

**UTILITY RADIOLOGICAL SAFETY BOARD OF OHIO  
MEETING MINUTES  
JANUARY 8, 2007**

Chair Nancy Dragani called to order the January 8, 2007 meeting of the Utility Radiological Safety Board of Ohio at 1:30 p.m.

The first order of business was roll call, taken by Ramona Hauenstein.

**I. ROLL CALL**

EMERGENCY MANAGEMENT AGENCY	MS. NANCY DRAGANI
DEPARTMENT OF HEALTH	MR. ROBERT OWEN
DEPARTMENT OF AGRICULTURE	MR. ANTHONY MITCHELL
PUBLIC UTILITIES COMMISSION	MR. SHAWN SMITH
ENVIRONMENTAL PROTECTION AGENCY	MS. CINDY HAFNER
DEPARTMENT OF COMMERCE	MR. DEAN JAGGER

A quorum was declared.

**II. READING OF THE OCTOBER 10, 2007 MINUTES (ADOPTED)**

The Board dispensed with reading of the October 10, 2006 minutes. Ms. Dragani asked for any additions, corrections or deletions to the minutes. Ms. Dragani asked for a motion to approve the minutes. Mr. Shawn Smith of the Public Utilities Commission (PUCO) moved to adopt the minutes and Mr. Anthony Mitchell of the Department of Agriculture (ODA) seconded. The motion was carried.

**III. OLD BUSINESS**

1. Working Group Initiatives. The Working Group Initiatives were reviewed. Carol O'Claire of Ohio Emergency Management Agency (EMA) began with those initiatives that Ohio Emergency Management has the lead. The Davis-Besse Nuclear Power Station (NPS) Full Exercise will be held May 15<sup>th</sup>, 2007 with a dry run scheduled for April 17<sup>th</sup>. A 100 Day meeting was held January 4. A partial participation exercise of the Perry Nuclear Power Plant was conducted on October 24, 2006. ODH Lab demonstration was conducted on October 23 with one ARCA. The matrix for the Reactor Oversight Program (ROP) was reviewed. A copy is enclosed in the packet for review by members at a later time.

B. Midwestern Radioactive Material Transportation Committee Report

**Committee Meeting**

The committee met in Carlsbad, New Mexico on November 14-16, 2006. The meeting began with a dinner orientation for state legislators and new committee members. An overview of the purpose of the committee and ongoing activities was presented. Key

issues addressed are reported separately below. A tour of the DOE WIPP facility was provided later in the week for attendees, as well as a tour of the TRANSCOM facility. The purpose was to acclimate legislators to an ongoing DOE disposal facility. A tour for legislators at the Yucca Mountain proposed repository was conducted last year.

### **Committee Work Groups**

The committee has several work groups participating with DOE on several key issues. Updates were provided on routing; Section 180(c) funding, rail transportation planning, transportation security information, and the transportation practices manual review.

Routing: There has been little activity on routing. The CSG has four participants on the new DOE topic group, which has not had a conference call as yet.

Section 180(c) Funding: DOE has not yet published its draft policy and procedures in the Federal Register. There has been no activity by this work group. A letter is being considered by the committee to DOE pushing for publication of the draft policy and procedures, since the states worked alongside DOE in the development of these drafts.

Rail Transportation Planning: A rail inspection checklist was presented and discussed. Further work needs to be done on this document.

Transportation Security Information: The next step on interacting with the NRC in states obtaining security on information on cask vulnerabilities is for the ad hoc group to meet. The Midwestern committee has two representatives in this group.

Transportation Practices Manual Review: The work group has concluded its effort in commenting on the document to DOE. All revisions have been made and the document is undergoing internal review within DOE.

### **Interim Storage of Waste**

It was reported at the last meeting that a proposed amendment to add Section 313 to the federal FY07 Energy and Water Development appropriations bill (H.R. 5427) would divert money from the Nuclear Waste Fund to pay for the development of "consolidation and preparation facilities" in as many as 31 states that have nuclear power plants. It remains the concern of many states and organizations that establishment of these interim storage facilities would divert funds from the development of the central repository for spent nuclear fuel and high level radioactive waste and disallow governors the opportunity to participate in the decision-making process.

