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U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

ATTENTION: Document Control Desk

SUBJECT: Duke Energy Corporation  
Oconee Nuclear Station Units 1, 2 and 3  
Docket Nos: 50-269, 270 and 287  
Tornado and High Energy Line Break Events Outside  
Containment - Supplemental Information

Duke Energy Corporation (Duke) met with members of Nuclear Regulatory Commission (NRC) Staff on February 7, 2007 to discuss Tornado and High Energy Line Break (HELB) project plans for Oconee Nuclear Site (ONS). This presentation focused on information provided in a January 31, 2006, Duke Letter which communicated plans to address Tornado and HELB issues through a series of proposed plant modifications and licensing basis revisions.

During the meeting, Duke agreed to provide further information to address questions from members of NRC Staff which could not be fully addressed at the time. In addition, Duke indicated in the January 31, 2006 letter that adoption of draft regulatory guide (DG)-1143 was under evaluation and that a final decision would be reached and communicated to the NRC.

As requested by the Staff, Duke has completed its evaluation of DG-1143 and is also providing additional information on the project schedule that the Staff may find beneficial. Attachment 1 contains a table depicting a comparative analysis of tornado design basis parameters used in the current Oconee Updated Final Safety Analysis (UFSAR) to those proposed in DG-1143. From this information, Duke concludes that there is no substantial benefit to adopting the criteria of DG-1143 into the current licensing basis and as such, will continue to use the Standby Shutdown Facility and Class 1 tornado criterion where appropriate.

Also as requested, Attachment 2 provides a representative example of one of the major modifications proposed at the

AD001

Oconee Nuclear Site over the next few years as part of the Natural Phenomena Upgrade Project. In this instance, the project planning schedule shown is for the Borated Water Storage Tank (BWST) protection modification. Following the project schedule chart, a list of activity descriptions showing each of the necessary subactivities which comprise the activity is provided. Similar project schedules have been completed for each of the modifications proposed in the January 31, 2006 submittal and are available to the Staff if so desired. As can be seen from this information, careful planning and rollout of the activities are necessary to ensure plant personnel safety while minimizing adverse impacts to safe plant operation. The schedule also includes color-coded areas depicting both upcoming refueling outages, e.g., U1EOC23 means unit 1 end-of-cycle 23, and the historic tornado season, March through July.

Additionally, from the February 7, 2006 meeting, Duke agreed to provide details of those tornado mitigation structures, systems, or components that would be addressed deterministically and those that would be addressed using a risk based solution, i.e., TORMIS. Duke further agreed to detail future-state mitigation strategies for both Tornado and HELB events, once all proposed modifications and licensing basis changes are implemented. These two items will be addressed in a separate letter which is being prepared at this time. The information to be contained in this separate letter is intended to also address the request put forth in your letter of February 28, 2006. Specifically, discuss protection of SSC's supporting equipment and address plans and strategies to achieve cold shutdown.

If you have any questions or comments regarding this letter, please contact Graham Davenport of the Oconee Nuclear Site Regulatory Compliance Group at 864-885-3044.

Sincerely,



Bruce H. Hamilton, Vice President  
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Attachments

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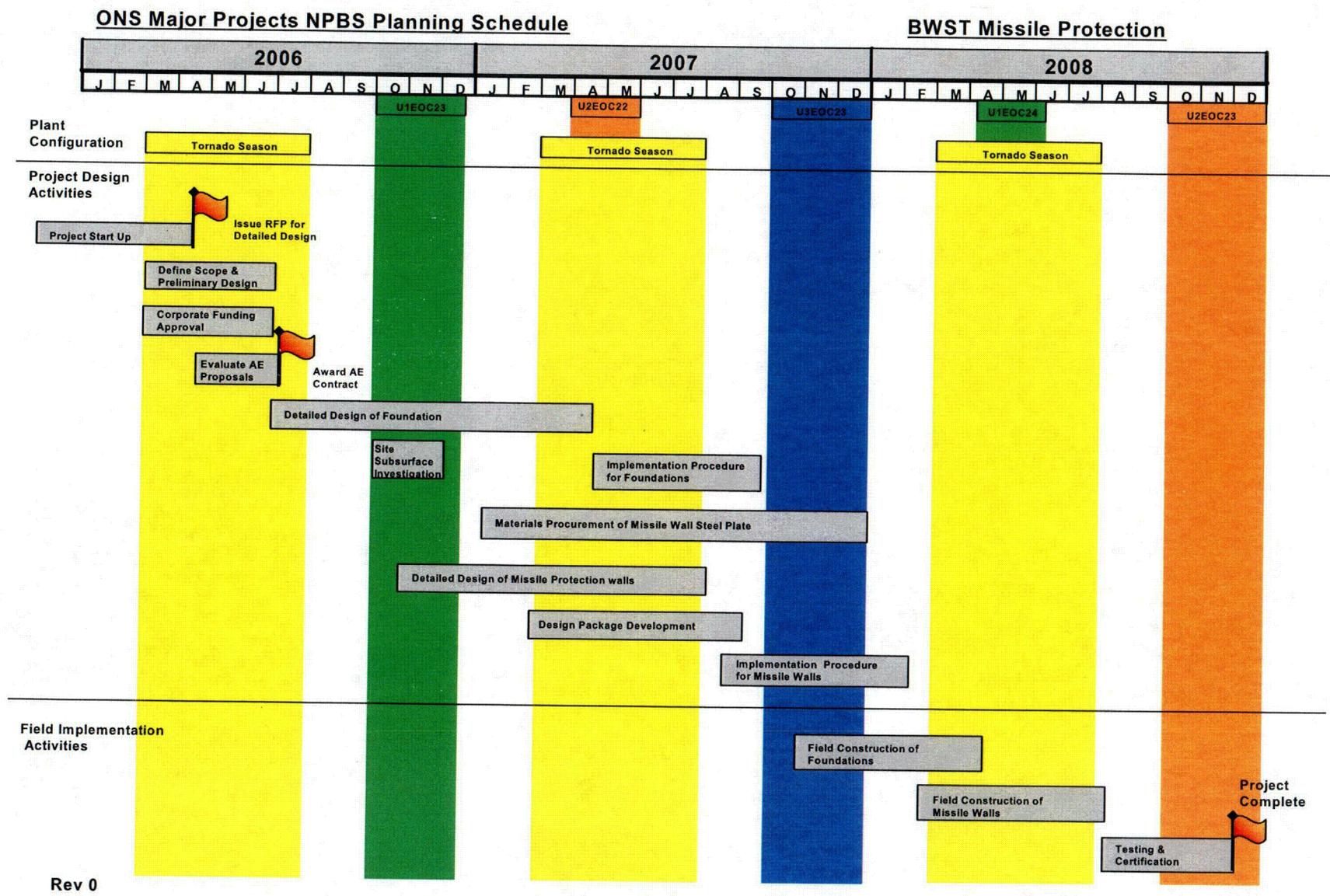
Attachment 1

