UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 - 0001

October 2, 2009

MEMORANDUM TO: ACRS Members

FROM: Christopher L. Brown, Senior Staff Engineer ***/RA/***
Reactor Safety Branch A, ACRS

SUBJECT: CERTIFICATION OF THE MINUTES OF THE ACRS ESBWR SUBCOMMITTEE MEETING ON THE NORTH ANNA COLA, AUGUST 21, 2009,– ROCKVILLE, MARYLAND

The minutes of the subject meeting were certified on September 24, 2009 as the official record of the proceedings of that meeting. A copy of the certified minutes is attached.

Attachment: As stated

cc w/o Attachment: E. Hackett
C. Santos
K. Weaver

UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 - 0001

October 2, 2009

MEMORANDUM TO: Christopher L. Brown, Senior Staff Engineer
Reactor Safety Branch A, ACRS

FROM: Michael Corradini, Chairman
ESBWR Subcommittee

SUBJECT: CERTIFICATION OF MINUTES OF THE ACRS ESBWR SUBCOMMITTEE MEETING ON THE NORTH ANNA COLA, AUGUST 21, 2009 – ROCKVILLE, MARYLAND

I hereby certify, to the best of my knowledge and belief, that the minutes of the subject meeting on August 21, 2009, are an accurate record of the proceedings for that meeting.

/RA/ 9/24/2009

Michael Corradini, Date
ESBWR Subcommittee Chairman

Certified: Michael Corradini
Certified: September 24, 2009

Issued: October 2, 2009

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
MINUTES OF ACRS ESBWR SUBCOMMITTEE MEETING ON THE NORTH ANNA COLA
AUGUST 21, 2009
ROCKVILLE, MARYLAND

The ACRS Economic Simplified Boiling Water Reactor (ESBWR) Subcommittee held a meeting on August 21, 2009, in the Commissioner's Hearing Room, 11545 Rockville Pike, Rockville, MD. The purpose of this meeting was to review selected Chapters of the draft safety evaluation report associated with the North Anna reference combined license application referencing the ESBWR design. Christopher Brown was the designated Federal Official for this meeting. The Subcommittee received no written statements or requests for time to make oral statements from the public. The Subcommittee Chairman convened the meeting on August 21, 2009 at 8:30 a.m. and adjourned at 4.10 p.m.

ATTENDEES:

ACRS Members
M. Corradini, Chairman
J. Stetkar
T. Kress, Consultant
G. Wallis, Consultant

ACRS Staff
Christopher Brown, Designated Federal Official
Kathy Weaver, ACRS staff

NRC Staff
A. Cubbage, NRO
Joe Ashcroft, NRO
Joe Sebrosky, NRO
Jeffrey Cruz, NRO
Ian Jung, NRO
Mike Jung, NRO
Manny Comar, NRO
David Terao, NRO
Charlie Ader, NRO
Paul Pieringer, NRO
Eileen McKena, NRO
Edward Fuller, NRO
James Gilmer, NRO
Gary Hammer, NRO
Laura Dudes, NRO
George Thomas , NRR
Michelle Hart, NRO
Raj Goel, NRO
Michael Junge, NRO
Ilka Berrios, NRO

General Electric-Hitachi (GEH) and Dominion Staff
Frostie White, GEH
Patricia Campbell, GEH
Eugene Grehcheck, Dominion
Gina Borsh, Dominion
R. Wachowiack, GEH
Tom Hicks, Dominion
Joe Hegner, Dominion
Rick Kington, Dominion

Other members of the public attended this meeting. A complete list of attendees is in the ACRS Office File and is available upon request. The presentation slides and handouts used during the meeting are attached to the official copy of the meeting transcript.

Opening Remarks and Objectives:

Dr. Michael L. Corradini, Chairman of the ACRS ESBWR Subcommittee, convened the meeting at 8:30 a.m. The purpose of the meeting was to review and discuss the safety evaluation report for Chapters 2, 3, and 14 for the North Anna Combined Operating License (COL). The presenters included representatives from the NRC's Office of New Reactors (NRO) and GE Hitachi (GEH) and Dominion (the applicant).

Mr. Thomas Kevern, Lead Project Manager for North Anna COL application, gave a few opening remarks. He indicated that the staff reviewed the FSAR and checked the referenced DCD to ensure that the combination of the DCD and the information in the COL application represent the complete scope of information relating to the review topic. The review confirmed that the information contained in the application and incorporated by reference addressed the relevant information needed by the staff to complete their review and evaluation.

