

**FERC Conference on Natural Gas Infrastructure  
And State of Facilities Following Hurricane Katrina and Rita  
October 12, 2005**

Mr. Chairman, Commissioners and staff. My name is David Halphen and I am Vice President of Regulatory Affairs and Administration for Enbridge Offshore Gas Transmission. Through our ownership, both individually and via partnerships, of six jurisdictional pipelines and associated gas and oil gathering systems located in the Gulf of Mexico, we transport roughly half of the natural gas produced from the deepwater Gulf – delivering over 2.7 Bcf/day at pre-hurricane levels. Our offshore pipelines under the jurisdiction of the Commission consist of the Destin, Mississippi Canyon, Nautilus, Garden Banks, Stingray and UTOS systems. I am pleased to be here today to present to the Commission the experiences of Enbridge as we have responded to this very active hurricane season and to answer any questions that may arise.

Over the next several minutes, I will run through a timeline of events and priorities as the hurricanes approached and a description of damage incurred on our systems including our planned remediation efforts. My closing will include a discussion of what, if anything, the Commission can do to help.

By way of background, it is important to remember that much of the gas production in the Gulf of Mexico is produced in association with oil. Also, significant volumes of condensate are common and much of offshore gas production is rich in liquid content and requires processing. The plants and liquid pipelines along with oil terminals, storage facilities and refineries are susceptible to hurricane damage and to extended power outages. Any break in this chain can disrupt the flow of natural gas.

Following is a timeline that represents a composite of our activities and reactions for both Hurricane Rita and Katrina.

Beginning up to a week in advance of the storm evacuations of non-essential personnel from the offshore locations will begin. Timing for full scale evacuation of offshore personnel will be dependent on the size of the storm – specifically how far the outer bands extend. Closer to landfall, our “incident command system” is activated. Automated systems, where practical and available control offshore production and gas flows. Local safety systems protect the integrity of the pipeline and fail-safe systems are in place with emergency shut-down devices that will activate as required. As the storm moves across the gulf, production that has not yet been shut-in begins to fall off and shut down completely.

In the hours before landfall, the offshore facilities were faced with the maximum force of the storms. Floating drill rigs that were anchored to ride out the storm are shoved and pushed along like toys in a bathtub. Anchors similar in size and weight to an M1 tank are drug along the sea floor sometimes snagging on oil or gas pipelines. We are still reviewing the GPS tracks of these rigs and inspecting our pipelines for any damage.

After the storms have passed, and once we assure that our personnel are safe and secure, we turn our focus to confirmation that pipeline pressure has been maintained and conduct visual

inspections of all surface facilities. Initial assessments are made by fixed wing planes and by helicopters as winds die down and allow flights. Access to onshore facilities is restricted until roads are reopened. Remote operated vehicles and side scan sonar are utilized to inspect offshore facilities and pipeline routes.

All of our repair efforts are prioritized for safety, environmental concerns and facility access and then to expedite returning the pipeline to service. Following is a current overview of the status and planned activities within each of our corridors.

In the eastern Gulf, the Destin Pipeline and associated gathering systems (which are operated by BP our partner in these assets) survived the storms with very little damage to our top side facilities. The processing plant serving Destin's shippers was unable to fully operate due to loss of electrical power at a downstream pumping station on a liquids pipeline. While this power has since been restored, damage to the oil pipeline infrastructure serving this corridor has curtailed gas that is produced in association with oil production. Repairs to allow full ramp up to pre-storm levels are underway.

Our Mississippi Canyon system and related facilities received a direct hit from Hurricane Katrina. This includes the onshore facilities located near the Dynege gas processing plant at Venice. The environmental assessment and safety plans have been completed and repair work is underway. Our outlook is for the Mississippi Canyon system to be ready for service in November however; the quantity of gas flows will be dependent on producer repair plans upstream of us and processing considerations at the downstream pipelines.

In the Green Canyon corridor, our primary assets are the Cleopatra and Manta Ray gathering systems and the Nautilus pipeline. These systems sustained only minor damage including some damage to electrical generators, control tubing and electrical cabling on a Manta Ray platform. The Manta Ray system was offline for 10 days. Nautilus was available for service on October 1<sup>st</sup> but gas flow did not commence until October 6<sup>th</sup> due to producer and processing issues. This corridor is now fully restored to pre-hurricane throughput levels.

Moving slightly west we have the Garden Banks corridor which incurred minimal damage to its platform with no consequence to service which was restored on October 1<sup>st</sup>. However, downstream interconnects have been impacted and transportation service is restricted to two of the four delivery points on the system.

Finally, in the western Gulf is our Stingray corridor which received a fairly direct hit from Hurricane Rita. It is in this area that our personnel were most severely impacted. Visual inspections have been completed with the appearance of only minimal damage offshore. All major laterals held pressure throughout the storm. Our onshore facilities did not fare as well. There is significant damage to equipment including instrumentation and control facilities and also to our office and warehouse buildings. Meter buildings including flow computers, communication devices and gas chromatographs have been damaged or destroyed. A temporary work camp is currently being mobilized to support the repair and recovery effort. While repairs and clean-up are underway, we have not yet established an estimated date to resume service for the UTOS or the Stingray systems.

Overall, we have succeeded in restoring roughly half of our gas flows to pre-storm levels.

Throughout these efforts, there are a number of things upon which we exert a degree of control and many more things beyond our control or influence. Our personnel, specialty repair tools and other inventory items that have been staged for recovery efforts and service providers that have been contracted for are all at our disposal. However we are fully dependent on others to reopen roads, waterways and docks and for the restoration of electrical power. While we work closely with the upstream and downstream sectors, we are dependent on their services and facilities before we can fully return to pre-storm throughput levels on our pipelines. And finally, while there are a substantial number of contractors and specialty service providers in the industry, the occurrence of any significant storm in the Gulf will temporarily overwhelm this sector.

You have asked - What can FERC do?

Certainly the waiver of federal, state or local requirements in light of the emergency situation assists in the recovery efforts. For example, the MMS allowed flexibility in changes to current permits relative to receipt and delivery points for gas or liquid volumes. Also the Commissions waiving of posting requirements and other deadlines was helpful.

Looking out at a longer term, the Commission may be in a position to recommend some type of interagency protocol for sharing of resources during disaster recovery efforts. For example, multiple governmental agencies will come in and secure many different resources in order to carry out their missions. To the extent that some of these resources could be more urgently utilized by one of the many components of the energy industry, a protocol for that process would be useful.

Another long term prospect would be encouragement of federal, state and local cooperation in protection measures for the gulf coast infrastructure. This may include levees, road improvements, restoration of marsh lands and incentives or recovery mechanisms for protection measures undertaken by the industry.

Unfortunately, there is no quick fix or easy solution to ease the pain of the twin disasters that struck our coast this summer. The good news – yes there is good news – is that since 1900, on average, a category three to five hurricane has only impacted the upper gulf coast once every three years. Only during 2004 and 2005 did more than one hurricane impact the upper gulf coast in the same year. 2005 is not a normal year. In some areas, preliminary estimates were that restoration of power would take months. However, more recent estimates are that power will be restored in weeks. Every day progress is being made due to the efforts of a very dedicated and hard working group of individuals across the entire gulf coast region.

The energy industry is strong and resilient and will fully recover from these storms. When you ask? Hopefully, we have provided some answers here today. While some situations are not clearly defined, it is safe to say that everyone is rowing in the same direction.

Thank you again for this opportunity to share our story with you and I look forward to receiving any questions at the end of the presentations.