



## **I. Background**

4. Houston Hub is a subsidiary of Enstor, Inc. and Enstor Operating Company, LLC (Enstor), its general partner. Enstor, Inc. is a subsidiary of PPM Energy, Inc. (PPM), which, in turn, is a subsidiary of Scottish Power plc (Scottish Power). As of April 23, 2007, Scottish Power became a subsidiary of Iberdrola, S.A. (Iberdrola). Houston Hub is a new company with no existing jurisdictional or non-jurisdictional operations in the natural gas pipeline or storage industry, and upon receipt of its requested certificate authorizations, will become a natural gas company within the meaning of section 2(6) of the NGA.

5. However, Enstor, through its affiliates and subsidiaries, is an owner, operator, and developer of natural gas storage projects across North America. Houston Hub's affiliate, Enstor Katy Storage and Transportation, L.P., operates a storage facility in Katy, Texas, while affiliate Enstor Grama Ridge Storage and Transportation, LLC operates a storage facility in Lea County, New Mexico.<sup>1</sup> These Houston Hub affiliates provide interstate storage and related services under section 311 of the Natural Gas Policy Act at market-based rates.<sup>2</sup>

6. On May 24, 2006, in Docket No. CP06-144-000, the Commission exempted Houston Hub from the section 7(c) certificate requirements of the NGA to drill two water wells, two disposal wells, and one salt well to determine the feasibility of developing a salt cavern storage project.<sup>3</sup> The Commission gave Houston Hub until May 24, 2007, to complete the proposed testing. By letter order issued April 26, 2007, the Commission granted Houston Hub a one-year extension of time within which to complete the drilling and testing activities. In its application, Houston Hub states that it anticipates the testing will confirm the project's feasibility.

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<sup>1</sup> See *Katy Storage and Transportation, L.P.*, 106 FERC ¶ 61,145 (2004) and *Grama Ridge Storage and Transportation, LLC*, 113 FERC ¶ 61,301 (2005).

<sup>2</sup> In addition, on March 2, 2007, in Docket No. CP07-94-000, *et al.*, Houston Hub's affiliate, Enstor Gulf Coast Storage, LLC, filed a section 7(c) application to operate a gas storage pool on the Gulf Coast. However, by letter order issued June 6, 2007, the Director of the Office of Energy Projects rejected the application as deficient, without prejudice to Enstor Gulf Coast's refiling an application conforming to Part 157 of the Commission's regulations.

<sup>3</sup> See *Houston Hub Storage and Transportation, L.P.*, 115 FERC ¶ 61,235 (2006).

## **II. The Proposal**

### **A. New Facilities**

7. Houston Hub proposes to construct and operate a high-deliverability salt dome natural gas storage facility on the North Dayton Dome, near the town of Dayton, Texas, approximately 30 miles northeast of Houston, Texas. The Houston Hub Project will consist of four natural gas storage caverns providing an ultimate total working gas capacity of 30 Bcf, gas compression and dehydration facilities, a leaching facility, five raw water wells, five brine disposal wells, two natural gas pipelines, metering and regulating stations, and certain non-jurisdictional facilities. Houston Hub will locate its new storage facility on about 672 acres, of which it owns 628 acres. Houston Hub holds the remaining 44 acres under permanent easements.<sup>4</sup>

8. Houston Hub proposes to develop the storage caverns in two phases. Initially, Houston Hub states that each cavern will have a capacity of 6.175 Bcf (4 Bcf working gas and 2.175 Bcf cushion gas) for a total capacity of 24.7 Bcf (16 Bcf working gas and 8.7 Bcf cushion gas). The caverns under this phase of the project will be operational in 2009. Houston Hub will then take the caverns out of commercial service one at a time, as service and market conditions allow, for additional solution mining to increase the capacity of each cavern to a total of 11.58 Bcf comprising 7.5 Bcf of working gas and 4.08 Bcf of cushion gas. Houston Hub asserts that when fully developed, the storage facility will have a total capacity of 46.32 Bcf comprising 30 Bcf of working gas and 16.32 Bcf of cushion gas. It projects withdrawal capability of approximately 1.0 Bcf per day and injection capability of approximately 0.6 Bcf per day. Houston Hub anticipates the caverns will reach full capacity by 2012.

9. The Houston Hub Project will include a compressor station consisting of three 5,000 horsepower (hp) electric motor-driven compressors, two 4,750 hp gas engine-driven compressors, and two 3,550 hp gas engine driven compressors, for total compression of 31,600 hp. In addition, Houston Hub proposes to construct gas processing and dehydration facilities.

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<sup>4</sup> Houston Hub will construct the Cavern Site on a 167-acre tract, and the Plant Facility Site on a 404-acre tract that includes the compressor station, gas withdrawal and transfer facilities, a solution mining facility, four of the five brine disposal wells, the five raw water wells, an electrical substation and other ancillary equipment and roads. The fifth brine disposal well will be constructed on a separate 4-acre tract and two additional separate sites will contain the two major pipeline interconnections.

10. Houston Hub also proposes to construct a pipeline header consisting of two 2.34-mile, 24-inch-diameter, bi-directional pipelines, connecting the storage facility to two interstate natural gas pipelines, Natural Gas Pipeline Company of America (NGPL) and Transcontinental Gas Pipe Line Corporation (Transco).<sup>5</sup> In addition, Houston Hub proposes to construct bi-directional metering and other equipment at the proposed Transco and NGPL interconnection sites.<sup>6</sup>

11. The non-jurisdictional facilities for the project include additional electrical infrastructure to be constructed, owned and operated by Sam Houston Electric Cooperative, Inc. These facilities include a 138 kV power transmission line and a 24 kV power drop, and permanent electrical power drops at the cavern site and the Transco and NGPL interconnect meter sites.

### **B. Markets and Services**

12. Houston Hub states that it designed this project to meet a growing demand for storage and hub services in the Gulf Coast and southeast regions and is premised on anticipated demand for such services. Houston Hub asserts that this anticipated demand is supported by recent analyses highlighting the importance of natural gas storage in helping the United States meet its energy needs and in mitigating energy price volatility. Houston Hub states that one report estimates that the United States and Canada will need as much as 700 Bcf of gas storage capacity by 2025, requiring the addition of an average of 35 Bcf of capacity annually.<sup>7</sup> Houston Hub further notes that the Commission itself has acknowledged this trend in its September 30, 2004 staff report, “Current State of and Issues Concerning Underground Natural Gas Storage,”<sup>8</sup> and in the recent rulemaking

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<sup>5</sup> The NGPL interconnection site will consist of two acres and the Transco interconnection site will be approximately one-half acre.

<sup>6</sup> Such equipment at each site includes a flange for a future pig launcher/receiver capable of handling instrumented pigs, bi-directional flow and pressure control, and overpressure protection equipment.

<sup>7</sup> *Balancing Natural Gas Policy – Fueling the Demands of a Growing Economy*, National Petroleum Council, September 2003, Volume 11 at p. 266.

<sup>8</sup> Staff Storage Report, Docket No. AD04-11-000 (Sept. 30, 2004) at 26.

proceeding involving the rate regulation of natural gas storage facilities producing Order No. 678.<sup>9</sup>

13. Houston Hub anticipates the customers for the new high deliverability storage services provided by the project will include a host of local distribution companies, electric utilities, merchant power generators, industrial customers, natural gas marketers, and producers serving markets in Texas, the Midwest, the Gulf Coast, the Southeast, and the Northeast. Houston Hub maintains that the ability of these customers to manage and move their gas supplies to these markets will be enhanced by the 30 Bcf of new storage capacity the project will bring to the Gulf Coast region and by the excellent access its interconnections with NGPL and Transco will provide.

14. Houston Hub proposes to offer firm and interruptible storage and hub services on an open-access basis, and requests approval of its pro forma tariff at Exhibit P to its application. Houston Hub proposes to provide firm storage service under Rate Schedule FSS, which Houston Hub states will give customers firm injection and withdrawal rights, in addition to the firm right to store up to a specified quantity of natural gas. Houston Hub proposes to provide interruptible storage service under Rate Schedule ISS, which it states is similar to interruptible services offered by other interstate storage providers. In addition, Houston Hub proposes to offer a variety of interruptible hub services, such as interruptible parking and loaning service under Rate Schedule IPS and ILS, respectively, and interruptible wheeling service under Rate Schedule IWS. Wheeling service under Rate Schedule IWS will be provided through Houston Hub's 2.34-mile gas header system connecting the project to the interconnected interstate pipelines.

### C. Market-Based Rates

15. Houston Hub proposes to offer its firm and interruptible storage and hub services at market-based rates. Houston Hub supports its proposal with a market power analysis in Exhibit I<sup>10</sup> to its application that concludes that Houston Hub will lack market power with respect to the services that it provides.

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<sup>9</sup> *Rate Regulation of Certain Natural Gas Storage Facilities*, FERC Stats. & Regs. ¶ 31,220, *order on clarification and reh'g*, Order No. 678-A, 117 FERC ¶ 61,190 (2006).

<sup>10</sup> On March 12, 2008, Houston Hub filed an errata to the market power analysis correcting inaccuracies in calculations that were contained on Attachment H-6 to the market power analysis, showing the incoming and outgoing capacities of the interstate pipelines that will connect with the Houston Hub natural gas storage facility. Houston

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#### **D. Requests for Waivers**

16. Because it proposes to charge market-based rates, Houston Hub requests waiver of certain of the Commission's filing, accounting, and reporting requirements applicable to cost-based rate proposals, which the Commission previously found inapplicable to storage providers that are granted market-based rate authority. These regulations include: (1) section 157.6(b)(8) (applicants to submit cost and revenue data); (2) sections 157.14(a)(13), (14), (16), and (17) (cost-based exhibits); (3) the accounting and reporting requirements of Part 201 and section 260.2 (relating to the cost-of-service rate structure, i.e., Form 2A); (4) section 284.7(e) (reservation charge); and (5) section 284.10 (straight fixed-variable rate design methodology).

