NERC

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

April 21, 2010

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

RE: NERC Notice of Penalty regarding Duke Energy Corporation, FERC Docket No. NP10-20-000

Dear Ms. Bose:

On December 30, 2009, the North American Electric Reliability Corporation ("NERC") filed a Notice of Penalty in the above referenced matter with the Federal Energy Regulatory Commission (the "Commission"), by which NERC reported to the Commission its approval of the Settlement Agreement between Reliability*First* Corporation (Reliability*First*) and Duke Energy Corporation ("Duke Energy"), executed on November 11, 2009 (the "Settlement Agreement"). In support of this Notice of Penalty, NERC and Reliability*First* now provide this supplemental information to update the Commission on certain of Duke Energy's activities undertaken pursuant to the Settlement Agreement.

Reliability*First* issued to Duke Energy two Notices of Alleged Violation and Proposed Penalty or Sanction for Alleged Violations of FAC-003-1, Requirement R2 and FAC-009-1, Requirement R1, by which Reliability*First* proposed substantial monetary penalties. The proposed penalty for Duke Energy's Alleged Violation of FAC-009-1, Requirement R1, was set to reflect Duke Energy's incomplete knowledge of its system, which resulted in Reliability*First* being unable to accurately determine the scope and severity of the Alleged Violation in Duke Energy's system. Consequently, Reliability*First* reasonably anticipated that additional conductor to ground clearance issues existed.

In order to resolve this matter and remediate any and all potential FAC-009-1, R1 violations in its system, Duke Energy agreed to undertake the significant monetary and time commitment of analyzing its entire 230 and 345 kilovolt transmission systems within Reliability*First*'s footprint (the "System") with the best available technology, and correcting any discovered deficiencies (the "Project"). In fact, Duke Energy agreed to and commenced performance of the Project prior to both the execution *and* effective date of the Settlement Agreement. A summary of Duke Energy's financial resources expended to date in furtherance of this commitment is summarized in **Non-Public Attachment A**.

PRIVILEGED AND CONFIDENTIAL AND
CRITICAL ENERGY INFRASTRUCTURE INFORMATION
HAVE BEEN REMOVED FROM THIS PUBLIC VERSION

Duke Energy also agreed to provide Reliability*First* with a report summarizing the Project. Furthermore, Reliability*First* will continuously monitor and verify the completion of all aspects of the Project in accordance with the Settlement Agreement. Reliability*First* will provide Duke Energy with a guidance document stating the information that Duke Energy must include in its report or otherwise provide to allow Reliability*First* to verify that the Project is complete. This guidance document will make clear that Duke Energy must identify and provide supporting documents demonstrating, *inter alia*: (1) the discovery date of vegetation, clearance, rating, or grading issues; (2) the date of any de-rating and re-rating; (3) the engineering basis for any de-rating and re-rating; (4) the load profile before, during, and after the date of de-rating and re-rating; (5) the communication of any de-rating and re-rating to all appropriate parties; (6) any corrective measures taken, including any construction and grading activities; (7) the completion date of any corrective measures; (8) computer models used to analyze and plan system operations before, during, and after any de-rating and re-rating; and (9) all facility ratings methodologies for transmission circuits before, during, and after any de-rating and re-rating. Reliability*First* will evaluate this report to verify Duke Energy's compliance to all applicable Reliability Standards.

In consideration for this significant commitment, Reliability*First* assessed a monetary penalty of $100,000. This penalty reflects Duke Energy's commitment to take actions that not only correct any and all potential FAC-009-1, R1 violations in Duke Energy's System, but also significantly enhance the reliability of Duke Energy's System, and as a result, the Bulk Electric System ("BES"). These enhancements are summarized below and in the referenced attachments.