Dominion's Presentation of COL Chapter 3:

Ms. Gina Borsh discussed the content of Chapter three. She stated that Chapter three describes the design of structures, components, and systems. Dominion found it necessary to add information to Chapter three that discuss classification of structures, missile protection, seismic design, mechanical systems, seismic qualification of mechanical and electric equipment, and EQ of mechanical and electrical equipment. Ms. Borsh mentioned that Unit three does not include a Zinc Injection System, but does include a Hydrogen Water Chemistry System (HWCS). Dominion found it also necessary to add site specific missile information and an aircraft hazard analysis to their application. Additionally, information was added to the application concerning site specific earthquake ground motion. She indicated that Dominion has committed to implement a site specific seismic monitoring program prior to receipt of fuel on site. Other information addressed by Dominion include the following: 1) A comprehensive vibration assessment program for reactor internals during pre-op and start-up testing, 2) Completion of an ASME stress report for the equipment segments that are subject to loadings that could result in thermal or dynamic fatigue, and 3) A full description of snubber preservice and inservice examination and testing programs. Most of the supplemental information on mechanical systems has been provided in the application. Systems that require further analysis will be completed within six months of completing the associated ITAAC.

Ms. Borsh also discussed seismic and dynamic qualification of mechanical and electrical equipment. She stated that Dominion has provided a schedule for seismic and dynamic qualification of mechanical and electrical equipment. In addition, there is a schedule for completing dynamic qualification report. Seismic soil-structure interaction and site-specific geotechnical data was briefly described. Mr. Borsh said that the data is compatible with site enveloping parameters considered in standard design. She mentioned that the open items are related to the following: 1) Editions of codes and standards for specific SSCs, 2) Identification of site-specific SSE and OBE, 3) FWSC site-specific SSI analysis, 4) Process for design and qualification of mechanical equipment including design and procurement specifications, 5) Implementation plan for equipment qualification, 6) Plant-specific EQ Document, and 7) Implementation of EQ Program.

NRC Staff's Presentation of COL Chapter 3:

The staff discussed their review and evaluation of the classification of structures, systems and components, missile protection, seismic design parameters and analysis, dynamic testing and analysis of components, environmental qualification of mechanical/electrical equipment, and the piping design review.

Yuken Wong indicated that the supplementary information confirmed that there is a hydrogen water chemistry system. Hence, no zinc injection system is needed. He also indicated that the supplementary information added by Dominion does not change the seismic classification and quality group classification in the DCD. Mr. Chakravorty described the seismic design parameters, such as, ground motion response spectra and time history. The result was that site specific design parameters for reactor building and fuel building and control building that fall within the range of parameters considered in the DCD and the corresponding foundation input response spectra are bounded by the CSDRS site certified design spectra. He also discussed two open items related to the site specific SSE and the backfill for the fire water storage complex. He stated that the applicant will perform a site specific SSI analysis for the fire water storage tank and storage complex to demonstrate its seismic adequacy.

Rao Tammara discussed the section on missile protection. He discussed the potential for explosion of two underground gasoline tanks. He also discussed a few scenarios, relating to human error, that the staff asked Dominion to evaluate. A courtesy copy of "ESBWR Steam Turbine Low Pressure Rotor Missile Generation Probability Analysis," was provided to ACRS per July 21-22 follow-up request.

P. Y. Chen covered the seismic and dynamic qualifications of mechanical and electrical equipment along with the section on piping design for components. He indicated that the location and distance of piping systems will be established as part of the completion of ITAAC and the actual design will be completed and reviewed as part of ITAAC after the COL is issued.

Tom Scarbrough discussed the dynamic testing and analysis of systems, structures and components. This section describes criteria, testing procedures, dynamic analyses employed to insure the structural and functional integrity of reactor internal systems, components and their supports. He indicated that additional information was added to the application concerning flow induced vibration testing of reactor internals. He also said that the application was revised to reference a topical report which related to steam dryers and other reactor internals and provided a schedule for the information on the vibration assessment program as called for in Regulatory Guide 1.20, which is the vibration assessment program for start-up testing. He discussed the questions posed to the applicant by the staff. Further, he discussed the structural integrity of pressure-retaining components, their supports, and core support structures. The information reviewed included: 1) Additional detail added to address snubber preservice examination and testing, 2) Additional detail and codes added to address snubber inservice examination and testing, and 3) Snubber support data is to be added to the FSAR once ITAAC are complete. He also mentioned that Dominion will need to correct the reference to an ITAAC table when preparing the requested plant-specific snubber information. Mr. Scarbrough discussed the section on functional design, qualification and in-service testing programs for pumps and valves and dynamic restraints. The ESBWR DCD requires use of ASME Standard QME-1-2007 that reflects lessons learned from plant operating experience for functional design and qualification of new valve qualification. Also, ESBWR DCD requires implementation of key aspects of QME-1-2007 for valves previously qualified, including comparative analysis between QME-1-2007 and previous qualification method. Mr. Scarbrough said that the NRC staff considers ESBWR functional design and qualification