17. Houston Hub also requests waiver of several additional Commission regulations and policies. Since Houston Hub proposes to provide only natural gas storage service, and no stand-alone transportation services, it requests waivers of the section 284.7(d) requirement pertaining to segmentation and the section 157.14(a)(10) requirement to provide a showing of accessible gas supplies. In addition, Houston Hub states that it is an independent storage provider that is exempt from the Commission's affiliate Standards of Conduct and, therefore, has not included specific provisions for compliance with those Standards of Conduct.

18. Further, Houston Hub seeks a waiver of the Commission's "shipper must have title" policy to enable it to obtain off-system capacity that may be necessary to provide the storage services to its customers. In support of its request, Houston Hub proposes tariff language stating that Houston Hub will only transport gas for others using such off-system capacity pursuant to its open-access tariff and subject to Commission-approved rates.

#### **III. Notice, Interventions, and Comments**

19. Public notice of Houston Hub's application was published in the *Federal Register* on June 14, 2007 (72 Fed. Reg. 69,751). No motions to intervene, comments or protests were filed by any person.

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Hub also updated the study to reflect the inclusion of several natural gas storage facilities that are projected to be placed in service on, or before, Houston Hub's in-service date.

#### **IV. Discussion**

20. Since Houston Hub will use the proposed facilities to transport natural gas in interstate commerce subject to the jurisdiction of the Commission, the construction, acquisition, and operation of the facilities are subject to the requirements of subsections (c) and (e) of section 7 of the NGA.

##### **A. The Certificate Policy Statement**

21. The Commission's September 15, 1999 Certificate Policy Statement provides guidance as to how it will evaluate proposals for certificating new construction.<sup>11</sup> The Certificate Policy Statement established criteria for determining whether there is a need for a proposed project and whether the proposed project will serve the public interest. The Certificate Policy Statement explains that in deciding whether to authorize the construction of major new pipeline facilities, the Commission balances the public benefits against the potential adverse consequences. Our goal is to give appropriate consideration to the enhancement of competitive transportation alternatives, the possibility of overbuilding, subsidization by existing customers, the applicant's responsibility for unsubscribed capacity, and the avoidance of the unnecessary exercise of eminent domain or other disruptions of the environment.

22. Under this policy, the threshold requirement for pipelines proposing new projects is that the pipeline must be prepared to financially support the project without relying on subsidization from its existing customers. The next step is to determine whether the applicant has made efforts to eliminate or minimize any adverse effects the project might have on the applicant's existing customers, existing pipelines in the market and their captive customers, or landowners and communities affected by the route of the new pipeline. If residual adverse effects on these interest groups are identified after efforts have been made to minimize them, we will evaluate the project by balancing the evidence of public benefits to be achieved against the residual adverse effects. This is essentially an economic test. Only when the benefits outweigh the adverse effects on economic interests will we proceed to complete the environmental analysis where other interests are considered.

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<sup>11</sup>*Certification of New Interstate Natural Gas Pipeline Facilities*, 88 FERC ¶ 61,227 (1999), *order on clarification*, 90 FERC ¶ 61,128, *order on clarification*, 92 FERC ¶ 61,094 (2000) (Certificate Policy Statement).

23. As stated, the threshold requirement is that the applicant must be prepared to financially support the project without relying on subsidization from its existing customers. Houston Hub is a new entrant in the natural gas storage market and has no existing customers. Therefore, there will be no subsidization. Moreover, under its market-based rate proposal, Houston Hub assumes the economic risks associated with the costs of the project's facilities to the extent that any capacity is unsubscribed. Thus, the Commission finds that Houston Hub has satisfied the threshold requirement of the Certificate Policy Statement.

24. The proposed Houston Hub Project will have no impact on existing services since Houston Hub is a new company that has no current customers or services. Further, the Houston Hub Project should not have any adverse impact on existing storage providers or their customers. As discussed below, the proposed project will be located in a competitive market and will serve demand in a region that is experiencing rapid growth in natural gas usage. The proposal will also enhance storage options available to pipelines and their customers and, thus, will increase competitive alternatives. Additionally, no storage company in Houston Hub's market area has protested Houston Hub's application.

25. In addition, there should be minimal adverse impact on landowners associated with the creation of these storage caverns. As stated above, 628 of the 672 total project acres are owned by Houston Hub. Further, Houston Hub holds the remaining 44 acres under permanent easements. Thus, construction of the project should have minimal impacts on landowners. Houston Hub states that it has acquired virtually all of the necessary surface and mineral rights on that portion of the North Dayton Dome where the project will be located and that it does not anticipate the need to exercise its eminent domain rights. Further, no landowner or community member has objected to the project. For these reasons, we find that any adverse impacts on landowners and communities will be minimal.

26. The Commission concludes that the Houston Hub Project will enhance the development of an efficient interstate pipeline transportation system by providing customers access to additional high-deliverability storage capacity. Based on the benefits the Houston Hub Project will provide to the market and the lack of any identified adverse effect on existing customers, other pipelines, landowners, or communities, we find, consistent with the Certificate Policy Statement and section 7 of the NGA, that the public convenience and necessity requires approval of Houston Hub's storage project.

#### **B. Market-Based Rates**

27. We have approved market-based rates for storage providers where applicants have demonstrated that, under the analytical framework of the Commission's Alternative Rate

Policy Statement,<sup>12</sup> they lack market power or have adopted conditions that significantly mitigate market power. We have approved requests to charge market-based rates for storage services based on a finding that the proposed projects could not exercise market power because of small size, anticipated share of the market, and numerous competitors in the relevant geographic market.<sup>13</sup> We have also distinguished between production-area storage facilities and market-area storage.<sup>14</sup> In general, we have determined that market power in a production area is less of a concern due to the numerous alternative storage facilities operating in competition with one another. In its market power study included in Exhibit I to its application, Houston Hub conducts separate market power analyses for its proposed storage services and hub services.

### 1. Storage Service

28. Houston Hub's market power analysis for storage service defines the relevant product and geographic market, measures market share and concentration, and evaluates other factors, such as the ease of entry into the relevant market. Houston Hub identifies the relevant product market as underground natural gas storage service.<sup>15</sup> Houston Hub identifies the relevant geographic market as those areas readily accessible to the interstate pipelines that will connect to the Houston Hub Project, NGPL and Transco. As such, Houston Hub defines the relevant geographic market as comprised of two geographic

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<sup>12</sup> *Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines and Regulation of Negotiated Transportation Services of Natural Gas Pipelines*, 74 FERC ¶ 61,076; *reh'g and clarification denied*, 75 FERC ¶ 61,024 (1996), *petition denied and dismissed*, *Burlington Resources Oil & Gas Co. v. FERC*, 172 F.3d 918 (D.C. Cir. 1998) (Alternative Rate Policy Statement), *criteria modified*, *Rate Regulation of Certain Natural Gas Storage Facilities*, Order No. 678, FERC Stats. & Regs. ¶ 31,220, *order on clarification and reh'g*, Order No. 678-A, 117 FERC ¶ 61,190 (2006).

<sup>13</sup> *Tres Palacios Gas Storage, LLC*, 120 FERC ¶ 61,253 (2007); *Port Barre Investments, L.L.C.*, 116 FERC ¶ 61,052 (2006); *Pine Prairie Energy Center, LLC*, 109 FERC ¶ 61,215 (2004).

<sup>14</sup> *Moss Bluff Hub Partners, L.P.*, 80 FERC ¶ 61,181 (1997); *Steuben Gas Storage Co.*, 72 FERC ¶ 61,102 (1995), *order on compliance filing and denying reh'g*, 74 FERC ¶ 61,024 (1996).

<sup>15</sup> See Statement B of Exhibit I of Houston Hub's application.

areas: (1) the Mid-Continent supply region from Southeast Texas to Kansas served by NGPL; and (2) the Gulf Coast supply area from south and east Texas to Alabama served by Transco.<sup>16</sup> Houston Hub's market power analysis evaluated both the Mid-Continent supply area and the Gulf Coast supply area individually, as well as in combination.

29. The combined geographic market of the Mid-Continent supply area and the Gulf Coast supply area used in Houston Hub's analysis consists of over 80 other storage facilities that are either in-service or under construction.<sup>17</sup> The combined region offers working gas capacity of nearly 1.21 trillion cubic feet (Tcf) and daily deliverability of 41 Bcf.

30. Since Houston Hub is a new market entrant with no existing jurisdictional or non-jurisdictional operations in the natural gas pipeline or storage industry, the market power analysis considers the market share of Houston Hub's parent, Enstor, and its affiliates, Enstor Katy, Enstor Gulf Coast, and PPM.<sup>18</sup> Enstor (including Enstor's existing and proposed storage facilities, those of Houston Hub's affiliates, and this Houston Hub Project), has a total of 88,817 MMcf of capacity and 3,110 MMcf per day of peak deliverability, representing a 7.4 percent share of the combined regions' working gas capacity, and 7.5 percent of the maximum deliverability in the combined market area.<sup>19</sup> In the individual market areas (Mid-Continent and Gulf Coast), Enstor's market share ranges from 9.8 percent to 10.6 percent of the working gas capacity and from 8.8 percent to 11.0 percent of the maximum deliverability.<sup>20</sup> We accept Houston Hub's analysis and

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<sup>16</sup> The NGPL system has a number of hub and pipeline interconnections throughout the Texas and Louisiana Gulf Coast region that it uses to receive the gas that it then ships to the Midwest. The Transco system traverses the Gulf Coast states, where it gathers gas from numerous interconnections and hubs for shipment to its end-use markets in the Southeast, Mid-Atlantic, and Northeast. Both pipelines access hubs in southeast Texas and Louisiana.

<sup>17</sup> Houston Hub identifies Commission-approved market-based rate treatment for approximately 24 of these storage facilities. *See* Exhibit I, Statement G and Attachment G-1.

<sup>18</sup> *See* Application at 25, n.44 and Exhibit I, Statement G.

<sup>19</sup> Exhibit I, Statement G and Attachment G-1.

<sup>20</sup> Exhibit I, Statement G and Attachments G-2 and G-3.

find that Houston Hub's aggregate share of the relevant storage market will be relatively small.