Information set forth in Non-Public Attachments A, B, C, D, E, and G to the instant filing includes privileged and confidential information and critical energy infrastructure information as defined by the Commission's regulations at 18 C.F.R. Part 388 and orders, as well as NERC Rules of Procedure including the NERC Uniform Compliance Monitoring Enforcement Program ("CMEP") Appendix 4C to the Rules of Procedure. Specifically, the information pertains to proprietary or business design information, including a Regional Entity's investigative files as well as design and other information related to vulnerabilities of critical energy infrastructure information, that are not publicly available. Accordingly, the information set forth in Non-Public Attachments A, B, C, D, E, and G have been redacted from the public filing. In accordance with the Commission's Rules of Practice and Procedure, 18 C.F.R. § 388.112, a non-public version of the information redacted from the public filing is being provided under separate cover. NERC requests that the confidential, non-public information be provided special treatment in accordance with the above regulation.

I. <u>The Project.</u>

A. Overview.

Duke Energy agreed to complete the Project in three phases and has reported to Reliability*First* its completion of the engineering analysis of the first two phases. The detailed engineering

analysis in the three phases of the Project consists of, *inter alia*, Duke Energy's utilization of Light Detection and Ranging ("LiDAR") survey methods and Power Line Systems and Computer Aided Design and Drafting ("PLSCADD") three dimensional modeling software. These technologies were not available when the System was originally designed and constructed and, according to Duke Energy, they constitute the premier, current technologies for electric transmission line design.

LiDAR surveying provides precise data points to locate existing structures, conductor sags, and ground profiles. PLSCADD models the electric transmission system utilizing the data acquired by the LiDAR technology. Importantly, these technologies enhance reliability because they generate models that precisely identify the conductor to ground clearances across the entire width of the right-of-way. Unlike traditional ground survey methods, these technologies are not limited to clearance along the centerline. Previously, Duke Energy utilized aerial survey photographs to develop centerline ground profiles, estimated conductor sags with hand-drawings, and checked spans for conductor to ground clearance only along the centerline.

Additionally, the PLSCADD models provide conservative assumptions of conductor sag. Duke Energy modeled its System with these conservative assumptions, which resulted in conductor sag assumptions that are greater than actual conductor sag. Thus, Duke Energy will tend to over-correct any conductor to ground clearance issues detected, further enhancing reliability.

B. The Project Results to Date.

Phase one of the engineering analysis encompassed a geographic region known as the Illinois Coal Basin and involved 642 circuit miles and 3,966 spans. The results indicate that Duke Energy recommended 67 spans (1.7% of the 3,966 total spans) for conductor to ground clearance review and modification. These results are summarized in **Non-Public Attachment B**.

Phase two of the engineering analysis encompassed a geographic region in Kentucky, Indiana and Ohio and involved 552 circuit miles and 3,340 spans. The results indicate that Duke Energy recommended 55 spans (1.6% of the 3,340 total spans) for conductor to ground clearance review and modification. These results are summarized in **Non-Public Attachment** C.

The results of phases one and two indicate that certain circuits were de-rated as a result of the engineering analysis but that another component was limiting the operation of those circuits. Therefore, the de-rating did not impact the operation of these circuits. A summary of these situations discovered to date is provided in **Non-Public Attachment D**.

The results of phases one and two have validated Duke Energy's assertion that the new technologies would provide enhanced reliability by developing a precise three dimensional model to confirm conductor to ground clearance issues throughout the entire right-of-way of the System. Specific examples illustrating these enhancements are provided in **Non-Public Attachment E**.

To date, Duke Energy has analyzed 7,758 spans of its System and has identified and addressed clearance issues not detected utilizing conventional tools. Of these spans, Duke Energy determined that 98.3% are without any clearance issues.

C. Acceleration of the Project.

After analyzing the results of phases one and two of the engineering analysis and conferring with Reliability*First*, Duke Energy has agreed to accelerate phase three of the engineering analysis. Phase three encompasses 34 circuits located in Kentucky, Indiana and Ohio.

According to the Settlement Agreement, Duke Energy is not required to complete phase three until December 31, 2010. However, in an effort to ensure the reliability of its System and the BES, Duke Energy has agreed to accelerate its work and complete phase three of the engineering analysis no later than June 15, 2010. Duke Energy has memorialized this commitment in a letter to Reliability*First*, dated April 13, 2010, which is attached as **Attachment F**.

To date, Duke Energy has completed the engineering analysis of 11 of the 34 circuits and has reported the results to Reliability*First*. A summary of these results is provided in **Non-Public Attachment G**.

