Control Number: 32182

Item Number: 53

Addendum StartPage: 0

PROJECT NO. 32182

INVESTIGATION OF METHODS TO IMPROVE ELECTRIC AND TELECOM INFRASTRUCTURE THAT WILL MINIMIZE LONG TERM OUTAGES AND RESTORATION COSTS ASSOCIATES WITH GULF COAST HURRICANES	§ § § § § § §	**BEFORE THE PUBLIC UTILITY COMMISSION OF TEXAS**

CAP ROCK ENERGY CORPORATION'S COMMENTS ON STAFF'S DRAFT REPORT EXECUTIVE SUMMARY DATED MAY 10, 2006

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CAP ROCK ENERGY CORPORATION'S COMMENTS ON STAFF'S DRAFT REPORT EXECUTIVE SUMMARY DATED MAY 10, 2006

TO: DAVID FEATHERSTON, DIRECTOR, INFRASTRUCTURE RELIABILITY DIVISION, PUBLIC UTILITY COMMISSION OF TEXAS

Cap Rock Energy Corporation ("Cap Rock") submits the following comments concerning the Staff's Draft Report, Executive Summary, distributed by a letter dated May 10, 2006.

I. INTRODUCTION

This project was initiated on December 19, 2005 and designated as applicable to utilities located in Gulf Coast region. Cap Rock does not have any service territory in the Gulf Coast area or within any of the hurricane zones designated by the Governor's Division of Emergency Management.[1] On December 23, 2005, a letter was sent to all parties identified as "...an entity that either was directly impacted by Hurricane Rita or could be impacted by a major hurricane making landfall on or near the Texas Gulf coast." That letter included a schedule of three workshops that would be conducted to cover various topics in regards to restoration, planned improvements and estimated costs for those improvements and was sent only to those utilities on the distribution list attached to that letter. Cap Rock was not included in the distribution of that letter. In a letter dated May 9, 2006, Cap Rock was notified for the first time that the

[1] *See*, http://www.txdps.state.tx.us/dem/pages/publicinformation.htm#hurricanemap

recommendations being considered in this project were to be applicable to all of the electric utilities in Texas, not just those with service areas in Gulf Coast. Given the very short time available for Cap Rock to review the record to date, and provide comments, the responses provided will be more general in nature.

The recommendations, while certainly made with laudable intent, should be limited to the stated purpose of the project, the Gulf Coast region, and should not be made applicable to all electric utilities. Further, if the recommendations are to be applicable to all electric utilities, the recommendations should be modified because the costs of implementing the recommendations cannot be justified. There is insufficient evidence that the enormous expenditures that would be required would in fact significantly prevent outages or speed restoration.

It should also be noted that the implementation of any recommendations should be tailored to the location of each respective utility. Utilities on the Gulf coast have different weather-related events than do utilities such as Cap Rock in West Texas. The impact of shear winds, tornado related winds, and hurricanes are all very different. Also, system improvements for compact urban areas are different than those for sparsely populated areas such as West Texas. The recommendations need to recognize that this may not be a one-size-fits-all process. The engineering design must include the wind loads and weather related conditions that are unique to each location. Any recommendations need to ensure that they are cost effective solutions.

Many of the recommendations would require complete system inspections, reengineering efforts, and the use of significant amounts of man-hours in order to be implemented within the stated timeline. Cap Rock simply does not have the manpower on staff to accommodate all of these recommendations as outlined. Each utility would need to have additional staff on hand simply for the implementation of all of these recommendations. This would be a costly

undertaking that should be carefully evaluated as to the desired results and how best to achieve those results. Utilities need to have an appropriate mechanism in place to allow for the recovery of the significant costs that would be incurred if these recommendations were implemented.

II. RESPONSE TO STAFF'S RECOMMENDATIONS

Immediate (within six Months)

1. **Require the development and implementation of an inspection cycle for vegetation management for all overhead electrical and telecommunication lines. This cycle should consider the growth rates of common vegetation in the service area. Utilities should provide the Commission with details of its vegetation inspection program within six months.**

Most utilities have a multi-year cycle for vegetation control and tree trimming activities. During the workshop Staff explained that the growth rate to be considered was the life growth rate, not a short term growth rate. Consideration of this longer term growth rate of common vegetation would need to be added to the current programs. A significant issue that must be considered is that the ability of the utility to manage vegetation control may be limited by the ownership of the right-of-way "ROW." For example, vegetation control efforts for areas in state highway ROW have different requirements than that of other ROW. There may also be differences for ROWs that include state and federal parks. Utilities should be able to provide a report on current vegetation control efforts within six months. Additional time should be allowed for development and reporting of any changes to a utility's vegetation control efforts that might be required by the Commission.