There have been additional actions taken by states. The State of Connecticut sent an e-mail to republican governors urging co-signing a joint letter opposing the bill. The State of New Jersey sent a similar e-mail to democratic governors. Governor Taft declined to participate.

### **Bill Overriding State Transportation Regulations**

The Conference of Radiation Control Program Directors has also passed a resolution that supports continued cooperation between the states and DOE on the safe transportation of spent nuclear fuel and high-level radioactive waste. The conference cites this as being a shared responsibility between both. States must ensure the safety of its citizens, thus the reason for state requirements and inspections. Accordingly, the conference supports continued regulation by both states and the federal government in a cooperative manner. Any attempt to undermine this would erode public confidence in the safe shipment of SNF and HLRW.

### **Yucca Mountain Update**

According to the DOE Office of Civilian Radioactive Waste (OCRWM), the best achievable schedule for operation as a high-level waste repository is March 2017. State of Nevada opposition, litigation, inconsistent and insufficient funding, licensing delays, and Nevada rail line delays were cited as obstacles. A national suite of routes should be developed by December 2007. Legislative proposals underway should assist in moving this forward. In conclusion, OCRWM believes that developing a comprehensive national spent fuel transportation plan and a collaborative process with stakeholders will be integral to implementing a transportation system that is safe and secure and merits public confidence.

## III. NEW BUSINESS

### A. URSB Resolution 07-01, Comments on "Release in Progress Position"

Due to the change in the office of Governor, the vote on this resolution was tabled until the April meeting. However, Mr. Vernon Higaki reviewed "NORM-LP-5002" to give the Board a background. NORM-LP-5002 is FirstEnergy's effort to give consistency between the three plants on what constitutes a release. The Working Group has reviewed this and made recommendations for changes, which FENOC has made. This language will eventually be on the protective action recommendation forms.

### B. Nuclear Regulatory Commission – Roland Lickus, representative for the NRC, presented his report.

In regards to Davis-Besse, the NRC continues to perform baseline inspections. Performance levels indicate that there is a level of performance requiring no additional oversight. Davis-Besse has requested that the NRC terminate their requirement for additional audits for five (5) years in the Operations area. This request is still under review pending receipt of additional information from Davis-Besse.

The NRC held a public exit meeting on December 13, 2006 in the Perry area to review their recent findings during inspections of the Perry Nuclear Power Plant

in the area of Human Performance, Corrective Action and Maintenance Procedures adequacy. The results that all areas inspected were found to be adequate with only 2 findings of very low safety significance.

As a result, all follow-up inspections for areas for improvement have been completed by the NRC. There are no additional inspections beyond baseline inspections scheduled. FirstEnergy has sent a letter requesting closure of the open "White" findings, closure of the cross-cutting issues and transition from Column 4 of the Reactor Oversight Program to a level commensurate with current performance. As a result, the NRC has scheduled a meeting on January 10 at the NRC Regional Office in Lisle, IL. The NRC will evaluate Perry's overall performance in February and the results will be communicated to them in March.

The NRC Region III has decided to participate in the Davis-Besse exercise in May and will send a representative to the state emergency operations center if requested. They have offered to perform outreach meetings for those exercises in which they participate.

The NRC is beginning an Emergency Response Data System (ERDS) Modernization Project. Ohio has ERDS. The First phase will be Release 1. It will be deployed and operational at NRC Headquarters, NRC region, Technical Training Center and the ERDS Backup Center and all state EOC's before January 31, 2008. Phase 2 requires a plant communications network to be installed within the next three (3) years. The web address to address issues or items to be included is: [www.erds@nrc.gov](http://www.erds@nrc.gov).

- C. Utility Reports: Mr. Higaki reported for the three nuclear power plants of FirstEnergy

### **Beaver Valley Power Station**

- a. Unit 2 Refueling Outage
  1. During this fall's outage (October 2 through November 12, 2006), Beaver Valley became one of the first U.S. nuclear plants to safely and effectively implement Alloy 690 weld overlays to Unit 2's Pressurizer nozzles.
  2. Besides refueling, other projects safely completed included:
    - replacement of two rows of blades on the #1 Low Pressure Turbine,
    - a. Increasing the Containment Sump strainer surface area,
    - b. Modifying Condenser tubes to support increased steam flow,
    - c. Replacing more than one-third of cooling tower fill material,
    - d. Converting the Containment structure to an atmospheric environment,
    - e. Installing a new emergency diesel generator voltage regulator,
    - f. Installing two replacement uninterruptible power supply units,
  3. Completed improvements cleared the way for a three percent power uprate.