Evaluation of DG-1143 for the Oconee Nuclear Site

Criteria/Parameter	ONS UFSAR Class I	DG-1143
Wind Speed (mph)	300	300
Differential Pressure (psid)	3	2
Rate of Pressure Change (psi/sec)	0.6	1.2
Missiles		
Wood Pole (Description)	8-in [D], 12-ft [L]	n/a
Weight (lbs)	200	
Area (in <sup>2</sup> )	50	
Horiz Vel (fps)	368	
Vert Vel (fps)	368	
Steel Pipe 1 (Description)	n/a	6.625-in [D], 15-ft [L], Schedule 40
Weight (lbs)		287
Area (in <sup>2</sup> )		Not Specified
Horiz Vel (fps)		155
Vert Vel (fps)		104
Steel Sphere (Description)	n/a	1-in [D] solid sphere
Weight (lbs)		0.147
Area (in <sup>2</sup> )		Not Specified
Horiz Vel (fps)		134
Vert Vel (fps)		90
Automobile	-	-
Weight (lbs)	2000	4000
Area (ft <sup>2</sup> )	20	Unclear
Horiz Vel (fps)	147	170
Vert Vel (fps)	147	114
Height (ft)	25	Not Specified

Attachment 2

BWST Missile Protection Project Planning Schedule



Rev 0

C01

**BWST Missile Protection Upgrade Project**  
**Description of Activities and Subactivities**

**Project Startup**

- Develop initial staffing plan
- Develop initial facilities plan (additional facilities to be added)
- Develop initial cost estimates
- Submit and process interim funding authorization
- Assign initial core team and develop organizational structure
- Identify and develop contacts with potential vendors

**Define Scope and Preliminary Design**

- Evaluate options from feasibility study
- Resolve technical issues with NRC
- Finalize Scope
- Develop detailed cost estimate
- Develop detailed procurement specifications
- Develop project plan
- Issue Request for Proposal (RFP) for detailed design

**Corporate Funding Approval**

- Develop funding package
- Site funding package review and approval
- Duke Nuclear Generation Department funding package review and approval
- Corporate governance and risk department review and approval
- Board of Directors presentation and approval

**Evaluate Architect Engineer (AE) Proposals**

- Receive proposals
- Perform technical evaluation
- Perform commercial evaluation
- Resolve issues and negotiate technical and commercial terms
- Award contract

**Detailed Design (performed by AE) Foundation and Missile Protection Wall**

- Detailed design contractor oversight with 20% and 60% reviews by Oconee Major Projects (OMP) Group
- AE performs full scope engineering and design under their Quality Assurance Program:
  - Calculations
  - Geotechnical investigation specification
  - Foundation and minipile specification
  - Drawings
  - Interface with and fabricator suppliers
  - Review/approve supplier documents

**Site Subsurface Investigation**

- Issue RFP
- Issue Purchase Order (PO)
- Site Field Work
- Laboratory Work
- Geotechnical/Engineer/Geologist Review

**Design Package Development (Performed by OMP)**

- Develops Design Change Package and helps facilitate required on site reviews
- Performs 10 CFR 50.59
- Reviews and approves all final contractor design documents
- Assigns Duke drawing numbers and transmit documents to Document Control
- Provide technical interface with AE
- Supports material procurement activities with Duke's Nuclear Supply Chain (NSC) Department
- Supports licensing document changes
- Identifies and revises existing Duke drawings as required

**Materials Procurement**

- Identify material needs from preliminary design
- Verify concrete supplier qualification
- Identify Long Lead Time Items
- Establish Delivery Schedule
- Issue RFP/PO for concrete
- Issue RFP/PO for Minipile Construction
- Issue RFP/PO for Wall Fabrication
- Issue RFP/PO for Wall Erection

- For non stock items
  - Develop procurement specification
  - Issue Request for Quote (RFQ)
  - Evaluate RFQ responses (both technically and commercially)
  - Issue PO
- For stock items
  - Develop material requests
  - Ensure material reserved or ordered if necessary

#### **Implementation Procedure Development**

- Develop project specific implementation instructions
- Implementation instructions are verified and validated by craft prior to approval
- Approve Implementation Instructions
- Work Order Development and approval
- Identify post mod testing requirements and develop any required testing procedures.

#### **Field Implementation**

- Obtain and train craft crews (normally prior to start of field implementation)
- Prepare foundation
- Install Minipiles
- Pull testing of Minipiles
- Install steel wall

#### **Testing & Certification**

- Review & assemble records
- Turnover to Operational Control Group
- Closeout project