2. **Require the development and implementation of a regular, ground-based inspection cycle for all overhead electrical and telecommunication facilities, including a condition-based assessment of wood pole suitability for continued service. Utilities should provide the Commission with the details of this inspection program within six months.**

This recommendation, along with the one above, appears to imply that each utility would be required to perform a physical review of its entire system on a continual basis. This would be

an expensive undertaking and require either the addition of new personnel or of the expanded use of outside providers. While the recommendation as stated is limited to providing a report as to the details of establishing such an inspection-cycle, the application and cost is a concern.

3. **Require utilities to establish processes, and incorporate these requirements into their existing contracts or tariffs, to ensure the structural integrity of poles and attachments in situations where utilities augment or add cable facilities to existing poles.**

This may require each utility to renegotiate some or all of its pole attachment contracts. There are instances where the facilities attached to the poles have been modified since the time they were originally been installed. There are also situations where facilities have been attached without prior notification of the attachment. This recommendation would require each utility to conduct a physical inventory of all of its poles to determine what facilities are currently attached, if the attached facilities are the same or different from those originally contracted, and what improvements are now necessary to accommodate those attachments. While this recommendation may provide a means for additional improvements, the ability to conduct a complete system review and incorporate these requirements within a six month period is improbable. Each utility should be allowed the opportunity to provide a report on how best to achieve the desired result in a timely manner.

Short-Term (one year)

4. **Require each utility to provide the Commission with a report within one year that evaluates the level of inventory for transmission facilities considering the requirements of staff's recommendations.**

Providing a report on inventory levels on an annual basis can be achieved.

5. **Require the removal within one year of all trees that could potentially damage electrical or telecommunication structures or facilities and that are located within the right of way (ROW) easement.**

Clear cutting trees will create a significant response from the public. This recommendation conflicts with current requirements for state highways where the utility is limited in which vegetation/trees the utility can cut and/or trim. There are trees of significant age that have been trimmed around conductors. While these trees may have a potential impact, they been accommodated over many years. There are instances where a residence has one large tree that covers the entire lawn under its canopy, and that tree has been routinely trimmed. To go in now and require that tree to be cut to the ground would incite the public, regardless of whether or not it is in the ROW. There needs to be some consideration of the public good and the desire for improved reliability. In discussing this issue with others, some responses were that the citizens would be willing to tolerate a day or two of outages in order to keep the trees. There needs to be additional dialogue and consideration of the public response before adopting this or a similar recommendation.

6. **Require each utility to perform a study within one year that evaluates the reasonableness and costs of retrofitting overhead distribution facilities so, that, under conditions of high wind and/or ice loading, the conductors and/or support hardware will fail before the structures fail and provide the Commission with its evaluation and any recommendations.**

The existing systems were built to meet the loading requirements in place at the time of construction. This recommendation would require the reengineering of the entire system such that in the event of high winds, the conductors and supporting facilities fail and/or fall to the ground prior to the poles. There are essentially only two options for implementing this recommendation; design the conductors and supporting hardware in a manner that is weaker than today's standard, or use poles that are larger than the engineering standard. Either method would require significant engineering effort and time and would be expensive to implement. This does

raise a question as to how to design the facilities for break-away conductors. Utilities design their equipment to meet the standards of the NESC. If the facilities are designed with the break-away features, the facilities may not meet the NESC standards.

7. **Require utilities to perform a study within one year that evaluates the current practice of automatically sectionalizing a distribution line to improve reliability and examines a practice of increasing the number of automatic sectionalizers to gain additional enhancements to reliability. The utilities should provide the Commission with this study and any recommendations.**

Cap Rock currently has a large number of reclosers in its system to isolate faults and limit the extent of outages. The coordination and loading of these devices is reviewed yearly. Cap Rock can provide to the Commission a report of its current practices and any proposed modifications.

