

FRONELL SINGLETERRY
Notary Public, State of Texas
My Commission Expires
December 19, 2010

/s/ Fronell Singleterry
Notary Public

Exhibit No. HIO-91

UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

High Island Offshore System, L.L.C.) Docket No. RP09-

Prepared Direct Testimony
Of
Jeffrey M. Molinaro

Q. Please state your name and business address.

A. My name is Jeffrey M. Molinaro. My business address is 1100 Louisiana, Houston, Texas 77002.

Q. By whom are you employed and what are your job responsibilities?

A. I am employed by Enterprise Products Partners, L.P., as a Lead Rates and Regulatory Affairs Analyst. My responsibilities include rate analyses and studies pertaining to regulatory filings by High Island Offshore System, L.L.C. ("HIOS").

Q. Please describe your educational background and work experience.

A. I graduated from The University of Notre Dame in 1994 with a Bachelor of Business Administration degree, majoring in Finance. In 1998 I received a Master of Business Administration degree from The University of St. Thomas. From 1994 - 2001, I was employed as a Rate Analyst with Transcontinental Gas Pipeline Corporation and held positions of increasing responsibility within the Rates Department. In June 2001, I accepted a position as a Rates and Regulatory Affairs Analyst with Enron North America. In May 2002 I accepted a position as a Senior Rates Analyst with ANR Pipeline Company. In December 2004 I accepted my current position at Enterprise Products Partners, L.P.

Q. Have you previously filed testimony at this Commission?

A. Yes, I prepared written testimony in the last HIOS rate case filed on August 31, 2006 in Docket No. RP06-540 and in the Petal Gas Storage, L.L.C. Cost and Revenue Study filed on July 1, 2005 in Docket No. CP01-69.

Q. Please provide an overview of your testimony in this proceeding and the related exhibits that you are sponsoring.

A. My testimony will cover Statements G, I and J and their supporting schedules. Specifically, my testimony will explain HIOS's transportation volumes and revenues under current and proposed rates as detailed in Statement G, describe the functionalization of and allocation of cost of service as detailed in Statement I, and explain the rates derivation and revenue reconciliation reflected in Statement J. I am sponsoring the following exhibits.

Hearing Exhibit No.	**Reference**	**Schedule Description**
HIO-20	Statement G	Revenues, Credits and Billing Determinants
HIO-21	Schedule G-1	Base Period Revenues and Volumes
HIO-22	Schedule G-2	As Adjusted Revenues and Volumes
HIO-23	Schedule G-3	Test Period Adjustments to Base Period
HIO-24	Schedule G-4	At-Risk Revenue
HIO-25	Schedule G-5	Other Revenues
HIO-26	Schedule G-6	Miscellaneous Revenues
HIO-33	Schedule I-1	Overall Cost of Service
HIO-34	Schedule I-1(a)	Functionalization of Cost of Service
HIO-35	Schedule I-1(b)	Incremental v. Non-Incremental
HIO-36	Schedule I-1(c)	Cost of Service by Zone

HIO-37	Schedule I-1(d)	Allocation of Common and Joint Costs
HIO-38	Schedule I-2	Classification of Cost of Service
HIO-39	Schedule I-3	Allocation of Cost of Service
HIO-40	Schedule I-4	Transmission and Compression by Others
HIO-41	Schedule I-5	Gas Account - Natural Gas
HIO-42	Statement J	Reconciliation of Rev. with Cost of Service
HIO-43	Schedule J-1	Summary of Billing Determinants
HIO-44	Schedule J-2	Derivation of Rates

Q. Please summarize the revenues generated by HIOS during the base period.

A. Schedule G-1 (Exhibit No. HIO-21, pg 11, col. 14, line 41) shows that HIOS generated $22,234,428 of revenues, determined by actual invoiced amounts during the base period.

Q. Please summarize the billing determinants during the base period.

A. Statement G (Exhibit No. HIO-20, pg 2, line 3, columns 6 and 10) shows that HIOS's annual billing determinants during the base period, based on actual invoiced amounts, were 104,227,336 Dth on a long haul basis, and 5,347,817 Dth on a short haul basis, all of which were transmission volumes. HIOS invoiced no gathering volumes during the base period.