methods that include lessons learned from plant operating experience to be acceptable for Unit 3 pending resolution of open and confirmatory items. NRC staff considers Unit 3 FSAR together with ESBWR DCD to provide full description of Unit 3 IST program consistent with SECY-05-0197 pending resolution of open and confirmatory items. NRC staff requested GEH and Dominion to make available documentation to demonstrate implementation of ESBWR DCD provisions for functional design, qualification, and IST programs in support of NAPS Unit 3 COL application. In July 2009, NRC staff performed an audit of GEH functional design and qualification process at Wilmington, NC, office. Mr. Scarbrough said that the staff is preparing a report on audit findings with any specific follow-up items. Mr. Scarbrough briefly mentioned that the applicant will provide a full description and milestone for program implementation of EQ program that includes completion of plant-specific EQ Document.

Dominion's Presentation of COL Chapter 2:

Ms. Borsh discussed site parameter versus site characteristic comparisons. Also, nearby industrial, transportation, and military facilities were discused. In addition, meteorology, hydrology, geology, seismology, and geotechnical engineering were discussed. She said that Dominion create Chapter two of the FSAR, by IBR DCD chapter two, and chapter two from the ESP safety analysis report which describes site characteristics.

She began the main portion of her presentation by discussing some of the variances. Dominion compared Unit 3 FSAR site characteristics and facility design values with the corresponding DCD ESP application values to determine if Unit 3 site characteristics fall within the DCD's site parameters. It was mentioned that Unit three's long-term dispersion estimates don not fall within the ESP values. Dominion requested approval to use the Unit 3 maximum long-term dispersion estimates provided in the FSAR for locations other than the exclusion area boundary. The variance results from the distances to several of the closest receptors have changed. Dominion believes that the variance is acceptable because all the estimated annual doses from normal gaseous effluent releases remain within the applicable NRC limits. Ms. Borsh also said that Dominion is requesting to use the maximum hydraulic conductivity value, which is higher than the corresponding ESP and SSAR value. Dominion believes that this variance is acceptable because even with the higher value and other conservative assumptions that have been made in the analysis, Dominion will still comply with the 10 CFR 20 limits for a postulated liquid release in the groundwater pathways. Ms. Borsh also discussed the use of a larger hydraulic gradient than what is specified in the ESP and SSAR. This difference resulted from additional groundwater data that was collected from the subsurface investigation for Unit 3. Dominion believes this variance is also acceptable because they comply with the 10 CFR 20 limits for postulated accidental release. Additionally, Dominion is requesting approval to use Unit 3 horizontal and vertical spectral acceleration values. In particular, the g values for the site specific safe shutdown earthquake at the top of competent rock rather than the corresponding ESP value. Ms. Borsh said that this variance is acceptable because the ESBWR certified seismic design response spectra; CSDRS, is used for design of the Unit 3 seismic category structures. She indicated that the variance is acceptable because the doses in Chapter 15 are within the NRC limits. Other statements made by Ms. Borsh include a comment that no hazardous industrial facilities have been added near the exclusionary boundary since the SSAR was submitted. Military flight paths were also discussed.

For hydrology, Ms. Borsh indicated that Dominion evaluated potential impacts of cooling tower operations and the ARCON96 Source/Receptor Inputs. Also, the emergency cooling water tower, the embankment for the water intake structure, circulating water system, hydraulic conductivity testing, and the water level in Lake Anna were discussed.

For geology, seismology, and geotechnical engineering, Ms. Borsh indicated that weathered or fractured rock at the foundation level for safety-related structures will be excavated and replaced with lean concrete before foundation construction. She also told the Subcommittee that Borehole data showed no evidence of Quaternary fault movement. Additionally, it was said that the chances of liquefaction occurring in the Zone IIA saprolite are extremely low. Finally, she said that the existing service water reservoir slope of the FWSC remain stable under long-term static and design seismic conditions.