8. **Require utilities to conduct inspections of all distribution circuits to determine whether the amount of non-electric equipment on structures is causing an overload on those structures. If overloads are identified utilities should be required to correct the problem. Furthermore, utilities should be required to institute practices that will prevent such overloads in the future. The results of this initial inspection should be reported to the Commission within a year.**

This recommendation would require the physical inspection of all distribution circuits. It would also require a review of the attachment facilities and the contracts to determine if the attachment facilities are those as contracted, or if they have been upgraded and what changes those upgrades would require to meet the loading standards. There may be instances where attachments are in place which were not contracted. The implementation of this recommendation would require that the utilities complete this system review within one year. This would require the hiring of additional personnel and/or the use of outside contractors. If this recommendation is adopted, the utilities need to have an appropriate mechanism to allow recovery of the additional costs incurred to meet the requirements of the recommendation.

9. **Require telecommunications utilities to install onsite generators with a minimum of seventy-two hours of fuel in all central offices in hurricane prone areas. Utilities should also be required to have processes in place to ensure refueling of these generators for extended periods of time.**

N/A

Long Term (more than one year, ongoing)

10. **Require annual upgrades to current National Electric Safety Code (NESC) wind loading standards for at least 10% of the 230 kV or greater above-ground transmission infrastructure and 5% of the 138% kV or less starting with the highest voltage lines. In addition, all transmission infrastructure upgrades within ten (10) miles of the Texas coastline should be required to meet current NESC standards assuming 140 mile-per-hour wind speed. Annual reports on the utilities' upgrading programs should be reported to the Commission.**

There are facilities that have been in place for many years that have not experienced catastrophic events. This recommendation would ignore that reality and rebuild the system on a theoretical approach, "what if a hurricane event occurred." Each of the facilities were engineered to meet the wind loading standards in place for the geography of that facility at the time of construction. The wind loading standards may vary after the facility is built, but the system may not have experienced wind related outages. This recommendation ignores that fact and requires that the system be upgraded to the new wind loading standards regardless of actual experience. This is another recommendation that will be costly to implement. There needs to be a clear benefit to the customers before spending the monies that this recommendation would require. If the intent is that the facilities be upgraded any time a new standard is implemented, then it may be necessary to adjust the depreciation standards to reflect obsolescence. If this recommendation is adopted, a mechanism should also be provided to permit utilities to recover the costs that will be incurred.

11. Require all new and replacement transmission structures to be pre-stressed concrete or steel.

Concrete and steel poles are not always better than wood poles. Wood poles have more flexibility to absorb buffetings from high winds. They are better able to bend as needed without failing as would happen to concrete and/or steel. The recommendation to universally accept concrete or steel as the better alternative should be reviewed as to location and the type of winds generally encountered. During the restoration activity necessitated by a hurricane, it may be that one type of pole is more readily available. If that happens to be a wood pole, then this recommendation would result in longer outage times due to the limited availability of concrete or steel. The use of one particular pole type over another should be carefully reviewed based upon geography, wind and weather related events, and the costs of those poles.

12. Require utilities, through negotiation with landowners, to remove all trees that have limbs extending into, or those that may potentially extend into, the transmission and distribution ROW easements under high wind conditions.

This recommendation is certainly one in which the public outcry will be heard. Much as was stated above, the public will generally resist clear cutting of trees, especially on their own property. The fact of the matter is that requiring the removal of all trees that may potentially, some time over their growth period, lose a limb that may be blown into a power line goes over and beyond the benefit. There are trees that are decades old that neighbor the power line ROWs. Is there a potential that they could lose a limb that would be blown into a power line? Yes. Should that tree be removed because at some time it may, under extreme conditions, extend into a ROW? That is a tough question to answer. The other side of the question is what is the utility required to do if the landowner refuses to allow clear cutting of those trees or if the landowner demands an exorbitant price. What standard for determining high winds will be used; 40 mph, 60 mph, 100 mph? Sustained or gusts? If the ROW is 30 feet wide and a tree flexes in a 60 mph

wind event such that its limbs minimally enter the ROW at a level below the conductors, should they also be removed? Since the recommendation includes the requirement to remove all trees based solely upon the ROW encroachment and not the potential system impact, there needs to be further evaluation before finalizing this recommendation.

13. **Require utilities to identify any damage of transmission and distribution facilities that occurs as a result of a weather event other than lightning, and provide an annual report to the Commission that includes; the cause of the damage, the type of facility involved and the voltage, and age of the structure or facility.**

When an outage occurs, utilities are focused upon restoration, not necessarily evaluation as to the cause. There is a general understanding that in a high wind event there may be multiple causes. Which one occurred first is of little consequence. This recommendation appears to require that an outage evaluation be done to determine the root cause of the outage before restoration activities can go forward.