4. No Nuclear Safety or Human Performance issues occurred during the outage. There were NO FENOC OSHA recordable injuries and two OSHA recordable injuries of contractor personnel. The plant staff met the radiation dose goals for the 41 day outage. The outage was extended past the original target of 25 days to 41 days due to emergent work.

b. Technical Specification Violation, October 1, 2006

On October 1, 2006 it was discovered that two(2) of the three(3) Main Steam Isolation Valves (MSIVs), used to isolate steam flow from the Steam Generators in the event of a steam break accident, were potentially made inoperable due to the location of scaffolding being built in the area. Technical Specifications does not allow more than one (1) valve to be inoperable. Preparations were made to begin the plant shutdown; at the same time, direction was given to remove the scaffolding that would interfere with the operation of the MSIVs. Forty-one (41) minutes after the report, scaffolding was removed from the area surrounding one of the MSIVs and that valve was declared operable. A plant shutdown was still required but given a longer time to shutdown with one valve inoperable,

One (1) hour and ten (10) minutes after the initial report, scaffolding was removed from the area surrounding the second MSIV and that valve was declared operable. This allowed the continued operation of the plant. NRC was notified in accordance with regulations on October 1, 2006 at 15:24.

c. Unit 2 reduction in power November 17, 2006

Following plant startup, Beaver Valley Unit 2 (BV-2) experienced a Feedwater (FW) Heater level transient that resulted in isolation of the train. In the process of restoring from the transient to a more consequential event occurred reducing feedwater temperature from 433 to 262 degrees. The colder feedwater caused reactor power to increase from 97 to 102 percent.

Lack of adequate guidance in a procedure was determined to be the primary cause of the event. The plant was returned to 100 percent power.

d. White Finding, Emergency Preparedness

The Nuclear Regulatory Commission issued Beaver Valley a final white finding, involving the plant's emergency response procedures. The NRC uses color designations for its findings of green, white, yellow, and red, with green being the least and red the most serious. The NRC stated that dose assessment procedure inadequacy led to a deficiency during the June 2006 evaluated exercise. The deficiency relates to releases of unknown duration and not to any of the documented accident scenarios in the site's

Final Safety Analysis Report (FSAR). The Beaver Valley staff is implementing procedure changes that will direct Beaver Valley's Emergency Response Organization to be more aggressive in obtaining a valid release duration estimate rather than relaying on a default value.

Beaver Valley will also revise the time period used for releases of unknown duration from one hour to a value more consistent with other utilities' practices. This change will be submitted to the NRC for approval prior to its implementation. Beaver Valley will implement other procedure revisions in the first quarter of 2007 and will demonstrate their effectiveness during upcoming mini-drills.

e. Severity Level III Violation Reactor Head ECP

The Nuclear Regulatory Commission cited the company for a violation of agency requirements that occurred in 2005. The violation is related to the preparation of a work package used for the replacement of the Beaver Valley Unit 1 reactor vessel head earlier this year. As noted in a letter to FENOC on July 31, 2006, an investigation conducted by the NRC Office of Investigations (OI) confirmed a finding identified by FENOC and reported to the NRC identified that a former contract mechanical engineer at the Shippingport (Beaver County), Pennsylvania, plant had failed to complete required work for an Engineering Change Package (ECP). Specifically, NRC confirmed that the engineer did not attach all of the necessary evaluations for the reactor vessel head replacement but signed a document on June 1, 2005, indicating the ECP was complete. OI determined the engineer's actions were deliberate.

FENOC responded to the letter by requesting the use of the Alternate Dispute Resolution (ADR) process. ADR refers to a process in which a neutral mediator with no decision-making authority assists the NRC and license-holders in reaching an agreement resolving any differences regarding an enforcement action. An ADR mediation session was held between FENOC and the NRC at the agency's Region I Office in King of Prussia, Pennsylvania, on September 28, 2006.