31. We use the Herfindahl Hirschman Index (HHI) test to determine market concentration for gas pipeline and storage markets.<sup>21</sup> The Alternative Rate Policy Statement states that a low HHI – generally less than 1,800 – indicates that sellers cannot exert market power because customers have sufficiently diverse alternatives in the relevant market. While a low HHI suggests a lack of market power, a high HHI – generally greater than 1,800 – requires closer scrutiny in order to make a determination about a seller's ability to exert market power.<sup>22</sup> Houston Hub's market-power analysis shows HHI calculations for the combined market regions (Gulf Coast and Mid-Continent) of 558 for working gas capacity and 479 for peak day deliverability.<sup>23</sup> These measures of market concentration are well below the threshold level of 1,800, indicating that Houston Hub could not exert market power in the relevant market area after the construction of its proposed storage facility. Similarly, the market concentration levels of the individual supply areas are also well below the 1,800 HHI threshold level. The HHI calculations for the Gulf Coast region are 674 for working gas capacity and 572 for peak day deliverability, while the HHI calculations for the Mid-Continent region are 800 for working gas capacity and 710 for peak day deliverability.<sup>24</sup>

32. Houston Hub's market power analysis for storage service also provides data demonstrating the ease of entry into the production area market where the project will be located. This ease of entry is evidenced by the numerous new storage projects that have been developed in recent years and by the fact that there are 22 new storage facilities or additions to existing facilities under consideration for development in the supply area,<sup>25</sup> which also demonstrates that Houston Hub will have to compete against other potential storage facilities for customers within the relevant market area. Further, the market power analysis identifies other competitive alternatives to conventional underground

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<sup>21</sup> An HHI is calculated by summing the squares of each storage seller's market share.

<sup>22</sup> Alternative Rate Policy Statement at 61,235.

<sup>23</sup> Exhibit I, Statement G and Attachment G-1.

<sup>24</sup> Exhibit I, Statement G and Attachments G-2 and G-3.

<sup>25</sup> Exhibit I, Statement G and Attachment E-1.

natural gas storage, such as liquefied natural gas and propane-air facilities, seasonal and swing contracts, and interstate pipeline balancing and no-notice services.<sup>26</sup> In light of this information, we conclude that the barriers to entry to storage markets in the relevant geographic area are low.<sup>27</sup>

## 2. Hub Services

33. Houston Hub's proposed hub services, i.e., parking, loaning, balancing, and wheeling, are essentially variations of storage services and the market-power analysis for storage services demonstrates that Houston Hub lacks market power with regard to such services due to its proximity to a vast number of alternative transportation paths via intrastate and interstate pipeline interconnections and to numerous competing hubs.

34. Traditionally, in evaluating whether shippers of an applicant seeking market-based rate authority for interruptible wheeling service could obtain the same services from alternative providers, we have used a matrix, referred to as a "bingo card," which identifies all possible interconnects for pipelines attached to a hub and indicates whether good alternatives exist. Houston Hub presents such an analysis, showing connections between five pipelines interconnected with Houston Hub's system and indicating that shippers can avoid Houston Hub through the use of alternative routes.<sup>28</sup> Houston Hub

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<sup>26</sup> Exhibit I, Statement G and Attachment D-1.

<sup>27</sup> The Commission has found in numerous cases that there are no significant barriers to entry in the natural gas storage market in the Gulf Coast region. *See, e.g., Port Barre Investments, L.L.C. d/b/a Bobcat Gas Storage*, 116 FERC ¶ 61,052, at P 25 (2006) (noting that there are "over 20 new storage projects or expansions of existing storage facilities in the Gulf Coast region," and that "[i]n light of this information, [the Commission] concludes that barriers to entry to the storage markets in the relevant market area are low"); *Katy Storage and Transportation, L.P.*, 106 FERC ¶ 61,145, at P 19 (2004) (the proposed increase in storage capacity in the production area is due in part to the ease of entry into the market and a high level of competition in the market); *Unocal Keystone Gas Storage, LLC*, 106 FERC ¶ 61,033, at P 16 (2004) (*Unocal Keystone*) (the proposed increase in storage capacity in the production area is due in part to the ease of entry into the market and a high level of competition in the market).

<sup>28</sup> Exhibit I, Statement H and Attachments H-3 (showing bi-directional interconnects) and H-3a (showing all interconnects between the five pipelines). Specifically, the Houston Hub Project will directly connect with NGPL and Transco, while NGPL and Transco will interconnect with Houston Pipeline, Kinder Morgan Texas  
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notes that this analysis demonstrates that every pipeline with a proposed connection to the Houston Hub Project has a bi-directional interconnect to at least one competing pipeline, and that receipt and delivery interconnects between these pipelines are available at multiple locations.<sup>29</sup>

35. In addition, Attachment H-4 of the market power analysis for hub services summarizes the incoming and outgoing connections between the pipelines interconnected to the Houston Hub and other intrastate and interstate pipelines in the Gulf Coast region, and indicates 266 incoming and 231 outgoing interchange alternatives between the five pipelines and the other Gulf Coast pipelines. These pipelines have a total of 37,454 MMcf per day of incoming capacity and 31,064 MMcf per day of outgoing capacity. The proposed incoming capacity at the Houston Hub is 1,500 MMcf per day and the proposed outgoing capacity is 1,500 MMcf per day, or 4.0 and 4.8 percent, respectively, of the pipeline totals in the Gulf Coast region.<sup>30</sup>

36. The close proximity of the Houston Hub Project and of the anticipated pipeline interconnections to Houston Hub to other nearby hubs and market centers also demonstrates Houston Hub's lack of significant market power as a provider of hub services. The Houston Hub Project will be located in the natural gas pipeline corridor that links the gas supply regions of Texas to multiple market regions, including Gulf Coast industrial plants, and markets in the Southeast, Midwest, and Northeast United States. As such, the Houston Hub Project will be centered in the market hub area of southeast Texas (Katy DEFS Hub, Katy Storage Hub, Moss Bluff Storage Hub, Spindletop Storage Hub, Agua Dulce Hub, Golden Triangle Storage Hub, and Tres Palacios) and the hubs of South Louisiana (Henry Hub, Egan Center, Nautilus Hub, Jefferson Island Storage Hub, Napoleonville Hub, Bobcat Storage Hub, and Liberty Gas Storage)<sup>31</sup> and is south of the Carthage and Perryville Hubs.

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MidCon and Tejas Texas Pipes, and Trunkline Gas Company will interconnect with NGPL and Transco.

<sup>29</sup>Exhibit I, Statement H at 16.

<sup>30</sup> Houston Hub's market power study lists the specific interconnects and capacities by pipeline in Attachments H-4a (incoming) and 4b (outgoing).

<sup>31</sup> The Golden Triangle, Tres Palacios, Liberty, and Bobcat Hubs are currently under construction and expected to be in service prior to the Houston Hub project.

37. The market power analysis shows that the pipelines that either connect, or are accessible, to the Houston Hub Project have 41 direct paths to those hubs and markets centers in the Texas and Gulf Coast regions.<sup>32</sup> Statement H, Attachment H-6 shows the Houston Hub Project's share of the hub market relative to available incoming and outgoing interconnection capacities. The actual maximum interconnection capacity at the Houston Hub project is based on non-coincidental throughput volumes, which is 1,500 MMcf per day for both incoming and outgoing capacities. The incoming capacity of the pipelines into the Houston Hub Project (as well as the Katy Storage Hub with incoming capacity of 900 MMcf per day) is 18.4 percent of the total 13,045 MMcf per day of incoming capacity to all hubs available to those pipelines, and the outgoing capacity from the Houston Hub (and Katy Storage Hub with outgoing capacity of 925 MMcf per day) is 18.2 percent of the total 13,305 MMcf per day outgoing capacity of all the hubs.<sup>33</sup> The total HHIs of the combined Texas Gulf Coast and Louisiana hubs/market centers, including the Houston Hub Project, is 1,223 for incoming capacity and 1,191 for outgoing capacity.<sup>34</sup> Thus, both the incoming and outgoing HHI calculations are below the threshold that would otherwise require further analysis.

38. Attachments H-6a and 6b detail the incoming and outgoing capacities of the pipelines that will connect to the Houston Hub and are currently connected to competing hubs in East Texas, the Texas Gulf Coast, and Louisiana. These analyses show that pipelines that will connect to the Houston Hub Project have a significant number of hub and/or market center alternatives (i.e., Moss Bluff, Agua Dulce, and Spindletop).<sup>35</sup> Further, the Egan, Henry, Perryville, Carthage, and Katy Hubs have incoming and outgoing capacity to the pipelines connecting to the Houston Hub Project.<sup>36</sup> Houston Hub's market power analysis indicates that every one of the services offered by the Houston Hub Project is also offered by at least one of the nearby competing hubs.<sup>37</sup>

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<sup>32</sup> Exhibit I, Statement H and Attachment H-5.

<sup>33</sup> Exhibit I, Statement H and Attachment H-6.

<sup>34</sup> *Id.*

<sup>35</sup> *See* Exhibit I, Statement H at 17 and Attachment H-6a and H-6b.

<sup>36</sup> *Id.*

<sup>37</sup> Exhibit I, Statement H and Attachment H-7.

39. Accordingly, on the basis of Houston Hub's market power analysis for hub services, which shows a large number of alternate transportation paths and pipeline interconnections, numerous options stemming from nearby competing hub services, and Houston Hub's limited market share in a non-concentrated market, we conclude that Houston Hub will be unable to exercise market power for the interruptible hub services that it proposes to offer.<sup>38</sup> This conclusion is based on Houston Hub's market analysis which assumes that hubs currently under construction will be placed in service prior to the Houston Hub Project. Therefore, before commencing service Houston Hub shall file a statement affirming that the market power study is accurate based on current conditions. Should there be any changes to Houston Hub's market power for hub services, Houston Hub shall file a revised market power study and the Commission will reevaluate the proposal for market based rates for hub services.