II. Actions Contained in Paragraph 30 of the Settlement Agreement.

A. Use of LiDAR Technology for Vegetation Management.

In addition to the use of LiDAR data to model its System, Duke Energy believes that LiDAR is also a valuable tool to enhance vegetation management practices when used in conjunction with traditional vegetation management methods. LiDAR's precision and versatility enhance the effective maintenance of vegetation clearances, and thus, contribute to enhanced reliability of the BES. Therefore, Duke Energy committed to implement LiDAR into its vegetation management practices to enhance the reliability of the BES.

B. Community Outreach Program.

To enhance the reliability of the BES, Duke Energy has developed and implemented a community outreach program that is more extensive and proactive and facilitates communication of information to a broader audience. Pursuant to the new program, Duke Energy now meets regularly with local government officials, developers, homebuilders, landscapers, and other stakeholders who may construct or plant vegetation in transmission rights-of-way. The objectives are to help secure the rights-of-way from encroachment while educating the community on restrictions involving rights-of-way, particularly with regard to planting and vegetation management. This effort contributes to enhanced reliability of the BES by minimizing the possibility of inappropriate structures or vegetation in rights-of-way.

C. Reorganization and Allocation of Resources.

To enhance the reliability of the BES, in 2009, Duke Energy created a new position, Supervisor, Vegetation Program Management, that is responsible for transmission vegetation management plan oversight. This position is responsible for the transmission foresters, and will provide focused high-level management. Duke Energy will maintain this position at least through 2010. Additionally, Duke Energy has allocated numerous resources for monitoring potential encroachments in transmission rights-of-way, examining right-of-way grading, and filling or building of embankments on the rights-of-way. All of these additional resources act to enhance the reliability of the BES by providing additional focus on vegetation management issues.

D. "Hack-and-Squirt" Herbicide Treatment.

Enhancement of Duke Energy's transmission vegetation management plan includes, but is not limited to, implementation of a "hack-and-squirt" herbicide treatment to obtain more efficient foliar application on target vegetation. Brush subject to the hack-and-squirt application is likely to be killed at the root so less frequent trimming is required and the brush is unlikely to grow unexpectedly quickly. This method reduces the possibility of unexpected contact and it was implemented as a means of more effectively complying with the requirements of FAC-003-1.

III. Conclusion.

As a result of the foregoing, Reliability*First* and NERC believe that the Settlement Agreement contributes to the overall reliability of the BES and as such should be approved by the Commission.

If you have any comments or questions, please do not hesitate to contact me.

Sincerely,

/s/ Rebecca J. Michael
Rebecca J. Michael

Assistant General Counsel for North American Electric Reliability Corporation

ATTACHMENT F

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April 13, 2010

Via E-Mail

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Compliance Enforcement Specialist
Reliability*First* Corporation
320 Springside Drive, Suite 300
Akron, Ohio 44333

RE: Reliability*First* – Duke Energy Settlement
Docket Nos. RFC200700001 and RFC200800060

Dear Mike:

As Reliability*First* Corporation ("Reliability*First*") is aware, Duke Energy Corporation ("Duke Energy") has completed the first two of three phases of its engineering analysis of its 230 kilovolt ("kV") and 345 kV transmission systems (the "Project"). Duke Energy has completed the first two phases of the Project, despite the fact that to date, the Settlement Agreement is not yet effective.

After analyzing the results of the first two phases of the Project and its ongoing dialogue with Reliability*First*, Duke Energy has agreed to accelerate phase three of the engineering analysis of the Project. Duke Energy has agreed to do this, despite the fact that, pursuant to the Settlement Agreement, which is not yet effective, Duke Energy is not required to complete this third phase until December 31, 2010.

Duke Energy hereby agrees to re-schedule and accelerate the phase three engineering analysis and any necessary rating changes so that both are completed no later than June 15, 2010. Duke Energy further agrees to promptly report to Reliability*First* the results on a circuit by circuit basis as the engineering analysis is completed.

This commitment is in furtherance of Duke Energy's continuing commitment to ensuring the reliability of the Bulk Electric System.

Sincerely,

Jeffrey M. Trepel
Associate General Counsel and Managing Attorney