As a result of that session, a settlement agreement was reached. The terms have now been confirmed by the NRC via a Confirmatory Order issued to FENOC. Under the agreement, the NRC and FENOC agree that the contract mechanical engineer deliberately failed to adhere to a procedural requirement; that the violation most closely qualifies as a Severity Level IV – the least significant of four severity levels used by the NRC – based on its technical merits; and that the violation should be classified as a Severity Level III given its deliberate nature.

In addition, the NRC acknowledges that within two weeks of the occurrence, FENOC identified the ECP was not complete. This happened very early in the design change process, approximately 8 months prior to the start of the outage in which the head was replaced. The company's

design process included additional reviews before official acceptance of the work. Also, a new ECP was completed after the problem was discovered, and the new ECP was deemed satisfactory. Therefore, there was no actual safety impact of the violation.

Further, FENOC implemented corrective actions to prevent a recurrence. These steps included conducting a thorough review of previous work by the contractor; retraining Beaver Valley engineering personnel; and taking disciplinary action against responsible individuals.

As a result of the ADR mediation session, FENOC has agreed to take additional steps, including: submittal of an operating experience report to the rest of the industry, conveying lessons learned; using a case-study format, providing lessons-learned training to engineers at all of its nuclear facilities; and modifying procedures to further clarify the intent of the responsible engineer's signature. The agreement requires FENOC to complete the additional steps by June 30, 2007. The company must respond and provide the NRC with a final report within 30 days of completion of those actions.

### **Davis-Besse Nuclear Power Station**

1. November 18, 2006 Outage

Davis-Besse returned to service on Friday, November 24, 2006 at 6:23 p.m. following the successful replacement of three valves on the plant's Pressurizer during its planned mini-outage.

The team executed all work safely and timely, ending the outage approximately 36 hours ahead of schedule. In addition to the Pressurizer valve replacements, other work completed during the outage included:

- a. Repair of a Main Steam to Auxiliary Steam reducing Station Manual Isolation Valve,
- b. Repair of a Turbine bypass valve,
- c. Replacement of the #1 Makeup Pump casing studs with stainless steel studs,
- d. Inspections of selected secondary piping for flow accelerated corrosion,
- e. Oil sampling from Reactor Coolant Pump 1-1 which showed no wear or further action needed,
- f. Surveillance testing of Auxiliary Feedwater System related pressure switches, and
- g. Resolution of some Control Room deficiencies and operator workarounds.

The following outage goals were successfully met:

- a. Personnel Safety goal of no OSHA recordable injuries or lost time accidents,
- b. Shutdown Safety Management goal of no unanticipated decreases in shutdown safety from the approved plan,
- c. Personnel Contamination Event (PCE) goal of 5 or less was met with no PCEs.
- d. Dose goal of 6.3 REM was met with 2.459 REM,
- e. Goal of no personnel errors that result in a Licensing Event Report or Significant Condition Adverse to Quality,
- f. Outage duration goal of 198 hours was met with a total of 161.5 hours, and
- g. Configuration control goal of no events.

## 2. Independent Assessments

The Confirmatory Order Independent Assessments continue at Davis-Besse. Three assessments were completed during the fourth quarter of 2006 and are summarized below.

Independent Assessment of the Corrective Action Program Implementation at DBNPS.

The assessment was conducted on-site during a two-week period in August 2006 by a team of three consultants and three peer evaluators.

The overall assessment rating of this area was EFFECTIVE. This rating is based on interviews, document reviews, and observations.

Independent Assessment of the Engineering Program Effectiveness at DBNPS

The Engineering Programs Independent Assessment Team found the engineering programs at Davis-Besse to be rated EFFECTIVE, and found performance in each of the six areas designated for assessment to be EFFECTIVE.

The team reviewed engineering work products in a number of areas in depth, and did not find any discrepancies that were considered to be either significant in terms of the validity of the work product, or indicative of a systematic deficiency in engineering work performance or quality management.

The Independent Assessment Team made several overall conclusions:

- The technical quality of Engineering work products and support is generally good to excellent with a continuing trend to improvement
- Engineering's focus has been (properly) on quality/effectiveness, backlog reduction, post-restart work execution, and process

standardization/refinement. Now seeing more focus on outage preparation and execution.

