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February 11, 2011

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Subject: Duke Energy Carolinas, LLC (Duke Energy)
William States Lee III Nuclear Station - Docket Nos. 52-018 and 52-019
AP1000 Combined License Application for the William States Lee III Nuclear Station Units 1 and 2
Habitability Systems
LTR# WLG2011.02-04

References:
1) Letter from Bryan J. Dolan (Duke Energy) to NRC Document Control Desk, dated May 26, 2010, "Habitability Systems," LTR# WLG2010.05-03
2) Letter from Bryan J. Dolan (Duke Energy) to NRC Document Control Desk, dated October 28, 2010, "Habitability Systems," LTR# WLG 2010.10-06

The referenced letters provided site-specific information related to the toxic gas analysis associated with main control room habitability for the Lee Nuclear Station. This letter supplements the information provided in the referenced letters to further describe the methodology used to perform screening evaluations.

If you have any questions or need any additional information, please contact Peter S. Hastings, Nuclear Plant Development Licensing Manager, at 980-373-7820.

Sincerely,

Bryan J. Dolan
Vice President
Nuclear Plant Development

D093
NRO

Enclosure:

1) Additional Information Addressing Onsite Site Specific Toxic Chemical Analysis

xc (w/o enclosure):

Loren Plisco, Deputy Regional Administrator, Region II

xc (w/enclosure):

Brian Hughes, Senior Project Manager, DNRL

AFFIDAVIT OF BRYAN J. DOLAN

Bryan J. Dolan, being duly sworn, states that he is Vice President, Nuclear Plant Development, Duke Energy Carolinas, LLC, that he is authorized on the part of said Company to sign and file with the U. S. Nuclear Regulatory Commission this supplement to the combined license application for the William States Lee III Nuclear Station and that all the matter and facts set forth herein are true and correct to the best of his knowledge.

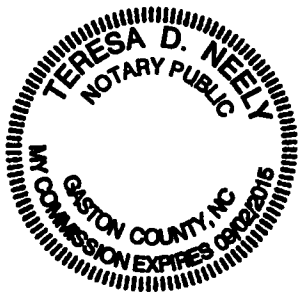
Bryan J. Dolan

Subscribed and sworn to me on February 11, 2011

Teresa D. Neely
Notary Public

My commission expires: 9/2/2015

SEAL



Additional Information Addressing Onsite Site Specific Toxic Chemical Analysis:

Duke Energy submitted information pertaining to the toxic gas analysis for main control room habitability by letter dated May 26, 2010 (Reference 1). In a subsequent conference call on August 3, 2010, NRC staff requested additional information pertaining to the analysis of methoxypropylamine and questioned the chemical identified in the response as dimenthylamine.

Based upon these discussions, Duke Energy agreed to provide clarifying information concerning the analysis of methoxypropylamine by indicating the maximum concentration evaluated and to correct the spelling of "dimethylamine" for the Site Specific Chemicals indicated in Section B of Table 6.4-202. This information was provided to NRC staff by letter dated October 28, 2010 (Reference 2). For consistency, all site specific chemicals in Section B of Table 6.4-202 were revised at that time to include the maximum concentration evaluated.

Subsequent to the October 28, 2010 submittal, NRC staff requested that additional details related to the screening methodology be documented. In response to that request, Duke Energy is providing details of the screening methodology applied to methoxypropylamine (MPA), a chemical used for pH addition. This response also provides an example of how screening evaluations are performed in general for chemicals listed in Section B of Table 6.4-202.

The chemicals identified in FSAR Table 6.4-202 were first compiled by category, type, storage state, nature of hazard, and purpose of use before they were screened for potential hazards to control room habitability. Chemical material safety data sheets (MSDSs) and other pertinent information were gathered from available industry sources.

The initial screening methodology evaluates the chemicals based on chemical properties provided on each chemical's MSDS. The National Fire Protection Association (NFPA) or Hazardous Materials Identification System (HMIS) chemical hazard classification designations obtained from the MSDSs are used to screen the chemicals (References 3&4). Only chemicals of NFPA 704 or HMIS Class 3 or Class 4 are considered for further screening. Chemicals of Classes 0, 1, and 2 were not considered for further evaluation due to stable physical properties at normal atmospheric conditions or non-acute health hazard. Flammability hazard ratings of 3 or 4 represent materials that can readily form explosive or flammable hazards at ambient conditions, and thus may possibly pose a danger in the immediate area and possibly elsewhere on the plant site. A health hazard of 3 or 4 indicates material that has a high potential of producing an acute, adverse health effect. Substances with these ratings require additional evaluation to determine if these effects could be experienced by personnel in the control room. Instability hazard classes 3 and 4 represent chemicals that can react explosively with water and are capable of detonation or explosive decomposition or reaction at normal temperatures and pressures.

Duke Energy plans to purchase a commercially available chemical for pH addition comprised of several chemicals in aqueous solution, the only constituent identified as hazardous being methoxypropylamine (MPA). As shown in FSAR Table 6.4-202, Duke Energy plans to purchase this chemical in aqueous solution with an MPA concentration of less than 60%. The

NFPA 704 health/ flammability/ instability ratings for an aqueous solution of MPA in a concentration range of 30.0 to 60.0% (w/w) are 3/ 0/ 0, respectively. The flash point of this solution is greater than 200°F. Materials having a flash point above 200°F that must be preheated before ignition will occur have a flammability rating of 1; chemicals that will not burn have a rating of 0. Specifically, this product is not expected to burn unless all the water is boiled away. Thus, this solution is screened out from a flammability perspective.

The boiling point of the solution is 241°F and the vapor pressure is 20 mm Hg @ 86°F. With a vapor pressure less than that of water (32 mm Hg @ 86°F), this chemical is not volatile. The health hazard rating of 3 results from the chemical being corrosive, causing eye burns and permanent tissue damage on contact, not because it is toxic. Recommended personal protective equipment includes gloves and face shield with chemical splash goggles to prevent contact with the liquid. Recommended engineering measures include use of general ventilation with local exhaust ventilation; however, no additional respiratory protective equipment is recommended since significant mists, vapors, or aerosols will not be generated by use of this chemical. These measures are consistent with the chemical being a local hazard only. Thus, 30-60% MPA is screened out from a health hazard perspective for impact on control room habitability.

No further FSAR changes are proposed by submittal of this information.

References:

1) Letter from Bryan J. Dolan (Duke Energy) to NRC Document Control Desk, dated May 26, 2010, "Habitability Systems."

2) Letter from Bryan J. Dolan (Duke Energy) to NRC Document Control Desk, dated October 28, 2010, "Habitability Systems."

3) NFPA Standard 704, Standard System for the Identification of the Hazards of Materials for Emergency Response.

4) American Coating Associations, HMIS III - Hazardous Materials Identification System.

Associated Revision to the Lee Nuclear Station Final Safety Analysis Report:

None

Attachment:

None