### 3. Summary

40. We find that Houston Hub's market power study demonstrates that its proposed storage facilities will be located in a highly competitive market where numerous storage and interruptible hub service alternatives exist for potential customers. We also find that Houston Hub's relatively small market share at 11.0 percent (or less, when combined with Enstor's other storage holdings) will not enable Houston Hub to exert market power in the relevant market area, and that its HHI for working gas capacity and for peak day deliverability are well below the 1,800 threshold requiring further review. With regard to potential competition and ease of entry in the applicable market, Houston Hub's showing of 80 storage projects in the relevant market that are currently in various stages of development or expansion demonstrates an ease of entry that will ensure the relevant market remains competitive. Thus, we conclude that Houston Hub will lack market power. Further, Houston Hub's proposal for market based rates is unopposed. For these reasons, we will approve Houston Hub's request to charge market based rates for its proposed firm and interruptible storage and interruptible hub services. The Commission's authorization to charge market-based rates places the economic risks associated with the project entirely on Houston Hub.

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<sup>38</sup> See, e.g., *Monroe Gas Storage Company, LLC*, 121 FERC ¶ 61,285 (2007); *Mississippi Hub, LLC*, 118 FERC ¶ 61,099 (2007); *Golden Triangle Storage, Inc.*, 121 FERC ¶ 61,313 (2007); *Tres Palacios Gas Storage, LLC*, 120 FERC ¶ 61,253 (2007); *Port Barre Investments, L.L.C.*, 116 FERC ¶ 61,052 (2006); and *Pine Prairie Energy Center, LLC*, 109 FERC ¶ 61,215 (2004).

41. Nevertheless, in addition to other reporting requirements directed herein, Houston Hub must notify the Commission if future changes in circumstance significantly affect its present market-power status. Thus, our approval of market-based rates for the indicated services is subject to reexamination in the event that: (a) Houston Hub seeks to add storage capacity beyond the capacity authorized in this order; (b) an affiliate increases storage capacity; (c) an affiliate links storage facilities to Houston Hub; or (d) Houston Hub, or an affiliate, acquires an interest in, or is acquired by, an interstate pipeline connected to Houston Hub. Since these circumstances could affect its market-power status, Houston Hub shall notify the Commission within 10 days of acquiring knowledge of any such changes. The notification shall include a detailed description of the new facilities and their relationship to Houston Hub.<sup>39</sup> The Commission also reserves the right to require an updated market-power analysis at any time.<sup>40</sup>

### **C. Waivers of Filing, Reporting, and Accounting Requirements**

42. In light of its request for authority to charge market-based rates and the fact that Houston Hub has no pre-existing facilities, Houston Hub requests that the Commission waive the requirement of section 157.6(b)(8) (3) of the Commission's regulations to file cost-based data, as well as the filing requirements of section 157.14(a)(13), (14), (16), and (17) to submit Exhibits K (Cost of Facilities), Exhibit L (Financing), Exhibit N (Revenues, Expenses, and Income), and Exhibit O (Depreciation and Depletion), since these exhibits also support cost-based rate authority. For the same reasons, Houston Hub requests waiver of the accounting and annual reporting requirements under Part 201 and section 260.2, respectively, of the Commission's regulations. Similarly, Houston Hub requests waiver of the requirement for reservation charges and the straight fixed-variable rate design set forth in sections 284.7(e) and 284.10 also as being inapplicable to market-based rate design. Finally, Houston Hub requests waiver of the filing requirement of section 157.14(a)(10) to submit total gas supply data (Exhibit H), as being inapplicable to natural gas storage operations.

43. Part 157 of the Commission's regulations sets forth the requirements for the inclusion of specific exhibits and information in a certificate application. The cost-related information required by these regulations is not relevant in light of our approval

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<sup>39</sup> *E.g., Bobcat Gas Storage*, 116 FERC ¶ 61,052 (2006); *Pine Prairie Energy Center, LLC*, 109 FERC ¶ 61,215 (2004); *Copiah County Storage Company*, 99 FERC ¶ 61,316 (2002).

<sup>40</sup> *See Rendezvous Gas Services, L.L.C.*, 112 FERC ¶ 61,141, at P 40 (2005).

of market-based rates for Houston Hub's storage and hub services. Thus, consistent with our findings in previous orders,<sup>41</sup> we will grant Houston Hub's request for waivers of the regulations requiring the filing of cost-based information, reservation charges, and the use of a straight fixed variable rate design. We will also grant a waiver of section 157.14(a)(10) requiring an applicant to submit gas supply data, which does not pertain to natural gas storage service.

44. There is also no ongoing regulatory need to have cost-based financial statements prepared in accordance with the Commission's Uniform System of Account (USofA). Accordingly, the Commission will grant Houston Hub's request to waive the accounting requirements, as prescribed in Part 201, Uniform System of Accounts Prescribed for Natural Gas Companies Subject to the Provisions of the Natural Gas Act. In addition, the Commission will grant Houston Hub's request to waive the requirement to file an annual report (Form No. 2-A) in section 260.2 of the regulations, except for the information necessary for the Commission's assessment of annual charges. Houston Hub is required to file pages 520 and 520a of Form No. 2-A, reporting the gas volume information which is the basis for imposing an Annual Charge Adjustment (ACA) charge.<sup>42</sup> In addition, the Commission will require Houston Hub to maintain sufficient records of cost and revenue data consistent with the Uniform System of Accounts should the Commission require Houston Hub to produce this information in the future.

#### **D. Tariff Provisions**

45. Houston Hub proposes to offer firm and interruptible storage and hub services on an open-access, non-discriminatory basis, under the rates, terms, and conditions set forth in the *pro forma* tariff attached as Exhibit P to the application. As discussed below, we find that Houston Hub's proposed tariff generally complies with Part 284 of the regulations<sup>43</sup> and Order No. 636,<sup>44</sup> with the exceptions noted below.

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<sup>41</sup> See *Bobcat Gas Storage*, 116 FERC ¶ 61,052 and *Unocal Windy Hill Gas Storage, LLC*, 115 FERC ¶ 61,218 (2006); see also, *MoBay*, 117 FERC ¶ 61,298 at PP 38-41, Ordering Paragraph (G) (2006); *Bluewater*, 117 FERC ¶ 61,122 at PP 48, Ordering Paragraph (C) and (E) (2006); *Mississippi Hub*, 118 FERC ¶ 61,099 at PP 30-31, Ordering Paragraph (G) (2007).

<sup>42</sup> See *Bluewater Gas Storage, LLC*, 117 FERC ¶ 61,122, at P 49 (2006).

<sup>43</sup> 18 C.F.R. Part 284 (2007).

## 1. New Storage and Hub Services

46. Houston Hub proposes to offer its firm and interruptible storage services under Rate Schedules FSS and ISS, respectively. Rate Schedule FSS will allow customers firm injection and withdrawal rights, in addition to the firm right to store up to a specified quantity of natural gas, during a stated period time, subject to the rights, obligations, and limitations stated in the applicable service agreement. Rate Schedule ISS will allow customers to inject, withdraw, and/or store gas in the Houston Hub storage facility for a stated period of time, subject to the obligations and limitations stated in the applicable service agreement, and provided all firm nominations have been satisfied. All customers must arrange for any upstream and/or downstream transportation service required to use Houston Hub's storage services.

47. Houston Hub proposes to offer three interruptible hub services, namely interruptible parking and loaning service under Rate Schedules IPS and ILS, respectively, and interruptible wheeling service under Rate Schedule IWS. The interruptible parking and loaning rate schedules provide interruptible service for the customer's short-term use of Houston Hub's facilities. The services provide for the delivery of a specified quantity of gas by a customer to Houston Hub at the receipt point and the subsequent delivery of a thermally equivalent quantity of gas by Houston Hub to a customer at the delivery point at a specified time and date, in accordance with the applicable service agreement.

48. Rate Schedule IWS is an interruptible service whereby Houston Hub will use its interconnection facilities between pipelines to facilitate transfers of gas by a customer from one pipeline to another. It involves the delivery of a specified quantity of gas by a customer to Houston Hub at a physical transfer point where Houston Hub interconnects with certain pipelines, and Houston Hub's subsequent delivery at a physical transfer point

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<sup>44</sup> *Pipeline Service Obligations and Revisions to Regulations Governing Self-Implementing Transportation; and Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol*, 57 Fed. Reg. 13267 (April 16, 1992), FERC Stats. & Regs., Regulations Preambles January 1991-June 1996 ¶ 30,939, at pp. 30,425-427 (April 8, 1992), *order on reh'g*, Order No. 636-A., 57 Fed. Reg. 36128 (August 12, 1992), FERC Stats. & Regs., Regulations Preambles January 1991-June 1996 ¶ 30,950 (August 3, 1992), *Order on reh'g*, Order No. 636-B, 57 Fed. Reg. 57911 (December 8, 1992), 61 FERC ¶ 61,272 (1992), *notice of denial of reh'g*, 62 FERC ¶ 61,007 (1993), *aff'd in part and vacated and remanded in part*, *United Dist. Companies v. FERC*, 88 F.3d 1105 (D.C. Cir. 1996), *order on remand*, Order No. 636-C, 78 FERC ¶ 61,186 (1997), *reh'g denied*, Order No. 636-D, 83 FERC 61,210 (1998). ("Order No. 636").

where Houston Hub interconnects with these pipelines of a thermally equivalent quantity of gas to a customer, in accordance with the applicable service agreement. Houston Hub will provide this service through its proposed 2.34-mile gas header system that will connect the project to the interconnected interstate pipelines.

49. As with the proposed storage services, all customers must arrange for any transportation service required to use Houston Hub's hub services. If capacity constraints are anticipated, Houston Hub will post a notice of the constraint on its website at least forty-eight (48) hours in advance of the start of the constraint period.

50. The Commission will approve Houston Hub's proposed storage and hub services (and the related pro forma service agreements), which will provide additional storage service options for prospective customers in the Gulf Coast region. The proposed services parallel those generally provided by other natural gas storage providers, such as Egan Hub Partners, L.P.<sup>45</sup>

## **2. Right of First Refusal**

51. Houston Hub does not provide for a contractual ROFR to renew the customer's firm service agreement. The Commission does not require a storage service provider to include a provision that permits negotiation of a contractual ROFR, and has accepted storage service provider tariffs that do not include such a provision.<sup>46</sup> Accordingly, we accept Houston Hub's proposal to provide service under Rate Schedule FSS without the option of negotiating a contractual ROFR.