- The team notes ongoing transition from post-recovery/restart to more normal tasks and workloads.

Areas of Strength:

1. Design Interface Evaluation process
2. Design Margin management

Areas In Need of Attention:

1. Attention to detail in calculations
  2. Implementation of requirements from calculations
  3. Equipment Reliability Program
  4. Select plant health systems
  5. Engineering Change Package Revision Reviews
  6. Follow-ups to assessments
  7. Management of engineering workload
3. DBNPS Nuclear Safety Culture and Safety Conscious Work Environment

By Confirmatory Order issued on March 8, 2004, the NRC required FENOC to conduct independent assessments of the DBNPS Nuclear Safety Culture (NSC) (including the Safety Conscious Work Environment) for a period of five years.

This assessment was conducted by SYNERGY Consulting Services Corporation using a cultural assessment methodology that has been previously applied in more than 100 assessments throughout the commercial nuclear power industry. This is the first assessment of the DBNPS NSC/SCWE performed by SYNERGY.

The purposes of this Assessment were to:

- Provide an independent and comprehensive assessment of the status of the existing Organizational NSC, including the SCWE, at DBNPS.
- Identify areas for improvement requiring corrective actions with action plans and provide observations for other improvement opportunities.
- Evaluate the effectiveness of corrective actions taken to address the areas for improvement that were identified in the 2005 Independent Assessment.
- Assess the rigor, criticality, and overall quality of the DBNPS internal self-assessment activities related to the NSC/SCWE.

#### Overall Assessment Conclusions

Based on the 2006 Independent Assessment survey results, the DBNPS Nuclear Safety Culture is considered to be Highly Effective.

Based on all sources of information available to the Assessment Team:

- Nuclear Safety performance at DBNPS is considered to be generally Effective.
- SCWE performance at DBNPS is considered to be Highly Effective.

#### **Perry Nuclear Power Plant**

##### a. Forced Outage - December 13, 2006

The Perry plant was shut down by manual scram by Operations due to degrading Instrument Air header pressure early on the morning of December 13, 2006. The air leak was discovered at a piping joint in an air supply line to a maintenance station in the diesel generator repair shop. Operations promptly isolated the air leak, and the air system was restored to normal pressure. The plant shut down proceeded normally.

The Forced Outage organization was put into place. Plant walk downs following the shut down discovered elevated temperatures in activated charcoal beds which treat non-condensable gases which are removed from the condenser. These gases are a natural by-product of the steam generation process. Occasionally other reactors similar to Perry have seen the same type of situation following plan transients. A small amount of nitrogen gas was used to cool the elevated temperatures which quickly returned to normal. Nitrogen gas continues to be used while the plant operates and will be secured when the plant is shut down for the refueling outage at the end of March.

Complications with the neutron monitoring system (source range monitors that are required to start up the reactor) delayed start-up. The issues with the system were corrected, allowing the plant to restart on December 18 and synchronize to the grid on December 19, 2006.

##### b. Department of Homeland Security - Comprehensive Review

Department of Homeland Security, NRC and other federal agencies were present to conduct the Comprehensive Review at the Perry Plant area during November, 2006. The sessions were well attended and included first responder organizations, county, State of Ohio agencies that support the Perry Plant radiological emergency plan. Security organization along with local law enforcement, Ohio State Highway Patrol, Coast Guard, and

Federal Bureau of Investigation also participated in the safeguard portion of the review.

Overall results were positive with several areas of improvement noted that were debriefed with the respective plant or offsite organizations. Two “Best Practices” were identified by the DHS team and included 1) effectiveness of cross training between Perry Joint Fire Department and the Perry Plant and 2) good coordination between local law enforcement and Perry Plant security organization.

- IV. MISCELLANEOUS: The next meeting will be held April 9, 2007.
- V. ADJOURNMENT: A motion was made by Mr. Shawn Smith, PUCO to adjourn the meeting. Second was provided by Mr. Anthony Mitchell, ODA. Ms. Dragani adjourned the meeting at 3:12 p.m.

---

DATE

---

NANCY J. DRAGANI, CHAIR  
UTILITY RADIOLOGICAL SAFETY BOARD