NRC Staff's Presentation of COL Chapter 2:

Rao Tammara presented that staff's review of Sections 2.1 and 2.2. The key review areas discussed were site location and description, exclusion area authority, population distribution, and nearby industrial, transportation, and military Facilities. He indicated that staff's review and evaluations concluded that the information provided was sufficient to satisfy regulatory requirements. Kevin Quinlan presented Section 2.3. Regional climatology and local meteorology were discussed. He stated that the staff was able to confirm all of the applicants' site characteristics and that the site characteristics were within the bounds of the DCD. Staff also discussed different kinds of flooding at the site. Large-scale flooding resulting from a watershed-scale event and localized flooding from locally-intense precipitation were discussed. It was mentioned that Dominion conducted modeling using HEC-RAS to address these items and that the results were reviewed by the staff. During the technical evaluation, the staff reviewed the Dominion's HEC-RAS modeling of runoff and conducted a sensitivity analysis of the HEC-RAS model. For conservatism, all the culverts along the ditches were assumed blocked. The staff evaluated the potential for debris blockage of ditches and the effect of channel overflow on flow at the abrupt bend where the ditch goes to the northwest. Mr. McBride of the staff discussed ice effects. He said that ice effects and the capabilities of cooling water canals and reservoirs along with the risk of channel diversions are not significant safety issues. For ice effects, staff concluded that the identified site characteristics meet the requirements of 10 CFR 52.79 and 10 CFR 100.20(c) with respect to determining the acceptability of the site for the ESBWR design. An open item pertaining to groundwater was discussed by the staff. The underlying concern is that the DCD requires that groundwater must be more than two feet below plant grade. Another open item discussed by the staff was concerning accidental releases of radioactive liquid effluents. Dominion stated that their transport analysis is a bounding analysis. Staff wants to verify that this is the case. Dr. Weijun Wang discussed vibratory motion. He explained the staff's evaluation by showing a graph comparing horizontal ground motion response spectra interms of spectra acceleration and frequency. The staff's stability of slopes confirmatory analysis was also explained. In particular, the effect of changing horizontal seismic force on factor of safety. Staff concluded their presentation by saying that Dominion addressed all COL and ESP COL items, as well as ESP permit conditions. In addition, all ESP variances proposed by Dominion were acceptable to the staff.

Dominion's Presentation of COL Chapter 14:

Ms. Borsh presented Chapter 14 on the initial test program. She indicated that Dominion added information that covered the initial test program for FSARs, ITAAC, and DAC closure. A description of the initial test program administration was added as an appendix to this chapter. She said that Dominion committed to making the start-up administrative manual available to the NRC for review at least 60 days prior to the scheduled start date of the pre-operational test program. She indicated that Dominion defined the preoperational tests for Station Water System and CIRC cooling towers and defined initial startup test for CIRC cooling tower performance.

NRC Staff's Presentation of COL Chapter 14:

Mr. Kevern and Mr. Mike Morgan indicated that the staff determined if proposed testing provided adequate coverage, in accordance with Regulatory Guide 1.68, Section C.1, "Criteria for Selection of Plant Features to Be Tested". In addition, they said that the staff confirmed the applicant addressed required information related to elements of the proposed initial test program. Based on review of the applicant's implementation of the selection methodology and criteria for the development of ITAAC, which was incorporated by reference from Section 14.3 of the ESBWR DCD, the staff concluded that the top-level design features and performance characteristics of the SSCs are appropriately included in the proposed ITAAC. The staff also concluded that the design features and performance characteristics of the SSCs can be verified adequately by the proposed ITAAC; therefore, the staff concludes that the ITAAC proposed by the COL applicant for the facility meet the regulatory requirements.

Subcommittee Comments

Chairman Corradini asked the staff to clarify the slope stability analysis and identify frequency of 0.3g seismic event. In response, the staff provided a written explanation as follows: There are two slopes at the North Anna site for which the applicant performed slope stability analysis. For both, the applicant calculated factors of safety (FS) for long-term static stability greater than 2.0. For seismic slope stability, the lowest of the two had an FS of 1.24 (the other was 1.63), calculated by the applicant using pseudo-static analysis under high frequency seismic loading using Bishop's method. After extensive confirmatory analysis and questioning of the applicant, NRC staff determined the slopes were safe based on several factors:

1) The applicant included very conservative assumptions for both soil strength properties and seismic loading. These two parameters were confirmed by NRC staff to be the most sensitive for these slope stability analyses through a set of sensitivity analyses performed by NRC.