## **3. Penalties**

52. In the event a customer fails to withdraw gas at service termination or upon notice of service interruption, Houston Hub will dispose of such gas by auction and credit the net proceeds to the customer's outstanding obligations. Houston Hub proposes to retain a customer's gas improperly left in storage in two circumstances: (1) when gas is not withdrawn from storage by a firm customer prior to the expiration of the customer's service agreement; or (2) when gas is not withdrawn from storage by an interruptible

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<sup>45</sup> See, e.g., *Egan Hub Storage, LLC*, FERC Gas Tariff, First Revised Volume No. 1.

<sup>46</sup> See *Windy Hill Gas Storage, LLC*, 119 FERC ¶ 61,291, at P 46 (2007).

storage or parking customer following notice by Houston Hub that it must interrupt the customer's service.

53. Rate Schedule FSS at section 8 provides that, on any day after the end of the service period, if the customer has not physically withdrawn its inventory, Houston Hub has the right to either negotiate with the Customer to enter a new transaction on an interruptible basis, take title to the inventory, or a combination of both remedies. If Houston Hub elects to take title of the gas, Customer shall transfer title to Houston Hub free and clear of all liens, encumbrances and adverse claims of any kind, at a price per Dth equal to 75 percent of the Monthly Reference Price for the Month before such transfer of the customer's inventory. Likewise, under Rate Schedules ISS and IPS at section 2.4, if the customer fails to withdraw stored gas as requested by Houston Hub to meet firm commitments, unless customer is unable to withdraw its inventory because of an interruption of its service, Houston Hub make take title to all or any portion of customer's inventory (as applicable to the amount requested for withdrawal) at a price per Dth equal to 75 percent of the Monthly Reference Price for the Month before such transfer, and will credit such proceeds to any amount owed by the customer to Houston Hub.

54. Third, under Houston Hub's interruptible loan service, if a customer fails to replace gas advanced by Houston Hub to customer at the agreed upon time, Houston Hub may purchase replacement gas and customer shall pay Houston Hub the cost of the replacement gas, which includes the actual cost of replacement supplies and any costs or penalties incurred by Houston Hub or its customers as a result of customer's failure to deliver replacement gas, plus all other costs incurred by Houston Hub to secure such replacement gas, including but not limited to third-party marketing fees, transportation by third-party pipeline companies, and all other costs for securing replacement gas.

55. Under Houston Hub's interruptible loan service at section 2.5, if the customer fails to return the requested volumes, unless customers' injection service is interrupted, Houston Hub will have the right to treat the loaned quantities not returned as a sale of such quantities to customer at a price equal to a price per Dth equal to 125 percent of the Monthly Reference Price for the current Month during such transaction.

56. In both circumstances, for the customer's failure to withdraw gas and failure to replace gas, Houston Hub uses the "Daily Reference Price" for pricing purposes. Specifically, Houston Hub uses the Daily reference price for the Houston Hub Storage Facility at the midpoint for "East Texas-North Louisiana Area – NGPL, Texok Zone Reference Point". Houston Hub derives the Monthly Reference Price for the Houston Hub Storage facility using the arithmetic average of the applicable Daily Reference Prices for each day of the relevant month, including weekend deals. If at any time the daily midpoint prices for the applicable reference points are not published in the manner

previously described, the Substitute Reference Price will then become the Daily Reference Price or Monthly Reference Price as applicable. We find that Houston Hub's use of the Daily price index for pricing purposes satisfies the criteria that the Commission established for inclusion of price indices in jurisdictional tariffs,<sup>47</sup> and is comparable to pricing indices approved for other storage service providers.<sup>48</sup>

57. Order No. 637 permits pipelines to include transportation penalties to the extent necessary to prevent the impairment of reliable service. Likewise, the Commission has found such gas retention penalties applicable to storage services to be appropriate and consistent with the mandates of Order No. 637.<sup>49</sup> Further, the Commission has accepted similar gas retention proposals by other storage providers, stating that the retention of gas left in storage at the end of the withdrawal period is an operationally-justified deterrent to shipper behavior that could threaten the system or degrade service to firm shippers.<sup>50</sup>

58. As for the level of the penalty, Houston Hub proposes a less severe penalty or similar penalty compared to other storage providers, who do not credit any portion of the value of the retained gas to the customer. For this reason, we find the proposed provisions consistent with other tariffs for other storage service providers.<sup>51</sup> Accordingly, we find that Houston Hub's gas retention and penalty proposals are consistent with Commission precedent.

#### **4. Segmentation**

59. Section 284.7(d) of the Commission's regulations provides that an interstate pipeline must permit a shipper to make use of the firm capacity for which the shipper has contracted by segmenting that capacity into separate parts for the shipper's own use, or

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<sup>47</sup> See *Price Discovery in Natural Gas and Electric Markets*, 109 FERC ¶ 61,184 at Ordering Paragraph D (2004).

<sup>48</sup> *Windy Hill* at P 69.

<sup>49</sup> See *Pine Prairie Energy Center, LLC (Pine Prairie)*, 109 FERC ¶ 61,215, at P 46 (2004); and *Blue Lake Gas Storage Co.*, 96 FERC ¶ 61,164 (2001).

<sup>50</sup> See *Tres Palacios Gas Storage, LLC*, 120 FERC ¶ 61,253, at P 58 (2007).

<sup>51</sup> See *Windy Hill* at P 54-56; *Pine Prairie* at P 46; and *Blue Lake Gas Storage Co.*, 96 FERC ¶ 61,164, at 61,728-29 (2001).

for the purpose of releasing that capacity to replacement shippers to the extent that segmentation is operationally feasible. Houston Hub requests a waiver of the Order No. 637 segmentation requirement in section 284.7(d), contending that its system consists of a single integrated storage facility that operates in one compact geographic location, making segmentation infeasible.

60. In *Clear Creek Gas Storage Company*,<sup>52</sup> we found that the requirements of section 284.7(d) do not apply to pipelines engaged solely in natural gas storage and which do not provide stand-alone transportation services. Thus, we hold that the requirements of section 284.7(d) do not apply to Houston Hub. Other tariff provisions related to segmentation, such as the allocation of primary point rights in segmented release and within-the-path scheduling, also do not apply to Houston Hub.

##### **5. Acquisition of Off-System Capacity and Waiver of Shipper Must Have Title Policy**

61. Houston Hub requests a generic waiver of the Commission's "shipper must have title" policy to afford it the ability to obtain off-system capacity that may be necessary to provide the storage services to its customers. Houston Hub states that the Commission's purpose in establishing this rule was to ensure the transparency of transactions involving interstate pipeline capacity, and to prevent the withholding of such capacity.<sup>53</sup> Under the policy, to use capacity on a FERC-jurisdictional pipeline, a shipper must contract for that capacity with the pipeline, and must have title to the gas when transportation is scheduled. In this way, the Commission is better able to monitor for any undue discrimination in the allocation of interstate capacity, and to effectuate a fair and efficient interstate natural gas market.

62. Consistent with the Commission's *Texas Eastern* policy, section 29 of the GT&C of Houston Hub's *pro forma* tariff contains an affirmative statement that Houston Hub will acquire transportation and/or storage capacity on third party pipelines and will use such off-system capacity only pursuant to its open-access tariff and subject to FERC-approved rates. Consistent with recent Commission orders concerning the certification of new storage projects, Houston Hub will use the off-system capacity only to move gas into and out of storage, physically as well as contractually, and will use capacity only within the market area described in the Market Power Analysis.

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<sup>52</sup> 96 FERC ¶ 61,071 (2001) (*Clear Creek*).

<sup>53</sup> *Citing Northern Illinois Gas Co.*, 70 FERC ¶ 61,099, at 61,269-70 (1995).

63. Houston Hub notes that in recent orders applying its policy, the Commission has imposed reporting requirements as conditions for granting such waivers.<sup>54</sup>

Section 29 of Houston Hub's pro forma tariff provides:

Houston Hub may, from time to time, acquire transportation and/or storage capacity on a third-party pipeline system. Houston Hub states that it will only provide transportation and storage services for others using such capacity pursuant to its open access FERC Gas Tariff and the "shipper must hold title" policy is waived to permit such use.<sup>55</sup>

64. The Commission finds that this language implements its policy with respect to pipelines' acquisition of off-system capacity. In *Texas Eastern*, the Commission found that pipelines no longer need to obtain prior approval to acquire capacity on another pipeline, provided the acquiring pipeline filed tariff language specifying that it will only transport for others using off-system capacity pursuant to its existing tariff and rates.<sup>56</sup> Houston Hub's proposed tariff language conforms to the requirements set forth in *Texas Eastern* and similar authorizations granted other storage companies charging market-based rates.<sup>57</sup>

65. Accordingly, we accept Houston Hub's proposed tariff language and grant waiver of the shipper must have title policy, with the following clarifications. Because Houston Hub proposes only to offer firm storage and interruptible hub services, and proposes no

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<sup>54</sup> Citing *e.g.*, *Mississippi Hub*, 118 FERC ¶ 61,099, at PP 38-39 (2007); *MoBay*, 117 FERC ¶ 61,122, at PP 50-51; *Bluewater*, 117 FERC ¶ 61,122, at P 55; (2006) *Port Barre Investments, L.L.C.*, 116 FERC ¶ 61,052, at PP 40-41 (2006); *Unocal Windy Hill Gas Storage, LLC*, 115 FERC ¶ 61,218, at PP 45-46 (2006); *Liberty Gas Storage, LLC*, 113 FERC ¶ 61,247, at PP 61-62 (2005); *Starks*, 111 FERC ¶ 61,109, at PP 56-57 (2005); *Freebird*, 111 FERC ¶ 61,054, at PP 412-41 (2005); *Caledonia*, 111 FERC ¶ 61,095, at PP 30-31 (2005).

<sup>55</sup> Pro Forma Sheet No. 80.