In high wind events, there may be little possibility to determine what happened first. Metal from buildings may have become airborne and contacted the conductors which caused the first outage. Trees may have fallen later. The same may occur for ground saturation. Poles may have fallen due to ground saturation initially and trees and other debris may have landed on the downed conductors later. At the time of the evaluation, it will be difficult to identify which occurred first. The metal may have been blown away and not even identified in the evaluation. Does it really matter which event occurred first? The result is the same and the restoration process needs to begin as soon as possible.

Gathering information on age is another difficult task. While there are birthmarks on poles; there generally are none on conductors, cross-arms and other supporting facilities. When utilities upgrade conductors and/or supporting structures, there generally is no indication on the equipment as to when that occurred. There may be instances where the pole installed yesterday

came down and the one installed 30 years ago remains standing. It could also occur vice-versa.

Given the limitations on ascertaining the cause of the failure, is the gathering of this additional information of sufficient importance to either delay restoration efforts or further increase the costs of restoration? Would the reports provide any useful information? The purpose of gathering the information to be provided in the annual report is an outstanding question. Will this additional reporting requirement provide an analysis which will yield information that is not currently available? There must be an understandable benefit to be gained for this additional effort. If not, and it is simply another report that needs to be filed, this recommendation should be deleted.

14. Require utilities to design and construct all substations so that no water enters the control house or damage and electrical equipment in the substation during a 500-year rain event rendering electrical equipment inoperable due to accumulated water.

This should not be a problem for new substations. It will require an evaluation of existing substations as to where they are located and how to upgrade to the new standard. Again, the issue is the cost recovery of any required upgrades due to this recommendation. From the customer's point-of-view, the question is whether the additional cost is justified by the benefit.

15. Electric utilities have embarked on projects to modernize the electric grid by deploying intelligent devices on the network. These deployments will enable real time monitoring of outages, selective switching of electric supply routes, and preventative maintenance of protective devices to increase reliability of the power grid. The Commission should establish incentives to encourage such deployments by electric utilities.

Cap Rock has added "intelligent devices" on its distribution system with the evolution of new SCADA capability. There are additional devices that could be upgraded or added, but at an additional cost. Building a system with complete visibility may be the operators dream, but it comes at a cost. The Commission determined incentives need to be adequate enough to cover the incremental costs needed if complete visibility is desired.

16. **If new underground distribution facilities must be installed in the rear of residential lots, require developers and homeowners to provide at least a 10-foot ROW restriction upon the inclusion of trees or other structures so that suitable access is available for any future repair work.**

Ease of access is a laudable goal that should be encouraged. This recommendation needs to be considered in light of the other recommendations. If a 10-foot ROW is included in the development, homeowners will understand that to mean that they can plant or build whatever they want outside that ROW.

17. **Require burial of all new distribution lines serving new residential developments.**

Many new urban developments have underground requirements within the development. The question generated by this recommendation is what to do with the feeder to the new development. Does the recommendation include the feeder line from the substation? Underground installations decrease the impact of high wind outages but are susceptible to flood damage. The cost of underground installations are significantly higher than that of aerial facilities which could impact low income housing projects. Before such a recommendation is finalized, there needs to be some further evaluation to ensure the cost consequences provide a benefit.

18. **Encourage developers of new residential developments to locate underground facilities in front of homes or in accessible alleyways.**

Ease of access is a laudable goal that should be encouraged.

III. CONCLUSION

The intent of the recommendations is to accomplish a goal that Cap Rock shares, reliability of service to its customers. However, the recommendations fail to properly weigh other interests and issues, most notably the cost of the recommendations and the public reaction to the proposed tree trimming requirements. Much more consideration should be given to

developing a cost benefits analysis of the recommendations before any recommendation is adopted. Finally, the recommendations wholly fail to consider and provide an appropriate cost recovery mechanism for implementing the recommendations. An adequate cost recovery mechanism must be provided for the costs of any recommendation that is adopted.

Respectfully submitted,

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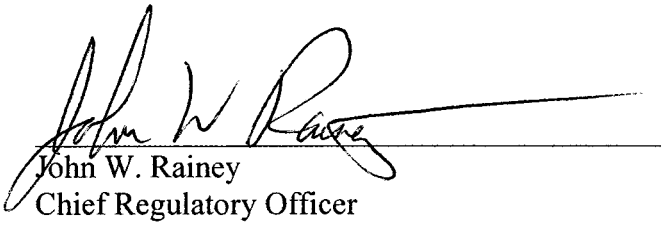

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