For seismic loading specifically, the applicant calculated the FS value of 1.24 mentioned above by using 0.25g, which is half of the peak ground acceleration (pga). This is conservative because the peak ground acceleration occurs only briefly, so the ground motion necessary to drive the slope into failure is generally considered to be a value of 0.15g, based on extensive studies that evaluated dams in California subjected to seismic shaking (Seed, 1979). The applicant also presented analysis results at 0.15g which showed substantially more margin (FS=1.47 for the slope with the lowest margin). A FS>1.1 is considered to be acceptable for slope stability.

2) Because there are other methods available besides Bishop's, the staff also conducted its own confirmatory analysis to evaluate the effect of using different methods. The staff compared 6 different methods and obtained FS results that varied by only about 7 percent, confirming that the method used is less critical than defining the input parameters discussed above.

The staff's results ranged from 1.13 to 1.026 for the 6 methods, with 1.13 corresponding to the applicant's result of 1.24 for the lowest margin slope using Bishop's method. The difference in the results for Bishop's method are due to the staff's use of geometries approximated from FSAR figures vs. more detailed measurements the applicant used.

Although lower values were obtained using alternate methods, some below an FS of 1.1, all of these confirmatory analyses used the same very conservative values for soil strength and peak

acceleration (0.25g) that the applicant used. Use of more reasonable values for these parameters would raise the FS for all methods well above 1.1, as discussed under #1, above.

3) An important consideration in determining the likelihood of slope failure is to examine the probabilities of the above accelerations for the North Anna site. The North Anna site is a rock site and therefore the ground motions from the dominant earthquakes (M=5.4 at 20 km and M=7.2 at 308 km) are large for the high frequencies above 10 Hz. Because these higher frequency ground motions will not cause slope failure, the staff looked at the low frequency ground motion of 2.5 Hz to determine the probabilities of the above accelerations. A ground motion of 0.15g acceleration at 2.5Hz has a return period of 16,700 years while the more conservative 0.25g acceleration used in the applicant's analyses has a return period of 50,000 years. Furthermore, the staff's slope stability sensitivity analysis showed that it would take a horizontal acceleration of 0.3g or higher to reach a factor of safety less than one. The return period for 0.3g at 2.5 Hz is about 70,000 years, which corresponds to an annual frequency of exceedance of 1.4 x 10-5 per year. Generally the site specific GMRS (Ground Motion Response Spectra) for COL and ESP sites lies between 10-4 and 10-5 per year. As such, an acceleration of 0.3g at 2.5 Hz can be considered a very rare event for the North Anna site.

4) The staff also considered the safety significance of the slope with the lowest FS (1.24 as calculated by the applicant). This slope is a soil slope near the plant without any water source behind it. The slope is about 37 ft high with a 2.4 (Horizontal):1(Vertical) surface slope, and the horizontal distance from the top of the slope to the NI foundation wall is about 135 ft. The possible failure zone of the slope is only within the surface soil layer, and little (if any) soil will reach the NI foundation wall, because of the substantial distance between the two, should the slope fail under earthquake conditions. Therefore, damage to the foundation would not be expected.

Members asked for clarification of staff's aircraft crash hazards analysis. In response, the staff submitted a written response as follows: In the North Anna Early Site Permit (ESP) application Site Safety Analysis Report Section 2.2.3.2, the applicant determined the aircraft hazard probability for airways by using the formula:

$$P=C \times N \times A/W$$

Where

P= Probability of aircraft hazard, per year
C= Aircraft crash rate, crashes per mile of flight
N= Total number of flights travelled through the airway, flights/year
A= Effective area of the plant
W= Width of airway (plus twice the distance from airway edge to the site when site is outside airway)

From the civilian airway V223, the applicant used the civilian air carrier crash rate of 4×10^{-10} per mile; total number of flights to be 73000 per year; effective area of plant of 0.013 square miles; and width of 11 miles. The crash rate value is taken from the NUREG-0800, Section 3.5.1.6, “Aircraft Hazards,” which references a “Testimony on Aircraft Operations in Response to Question from the Board” (Docket Nos. 50-275 and 50-323).