<sup>56</sup> *Texas Eastern Transmission Co.*, 93 FERC ¶ 61,273 (2000), *reh'g denied*, 94 FERC ¶ 61,139 (2001).

<sup>57</sup> See, *e.g.*, *SG Resources Mississippi, L.L.C.*, 101 FERC ¶ 61,029, at P 30-33 (2002).

rates or tariff provisions relating to any other transportation services other than storage, hub and wheeling, Houston Hub may only use capacity obtained on other pipelines pursuant to the *Texas Eastern* waiver in order to move gas into and out of storage. That is, Houston Hub may not use its header facilities and capacity on other pipelines to transport gas which will not physically or contractually enter its storage facility unless and until it has received Commission authorization to provide such transportation services. Furthermore, Houston Hub's authorized use of the *Texas Eastern* waiver to provide storage service shall be limited to the geographic area covered by its market study.

66. To ensure that Houston Hub uses acquired off-system capacity in a manner consistent with its market-based rate authority and tariff provisions, and to satisfy our responsibility to monitor and prevent the exercise of market power, we direct Houston Hub, once it becomes operational, to make an annual informational filing regarding its provision of service using off-system capacity, as detailed below.<sup>58</sup>

67. Within 30 days after its first full year of operation, and every year thereafter, we direct Houston Hub to file, for each acquisition of off-system capacity:

- a. the name of the off-system provider;
- b. the type, level, term and rate of service contracted for by Houston Hub;
- c. a description of the geographic location – boundaries, receipt and delivery points, and segments comprising the capacity;
- d. the operational purpose(s) for which the capacity is utilized;
- e. a description of how the capacity is associated with specific transactions involving customers of Houston Hub; and
- f. an identification of total volumes, by Houston Hub's rate schedule and customer, that Houston Hub has nominated on each off-system provider during the reporting period.

## **6. Implementation of NAESB Standards**

68. The Commission adopted, in Part 284 of its regulations, various standards for conducting business practices and electronic communication with interstate pipelines as promulgated by the North American Energy Standards Board (NAESB). These standards govern nominations, allocations, balancing, measurement, invoicing, capacity release, and mechanisms for electronic communication between pipelines and those with whom

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<sup>58</sup> See, e.g., *Starks Gas Storage L.L.C.*, 111 FERC ¶ 61,105, at P 54-57 (2005).

they do business. Houston Hub states that its pro forma tariff complies with the Commission's policies and the current NAESB standards<sup>59</sup> in a manner consistent with Commission precedent applying to natural gas companies engaging exclusively in the operation of storage facilities. Consistent with this precedent, Houston Hub requests that the Commission grant certain exemptions or waivers necessary to be deemed in compliance with applicable Commission requirements.

69. The Commission finds that Houston Hub's proposed service terms and conditions generally satisfy the Commission's regulations and policies, with the exceptions noted below. For this reason, the Commission directs Houston Hub to file actual tariff sheets consistent with the following discussions at least 30 days but no more than 60 days, prior to the commencement of its new services. Further, we will grant the requested waivers, as discussed below, subject to Houston Hub, when it files its actual tariff sheets, it must file a cross reference listing each required NAESB Standard, identifying the specific location of each Standard in the tariff, and noting whether it incorporated the Standard verbatim or by reference. To the extent a NAESB standard does not apply because of unique system characteristics or other operational aspects, the Commission does not require requests for specific waivers of such standards.<sup>60</sup> However, in accordance with our ruling in *Trans-Union*, if circumstances change and a standard becomes applicable to Houston Hub's operations, then Houston Hub must file to modify its tariff to comply with the standard.

## 7. Imbalance Management

70. Section 284.12(b)(2)(iii) of the regulations requires that a pipeline having imbalance penalty provisions in its tariff must provide, to the extent operationally practicable, parking and lending or other services that permit its shippers to manage transportation imbalances. That provision likewise requires that a pipeline must provide its shippers the opportunity to obtain imbalance management services from other providers.

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<sup>59</sup> Houston Hub states that its tariff complies with Order No. 587-S wherein the Commission adopted Version 1.7 of the NAESB Standards and standards implement gas quality requirements. Houston Hub commits to modifying its tariff before providing services to reflect the then-current NAESB standards, as adopted by the Commission.

<sup>60</sup> See *Trans-Union Interstate Pipeline, L.P.*, 104 FERC ¶ 61,315, at P 20 (2003).

71. Houston Hub proposes to provide a variety of services that its customers will be able to use for imbalance management, including parking, lending, and wheeling. However, Houston Hub's proposed tariff does not include imbalance penalties. For this reason, Houston Hub contends it is not subject to the imbalance management requirements under this regulation. Consequently, Houston Hub requests an exemption from compliance with Order Nos. 587-G and 587-L regarding the netting and trading of imbalances, as well.

72. On September 29, 2000, the Commission clarified Order No. 587-L providing that pipelines that do not have imbalance penalties as part of their tariffs may request exemption from compliance with Order Nos. 587-G and 587-L.<sup>61</sup> Accordingly, we will grant Houston Hub's request. However, if Houston Hub seeks to impose imbalance penalties in the future, then it must comply with the Commission's policies and regulations regarding imbalance management services.

#### **8. Exemption from Transmission Provider Standards of Conduct**

73. Houston Hub requests that the Commission confirm that Houston Hub satisfies the requirements for the independent storage provider exemption set forth in section 358.3(a)(3) of the regulations. The Commission's Standards of Conduct provide an exemption from the definition of "Transmission Provider" for independent storage providers that (a) are authorized to charge market-based rates; and (b) are not interconnected with an affiliated Transmission Provider.<sup>62</sup> The Commission finds that Houston Hub is exempt from the transmission provider standards since it is not interconnected with any affiliated pipeline, no captive ratepayers, and has been found to lack market power.

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<sup>61</sup> *Standards for Business Practices of Interstate Natural Gas Pipelines, order granting clarification*, 92 FERC ¶ 61,266 (2000). *See, e.g., Bluewater*, 117 FERC ¶ 61,122, at P 52 (2006) (the Commission granted such an exemption for an independent gas storage operator).

<sup>62</sup> *Standards of Conduct for Transmission Providers (Standards of Conduct)*, 69 Fed Reg. 23,562 (April 29, 2004), Order No. 2004-A, FERC Stats. & Regs., Regulations Preambles 2001-2005 ¶ 31,161 (2004), *vacated and remanded sub nom. National Fuel Gas Supply Corp. v. FERC*, No. 04-1183, *et al.* (D.C. Cir. Nov. 17, 2006). While the court vacated and remanded Order No. 2004 as it applies to natural gas pipelines, the mandate has not yet issued so Houston Hub's request is still relevant to the Commission's consideration of its application at this time

## **9. Regulatory Fees**

74. Section 3 under all of the Rate Schedules (FSS, ISS, ILS, IPS, and IWS) addresses the customer's responsibility for regulatory fees and charges as provided under the respective rate schedules. The related rate sheets for Houston Hub's firm and interruptible services currently states that the Customer will pay all taxes and similar assessments tied to these services. However, the rate sheets do not incorporate the appropriate language to encompass the regulatory fees applicable under section 3 of the rate schedules. Accordingly, Houston Hub must revise the rate sheets to reflect that in addition to all applicable taxes set forth in either the GT&C or the service agreement, the Customer shall pay all other applicable surcharges, including, but not limited to, Annual Charge Adjustments (or ACA charges).

## **10. Operational Flow Orders (OFOs)**

75. GT&C section 9.4 provides for an OFO penalty charge for each Dth of gas equal to an OFO Index Price calculated at five (5) times the applicable Daily Reference Price, multiplied by the quantity of gas by which the customer deviated from the requirements of the OFO. However, it appears that Houston Hub does not provide a mechanism to credit such penalties. In accordance with Order No. 637, any penalty revenue collected by Houston Hub must be credited to those firm and interruptible customers that did not incur such penalty. Accordingly, Houston Hub must revise section 9 to provide for crediting of any OFO penalties collected and the mechanism it will use to calculate and distribute the appropriate credit. Further, Houston Hub must revise this section to reflect the filing requirements for the disbursement report and the interest calculated in accordance with section 154.501(d) of the regulations.

## **11. Creditworthiness Evaluations**

76. GT&C section 31.1(b) states that Houston Hub will promptly provide notification, in writing, to Customer of Houston Hub's determination regarding such party's creditworthiness. If customer is determined to not be creditworthy, Houston Hub will inform Customer in writing of the reason for such determination. In *Natural*, the Commission required that the written communication should be made within ten (10) days of the determination.<sup>63</sup> Accordingly, we direct Houston Hub to revise section 31.1(b), to clarify when it intends to communicate its determination.

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<sup>63</sup> *Natural Gas Pipeline Company of America*, 111 FERC ¶ 61,412, at P 10 (2005).

77. Further GT&C section 32 provides that Houston Hub will require an existing customer to provide it with additional performance assurance upon two (2) business days' notice any time Houston Hub's recomputation of the market value of any quantities of gas loaned by Houston Hub increases by 10 percent or more. This provision conflicts with the Commission's creditworthiness collateral timeline policies.<sup>64</sup> Specifically, we found that shippers should have three (3) business days to respond to the company's request to review its financial statements. Accordingly, we direct Houston Hub to revise section 32, to permit its customers three business days to respond to its request to review the customer's financial statements.

## **12. Warehouse Lien**

78. GT&C Section 32.7 permits Houston Hub, as provided under UCC Article 7, to establish a lien on all gas received from the shipper in order to satisfy charges for storage and/or transportation, including, without limitation, all expenses necessary for the preservation of gas in all of customer's inventories or reasonably incurred in the sale thereof. The location of the warehouse is the location of the underlying facilities servicing the Houston Hub facility. The Commission will accept this tariff provision as consistent with similarly approved proposals.<sup>65</sup>

## **13. Miscellaneous**

79. Houston Hub uses the phrase "at its sole discretion" in provisions under Rate Schedules FSS, ISS, IPS, and ILS which pertain to excess injections and withdrawals of gas. Houston Hub is directed to replace the phrase "at its sole discretion" with the phrase "with reasonable and nondiscriminatory discretion". This directive is consistent with Commission findings regarding similar tariff qualifications.<sup>66</sup>

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<sup>64</sup> See *Northern Natural Gas Co.*, 102 FERC ¶ 61,076 and *Tennessee Gas Pipeline Co.*, 102 FERC ¶ 61,075 (2003).