Q. Please summarize the annual revenues that HIOS expects to generate on an as-adjusted basis.

A. Schedule G-2 (Exhibit No. HIO-22, pg 11, col. 14, line 42) shows that, assuming approval of the rates proposed in this case, HIOS expects to generate $58,030,878 of revenue per year on an as-adjusted basis, composed of $57,211,766 of long haul revenue, shown on column 11, line 42, and $819,112 of short haul revenue, shown on column 12, line 42.

Q. Please describe the annualized billing determinants on an as-adjusted basis.

A. As shown on Schedule G-2 (Exhibit No. HIO-22, pg 11, line 42, columns 5 and 6), HIOS expects to achieve annual billing determinants on an as-adjusted basis of 96,690,992 Dth on a long haul basis volumes, shown on column 5, line 42, and 5,720,064 Dth on a short haul basis, shown on column 6, line 42. Included in the long haul total is 8,030,000 Dth of firm transportation volumes, shown on line 41, column 5.

Q. Please explain how these levels of test period volumes were determined.

A. First, as shown on column 3 of Schedule G-3 (Exhibit No. HIO- 23), I added volumes to the base period totals to normalize 2008 throughput for the impact of Hurricane Ike by annualizing the pre-hurricane volumes. I then calculated the average number of days over the previous three years that HIOS experienced outages due to hurricanes, and made the adjustments shown on column 4. Next, I relied on the expected MDQ's provided by HIOS's FT-2 shippers to determine the test period firm volumes. The FT-2 shippers have provided HIOS expected MDQ's totaling 22,000 Dth/day at the end of the test period, for a total annual volume of 8,030,000 Dth, which is a reduction from base period volumes. This adjustment is shown on Schedule G-3, column 5, lines 1 and 4. To determine the test period interruptible volumes I relied on the testimony of HIOS witness J. Scott Jenkins, and made an adjustment to base period interruptible volumes, shown on Schedule G-3, column 5, lines 7 and 10.

Q. Were any other adjustments made on Schedule G-3?

A. Yes. As shown on column 6 of Schedule G-3, I made an adjustment to reflect the refunctionalization of transmission assets to gathering.

Q. Why does HIOS expect gathering volumes and revenue in the test period when it did not experience any in the base period?

A. As further explained by HIOS witness Richard W. Porter, during the test period HIOS has acquired a gathering asset, and has refunctionalized certain transmission assets to gathering. As a result, HIOS expects to receive both gathering volumes and revenues in the test period.

Q. Please explain the remaining schedules contained in Statement G.

A. First, Schedule G-4 (Exhibit No. HIO-24) is not applicable in this proceeding, as HIOS does not have any At-Risk Revenue. Next, Schedule G-5 (Exhibit No. HIO-25) contains revenue booked to FERC Account No. 495, and includes revenues from the transportation of liquids for the base period and on an as-adjusted basis, and revenues generated from platform rental fees. Finally, Schedule G-6 (Exhibit No. HIO-26) shows cash out revenue, penalty revenue and exit fees collected on an actual and as-adjusted basis.

Q. Please explain the information contained in Statement G (Exhibit No. HIO-20).

A. Statement G (Exhibit No. HIO-20) summarizes the information detailed in Schedule G-1 (Exhibit No. HIO-21), Schedule G-2 (Exhibit No. HIO-22) and Schedule G-5 (Exhibit No. HIO-25).

Q. Please describe the information contained in Schedule I-1 (Exhibit No. HIO-33) and Schedule I-1(a) (Exhibit No. HIO-34).

A. Schedule I-1 (Exhibit No. HIO-33) contains the overall cost of service of $58,026,997, as reflected on Statement A (Exhibit No. HIO-1), and Schedule I-1(a)

(Exhibit No. HIO-34) shows the overall cost of service functionalized between gathering and transmission.

Q. Please describe Schedule I-1(b) (Exhibit Nos. HIO-35) and Schedule I-1(c) (Exhibit Nos. HIO-36).

A. These schedules are not applicable to this proceeding. Schedule I-1(b) is not applicable as HIOS does not bill on an incremental basis and Schedule I-1(c) is not applicable because HIOS does not utilize a zoned rate methodology and is not proposing a zoned rate methodology in this proceeding.

Q. Please explain Schedule I-1(d) (Exhibit No. HIO-37).

A. Schedule I-1(d) details the allocation of general and common costs. Schedule I-1(d), page 1 supports the allocation of "other" Administrative and General Expenses to the gathering and transmission functions, and Schedule I-1(d), page 2 details the functional classification of overall Administrative and General Expenses, using the K-N allocation methodology.

Q. Are any other allocations performed on Schedule I-1(d)?

A. Yes. The allocation of depreciation expense associated with general and other plant is allocated to the gathering and transmission functions based on plant ratios on Schedule I-1(d), page 3. The allocation of federal income taxes, state income taxes and other taxes is shown on Schedule I-1(d), page 4. General plant, other plant and other rate base items are functionalized on Schedule I-1(d), page 5. Finally, revenues and volumes associated with the transportation of liquids are allocated to gathering and transmission on Schedule I-1(d), page 6 based on the relationship between gathering and transmission volumes.

Q. How are the general plant, other plant and other rate base items shown on Schedule I-1(d), page 5 functionalized?

A. General and other gas plant, accumulated DD&A associated with general and other plant, working capital, deferred income taxes and the regulatory asset are allocated to gathering and transmission based on gas plant ratios. Supplemental depreciation was fully allocated to transmission plant.

Q. Why did HIOS allocate supplemental depreciation on this basis?

A. HIOS allocated 100% of the supplemental depreciation to transmission, lowering transmission net plant. Since all shippers ultimately use the downstream transmission facilities, all shippers benefit from the lower transmission net plant generated by this allocation.

Q. How did HIOS allocate the negative salvage, as reflected on Schedule I-1(a)?

A. I reviewed the negative salvage study prepared by HIOS witness Robert C. Byrd, and allocated enough of the accumulated negative salvage such that the transmission decommissioning costs are fully funded. The remaining negative salvage costs were therefore appropriately allocated 100% to gathering rate base.

Q. Please explain Schedule I-2 (Exhibit No. HIO-38).

A. Schedule I-2 (Exhibit No. HIO-38) reflects the classification of costs, by cost of service element, between fixed and variable costs, and between reservation costs and usage costs. Schedule I-2, page 1 shows the classification of gathering costs and Schedule I-2, page 2 shows the classification of transmission costs. On the HIOS system, gathering reservation costs equal fixed costs of $45,014,023, and gathering usage costs equal variable costs of $1,653,655, consistent with the Commission’s strong preference for straight-fixed variable rate design. Historically, costs in FERC

Account Nos. 754/853 - Compressor Station Expenses, and FERC Account Nos. 765/864 – Maintenance of Compressor Station Equipment, have been considered to include variable costs, and the sum of these two accounts on Schedule I-2, page 1, column 4, totals $1,653,655. Schedule I-2, page 2 shows that all transmission costs have been classified as fixed because the FERC Accounts typically considered to include variable costs contain zero dollars. As such, the transmission reservation costs equal fixed costs of $11,359,319, and no dollars have been classified as transmission usage costs.

Q. Please explain how the HIOS cost of service is allocated.

A. HIOS calculates system-wide rates for service and does not allocate costs to rate schedules. As a result, Schedule I-3 (Exhibit No. HIO-39) is not applicable to this proceeding.

Q. Does HIOS have any FERC Account 858 costs?

A. No. HIOS does not have contracts with third parties for transportation and compression of gas by others (FERC Account No. 858). Therefore Schedule I-4 (Exhibit No. HIO-40) is not applicable.

Q. Please explain the information contained in Schedule I-5 (Exhibit No. HIO-41).

A. Schedule I-5 (Exhibit No. HIO-41) contains the HIOS gas balance by month during the base period, with applicable adjustments. It reflects the test period throughput as summarized on Statement G (Exhibit No. HIO-20).

Q. Please explain the schedules contained in Statement J (Exhibit No. HIO-42).

A. Statement J (Exhibit No. HIO-42) contains a comparison of the revenues expected to be generated to the overall cost of service. Schedule J-1 (Exhibit No. HIO-43) shows the calculation of rate design determinants and Schedule J-2 (Exhibit No. HIO-44) contains the derivation of rates.

Q. Please summarize the HIOS billing determinants used for rate design purposes.

A. Schedule J-1, page 1, column 2 (Exhibit No. HIO-43) contains the gathering billing determinants by Rate Schedule, as reported on Schedule G-2 (Exhibit No. HIO-22). Four adjustments are then made to the billing determinants to arrive at the gathering rate design determinants, as shown on column 7 of Schedule J-1, page 1. First, in order to recognize that HIOS has refunctionalized certain transmission assets to gathering, as explained by HIOS witness Porter, I have made an adjustment to gathering commodity determinants, as shown on column 3. This adjustment recognizes that due to the refunctionalization HIOS expects 88,660,992 Dth of interruptible gathering commodity throughput, shown on column 3, line 11. Next, I have made an adjustment to gathering reservation determinants, shown on column 4, to reflect that the Commission has determined in previous HIOS rate cases that the Rate Schedule FT-2 service effectively functions as a commodity service and that the expected commodity throughput should be used in place of MDQ. The adjustment shown on column 5 is based on the level of interruptible commodity billing determinants reported on an as-adjusted basis, and represents a level of MDQ that is imputed for interruptible services. Finally a gathering discount adjustment is calculated on column 6.

Q. Please explain how the gathering discount adjustment is calculated.

A. I used an iterative discount model to determine the level of volume adjustment required to compensate for discounted transactions so that HIOS will have a reasonable opportunity to fully recover its cost of service.

Q. Please explain the adjustments made to transmission billing determinants on Schedule J-1, page 2.

A. Three adjustments are made to the transmission billing determinants to arrive at the transmission rate design determinants, as shown on column 7 of Schedule J-1, page 2 (Exhibit No. HIO-43). First, I have made the same adjustment to transmission reservation determinants, shown on column 4, to reflect the functioning of the Rate Schedule FT-2 service, as discussed above. The adjustment shown on column 5 is based on the level of interruptible commodity billing determinants reported on an as-adjusted basis, and represents a level of MDQ that is imputed for interruptible services. Finally a transmission discount adjustment is calculated on column 6.

Q. Please explain how the transmission discount adjustment is calculated.

A. I again used an iterative discount model to determine the level of volume adjustment required to compensate for discounted transactions.

Q. Please explain HIOS's overall rate design.

A. HIOS's rate design calculations are contained on Schedule J-2 (Exhibit No. HIO-44). First, on Schedule J-2, page 2 I designed a gathering system-wide default rate applicable to Rate Schedules FT-1 and FT-2. The interruptible gathering rate was then calculated as the 100% load factor derivative of the Rate Schedule FT-1 rate. On Schedule J-2, page 3, I designed a transmission system-wide default rate applicable to Rate Schedules FT-1 and FT-2. The interruptible gathering rate was then calculated as the 100% load factor derivative of the Rate Schedule FT-1 rate. Then, on Schedule J-2, page 1, I prepared the statement of Long Haul and Short Haul rates, by Rate Schedule, incorporating these rate components.

Q. Does this conclude your testimony?

A. Yes.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

In the matter of	)	
High Island Offshore System, L.L.C.	)	Docket No. RP09-___-000

Affidavit of Jeffrey M. Molinaro

Jeffrey M. Molinaro, being first duly sworn according to law, on oath deposes and says that he is the witness whose prepared direct testimony in the above entitled proceeding accompanies this affidavit; that if asked the questions which appear in the text of the aforesaid prepared testimony, affiant would give the answers that are therein set forth; and that affiant adopts the aforesaid testimony as his sworn, direct testimony in these proceedings.

/s/ Jeffrey M. Molinaro
Jeffrey M. Molinaro

Subscribed and sworn to before me this 25th day of March, 2009.

FRONELL SINGLETERRY
Notary Public, State of Texas
My Commission Expires
December 19, 2010

/s/ Fronell Singleterry
Notary Public