For the military routes, the applicant used a military aircraft crash rate of 0.2×10^{-8} per mile (from North Anna Power Station FSAR, Revision 38); total number of military flights of 6000 per year; effective area of plant of 0.013 square miles; and width of 10 miles.

The staff reviewed the applicant's aircraft hazard analysis based on the acceptance criteria provided in NUREG-0800, Section 3.5.1.6, and considered the information contained in the Department of Energy (DOE) document "Accident Analysis of Aircraft into Hazardous Facilities," DOE-STD-3014-96, October 1996. The DOE site-specific values for the product of the number of flights, N; crash rate, P; and crash location probability, f (NPf) are summarized in Table B-15 of the DOE document.

The staff independently calculated the aircraft hazard probability from the airways using the DOE provided values, and confirmed that it meets the acceptable criterion of 1×10^{-6} per year. Therefore, the staff concluded that the applicant used values that are reasonable such that the resulting probability of aircraft hazards is acceptable.

More recently, the staff looked into the information provided in "Data Development Technical Support Document for the Aircraft Crash Risk Analysis Methodology (ACRAM) Standard," Chris Y. Kimura, et al., UCRL-ID-124837, August 1, 1996. Based on information presented in Table 2.7 of this document, an enroute civilian aircraft crash rate of 6.574×10^{-10} per mile is provided and is comparable to the value of 4×10^{-10} per mile used by the staff for the aircraft hazard probability calculation. From Table 4.5 of this document, the crashes per mile for military aircraft are 6.22×10^{-9} for large aircrafts, 2.45×10^{-8} for small aircrafts, and 1.86×10^{-8} for both large and small aircrafts.

The large military aircraft crash rate of 6.22×10^{-9} per mile is comparable to the North Anna Unit 3 military airways aircraft hazard probability of 0.2×10^{-8} (2×10^{-9}) per mile.

Conservatively considering the higher crash rates of 6.574×10^{-10} per mile for civilian aircraft and 2.48×10^{-8} per mile for small military aircraft type, the total aircraft probability hazard from airways for North Anna Unit 3 has been calculated to be within the acceptable limit of 1×10^{-6} per year.

Member Stetkar wanted clarification on site's offsite power interface with the transmission network. In response, the staff submitted a written response as follows: North Anna FSAR Figure 8.2-201, 500/230 kV Switchyard Single-Line Diagram, page 8-11, provides a one-line diagram that includes identification of the interfaces between the transmission network and the switchyard and between the switchyard and the onsite power system.

As identified on the left side of Figure 8.2-201, the interfaces with the transmission network are the disconnect switches, located in the 230/500KV switchyards, with the Ladysmith (230KV), Ladysmith (500KV), Gordonsville, Morrisville, and Midlothan lines.

As identified on the lower right side of Figure 8.2-201, the offsite portion of the preferred power supply (PPS) interfaces with the onsite portion of the PPS at the high voltage side of the Unit Auxiliary Transformers (UATs) and Reserve Auxiliary Transformers (RAT).

Members asked about the Turbine Missile Probability Analysis. To satisfy a COL information item (*10.2-2-A Turbine Missile Probability Analysis*), GEH recently submitted for staff review "ESBWR Steam Turbine – Low Pressure Rotor Missile Generation Probability Analysis" ST-56834/P, Revision 1. The staff, as requested, provided the subcommittee a courtesy copy of this report. The staff has initiated a technical review of this report as part of the North Anna R-COLA review and RAIs may result. The review is scheduled for completion in 1QCY10. It is

requested that the staff, and applicant as necessary, address ACRS comments/questions following completion of the staff's review.

Members asked about the absence of dewatering system (Sections 2.4 and 2.5) and 2) ice/snow roof loading (Section 2.3). Mr. Kevern indicated that these are considered DC issues and are being addressed.

SUBCOMMITTEE DECISIONS AND ACTIONS:

Following the Dominion, GEH and staff presentations and discussions, Chairman Corradini asked if anyone had any further questions, thanked everyone for their presentations, and then adjourned the meeting at 3:10 pm.

****

Note: Additional details of this meeting can be obtained from a transcript of this meeting available for downloading or viewing on the Internet at http://www.nrc.gov/reading-rm/doc-collections/acrs/tr/subcommittee/2007/ or purchase from Neal R. Gross and Co., Inc., (Court Reporters and Transcribers) 1323 Rhode Island Avenue, NW, Washington, DC 20005 (202) 234-4433.