<sup>65</sup> See, e.g., *Windy Hill Gas Storage, LLC (Windy Hill)*, 115 FERC ¶ 61,218 at P 57; and *Mobay Storage Hub, LLC (Mobay)*, 117 FERC ¶ 61,298, at P 54 (2006), citing *Starks Gas Storage, LLC (Starks)*, 111 FERC ¶ 61,105 (2005).

<sup>66</sup> *Freebird Gas Storage, LLC*, 111 FERC ¶ 61,054, at P 42 (2005).

### **E. Engineering Analysis**

80. Commission staff completed an engineering analysis of the facility proposed for natural gas storage, including the design capacity of the proposed facility. This analysis confirms that the facilities are properly designed to provide 46.32 Bcf of total storage capacity (30 Bcf working gas and 16.32 Bcf cushion gas) and to withdraw up to 1 Bcf per day.

81. The Commission staff's analysis also determined that the geological and engineering parameters for the underground natural gas salt cavern storage facilities proposed by Houston Hub are well defined. The analysis shows that Houston Hub's proposed cavern locations are well within the design criteria and confinement of the salt formation. Therefore, the caverns' existing arrangement would avoid pressure influence between caverns when the caverns are operated at full capacity and pressure.

82. The Commission granted Houston Hub an exemption from the section 7(c) certificate requirements in Docket No. CP06-144-000 in order to undertake certain temporary acts and operations for the limited purpose of testing the feasibility of the Project.<sup>67</sup> Under the terms of the Commission exemption, Houston Hub has the authorization to drill two water wells, two disposal wells, and one salt test well at two locations within the North Dayton Dome site to determine the viability of the Project. Prior to construction, Houston Hub shall file with the Commission all test results from this activity, including aquifer pump tests, and provide a comparison, based on measured aquifer parameters, of the predicted drawdown effects on nearby wells (including City of Dayton municipal water wells) with the pre-pump test estimates.

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<sup>67</sup> *Houston Hub Storage and Transportation, L.P.*, 115 FERC ¶ 61,235 (2006). On April 12, 2007, Houston Hub filed a petition for reaffirmation of the Commission's May 24 Order in Docket No. CP06-144-000 as its original authorization was scheduled to expire on May 24, 2007 before Houston Hub would be able to commence its testing activities. See *Petition of Enstor Houston Hub Storage and Transportation, L.P. for Reaffirmation of Order Granting Exemption of Temporary Acts and Operations From Section 7 Certificate Requirements and Request for Shortened Notice Period and Expedited Action*, filed on April 12, 2007 in Docket No. CP06-144-000. This extension was granted on April 26, 2007. The exemption is now scheduled to expire on May 24, 2008. See Letter Order, *Houston Hub Storage and Transportation, L.P.*, dated April 26, 2007, in Docket No. CP06-144-000.

83. Because salt deforms plastically in relatively short time frames, caverns will shrink over time. As stated in *A Brief History of Salt Cavern Use*, large volume losses due to salt creep have occurred in natural gas storage caverns.<sup>68</sup> Further, the Interstate Oil and Gas Compact Commission's *Hydrocarbon Storage in Mined Caverns* (IOGCC Report), states that monitoring to demonstrate cavern stability and successful hydrodynamic containment should be carried out throughout the life of the facility. In order to mitigate these concerns, Houston Hub shall conduct sonar surveys to monitor the cavern's size and shape to insure that salt creep does not potentially damage the integrity of the cavern, which may result in lost gas and reductions in storage capacity.

84. Additionally, the IOGCC Report states "[a]ll gaseous and/or liquid products injected into or withdrawn from the storage facility shall be metered using industry accepted standards. The measurements shall be counterchecked by product level measurement in the cavern (using the level versus volume curve)."<sup>69</sup> Therefore, we will require Houston Hub to file an annual inventory verification study to assist in identification of potential problems with the storage facility.

#### **F. Environmental Analysis**

85. On July 20, 2007, we issued a Notice of Intent to Prepare an Environmental Assessment for the Proposed Houston Hub Project and Request for Comments on Environmental Issues (NOI). We received no responses to the NOI.

86. The Commission's staff prepared an environmental assessment (EA) for Houston Hub's proposal. The EA, which was placed in the record of this proceeding on December 6, 2007, addresses geology, soils, water resources, fisheries, wetlands, vegetation, wildlife, threatened and endangered species, cultural resources, land use, air quality, noise, reliability, safety and alternatives. The EA also addresses issues related to the project's potential noise and water resources impacts. To mitigate any potential impacts due to noise, Houston Hub shall conduct a noise survey and file the survey results with the Secretary no later than 60 days after placing the plant facility site and cavern site into service. Further, in order to monitor groundwater supply and its impacts, Houston Hub shall coordinate with the City of Dayton regarding future potential

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<sup>68</sup>Hydrocarbon Storage in Mined Caverns, A Guide for State Regulators, Interstate Oil and Gas Compact Commission, 2000.

<sup>69</sup>Thomas, Robert and Gehle, Richard, *A Brief History of Salt Cavern Use*, Solution Mining Research Institute, 2000.

drawdown impacts on City wells, and measures to minimize or mitigate potential interference and adverse effects.

87. Based on the discussion in the EA, we conclude that if the project is constructed and operated in accordance with Houston Hub's application and supplements, including the responses to staff's data requests, and if Houston Hub complies with all environmental conditions detailed in Appendix B of this order, approval of this proposal would not constitute a major federal action significantly affecting the quality of the human environment.

88. Any state or local permits issued with respect to the jurisdictional facilities authorized herein must be consistent with the conditions of this certificate. The Commission encourages cooperation between interstate pipelines and local authorities. However, this does not mean that state and local agencies, through application of state or local laws, may prohibit or unreasonably delay the construction or operation of facilities approved by this Commission.<sup>70</sup>

89. Houston Hub shall notify the Commission's environmental staff by telephone, e-mail, or facsimile of any environmental noncompliance identified by other federal, state, or local agencies on the same day that such agency notifies Houston Hub. Houston Hub shall file written confirmation of such notification with the Secretary of the Commission within 24 hours.

#### **G. Blanket Certificates**

90. In Docket No. CP07-391-000, Houston Hub has applied for a Part 157, Subpart F blanket certificate. The Subpart F blanket certificate gives a natural gas company section 7 authority to automatically, or after prior notice, perform certain activities related to the construction, acquisition, abandonment, and replacement and operation of pipeline facilities. Because Houston Hub will become an interstate pipeline with the issuance of a certificate to construct and operate the proposed facilities, we will issue the requested Part 157, Subpart F blanket certificate. However, Houston Hub's blanket certificate shall not include automatic authorization to increase storage capacity. This restriction on Houston Hub's Part 157 blanket certificate is based on the fact that Houston Hub's

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<sup>70</sup> See, e.g., *Schneidewind v. ANR Pipeline Co.*, 485 U.S. 293 (1988); *National Fuel Gas Supply v. Public Service Commission*, 894 F.2d 571 (2d Cir. 1990); and *Iroquois Gas Transmission System, L.P., et al.*, 52 FERC ¶ 61,091 (1990) and 59 FERC ¶ 61,094 (1992).

storage facility is a salt cavern in the initial stages of development for which future expansion will require reevaluation by the Commission of historical data and new engineering and geological data.<sup>71</sup>

91. In Docket No. CP07-392-000, Houston Hub requests a Part 284, Subpart G blanket certificate in order to provide open-access storage services. Under a Part 284 blanket certificate, Houston Hub will not require individual authorizations to provide storage services to particular customers. Houston Hub filed a pro forma Part 284 tariff to provide open-access storage services. Since a Part 284 blanket certificate is required for Houston Hub to offer these services, we will grant Houston Hub a Part 284 blanket certificate, subject to the conditions imposed herein.

#### **H. Conclusion**

92. For the reasons discussed above, the Commission finds that the Houston Hub's project is required by the public convenience and necessity and that a certificate authorizing the construction and operation of the facilities described in this order and in the application should be issued, subject to the conditions discussed herein and listed in Appendices A and B.

93. The Commission, on its own motion, received and made part of the record in this proceeding all evidence, including the application and exhibits thereto, submitted in support of the authorizations sought herein, and upon consideration of the record,

#### **The Commission orders:**

(A) A certificate of public convenience and necessity is issued to Houston Hub in Docket No. CP07-390-000, authorizing the ownership, construction and operation of the described storage facilities, as described more fully in this order and in the application.

(B) A blanket construction certificate is issued to Houston Hub, in Docket No. CP07-391-000, under Subpart F of Part 157 of the Commission's regulations.

(C) A blanket transportation certificate is issued to Houston Hub, in Docket No. CP07-392-000, under Subpart G of Part 284 of the Commission's regulations.

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<sup>71</sup> See, e.g., *Unocal Windy Hill Gas Storage*, 115 FERC ¶ 61,218 (2006).

(D) The certificate issued in Ordering Paragraph (A) is conditioned on Houston Hub's compliance with all applicable Commission regulations under the Natural Gas Act, particularly the general terms and conditions set forth in Parts 154, 157, and 284, and paragraphs (a), (c) (1) and (2), (e), and (f) of section 157.20 of the regulations.

(E) The facilities authorized in this order shall be constructed and made available for service by December 31, 2012 in accordance with section 157.20(b) of the Commission's regulations.

(F) The certificate issued in Ordering Paragraph (A) is conditioned upon Houston Hub's compliance with the engineering and environmental conditions set forth in Appendices A and B to this order.

(G) Houston Hub's request to charge market-based storage rates for firm and interruptible storage service and interruptible hub and wheeling services is approved, as discussed in this order. Houston Hub's market power and market-based storage rates authority shall be subject to re-examination in the event that:

1. Houston Hub expands its storage capacity beyond the amount authorized in this proceeding;
2. Houston Hub acquires additional transportation facilities or additional storage capacity;
3. An affiliate provides storage or transportation services in the same market area or acquires an interest in another storage field that can link Houston Hub's facilities to the market area; or
4. Houston Hub or an affiliate acquires an interest in or is acquired by an interstate pipeline.

(H) Houston Hub is granted a waiver of section 157.14 of the Commission's regulations requiring submission of Exhibits K (cost of facilities), L (financing), N (revenue-expenses-income), O (depreciation and depletion), and (H) (total gas supply data); sections 284.7(e) and 284.10 requiring reservation charges and the use of a straight fixed variable rate design; and the accounting and reporting requirements under Parts 201 and 260.2 of the Commission's regulations, which presume cost-based rates are being charged and collected, except for the information necessary for the Commission's assessment of annual charges. This waiver is subject to Houston Hub maintaining accounts and financial information of its storage facility consistent with generally accepted accounting principles.

(I) Houston Hub is granted a waiver of the Commission's "shipper must have title" policy, as discussed in the body of this order, and subject to the conditions set forth herein.

(J) Within 30 days after its first full year of operation, and every year thereafter, Houston Hub is directed to file an annual informational filing on its provision of service using off-system capacity, as detailed in this order.

(K) Houston Hub shall file, not less than 30 days nor more than 60 days, prior to its proposed effective date, actual tariff sheets that comply with the requirements contained in the body of this order, including the cross-reference to reflect the location of each NAESB standard in its tariff, and are otherwise consistent with its pro forma tariff in accordance with the NGA and Part 154 of the Commission's regulations.

(L) Houston Hub shall file, not less than 60 days but not more than 90 days prior to commencing service, a statement affirming that the market power study is accurate based on current conditions. Should there be any changes to Houston Hub's market power for hub services, Houston Hub shall file a revised market power study.

(M) The authorizations issued in Ordering Paragraphs (A), (B) and (C) are conditioned upon Houston Hub's notifying the Commission's environmental staff by telephone, e-mail, or facsimile of any environmental noncompliance identified by other federal, state, or local agencies on the same day that such agency notifies Houston Hub. Houston Hub shall file written confirmation of such notification with the Secretary of the Commission within 24 hours.

By the Commission.

( S E A L )

Nathaniel J. Davis, Sr.,  
Deputy Secretary.

## Appendix A

### Engineering Conditions for Houston Hub's Proposed Project

1. The maximum inventory of natural gas stored in Houston Hub's storage facility shall not exceed the certificated levels of 11.58 Bcf at 14.73 psia and 60° F for each cavern; the maximum gas storage shut-in stabilized pressure gradient of each cavern shall not exceed 0.85 psi/ft. The minimum pressure shall be limited to 0.20 psi/ft.
2. The final gas storage operating capacity of each cavern, working gas capacity, cushion gas capacity and the minimum pressure shall be determined after the facility's operating parameters are evaluated and filed with the Commission (include data and work papers to support the actual operating capacity determination).
3. Before commencing gas storage operations, Houston Hub shall:
  - (a) Conduct a Mechanical Integrity Test for the cavern before initiation of each well/cavern to natural gas storage, and file the results with the Commission;
  - (b) File with the Commission copies of the latest interference tracer surveys, or other testing or analysis on each cavern to verify the lack of communication between the caverns;
  - (c) Establish and maintain a subsidence monitoring network over the proposed caverns storage area; and,
  - (d) Assemble, test and maintain an emergency shutdown system.
4. Twice annually, Houston Hub shall conduct a leak detection test during storage operations to determine the integrity of each cavern, well bore, casing and wellhead, and file the results with the Commission until one year after the storage inventory volume reaches or closely approximates the full authorized capacity, unless otherwise ordered by the Commission.
5. Each cavern's well will be periodically logged to check the integrity of each casing string. Additionally, every five years Houston Hub shall conduct sonar surveys of the caverns to monitor their dimensions and shape, including the cavern roof, and to estimate pillar thickness between openings throughout the storage operations, and file results with the Commission.
6. Houston Hub shall conduct an annual inventory verification study on each cavern, and file results with the Commission.

7. The Houston Hub Storage Project shall be operated in such a manner as to prevent gas loss or migration.
8. Houston Hub shall file with the Commission semi-annual reports (to coincide with the maximum and minimum storage pressures) containing the following information in accordance with section 157.214 (c) of the Commission's regulations (volumes shall be stated at 14.73 psia and 60 °F, and pressures shall be stated in psia):
  - (a) The daily volume of natural gas injected into and withdrawn;
  - (b) The inventory of natural gas and shut-in wellhead pressure for each cavern at the end of each reporting period;
  - (c) The maximum daily injection and withdrawal rates experienced for the entire storage field during the reporting period; and, the average working pressure on such maximum days taken at a central measuring point where the total volume injected or withdrawn is measured;
  - (d) The results of any tests performed to determine the actual size, configuration, or dimensions of the storage caverns;
  - (e) A discussion of current operating problems and conclusions; and
  - (f) Other data or reports which may aid the Commission in the evaluation of the storage project.
9. Houston Hub shall continue to file the above semi-annual reports in accordance with section 157.214(c) of the Commission's regulations for a period of one year following the date facility operation at maximum level is initiated.

## Appendix B

### Environmental Conditions for Houston Hub's Proposed Project

1. Houston Hub shall follow the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests) and as identified in the EA, unless modified by this order. Houston Hub must:
  - a. request any modification to these procedures, measures, or conditions in a filing with the Secretary;
  - b. justify each modification relative to site-specific conditions;
  - c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
  - d. receive approval in writing from the Director of OEP before using that modification.
  
2. The Director of OEP has delegated authority to take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of the project. This authority shall allow:
  - a. the modification of conditions of this order; and
  - b. the design and implementation of any additional measures deemed necessary (including stop-work authority) to assure continued compliance with the intent of the environmental conditions as well as the avoidance or mitigation of adverse environmental impact resulting from project construction and operation.
  
3. **Prior to any construction**, Houston Hub shall file an affirmative statement with the Secretary, certified by a senior company official, that all company, environmental inspector (EI), and contractor personnel will be informed of the EI's authority and have been or will be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.
  
4. The authorized facility locations shall be as shown in the EA, as supplemented by filed alignment sheets, and shall include all of the staff's recommended facility locations

as identified in the EA. **As soon as they are available, and before the start of construction**, Houston Hub shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all facilities approved by this order. All requests for modifications of environmental conditions of this order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

5. Houston Hub's exercise of eminent domain authority granted under section 7(h) of the NGA in any condemnation proceedings related to this order must be consistent with these authorized facilities and locations. Houston Hub's right of eminent domain granted under section 7(h) does not authorize it to increase the size of its natural gas pipeline to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.

6. Houston Hub shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations and staging areas, pipe storage yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction in or near that area**.

7. This requirement does not apply to minor field realignments per landowner needs and requirements which do not affect other property owners or sensitive environmental areas such as wetlands.

8. Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

- a. implementation of cultural resources mitigation measures;
- b. implementation of endangered, threatened, or special concern species mitigation measures;
- c. recommendations by state regulatory authorities; and

- d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.

9. **Within 60 days of the acceptance of this certificate and before construction begins**, Houston Hub shall file an initial Implementation Plan with the Secretary for review and written approval by the Director of OEP describing how Houston Hub would implement the mitigation measures required by this Order. Houston Hub must file revisions to the plan as schedules change. The plan shall identify:

- a. How Houston Hub would incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings with the intention that the mitigation required at each site is clear to onsite construction and inspection personnel;
- b. The number of environmental inspectors (EIs) assigned per spread, and how the company would ensure that sufficient personnel are available to implement the environmental mitigation;
- c. Company personnel, including EIs and contractors, who would receive copies of the appropriate material;
- d. What training and instructions Houston Hub would give to all personnel involved with construction and restoration (initial and refresher training as the project progresses and personnel change), with the opportunity for OEP staff to participate in the training session(s);
- e. The company personnel (if known) and specific portion of Houston Hub's organization having responsibility for compliance;
- f. The procedures (including use of contract penalties) Houston Hub would follow if noncompliance occurs; and
- g. Or each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:
  - i. the completion of all required surveys and reports;
  - ii. the mitigation training of onsite personnel;
  - iii. the start of construction; and the start and completion of restoration.

10. Houston Hub shall file updated status reports prepared by the head EI with the Secretary on a **biweekly** basis **until all construction and restoration activities are complete**. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:

- a. the current construction status of the project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally sensitive areas;
- b. a listing of all problems encountered and each instance of non-compliance observed by the EI(s) during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
- c. corrective actions implemented in response to all instances of non-compliance, and their cost;
- d. the effectiveness of all corrective actions implemented;
- e. a description of any landowner/resident complaints which may relate to compliance with the requirements of this order, and the measures taken to satisfy their concerns; and
- f. copies of any correspondence received by Houston Hub from other federal, state or local permitting agencies concerning instances of non-compliance, and Houston Hub's response.

11. Houston Hub must receive written authorization from the Director of OEP **before commencing service** from the project. Such authorization will only be granted following a determination that rehabilitation and restoration of the right-of-way and other areas of project-related disturbance are proceeding satisfactorily.

12. **Within 30 days of placing the certificated facilities in service**, Houston Hub shall file an affirmative statement with the Secretary, certified by a senior company official:

- a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities would be consistent with all applicable conditions; or

- b. identifying which of the certificate conditions Houston Hub has complied with or would comply with. This statement shall also identify any areas affected by the projects where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.

13. Houston Hub shall coordinate with the City of Dayton regarding future potential drawdown impacts on City wells, and measures to minimize or mitigate potential interference and adverse effects. The results of all consultations shall be filed with the Secretary **prior to construction.**

14. Houston Hub shall conduct a noise survey and file the survey results with the Secretary **no later than 60 days** after placing the Plant Facility Site and Cavern Site in service. If the noise attributable to the operation of the Plant Facility Site and Cavern Site at full load exceeds 55 dBA Ldn at any nearby NSA, Houston Hub shall install additional noise controls to meet the level within one year of the in-service date. Houston Hub shall confirm compliance with this requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls.