



# The Utility Radiological Safety Board of Ohio Annual Report State Fiscal Year 2009





## **TABLE OF CONTENTS**

<b>REPORT FROM THE CHAIRMAN</b>	<b>3</b>
<b>DESCRIPTION OF THE URSB</b>	<b>6</b>
<b>URSB ACTIONS AND ACTIVITIES</b>	<b>8</b>
<b>URSB JOINT INSPECTION OBSERVATION PROGRAM</b>	<b>27</b>
<b>FINANCIAL REPORT</b>	<b>32</b>
<b>AGENCY OVERVIEWS</b>	<b>34</b>
<b>Ohio Emergency Management Agency</b>	<b>35</b>
<b>Ohio Department of Health</b>	<b>37</b>
<b>Ohio Environmental Protection Agency</b>	<b>41</b>
<b>Ohio Department of Agriculture</b>	<b>42</b>
<b>Ohio Department of Commerce</b>	<b>43</b>
<b>Public Utilities Commission of Ohio</b>	<b>45</b>
<b>NUCLEAR POWER PLANT ACTIVITIES</b>	<b>47</b>
<b>Davis-Besse Nuclear Power Station</b>	<b>48</b>
<b>Perry Nuclear Power Plant</b>	<b>51</b>
<b>Beaver Valley Power Station</b>	<b>53</b>

**REPORT FROM THE CHAIRMAN**





## Utility Radiological Safety Board of Ohio

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### REPORT TO THE GOVERNOR AND GENERAL ASSEMBLY

Governor Strickland and Members of the Ohio General Assembly:

The member agencies of the Utility Radiological Safety Board (URSB) of Ohio - the Departments of Agriculture, Health and Commerce, the Emergency Management Agency and Environmental Protection Agencies, and the Public Utilities Commission are pleased to present the 2009 annual report of major Board activities.

The URSB was established in July 1989 (ORC Section 4937) to coordinate the nuclear power plant responsibilities of its member agencies. The Board is also charged with the responsibility of enhancing the quality of the State's response to nuclear power safety issues in the areas surrounding our nuclear power plants. This report delineates the actions of the Board toward the accomplishment of these goals.

There were two federally evaluated exercises. A full participation exercise was conducted with the Perry Nuclear Power Plant on October 7, 2008. The State fully activated the State Emergency Operation Center. The demonstration of the State's Field Monitoring Teams (FMT's) and Sampling Screening Point was conducted out-of-sequence on October 6. Other participants included the counties of Lake, Ashtabula, and Geauga. The State received no Deficiencies or Areas Requiring Corrective Action (ARCA's). The State and the counties demonstrated numerous strengths. No exercise issues will be carried over for re-demonstration. Overall, the 2008 Perry Nuclear Power Plant exercise was successful for the State of Ohio and Lake, Geauga and Ashtabula Counties.

The State of Ohio in coordination with Ottawa and Lucas counties participated in the Davis-Besse Nuclear Power Station exercise on May 12, 2009. This exercise was a partial participation exercise for the State of Ohio and full participation for the affected counties. The exercise was a success and there were no deficiencies or Areas Requiring Corrective Actions (ARCA's) for the State of Ohio or for Ottawa County. There was one previous ARCA for Ottawa County identified during the May 15, 2007 exercise that was successfully re-demonstrated. There was one ARCA identified for Lucas County during the 2009 exercise for monitoring of emergency worker vehicles. This ARCA was successfully re-demonstrated during the 2009 exercise. Lessons learned from both exercises were documented and mitigated by an exercise After-Action Committee.

In addition to the above exercises, there were two non-evaluated hostile-action based exercises. The Davis-Besse Nuclear Power Station Hostile Based Drill was conducted on November 13, 2008. The State of Ohio and Ottawa County participated by partially activating their Emergency Operation Centers (EOC's). The Drill that initiated with a terrorist attack drove the Station to declare a General Emergency based on plant conditions. An Incident Command Post was established in Ottawa County.

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Ohio Department of Agriculture - Ohio Department of Health - Ohio Department of Commerce - Ohio Emergency Management Agency  
Ohio Environmental Protection Agency - The Public Utilities Commission of Ohio

The Beaver Valley Power Station Hostile Based Drill was conducted on January 27. The State of Ohio and Columbiana County participated by partially activating their Emergency Operation Centers (EOC's). An Incident Command Post was established in Pennsylvania. Both exercises generated beneficial discussion on notification, communication, and decision making.

The hostile-action drills were conducted to support the directives of the National Infrastructure Protection Plan (NIPP), the Nuclear Regulatory Commission (NRC) and the Department of Homeland Security that nuclear power plants across the nation begin incorporating hostile-action based scenarios into their current exercise cycles. These security-based drills are designed to integrate the concepts of the Incident Command Structure and the National Incident Management System into roles of Emergency Response Organizations, both on and off-site, in the preparation and mitigation of radiological emergencies that include security threats.

There were two classified events in SFY09 for First Energy Nuclear Operating Company (FENOC) plants. The Beaver Valley Nuclear Power Station declared a Notice of Unusual Event (NOUE) on June 18, 2009, due to a fire/CO<sub>2</sub> activation in the Emergency Response Facility (ERF) substation. The Davis Besse Nuclear Power Station declared a Transitory Alert on June 25, 2009, due to a transformer explosion and a loss of two off-site power sources.

As part of the NRC confirmatory order related to the Davis-Besse reactor vessel head degradation event, Davis-Besse committed to performing independent assessments of four key programs for a period of five years (2004-2008). 2008 was the fifth and final year that Davis-Besse was committed to performing these assessments.

The URSB continues to closely monitor those nuclear power issues that could have a direct impact on Ohio's nuclear utilities and the safety of Ohio's citizens. I encourage your review of the many specific activities of the URSB and its member agencies contained in the enclosed overviews.

Sincerely,  
  
NANCY J. DRAGANI  
Chair

## DESCRIPTION OF THE URSB



## DESCRIPTION OF THE URSB

The Utility Radiological Safety Board (URSB) of Ohio was established by the Ohio General Assembly as part of Amended Substitute House Bill 111 in July of 1989 and later revised by Amended Substitute House Bill 215 in June 1997. The Board's purpose is to develop a comprehensive policy for the State regarding nuclear power safety. The Board's objectives are to promote safe, reliable, and economical power; establish a memorandum of understanding with the Nuclear Regulatory Commission (NRC) and the State; and recommend policies and practices that promote safety, performance, emergency preparedness, and public health standards that are designed to meet the State's needs.

The URSB membership consists of six state agencies: the Ohio Departments of Agriculture, Commerce, and Health; the Ohio Emergency Management and Environmental Protection Agencies; and the Public Utilities Commission of Ohio.

The URSB has a Working Group comprised of member agencies' staff to support the Board and a Citizens Advisory Council (CAC), which provides the Board with citizen concerns. Board meetings are held quarterly at the offices of the Ohio Emergency Management Agency at 2855 West Dublin-Granville Road, Columbus, Ohio. The meetings are open to the public.

To find out more information concerning the Utility Radiological Safety Board and its members, please refer to the URSB homepage at <http://www.ursb.ohio.gov/> or contact the URSB Secretary at (614) 889-7150.

The Board members for SFY09 and their respective designees are listed below:

Ohio Department of Agriculture  
Mr. Robert Boggs, Director  
Mr. Charles Kirchner, Designee

Ohio Emergency Management Agency  
Ms. Nancy Dragani, Executive Director  
Mr. Melvin House, Designee

Ohio Department of Commerce  
Ms. Kimberly A. Zurz, Director  
Mr. Dean Jagger, Designee

Ohio Environmental Protection Agency  
Mr. Chris Korleski, Director  
Ms. Cindy Hafner, Designee

Ohio Department of Health  
Alvin D. Jackson, M.D., Director  
Mr. Robert Owen, Designee

Public Utilities Commission of Ohio  
Dr. Alan Schriber, Chairman  
Mr. Shawn Smith, Designee



## URSB ACTIONS AND ACTIVITIES



## URSB ANNUAL REPORT FY09

### SUMMARY OF URSB MEETINGS:

JULY 7, 2008

The Beaver Valley Nuclear Power Station Exercise (partial participation for the state) was held on June 24. Ohio EMA has received the draft exercise report. There are no Areas Requiring Corrective Actions (ARCA's) or deficiencies for the State.

Columbiana County received 2 ARCA's, 1 is outstanding. The new ARCA was on vehicle monitoring and the other was re-demonstrated and cleared.

The Working Group has received the reporting protocol by FENOC. This protocol has been included in the Events of Possible Public Interest (EPPI) procedure which provides instructions to communicate non-emergency plant events or issues which have potential public interest to the state and county.

Ohio EMA attended the 2008 Midwestern Committee Meeting. There will be approximately 111 shipments of transuranic waste from generator sites east of Ohio that will transverse Ohio. There are 3 possible routes; Ohio's preference is to use the northern route (Ohio turnpike and I-90). There is a possibility of DOE funding but it will not be available until the 2008-2009 timeframe.

In response to a URSB directive, Ohio EMA contacted Davis-Besse to provide a location for the October 14 URSB meeting. The Davis-Besse personnel agreed to provide a tour of their facility in the morning of October 14 and the availability of the Davis-Besse Administration Building as the location of the URSB meeting.

Ohio EMA provided an overview of the key proposed changes to the "Draft Preliminary Changes to the REP Program Manual":

- Changing the predictability of the exercises; exercises could now start at any level or progress more rapidly through the various levels.
- To drive off-site actions, generally the exercise has to reach General Emergency. If not, controller injects must be used. The radiological release also could be varied, with some exercises having no release, some exceeding EPA Protective Action Guidelines (PAG's) just beyond site boundaries, and other more severe releases exceeding EPA PAG's beyond 5 miles. One exercise per cycle must be initiated due to a hostile action based event.
- Incorporating the Incident Command System (ICS) into protective action decision (PAD's) making and activation of response personnel.

- Evacuation could possibly be more harmful in some situations due to the nature of the hostile action.
- Traffic and access control should be able to demonstrate their knowledge of their responsibilities up to and including verifying emergency worker credentials (credentialing).

Mr. Roland Lickus was present for the NRC, Region III. Mr. Lickus is retiring in September. Mr. Lickus was given a certificate of appreciation from the Board for his service along with Ohio State University regalia. He introduced the gentleman who is taking his place, Mr. Alan Barker.

A NRC news release issued July 1, communicates the approval of a power uprate of approximately 1.6 percent of generating capacity for Davis-Besse.

On May 16, the NRC completed a 95001 supplemental inspection of the Perry Nuclear Power Plant (PNPP) to assess the evaluation of a White Performance Indicator (PI) in the Unplanned Scrams area of the Initiating Events cornerstone resulting from five scrams that occurred over a one-year period. Based on the results of this inspection, no findings of significance were identified and the NRC concluded that the licensee understood the root causes and contributing causes of the issues, that the licensee identified the extent of condition and extent of cause of the issues, and that the corrective actions were sufficient to address the causes and to prevent recurrence of the issues.

The NRC issued Regulatory Issue Summary 2008-008 to endorse Revision 1 to Nuclear Energy Institute (NEI) guidance document NEI 06-04, "Conducting a Hostile Action-Based Emergency Response Drill," dated October 30, 2007. The NRC finds this document, with the staff clarifications noted, presents an acceptable methodology for licensees to conduct industry-wide, baseline, hostile action-based emergency preparedness (EP) drills.

The Beaver Valley Power Station (BVPS) Unit 2 2R13 outage commenced on April 14<sup>th</sup> at 0001 hours and ended with generator synchronization on May 22<sup>nd</sup> at 2357 hours. The original outage schedule was 29 days and the actual outage length was 38 days 23 hours.

The most significant issue that impacted schedule duration was on May 16<sup>th</sup> the #2 High Pressure Turbine Bearing failed during turbine startup resulting in a 180 hour delay for repair and startup.

The 2R13 outage also incorporated a number of engineered safety margin and reliability improvements.

The personnel dose was 84.687 rem, meeting the outage goal of 88.000 rem and the 3<sup>rd</sup> lowest Beaver Valley outage dose received.

On May 24<sup>th</sup>, 2008 at 09:38 during a plant startup power increase in preparation to roll the turbine and synchronize to the grid, Beaver Valley Unit-2 experienced Engineered Safety Features (ESF) actuation due to "A" Steam Generator (SG) HI-HI level indications. This ESF actuation initiated automatic actions resulting in full feedwater isolation, trip of the only operating "B" main feedwater pump and start of two auxiliary feedwater pumps.

The root cause of the steam generator high level transient that initiated the ESF actuation is that the Operations crew on duty during this event was unfamiliar with steam generator level control using bypass feed regulating valves at low power with the main turbine off-line and consequently made excessive manual changes in feedwater flow to the steam generator. The operating crew returned the plant to normal conditions and continued power ascension and synchronization to the grid. During the evolution reactor power remained stable at approximately 15 percent power.

As part of the NRC confirmatory order related to the Davis-Besse reactor vessel head degradation event, Davis-Besse committed to perform independent assessments of four key programs for a period of five years (2004-2008). 2008 is the final year for performing these assessments.

On Thursday, February 14, 2008, Davis-Besse completed its 15<sup>th</sup> Refueling Outage. The outage was extended 12 days beyond the original restart date of February 2<sup>nd</sup>, due to Turbine-Generator vibrations caused by the newly rebuilt rotor being out of balance. After investigation was completed, all necessary components were replaced resolving the imbalance on the rotor and eliminating the vibration problem.

During the outage, Davis-Besse replaced 76 of 177 fuel assemblies, rewound the 150-ton Turbine-Generator, completed more than 2,000 outage maintenance tasks, conducted thousands of visual and ultrasonic inspections of piping and equipment and managed several emergent issues. The team also completed work related to the Alloy 600 project where 16 reinforcing welds were applied to Pressurizer components ensuring long-term structural integrity.

The team surpassed its most stringent goal in the area of radiological safety by ending the outage with less than 125 rem.

Davis-Besse is currently operating with an estimated 2 fuel pin defects. The presence of a fuel defect was first identified on February 25, 2008. Davis-Besse has implemented mitigating actions via the Operational Decision Making Issue (ODMI) for Cycle 16 Fuel Defect Operation.

Radiation Protection is monitoring dose rates and has implemented additional shielding in selected areas of the plant to minimize the impact of the affects on personnel exposure.

Additionally, an action plan is under development (with input from the fuel vendor) for remedial actions to be implemented in the Sixteenth Refueling Outage (16RFO) to identify and repair the defective assemblies.

Perry Fuel Pin Defect- updated information from February 28<sup>th</sup> report that found elevated Xenon-133 and Xenon-135 levels in the Off-Gas system during routine fuel performance monitoring. Based upon current results, Perry is changing its categorization to a "potential defect" rather than a confirmed fuel defect.

The Perry plant completed a planned maintenance outage initiated on April 14 which substantially improved the health of the Perry Plant. The outage was completed 17 hours ahead of schedule (203 hours versus the planned 220 hours).

The Perry High Pressure Core Spray Emergency Service Water System (HPCS ESW-C) was declared inoperable due to a condition that did not allow the subsystem to maintain adequate

keep-fill pressure in the event of a loss of offsite power (LOOP). The HPCS ESW "C" Discharge Check Valve was fully rebuilt with new internal parts and the "C" ESW Pump Discharge Valve stops were also reset prior to returning the system to operability.

An independent study is planned for the second half of 2008 to assess available dose assessment programs. Results and recommendations will be made to the joint State and utility team for selection of the final product. Ohio EMA, State of Pennsylvania, and FENOC have identified the working group members that will review and make the final recommendation. West Virginia will be added to the group to assist making the final selection. The EPPI Procedure, NOP-LP-5003, "Communicating Events of Public Interest" was made effective on June 9, 2008. The procedure provides the fleet expectations and communication flow path to internal and external parties for non-emergency events.

#### OCTOBER 14

The Perry exercise was held on October 7 and the critique for players and the public was held on the 11<sup>th</sup>. The preliminary indications are there are no Deficiencies or Areas Requiring Corrective Action (ARCA's) for the state. There is one planning issue. There were no Deficiencies and two ARCA's for the counties. The previous ARCA's were redemonstrated and cleared.

FENOC is currently developing a web-based system to provide plant data for all FENOC sites to the State Emergency Operations Center (EOC). State personnel received training from Perry plant personnel on the E-Data system in August. The E-data system was utilized during the dry run and the graded exercise with the Perry plant.

Teletrix equipment has been purchased for training of Field Monitoring Teams (FMT). The Teletrix Plume Tracker (now called Virtual Plume) systems were used successfully in conjunction with the BVPS dry run conducted on June 3, 2008. The units were used for FMT demonstration during the PNPP dry run and evaluated exercise. One additional unit is scheduled for purchase in FY 2009.

ODH updated the Board on the status of the potassium iodide (KI) issue. The NRC has called and indicated that they still had the order from ODH so ODH is expecting a new supply of KI to replace the KI which expires in May of 2009 within a couple of weeks. There will be approximately 711,000 pills to be in stock fairly soon. The next step is to contact the county emergency management agencies and departments of health (via teleconference) to let them know that the KI is available.

On September 8, the NRC staff completed an initial examination of the Yucca Mountain license application and determined that it contained sufficient information to meet the requirements for 10 CFR 2.101 and 63.21 and 63.21, so it was docketed. This initiates the three-year peer review per Nuclear Waste Policy Act (NWPA).

Revision 3 of the *Midwestern Planning Guide for Shipments of Radioactive Material through the Midwestern States* was completed in August. The planning guide is the region's compilation of best practices for shippers of radioactive waste and materials through the Midwest.

The URSB FY2008 Annual Report was approved by the Board. The Report will be sent to the Governor, the Speaker of the House and the President of the Senate as dictated by the ORC.

On May 16, the NRC completed a 95001 supplemental inspection of the Perry plant to assess evaluation of a White Performance Indicator (PI) in the Unplanned Scrams area of the Initiating Events cornerstone resulting from five scrams that occurred over a one-year period. Based on the results of this inspection, no findings of significance were identified.

In a previous assessment letter dated March 3, 2008 the NRC advised Perry of a substantive cross-cutting issue in the area of human performance related to work control and planning.

Although the number of findings with the same cross-cutting aspect has been reduced as of the end of the 2008 mid-cycle assessment period, the NRC is leaving the cross-cutting issue in the area of human performance related to work control and planning open.

The September 2, 2008 assessment letter documents that FENOC has recognized the site-wide cross-cutting theme in work planning and has developed and implemented a formal process to identify, track, and develop apparent cause(s) and corrective actions for cross-cutting issues. However, based on Perry's past performance related to long-term sustainability of corrective actions, the relatively short period of time that the formalized process to address cross-cutting issues has been implemented, and the additional inspection inputs that are pending, the NRC decided to leave the substantive cross-cutting issue in the area of human performance related to work control and planning open.

The current operating licenses for BV 1 and BV 2 expire in 2016 and 2027, respectively. FENOC submitted an application in August 2007, requesting renewal of the operating licenses for an additional twenty years (new expiration dates would be 2036 and 2047, respectively).

From the August 12 NRC Commission Meeting, the Commission commended the progress that has been made in REP programs at all levels of government and the productive relationships in place between the NRC, FEMA and State and local officials to strengthen emergency preparedness.

The agency staff should continue its implementation of lessons learned from the ongoing Hostile Action-Based (HAB) EP drills and other initiatives to enhance offsite REP programs for the long term. The staff should be sensitive to the unique capabilities and organizational structures of various State and local jurisdictions, the need to incorporate other Federal agencies, e.g. FBI, into the NRC/FEMA partnership on REP program planning, exercising, and eliminating overlapping Federal requirements as much as possible through coordinated rulemaking and consolidated guidance for local responders.

On July 10, State and local governmental and FENOC representatives met with FEMA and the NRC to provide stakeholder input to the Task Force on the following initiatives: avoid anticipatory responses associated with preconditioning of onsite and offsite participants; incorporate a wide spectrum of releases (ranging from little or no release to a large release); include hostile action-based events; scenarios should emphasize the expected interfaces and coordination between key decision-makers based on realistic postulated events (events must be realistic for the nuclear power plant to ensure realism); identify experiences of preconditioning or negative training. Discussion included three key areas: changes to exercise scenario

requirements; changes to offsite organization evaluation areas to incorporate hostile action-based scenarios; additional areas of concern.

Ohio EMA reported on the FEMA/NRC In Progress Review Conference. The Conference was held to discuss enhancements to the REPP exercise scenarios and highlight new initiatives underway that will impact the REPP.

Some proposed changes include:

1. Incorporate hostile action based (HAB) scenarios as initiating events.
2. Develop realistic scenarios and avoid preconditioning of participants and negative training
3. Integrate REPP into the National Exercise Program
4. Publish one comprehensive Radiological Preparedness manual through the Federal Register in February 2009 for comment. Comments will be adjudicated and the document will then process through the finalization process
5. Implement the HAB exercises into the REPP Exercise cycle following the finalization of the NRC rulemaking in 2010. The transition plan for implementation into the exercise cycle should include 6 steps:
  - o Step 1 – development of planning standards
  - o Step 2 – coordination of guidance
  - o Step 3 – development and conduction of training
  - o Step 4 – inspection of planning
  - o Step 5 – conduction of exercises
  - o Step 6 – evaluation of exercises

High winds from the remnants of Hurricane Ike engulfed the Beaver Valley 10 mile EPZ at approximately 20:00 on September 14, 2008 causing numerous power outages.

- A total of 54 (45.4 percent) of the Beaver Valley EPZ's 119 sirens were declared out of service. A 10CFR50.72, 8 hour NRC notification was made due to more than 25 percent of the total number of sirens are out of service
- All three County Emergency Management Agencies were notified and Route Alerting / Route Verifications was established, if needed
- Associated County Emergency Response Organizations were notified of the siren outage and the possibility of needing to conduct Route Alerting / Route Verification
- On September 21, at 1800 hrs, all sirens were back in service

The NRC inspection team evaluated the Perry staff's critique of the 2008 evaluated exercise and agreed with the critique findings and conclusions regarding ERO performance.

Overall, the NRC considered the exercise a success. The scenario was challenging and there were no problems with meeting the EP risk significant planning standards (12 successes out of 12 opportunities) for EAL classification, notification, dose assessment, and protective action recommendations.

Perry Plant operational data and simulator data was made available to the State of Ohio during the past quarter. Electronic data was available to support simulated plant conditions for the Perry evaluated exercise. Next phase of the project is to make the Beaver Valley Units information available before year end. Meteorological data and simulator data remain challenges and will most likely not be available until later in 2009.

#### JANUARY 5

The Beaver Valley Power Station Partial Participation Exercise Final Report has been received. There were no findings for the State of Ohio and two Areas Requiring Corrective Action (ARCAs) for Columbiana County. The one was a new finding and the other was a previous finding. The new finding was criteria 6.2.1; monitoring of emergency workers, the previous was criteria 5.2.1 – emergency information.

The Perry NPP full participation draft report has been received. There were no findings for the State of Ohio and 2 ARCA's for the counties. One for Lake County regarding dosimetry and the other for Geauga County was regarding vehicle monitoring. The ARCA's were successfully re-demonstrated at the time of the exercise.

Ingestion Zone Reentry Recovery Advisory Group (IZRRAG) training was conducted on November 7, 2008. Training will continue to be conducted annually with a table-top exercise being conducted every odd year. The next evaluated ingestion exercise will be with Perry in 2012.

Teletrix (Plume Tracker) software was a good investment. The State intends to purchase another unit this year. This will give us three – 1 for each FMT. This software provides more realistic training for the teams. Although the Field Monitoring teams will not be evaluated during the Davis-Besse exercise, they will use Plume Tracker during the dry run.

Potassium Iodide (KI): Current KI is due to expire in May 2009. ODH has placed their order with the NRC. ODH has held 2 conference calls with the local health departments and EMA's. They will try to have the old KI replaced by April 2009. The tablets will be 65 mg, the current ones are 130 mg. Population numbers have been confirmed with the local agencies. Health is expecting the supply to arrive any week now.

The NRC is planning to complete their full review of the Yucca Mountain license application by DOE to construct the repository and render a decision within the two-year timeframe prescribed by law.

On October 31, 2008, DOE published a revised proposed policy for implementing Section 180(c) of the Nuclear Waste Policy Act. The proposed changes provide the funding allocation approach for grants to federally recognized tribes which may be eligible for assistance.

DOE has proposed supporting only one Midwestern committee meeting per year. The committee will continue its plans to conduct a spring meeting in June, since the funding is available to do so. DOE has not made a final decision.

On September 23, FENOC detected air (called a “void”) in the suction lines for both trains of the Beaver Valley 1 low-head safety-injection system (LHSI). The LHSI is one of the systems that supply water to the reactor in the event of an accident at the plant. It is also used to circulate cooling water following an accident. At the time, FENOC determined that the system would have operated as designed. An inspection report detailing the team’s findings will be issued 45 days after the end of the inspection.

Beaver Valley Unit 2 was shutdown on October 23 when the low head safety injection pump could not be returned to operable status within the time frame allowed by technical specifications. The pump was taken out of service on October 19 for routine preventive maintenance. During the maintenance activities, plant staff identified the pump shaft would not rotate freely. FENOC requested and was granted a Notice of Enforcement Discretion from the NRC to extend the out of service time for the pump. The NRC allowed 36 hours beyond the 72 hours allowed by technical specifications. Plant staff disassembled and reassembled the pump, but identified binding of the pump shaft again after disassembly.

Plant management conservatively shut the plant down even though there was time remaining as allowed by the NRC.

The problem solving team identified a location in the inboard casing of the pump where a dimension was not correctly machined and was the root cause for the additional friction and galling of the internal wear rings.

Repairs were made to the pump and the plant was returned to service on October 27, 2008.

On November 11, 2008, the NRC sent a Special Inspection Team (SIT) to review the circumstances surrounding the identification of air that had been trapped in a safety system at Beaver Valley Unit 1. The NRC conducts such incident investigations in response to actual or potentially-significant operational events. A Special Inspection is the lowest level response.

Mr. Barker, NRC Region III, reported on a national level public telephone survey that was conducted among residents of nuclear power plant emergency planning zones (EPZ). The survey was designed to support assessment of public response. The survey was authorized by the United States Office of Management and Budget in accordance with the Paperwork Reduction Act of 1995, and was conducted in March of 2008. Survey data indicates the following tendencies among the public residing within EPZs:

- Residents are generally well informed about what to do for an NPP emergency;
- Most residents remember receiving emergency response information from the NPP and keep it readily accessible;
- Most residents recall receiving information regarding evacuation and sheltering;
- Most residents would evacuate, shelter or monitor for more information if so directed;
- Most residents would support a staged evacuation order, (i.e., shelter while others evacuated);
- Many parents will go to schools to pick up children even if told they are already being evacuated; and

- Most “special needs” persons, not in special facilities, have not registered for evacuation assistance.

A Davis-Besse Nuclear Power Station hostile-action based drill was conducted on November 13, 2008. This unique drill used the guidance from NEI 06-04 Conducting a Hostile Action-Based Emergency Response Drill, Revision 1. All Davis-Besse Emergency Response Facilities (ERF) were involved. Offsite involvement included the Ottawa County Emergency Operations Center, the State of Ohio Emergency Operations Center and an Incident Command Post.

The Incident Command Post was established with participants from law enforcement, fire, emergency medical services, Coast Guard and FBI. In addition an ambulance from Carroll Township and one from Mid-County responded to the station to transport simulated injured/contaminated plant personnel. One Carroll Township fire truck responded and interfaced with the station fire brigade. The scenario simulated a number of simulated injured/contaminated individuals and fatalities.

In June, 2008, the disposal facility at Barnwell, South Carolina was closed to out-of-compact members, including FENOC for receipt and burial of low level rad waste. Since then, FENOC continues to process and dispose of Class "A" rad waste specified by the Life Of Plant Agreement with Energy Solutions. Class "B" and "C" rad waste generated are currently stored onsite. Davis-Besse has the capacity to store low level rad waste onsite in the Low Level Rad Waste Storage Facility for 21 years.

In the meantime, FENOC is currently working on a fleet-wide contract with an offsite vendor capable of taking title and possession of Class B and C low level rad waste. The contract should be completed in the spring of 2009.

Wednesday afternoon, October 22, 2008, an excavation crew working at Davis-Besse discovered water leaking from a 3” carbon steel pipe from the turbine and water treatment building to the settling ponds on plant property.

Analysis of the water leaking from the discharge pipe indicated the presence of tritium at a concentration of approximately 37,500 picocuries per liter. This value is in contrast with 20,000 picocuries per liter that is the standard for tritium in drinking water and does not exceed any state or federal regulations. Courtesy notifications were made to the Nuclear Regulatory Commission, as well as state and county officials.

There is no potential impact to the health and safety of the public.

The damaged line was removed from service and the discharge water has been rerouted to the settling ponds. The line was repaired in December.

A thorough sampling plan confirmed the discharge water was confined to plant property.

On December 24th at 0330 the Davis-Besse operating crew noticed smoke coming from the area around the #2 bearing of the high pressure turbine. Operations commenced a rapid shutdown at 0530 and at 0754 removed the turbine/generator from service. The outage control center was mobilized and troubleshooting commenced identifying an oil leak on the #2 bearing.

Disassembly of the oil deflector on the #2 bearing revealed an issue with carbon build-up in the oil deflector causing it to not function as designed.

The cause of the carbon build-up is believed to be the long term result of high temperatures from steam piping near the bearing oil deflector. All oil soaked insulation was removed. The turbine bearing oil deflectors were cleaned and reinstalled. The bearing cover was reassembled and the turbine lube oil system was re-started for post maintenance testing. After it was verified that no leaks existed, new insulation was installed in the bearing area. The Reactor remained critical at approximately 18% power through this time period. Operators closed the breakers to synchronize the generator to the grid at 2148 Saturday. The total outage time was just under 86 hours.

Perry Plant actual and simulated data is being provided via secure website and other access security provisions. ERDS data points have been identified for the Perry Plant and steps continue to make ERDS available on the same platform as E-data. Enabling access to Beaver Valley real plant information is very close to completion. Beaver Valley simulator data will require additional work as debriefed in 2008 with the URSB. Davis-Besse equipment requirements and project plan will be developed in 2009.

There remains an open item with Ohio Emergency Management Agency for 10 CFR 50.72 notifications. The current protocol establishes criteria for notification of many items that go beyond the requirements of 10 CFR 50.72, but does not require FENOC contact of the agency for all conditions of 10 CFR 50.72. Any plant notification to NRC is posted on the NRC website the next morning. The agency's desire is to have notice from FENOC prior to the start of the business day for all FENOC 10 CFR 50.72 reports to the NRC. Further discussion between FENOC and OEMA is needed on this topic.

#### APRIL 6

DHS Comprehensive Review of Perry, Beaver Valley, and Davis-Besse were completed. The URSB Working Group is awaiting the final report. A briefing from FENOC is anticipated.

Discussion on NUREG 6953, "Review of NUREG 0654 Supplement 3" (Focus Groups and Telephone Survey); and NUREG/CR-6981, "Assessment of Emergency Planning and Implementation for Large Scale Evacuations" Ohio EMA reviewed the highlights of the two documents, noting that both documents show that improvement in assistance for special needs populace **not** residing in a special needs facility is needed. The purpose of the assessments of large scale evacuations seem to be comparing how the public reacts in a large scale evacuation and extrapolate how this would relate to an evacuation of an Emergency Planning Zone (EPZ) since these evacuations affected the EPZ's of 14 nuclear power plants. The telephone study by the NRC (NUREG 0654, Supplement 3) will help determine proposed revisions to Supplement 3 regarding sheltering and evacuations, i.e.; changing from a "keyhole" evacuation (2 miles 360 degree, 5 mile downwind), to a "staged" evacuation.

The Yucca Mountain project has been shelved. The only funding available is in support of the NRC licensing process.

It is the opinion of the Western Interstate Energy Board (WIEB) High-Level Radioactive Waste Committee, as expressed in their recent meeting that OCRWM needs to maintain a transportation institutional capacity in connection with shipments of spent fuel and high-level radioactive waste. The Midwestern committee will be working with the WIEB committee in drafting letters to DOE in this regard.

In a letter to affected Midwestern governors and legislative leaders, the Midwestern committee brought this matter to their attention, highlighting the impacts of terminating the disposal program. Key points were costly onsite storage and extra security at nuclear facilities without benefit of electricity generation, continuation of ratepayers in the Midwestern states contributing \$200 million per year into the Nuclear Waste Fund without any certainty in realizing any benefit for the cost, and continued payments by taxpayers of \$11 billion by 2020 as required by a lawsuit against DOE for not performing as required by the Nuclear Waste Policy Act. The letter further warns that an alternative solution may lead to reconsideration of earlier potential repositories in which each Midwestern state has one. A key impact on Midwestern states is the loss of sharing knowledge and planning for the safe transportation of all types of radiological shipments via the committee.

An amendment by Representative Skindell to House Bill 2, the transportation budget bill, was adopted into the bill by the conference committee. The amendment essentially establishes notification requirements and fees for shippers of spent fuel, high-level radioactive waste, transuranic waste, and highway route controlled quantities of radioactive material that originate within, traverse the state, or end up in Ohio. The fees are credited to a radioactive waste transportation fund, which is used to support state and local efforts related to ensuring the safe transportation of these shipments.

DOE Secretary Steven Chu announced \$6 billion in new funding under the American Recovery and Reinvestment Act to accelerate environmental cleanup work and create thousands of jobs across 12 states. Projects identified for funding will focus on accelerating cleanup of soil and groundwater, transportation and disposal of waste, and cleaning and demolishing former weapons complex facilities.

In Ohio \$20 million will be used to complete the remediation of a historic landfill, while \$118 million will be used to accelerate site cleanup of 65 acres at the Portsmouth facility, which will also have the source of the highest contaminant concentration groundwater plume on site, thus preventing further potential groundwater contamination.

Ms. Tammy Little, Assistant Attorney General, reviewed the current rules in place for the URSB. The URSB rule for public notice will be “sunset” in favor of the public notice rule already in place for the Ohio Emergency Management Agency, which is virtually identical. There will be a public meeting scheduled for URSB rule changed.

In the March 4, 2009, NRC assessment letter, Perry plant performance for the most recent quarter was within the Licensee Response column of the NRC’s Action Matrix. However, Perry plant performance during the assessment period continued to exhibit weaknesses in the area of human performance. While the number of findings identified with a cross-cutting aspect of work control declined, a second cross-cutting theme in the area of procedures/documentation was identified. In addition, there are indications of a new cross-cutting theme in the aspect of human error prevention techniques. Because of the continuing weakness in the human performance

area, the substantive cross-cutting issue in human performance with themes of work control and procedures/documentation will remain open.

NRC updated the Board on proposed changes to NUREG 0654. Selected implementation attributes of NUREG 0654, Supplement 3, draft revision, applicable to an offsite response organization are highlighted as follows:

- The PAR Logic Diagram, Attachment 1, should be used to develop a site-specific PAR Logic Diagram for use by the licensee emergency response organization. **Attachment 1 is not intended to be used without site-specific modification.**
- The PAR Logic Diagram is intended for shift personnel. It is designed to be implemented rapidly and without the initial need to confer with offsite response organization personnel.
- The requirement to provide offsite response organizations with a PAR within 15 minutes of declaration of a General Emergency remains in effect. The initial PAR must be made rapidly and in accordance with approved procedures, and those procedures should be developed in partnership with responsible offsite response organizations.
- Offsite response organizations have the responsibility to decide which protective actions to implement. Operators have the responsibility to make timely PARs in accordance with federal guidance and plant conditions.
- It is expected that plant operators will develop PAR procedures that embody offsite response organizations' input at the various decision points. The agreement should be made in terms of criteria that can be put into the logic diagram. This criteria and the approved PAR logic diagram in plant emergency plan implementing procedures is the plant commitment to offsite response organizations of what PARs will be provided immediately upon the declaration of a General Emergency.
- It is recommended that offsite response organizations consider the implementation of precautionary protective actions appropriate for their locale at a Site Area Emergency declaration after conferring with licensee personnel regarding the nature of the event and likelihood of core degradation. Should operators be unable to provide this assessment it is prudent to implement precautionary protective actions. Heightened awareness is one appropriate precautionary protective action. It is not recommended that these precautions be automatic at Site Area Emergency.

The Beaver Valley Hostile Action Drill was conducted on January 27, 2009 with results as follows:

- a. Use of backup facilities while adequate offered challenges to the ERO (facilities, communications, flow of information, access to information and equipment).

- b. ICP not always in contact with onsite organization (TSC) for classification information; controllers lacked information.
- c. A telephone conference network to allow the simultaneous sharing of information between the Control Room, Alternate TSC, EOF, Security CAS and the Liaison at the ICP is needed.
- d. The role(s) of licensee staff in the Incident Command Post should be clearly defined. They need to understand the liaison role: who they are supposed to interface with and the expectations for providing and communicating information between the ICP and the EOF and Control Room (or other ERFs).
- e. Movement of the TSC ERO Staff from the ERO Alternate Staging Area into the site was informal and a strategy to maintain communication with the ICP and EOF were not considered.
- f. The JIC needs to learn a “new set of rules” about what information / how to communicate following a hostile action. A HAB is very different in terms of timeline, consequence, significance, and sensitivity of certain information, and the fact that JIC personnel are rarely versed in dealing with fatalities, crime scenes, and security sensitive information.

As part of the NRC confirmatory order related to the Davis-Besse reactor vessel head degradation event, Davis-Besse committed to performing independent assessments of four key programs for a period of five years (2004-2008). 2008 was the fifth and final year that DB was committed to performing these assessments.

The Davis-Besse Dry Fuel Storage Facility is located within the normal Protected Area. The Facility concrete pad is designed to accommodate a minimum of 32 NUHOMS dry fuel storage concrete modules. Presently there are four modules on the pad. Each of three modules contains a stainless-steel canister that holds 24 fuel assemblies. These were loaded in the modules in 1996. The fourth module is empty. The canisters are cooled by natural air circulation; therefore, no pumps or fans are required. The heat load in each module is less than half of the allowed. The radiation reading 10 feet in front of the modules is approximately 1 mr/hr. No degradation of the modules was identified after the tornado struck the site in 1998.

The economics associated with the use of the NUHOMS system changed in 1997. At that time it was decided to temporarily discontinue use of dry fuel storage and increase fuel storage capacity in the Spent Fuel Pool. Use of the Dry Fuel Storage Facility will likely be re-initiated within the next 10 years.

On April 3, 2009, Davis-Besse Operators will begin reducing reactor power in support of a week long planned maintenance outage to plug Low-Pressure Condenser tube leaks, clean out the Low-Pressure Condenser water boxes, replace both of the Pressurizer code safety valves and perform other work to improve the plant’s condition and ensure continued safe and reliable operation. Completion of these tasks will restore operating margin to the unit and strengthen the plant’s ability to continue to operate safely and reliably through the upcoming summer months. The plant is scheduled to be back on line April 12, 2009.

**THE FOLLOWING IS A SUMMARY OF THE STATUS OF THE URSB WORKING GROUP INITIATIVES AT THE END OF SFY09:**

1. Davis-Besse PARTIAL PARTICIPATION EXERCISE (EMA/ODH/EPA/ODA)

The 2009 DBNPS partial participation exercise was held on May 12. There were no unresolved ARCAs, no deficiencies, and three planning issues for Ottawa County. The final report has not been received.

2. BEAVER VALLEY FULL PARTICIPATION EXERCISE

The 2010 BVPS full participation exercise is scheduled for April 20, 2010. The dry run and exercise will be conducted in the evening.

3. REACTOR OVERSIGHT PROGRAM (EMA/ODH)

This is an NRC program used to provide continuous oversight of nuclear power plants to verify that each plant is operated in accordance with NRC rules and regulations. Key features of the program are a risk-informed regulatory framework, risk-informed inspections, a significance determination process to evaluate inspection findings, performance indicators, a streamlined assessment process, and more clearly defined actions the NRC will take for plants based on their performance. The URSB will continue to monitor this program especially as it relates to emergency preparedness.

4. AFTER ACTION PLAN ACTIVITIES (EMA/ODA/ODH/EPA)

The after action activities include an annual review of the State REP plan. Individual agencies continue to address issues noted from the two previous nuclear power plant exercises. The After Action meeting for the Davis-Besse partial participation exercise will be conducted on August 6, 2009.

5. IZRRAG ACTIVITIES (ODH/EMA/EPA/ODA)

IZRRAG training and drills will continue to be conducted annually. IZRRAG training will be conducted on September 9, 2009. The IZRRAG drill is scheduled for September 23, 2009. The next evaluated ingestion exercise for the State will be in 2012 with the Perry plant.

6. PLANT OVERSIGHT (EMA/ODH)

a. DAVIS-BESSE NUCLEAR POWER STATION (DBNPS):

First Energy has completed the independent assessments as part of the authorization to resume operations at Davis-Besse following the reactor head degradation.

On August 15, 2007 the NRC issued a Confirmatory Order to FENOC to formalize commitments made following the NRC Demand for Information (DFI) of May 14, 2007. The DFI was regarding the Exponent Report and subsequent related reports referencing the Davis-Besse head degradation. Davis-Besse has committed to comply with the components of the Confirmatory Order. An effectiveness review was conducted in January, 2008 with positive results. An additional effectiveness review was conducted in January, 2009 with positive results. The results of the assessment are being submitted to the NRC by March 23, 2009. Upon successful completion of the 2009 review, it is anticipated that the Confirmatory Order will be closed.

Davis-Besse continues to be in column one of the NRC Reactor Oversight Matrix.

b. BEAVER VALLEY POWER STATION

Beaver Valley continues to be in column one of the NRC Reactor Oversight Matrix.

c. PERRY NUCLEAR POWER PLANT

The Perry plant continues to be in column one of the NRC Reactor Oversight Matrix.

7. TECHNOLOGY (EMA/ODH/EPA)

The Working Group has assessed the need for consistent plant data in the Assessment Room. FENOC attended the Beaver Valley 2006 exercise to evaluate state dose assessment needs. Currently there is no plant data link from Beaver Valley to the state EOC. Ohio is currently pursuing resolution of this issue with West Virginia and Pennsylvania. FENOC is currently developing a web-based system to provide plant data for all FENOC sites to the State EOC. State personnel received training from Perry plant personnel on the e-data system in August. The e-data system was utilized during the 2008 dry run and evaluated exercise with the PNPP. The e-data system has not been completed for the Davis-Besse or Beaver Valley plants.

Teletrix equipment has been purchased for training of Field Monitoring Teams (FMT). The Plume Tracker systems were used during FMT training conducted on March 27, 2009 and were used during the DBNPS dry run. One additional unit has been received and is scheduled for use during the 2010 Beaver Valley exercise which will allow three teams to be exercised.

Ludlum Model 3 portable survey meters have been purchased to replace CDV-700RP. All counties have received the Ludlum Model 3 instruments. 2500 pocket ion chambers,

model 730, have been received to replenish dosimetry available for emergency workers. Additional Ludlum Model 3 instruments and model 730 dosimeters were received in SFY2009. A committee, consisting of members from FENOC, ODH, and Ohio EMA, is being formed to evaluate dosimetry and instrumentation supplied to emergency workers. This committee will provide recommendations to the NEPAC to determine a long term equipment plan.

8. NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS) (ALL)

Efforts continue with the improvement of the Ohio Plan for Response to Radiation Emergencies at Commercial Nuclear Power Plants with regard to NIMS compliance. Ohio EMA will continue to revise the plan in accordance with NIMS requirements as inconsistencies are discovered. No formal Federal guidance has been provided to aid in this task. Further changes have been made to the 2009 revision of the REP Plan to enhance NIMS compliance. The 2009 REP Plan has been approved by FEMA. A schedule for the review and update of the 2010 REP Plan has been developed.

9. DHS COMPREHENSIVE REVIEW (EMA/ODH)

The comprehensive reviews for Perry, Beaver Valley, and Davis-Besse were completed. The URSB Working Group is awaiting the final report. A briefing from FENOC is anticipated.

10. STATE DOSE ASSESSMENT (ODH/EMA)

The working group, along with FENOC, had undertaken an evaluation of available software. A conference call took place on July 11, 2007 to discuss a common dose assessment program. Discussions were also held with FENOC during the January 17, 2008 NEPAC meeting. FENOC was queried on the status of the dose assessment program during the October 14, 2008 URSB meeting. URSB is currently awaiting further input from FENOC.

11. KI (ODH/EMA)

The current KI policy has been revised to reflect the new supply of KI for the public. ODH has coordinated with the NRC who supplied the replacement KI for the power plant emergency planning zones. ODH has delivered the new supply of KI to the affected counties. The revised ODH KI policy was implemented on June 18, 2009. Supporting documentation on the ODH website was updated at this time as well.

12. HOSTILE ACTION BASED DRILLS (ALL)

Each plant is required to complete a hostile action drill as a component of phase three of an industry / NEI initiative driven by an NRC requirement to include hostile action drills as a major element of REPP. A hostile action drill was conducted on September 12, 2007 at the Perry Nuclear Power Plant. A hostile action drill for the Davis-Besse plant was conducted on November 13, 2008. The Beaver Valley hostile action drill was conducted on January 27, 2009. Upon completion of the hostile action drill program nationwide, there will be outreach opportunities for states and locals will be scheduled. The information and lessons learned collected will be compiled and used during the rulemaking process.

## URSB RESOLUTIONS LOG

Resolution Number	Description of Action	Date Signed
09-02	Resolution thanking Vernon Higaki for his service as FENOC Liaison to the Utility Radiological Safety Board of Ohio	April 6, 2009
09-01	Resolution approving the proposed rescission of Ohio Administrative Code Rule 4937-1-01 in favor of the public meetings rule of the Ohio Emergency Management Agency (OAC 4501:3-1-01)	April 6, 2009
08-01	Resolution thanking Roland Lickus for his service as NRC Region III Liaison to the Utility Radiological Safety Board of Ohio	July 7, 2008
07-01	Resolution for the Utility Radiological Safety Board Requesting FENOC Consider Comments as appropriate revisions to NORM-LP-5002, FENOC Position on Release In Progress.	April 9, 2007
05-02	Resolution for the Utility Radiological Safety Board Requesting FENOC Provide Unescorted Access for the State of Ohio Observation Program.	July 11, 2005
05-01	Resolution Thanking Dale W. Shipley for His Service as Chair of the Utility Radiological Safety Board of Ohio	January 10, 2005
03-04	Resolution for Utility Radiological Safety Board Removal of Inactive Member from the Citizen Advisory Council	July 7, 2003
03-03	Resolution Appointing Citizens to Serve on the URSB Citizen Advisory Council on Nuclear Safety	July 7, 2003
03-02	Resolution Issuing Utility Radiological Safety Board Proclamations to Members of the URSB Citizen Advisory Council on Nuclear Safety	July 7, 2003
03-01	Resolution for Utility Radiological Safety Board Appointments Commencing January 6, 2003 for Medical Expert on the URSB Citizen Advisory Council on Nuclear Power Safety	January 6, 2003
02-03	Resolution for Utility Radiological Safety Board Appointments Commencing July 1, 2002 for Student Membership on the URSB Citizen Advisory Council on Nuclear Power Safety	October 7, 2002
02-02	Resolution for Utility Radiological Safety Board Appointments Commencing July 1, 2002 to Membership on the URSB Citizen Advisory Council on Nuclear Power Safety	July 8, 2002
02-01	Resolution Issuing Utility Radiological Safety Board Proclamations to Members of the URSB Citizen Advisory Council on Nuclear Safety	July 8, 2002

# URSB JOINT INSPECTION OBSERVATION PROGRAM



## URSB JOINT INSPECTION OBSERVATION PROGRAM

The Joint Inspection Observation Program (JIOP) was implemented by the Board in April 1991 by adopting URSB Resolution 91-002, "Resolution Adopting General Agreement Between the U.S. Nuclear Regulatory Commission and Ohio's State Liaison Officer for State Observations of NRC Inspections of Nuclear Power Plants". The agreement allows URSB JIOP members to observe NRC inspections of the Perry and Davis-Besse nuclear power plants. Under "adjacent state observation" status, a second agreement with NRC Region I allows JIOP participants to observe NRC inspections at the Beaver Valley Power Station. A "guidelines document" has been developed setting the conditions and procedures for member agencies' participation in the program. This document includes the goals and objectives of the JIOP. The URSB JIOP Goals and Objectives are delineated below.

In SFY09 the URSB JIOP participants observed thirteen NRC inspections. For each observation a report is generated and forwarded to the NRC for its review and comment. The table at the end of this section lists these reports for the past five years. All JIOP reports are available to the public by request to the URSB Secretary. Requests may be made by telephone at (614) 889-7150 or in writing to:

URSB Secretary  
The Utility Radiological Safety Board  
2855 West Dublin Granville Road  
Columbus, Ohio 43235-2206

### URSB JIOP Goals and Objectives

To observe Nuclear Regulatory Commission inspections at Ohio nuclear power facilities and the Beaver Valley Power Station...

- To participate with the NRC to observe inspections.
- To communicate to the public, URSB member agencies, and interested parties first-hand information obtained by observing inspections, in accordance with NRC protocol.
- To communicate with the NRC resident, regional, and national inspectors.

To raise issues of health, safety, and economic concerns with the Board...

- To observe NRC inspections and obtain timely, first-hand information which will assist in formulating state positions on public health, safety, performance, and/or cost issues.
- To maintain a historical database to monitor the economical production and safe operation of nuclear energy.

To provide the URSB with reports that identify the number of inspections observed during the quarter, summarize observation results and recommendation, and address comments made by the NRC and the public.

**JOINT INSPECTION OBSERVATION PROGRAM REPORTS**

<b>JIOP REPORT NO.</b>	<b>DATE(S) OF INSPECTION</b>	<b>PLANT</b>	<b>AREA(S) OF INSPECTION</b>	<b>OBSERVING AGENCY</b>
09-PNPP-02	3/2-3/6/2009	PNPP	Access Controls to Radiologically Significant Areas and ALARA Planning Controls	ODH
09-PNPP-01	2/2-2/6/2009	PNPP	Radioactive Materials Processing and Transportation	ODH
09-DBNPS-01	1/12-1/16/2009	DBNPS	Radioactive Materials Processing and Transportation and Reactor Coolant System Activity	ODH
08-DBNPS-03	11/17-11/21/2008	DBNPS	Effluent Treatment and Monitoring Systems	ODH
08-PNPP-04	10/20-10/24/2008	PNPP	ALARA Planning Controls and Reactor Coolant System Activity	ODH
08-PNPP-03	9/8-9/12/2008	PNPP	Occupational Exposure Control and Access Controls to Radiologically Significant Areas	ODH
08-DBNPS-02	8/25-8/29/2008	DBNPS	Access Controls to Radiologically Significant Areas and ALARA Planning Controls, Occupational Exposure Control Effectiveness, and Reactor Coolant System Activity	ODH
08-PNPP-02	5/13-5/16/2008	PNPP	Inspection for One or Two White Inputs in a Strategic Performance Area	EMA
08-PNPP-01	5/19-5/23/2008	PNPP	Radiological Environmental Monitoring Program, Radioactive Material Control Program, and Radiological Effluents	ODH
08-DBNPS-01	5/19-5/23/2008	DBNPS	Radiological Environmental Monitoring Program, Radioactive Material Control Program, and Radiological Effluents	ODH
08-01	1/07-1/11/2008	DBNPS	Access Controls to Radiologically Significant Areas and ALARA Planning Controls	ODH

07-13	12/10-12/14/2007	PNPP	Radioactive Gaseous and Liquid Effluent Treatment and Monitoring	ODH
07-12	12/10-10/14/2007	DBNPS	Radioactive Materials Processing and Transportation	ODH
07-11	10/16-10/20/2007	PNPP	EP Routine Inspection/PI Verification	EMA
07-10	10/22-10/26/2007	PNPP	Access Controls to Radiologically Significant Areas and ALARA Planning Controls	ODH
07-09	8/6-8/10/2007	DBNPS	Access Controls to Radiologically Significant Areas	ODH
07-08	8/20-8/24/2007	PNPP	Radiation Monitoring Instrumentation and Protective Equipment	ODH
07-07	6/9-8/6/2007	DBNPS	Reactor Vessel Head Replacement Inspection	EMA
07-06	7/9-7/13/2007	BVPS	Radiation Emergency Monitoring Program	EMA
07-05	6/18-6/22/2007	DBNPS	Radiation Monitoring Instrumentation and Protective Equipment	ODH
07-04	7/16-7/20/2007	PNPP	Radioactive Materials Processing and Transportation	ODH
07-03	4/09-4/13/2007	PNPP	Access Controls to Radiologically Significant Areas	ODH
07-02	1/22-1/26/2007	DBNPS	Effluents	ODH
07-01	2/05-2/09/2007	BVPS	NRC Emergency Preparedness	EMA
06-10	11/1-12/15/2006	BVPS	Mitigating Systems Performance Index Verification	EMA
06-09	11/06-11/10/2006	PNPP	Access Controls to Radiologically Significant Areas	ODH
06-08	10/23-11/03/2006	PNPP	Human Performance Action Item	ODH
06-07	7/17-7/28/2006	PNPP	Action Item Review	EMA
06-06	6/5-9/06	PNPP	Access Control to RAD Areas	EMA
06-05	6/12-16/06	PNPP	Human Performance & Action Items	EMA
06-04	3/9-16/06	PNPP	Access Control & ALARA	EMA

06-03	2/13-17/06	DBNPS	Corrective Action Item Review	EMA
06-02	2/3-17/06	PNPP	EP Program	EMA
06-01	1/19-13 1/17-20/06	PNPP	Action Item Review	EMA
05-03	Jan-May 2005	PNPP	Supplemental Inspection 95003	EMA
05-02	1/10/05	PNPP	Special Inspection 93812	EMA
05-01	2/7/05	BVPS	Emergency Preparedness Program	EMA

Note: Reports will not be made public until after the NRC has released their report, per NRC protocol



# FINANCIAL REPORT



DESCRIPTION	SFY05	SFY06	SFY07	SFY08	SFY09
Appropriations					
Emergency Management	\$1,020,068	\$1,110,459	\$1,198,319	\$1,434,242	\$1,374,837
Health	\$793,000	\$793,000	\$793,000	\$815,000	\$835,500
Environmental Protection	\$232,000	\$263,449	\$276,352	\$279,927	\$257,938
Agriculture	\$66,550	\$70,286	\$73,059	\$128,723	\$134,389
Commerce					
Public Utilities Commission					
<b>Total Appropriation</b>	\$2,111,618	\$2,237,194	\$2,340,730	\$2,657,892	\$2,602,664
Expenditures					
Emergency Management	\$1,020,068	\$1,110,459	\$1,202,035	\$1,492,342	\$1,337,042
Health	\$541,294	\$551,674	\$721,320	\$789,884	\$836,042
Environmental Protection	\$215,137	\$204,842	\$249,540	\$248,002	\$235,179
Agriculture	\$66,550	\$70,286	\$73,016	\$128,723	\$113,352
Commerce					
Public Utilities Commission					
<b>Total Expense (Year-end Balance)</b>	\$1,843,049	1,937,261	\$2,245,911	\$2,658,951	\$2,521,615

## AGENCY OVERVIEWS



## OHIO EMERGENCY MANAGEMENT AGENCY

The Ohio Emergency Management Agency (Ohio EMA) was established under Ohio Revised Code Chapter 5502.22 as a division of the Department of Public Safety. The mission of the Ohio EMA is to coordinate activities to mitigate, prepare for, respond to and recover from disasters. Phases of mitigation, preparedness, response and recovery are designed to minimize effects upon the population caused by all hazards. The agency maintains the State Emergency Operation Center, the data links to nuclear power plants, and communications to subdivisions. The Ohio EMA implements federal and state policies and programs, and supports county emergency management agencies.

The Executive Director of Ohio EMA supervises the day-to-day operations of the agency's professional and technical support personnel and serves as the chair of the URSB.

The Ohio EMA is organized into three divisions each consisting of several branches. The Operations Division is comprised of the Radiological; Readiness and Response; Plans; Field Operations, Training & Exercise Branches. The Mitigation, Recovery, and Preparedness Grants Division is comprised of the Mitigation; Recovery and; Grants Branches. The Technical Support Division is comprised of the Communication; Data Management; and Facilities, Logistics and Calibration Branches. The Ohio EMA is responsible for Nuclear Power Plant incident response, accident assessment, instrument maintenance, training, planning, exercises and drills, utility, federal, and public interfacing and facilitation of the URSB. In addition, Ohio EMA continues to monitor activities relating to high level radioactive waste, and is coordinating the transport of spent fuel and high level radioactive materials across Ohio in the areas of training and equipping of county emergency responders.

### **Nuclear Power Plant Exercises and Drills**

Ohio EMA is responsible for the coordination of State Agency participation in nuclear power plant exercises. These exercises can take the form of small communications tests involving only State and County EMAs to major federally evaluated exercises. In SFY09, there were two federally evaluated exercises, and two Hostile Action based exercises.

#### Perry Exercise:

A full participation exercise was conducted with the Perry Nuclear Power Plant on October 7, 2008. The State fully activated the State Emergency Operation Center. The demonstration of the State's Field Monitoring Teams (FMT's) and Sampling Screening Point was conducted out-of-sequence on October 6. Other participants included the counties of Lake, Ashtabula, and Geauga.

The State received no Deficiencies or Areas Requiring Corrective Action (ARCA's). One Planning Issue was identified for inadequate procedures regarding field data comparisons with projected data.

One ARCA was identified for Lake County regarding lack of knowledge of Potassium Iodide (KI). The ARCA was successfully re-demonstrated during the exercise.

One ARCA was also identified for Geauga County regarding instrument use for monitoring of vehicles. The ARCA was successfully re-demonstrated during the exercise.

No exercise findings were identified for Ashtabula County.

The State and the counties demonstrated numerous strengths. No exercise issues will be carried over for re-demonstration.

Overall, the 2008 Perry Nuclear Power Plant exercise was successful for the State of Ohio and Lake, Geauga and Ashtabula Counties.

#### Davis-Besse Nuclear Power Station Hostile Action Based Drill:

The Davis-Besse Nuclear Power Station Hostile Action Based Drill was conducted on November 13. The State of Ohio and Ottawa County participated by partially activating their Emergency Operation Centers (EOCs). The Drill that initiated with a terrorist attack drove the Station to declare a General Emergency based on plant conditions. An Incident Command Post was established in Ottawa County. The exercise generated beneficial discussion on notification, communication, and decision making.

#### Beaver Valley Power Station Hostile Action Based Drill:

The Beaver Valley Power Station Hostile Action Based Drill was conducted on January 27. The State of Ohio and Columbiana County participated by partially activating their Emergency Operation Centers (EOCs). The Drill that initiated with a terrorist attack drove the Station to declare a General Emergency based on plant conditions. An Incident Command Post was established in Pennsylvania. The exercise generated beneficial discussion on notification, communication, and decision making.

#### Davis-Besse Exercise:

The State of Ohio in coordination with Ottawa, Lucas, and Sandusky counties participated in the Davis-Besse Nuclear Power Station plume phase exercise on May 12, 2009. This exercise was a partial participation for the State of Ohio and full participation for the affected counties. The Field Monitoring Teams, Sample Screening Point, and the State Communication Van practiced their response procedures on April 13, one day prior to the April 14 Dry Run but did not participate in the evaluated exercise due to the State's partial participation. The draft exercise report was received on June 9 and indicated no deficiencies or Areas Requiring Corrective Actions (ARCA's) for the State of Ohio or for Ottawa County. There was one previous ARCA for Ottawa County identified during the May 15, 2007 exercise that was successfully redemonstrated. There was one ARCA identified for Lucas County during the 2009 exercise for monitoring of emergency worker vehicles. This ARCA was successfully redemonstrated during the 2009 exercise. The final report is expected within 90 days of the exercise.

#### **Nuclear Power Plant Incidents**

There were two classified events in SFY09 for FENOC plants. The Beaver Valley Power Station declared a Notice of Unusual Event (NOUE) on June 18, 2009, due to a fire/CO<sub>2</sub> activation in the Emergency Response Facility (ERF) substation. The Davis Besse Nuclear Power Station

declared a Transitory Alert due to a transformer explosion and a loss of two off-site power sources.

### **Emergency Planning**

Ohio EMA completed the annual revision of The Ohio Plan for Response to Radiation Emergencies at Commercial Nuclear Power Plants in February 2009. A major focus is the March 2008 release of the National Response Framework (NRF). Throughout the plan, former references to the National Response Plan (NRP) have been changed to the National Response Framework (NRF).

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## **OHIO DEPARTMENT OF HEALTH**

The Ohio Department of Health (ODH) provides support to the URSB through its statutory functions in matters of radiation protection. ODH is designated as the Ohio radiation control agency in accordance with Ohio Revised Code 3748.02. ODH serves as the lead state agency on all health physics issues within Ohio, monitors the radiological performance of the nuclear power plants, provides emergency response personnel and dose assessment team leadership in the event of a radiological emergency, evaluates the ability of hospitals to treat contaminated injured people, ensures radiological environmental monitoring outside of commercial nuclear power plant boundaries and provides input on URSB Working Group initiatives.

### **Nuclear Power Plant Emergency Response Exercises**

ODH staff fully participates in nuclear power plant exercises. ODH participated in both the October 2008 Perry Nuclear Power Plant (PNPP) full participation and the May 2009 Davis-Besse Nuclear Power Station (DBNPS) partial participation graded exercises. ODH provided key personnel to the Executive Room and Dose Assessment Room, as well as liaison positions with the county, the utility, and the Joint Information Center. Field Monitoring Teams and Sample Screeners were only evaluated during the PNPP exercise, but did participate in the DBNPS Dry Run. In preparation for these exercises, ODH staff attended several training sessions, including: in-house procedure reviews, plant specific Systems Training, Tabletop Training, and Field Monitoring Team Training.

A Hostile Action-based Exercise for Beaver Valley Power Station (BVPS) was held on January 27, 2009. Two ODH staff participated in roles at the Assessment Room and Executive Room. ODH staff also participated in the Tabletop Training in preparation for this exercise. Both the training and drill provided ODH staff with insights in how an event based on hostile actions would differ from an accident, as well as the importance of interagency cooperation.

Ingestion Zone Recovery and Reentry Advisory Group (IZRRAG) Training was conducted in November 2008. ODH participated as the IZRRAG lead agency and worked with the other IZRRAG participating agencies in beginning the procedural review and establishing a training schedule for FY 2010.

MS-1 medical drills at designated hospitals inside the 10-mile Emergency Planning Zone are also evaluated by ODH staff. These drills are designed to ensure medical facility capabilities in a radiological emergency and satisfy the requirements identified in the Federal Emergency

Management Agency's Guidance Memorandum MS-1, "Medical Services". In this past year ODH staff observed MS-1 drills at LakeWest Hospital in support of the PNPP full participation exercise and at Magruder Hospital in support of the DBNPS partial participation exercise.

ODH staff evaluates these exercises based on multiple criteria in eight categories of interest.

These categories of interest are as follows:

1. General Drill Information
2. Accident Scene Information
3. Information Pertaining to Injured Individual
4. Ambulance Crew Activity at the Accident Scene and En Route to Hospital
5. Ambulance Arrival and Departure from Hospital
6. Hospital Preparations
7. Hospital Decontamination and Treatment Activities
8. Hospital Post Treatment Activities

The hospitals observed during the two MS-1 exercises conducted this year are adequately prepared to treat an injured individual who is contaminated with radioactive material.

#### **Utility Radiological Safety Board (URSB) Working Group Activities**

ODH attended monthly URSB Working Group meetings and worked with other member agencies on working group initiatives. Some of these initiatives are also being addressed through the Nuclear Emergency Planning Advisory Committee (NEPAC) meetings which ODH attends quarterly. ODH continues to have a role in URSB After-Action Group meetings where corrective actions that were documented from end-of-drill critiques and dose assessment room activities from previous drills are addressed and tracked.

ODH staff also attends the BVPS Tri-State meetings on a quarterly basis. These meetings bring together representatives of Ohio, Pennsylvania and West Virginia and FENOC to address issues specific to BVPS.

Along with other State Agencies, ODH reviewed the *Ohio Plan for Response to Radiation Emergencies at Commercial Nuclear Power Plants* (REP Plan) and made appropriate revisions.

ODH staff collaborated with OEMA staff in the presentation of Field Monitoring Team training in March 2009.

### **Joint Inspection Observation Program (JIOP)**

ODH Bureau of Radiation Protection staff participates with the United States Nuclear Regulatory Commission (NRC) in the Joint Inspection Observation Program (JIOP) inspections. The ability for ODH staff to participate in these activities has been significantly enhanced over the last year; four ODH personnel have been granted unescorted access to First Energy Nuclear Operating Company (FENOC) facilities. This has reduced the effort required by both NRC and FENOC in supporting JIOPs and has allowed ODH personnel to have greater latitude while participating. JIOP inspection areas have included: Access Control to Radiologically Significant Areas, ALARA Planning and Controls, Reactor Coolant System Activity, Occupational Exposure Control Effectiveness, Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems (with a special focus on the Tritium leak discovered in October 2008), and Radioactive Material Processing and Transportation. All of the JIOP inspections performed during this year took place at either the Davis-Besse Nuclear Power Station or the Perry Nuclear Power Plant.

Findings from these inspections can be located on the NRC website. ODH observations during these inspections concurred with the NRC's findings.

### **Midwestern Radioactive Material Transportation Committee**

Robert Owen, Chief of the Bureau of Radiation Protection, Ohio Department of Health, is the gubernatorial appointee to the committee. Each state has both a gubernatorial and legislative appointee to the committee, which acts as a forum for the states working with DOE in developing policies and procedures for the safe transportation of radioactive material, including spent nuclear fuel, transuranic waste, low-level radioactive waste, and highway route controlled quantities (HRCQ) of radioactive material. ODH works with OEMA and PUCO in presenting Ohio's position on transportation issues. Senator Steve Buehrer is the legislative appointee for Ohio.

The most significant development to arise from this committee in FY 2009 concerned its continued existence. The Department of Energy (DOE) has proposed to stop funding regional committees such as this. At present there is only enough funding left for a single meeting. The committees and several law makers from around the nation have sent letters objecting to the DOE's proposal, but a final determination has not yet been made. If the committee is disbanded a valuable source of information and link to counterparts in other states will be lost.

### **Potassium Iodide (KI)**

ODH acquired a new supply of potassium iodide (KI) from the NRC to replace the existing stock which expired on May 31, 2009. The new KI tablets were received in early May 2009 in two separate shipments. ODH staff delivered the allotted tablets to each county or local health department prior to the expiration of the old KI on May 31, 2009. The delivery dates are listed in the following table:

County/Health Department	KI Delivery Date
Ashtabula County	May 27, 2009
Columbiana County	May 21, 2009
East Liverpool Health Department	May 21, 2009
Geauga County	May 27, 2009
Lake County	May 27, 2009
Ottawa County	May 22, 2009

Receipt of the new KI necessitated changes to the ODH policy for the *Distribution and Use of Potassium Iodide for the 10-Mile Emergency Planning Zone Population*. The policy was revised in consultation with ODH's State and County partner agencies and signed by the Director of Health in June 2009. The policy no longer includes pre-distribution of KI to each residence in the 10-mile EPZ due to the logistical and cost challenges involved. The policy emphasizes that KI is a supplemental action to evacuation, and not meant to be used in lieu of evacuation. The KI is currently stockpiled in the counties and available in sufficient quantities to the general public, emergency workers and institutionalized populations.

Documentation on the ODH web site regarding general questions about KI and the ODH KI policy were updated to provide the public with accurate information regarding the replacement KI. The following changes were made to the web site:

- Entries for "potassium iodide" and "KI" were added to the alphabetical index. This step increases the likelihood of the public finding information regarding KI.
- Two separate ODH web pages dealing with KI were consolidated into a single page. This new page provides the following information to the public:
  - A brief history of the KI distribution program in Ohio
  - Information on how to identify and dispose of expired KI
  - An explanation of the change in dosage from 130 milligrams per tablet to 65 milligrams per tablet
- The revised KI policy signed by the Director of Health was added.
- The Food and Drug Administration (FDA) letter extending the expiration date of the old KI was deleted
- The pictures of the old KI pills and packaging were deleted
- Pictures of the new KI pills and manufacturer packaging were added
- A copy of the manufacturer's package insert was added
- Links to specific KI manufacturers were deleted
- The frequently asked questions document was updated

- The link to the Nuclear Regulatory Commission (NRC) web page dealing with KI was updated

A copy of the policy and information regarding KI is available on the ODH web site: <http://www.odh.ohio.gov/odhPrograms/rp/techs/kipolicy.aspx>

ODH will provide materials to the counties to break down the bulk supplies of KI into smaller amounts that are easier to distribute to the public.

#### **Davis-Besse Tritium Leak**

On Thursday, October 23, 2008 DBNPS notified the State of Ohio, Lucas County, and Ottawa County of a tritium leak onsite. The leak was discovered while conducting excavation for repair of a fire water line. ODH participated in a conference call held the afternoon of October 23<sup>rd</sup> to discuss the situation. Follow-up conference calls were later held to review sampling results and discuss plans for repair and monitoring. Subsequent monitoring efforts revealed that the tritium had not traveled off site.

#### **Radiological Environmental Monitoring Activities**

ODH staff oversees the state's offsite radiological environmental monitoring activities around the Davis-Besse Nuclear Power Station, Perry Nuclear Power Plant, and Beaver Valley Power Station. Ground water, surface water, potable water, bottom sediment, milk, fish, fruit, vegetable and air samples are collected by local health departments (under contract with ODH) and analyzed by the ODH Laboratory. All sample results indicated that radioactivity levels are at or near the Lower Limit of Detection (LLD) and well below the NRC release criteria.

The ODH Annual Environmental Monitoring Report for 2008 has been printed and will be distributed by mid-August.

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### **OHIO ENVIRONMENTAL PROTECTION AGENCY**

The Ohio Environmental Protection Agency's purpose is to maintain a safe and healthy environment for the population of Ohio. To support the goals of the URSB, the Ohio EPA Radiological Safety Program collects and monitors performance trends of monthly, annual, and special operating reports on air, water, and hazardous waste generation from the nuclear plants. A synopsis is presented to the URSB on a quarterly basis. The Agency has one full time staff member and twenty-five other employees who devote a portion of their time to the activities supported by the Board. Each one contributes their particular expertise to the work of the Board, as it is needed.

Nuclear plants have permits for stationary combustion sources such as auxiliary boilers and the emergency diesels. There were no air permit violations by the nuclear plants in SFY09. The Nuclear Regulatory Commission regulates other routine air emissions associated with the operation of a nuclear power plant.

Ohio EPA receives and evaluates monthly wastewater discharge reports submitted under National Pollutant Discharge Elimination System (NPDES) permits. These permits establish

limits on discharges of; hydrocarbons, metals, treatment chemicals, dissolved oxygen, and waste heat from the plant sewer and process effluent outfalls. There was report of an NPDES violation in SFY09.

Any facility generating more than 200 pounds of hazardous waste, as defined in ORC 3745 Sections 50 and 51, a month must register with Ohio EPA and obtain a generator's identification number. This registration allows the plant to store and manifest hazardous waste for shipment off-site. The plants must make an annual report each calendar year and submit the report to Ohio EPA, Division of Hazardous Waste Management. These reports detail the types of waste generated and the quantities involved. These reports also list where each waste is sent for treatment, storage, or disposal. There were no known discrepancies or violations of either plant's permit in SFY09.

National drinking water standards have been established to ensure that our drinking water does not contain unhealthy levels of contaminants. Contamination standards for inorganic chemicals, volatile organic chemicals, pesticides, and herbicides are expressed as Maximum Contamination Limits (MCLs). Public water providers must test their water regularly, and submit the results to Ohio EPA. Public water providers have to test their raw and finished water for 83 substances. There was an apparent high radiological test result at a water plant, but the retest of the water did not show any activity. This result is being treated as a lab error after it was investigated. The well was not close to any nuclear plant or facility and there were no reported materials accidents that could have caused the reading.

While there has never been an accident involving a release of radiation from either plant site, the Division of Emergency and Remedial Response, Emergency Response Unit has committed staff to act as environmental state and county liaisons if an event should occur. In addition, Ohio EPA provides a sampling team of 21 people to measure any deposition that could affect soil, surface water, snow, or vegetation. This sampling team, known as the Radiological Assessment Team is continually trained and briefed on any changes affecting the team's role. Team membership includes most Ohio EPA divisions to ensure representation of all needed programmatic expertise. This team participates in post plume exercises and drills run by the State or the plants as part of their regular exercise schedule. This team participates in training other than drills and exercises twice a year to maintain their response readiness.

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## **OHIO DEPARTMENT OF AGRICULTURE**

The Ohio Revised Code directs the Ohio Department of Agriculture (ODA) to protect the food supply as it relates to Food Safety and Animal Health. Additionally, the Code of Federal Regulations directs ODA to promote public safety involving nuclear power plant operations. ODA, in coordination with the United States Department of Agriculture (USDA) and the Ohio State University Cooperative Extension Service, estimates damage to crops and livestock from radiation incidents.

ODA maintains emergency response plans and monitoring programs in order to respond to and mitigate the effects of nuclear incidents. ODA coordinates procedures for the protection and recovery of livestock, poultry, forage and browse plants from radiation effects. ODA reviews and

maintains embargo and quarantine procedures for all affected food, agricultural commodities, and livestock within an affected area and for possible outlets for contaminated products.

If an incident occurs, ODA assesses and deals with problems impacting agriculture and its related industries. ODA, in coordination with the Ingestion Zone Recovery and Re-entry Advisory Group (IZRRAG) and the counties involved, determines affected target groups including farmers, food producers, distributors and processors in the ingestion exposure pathway and gives them emergency response information.

#### **Nuclear Power Plant Emergency Planning**

ODA attends monthly Utility Radiological Safety Board (URSB) Working Group meetings, Nuclear Emergency Planning Advisory Committee (NEPAC) meetings and After Action Group meetings.

ODA continues to participate in the scheduled IZRRAG meetings to review and revise the Ohio Plan for “Response to Radiation Emergencies at Commercial Nuclear Power Plants” procedures and advisories in preparation for nuclear power plant training, exercises or related emergencies.

#### **Other Related Items**

The Ohio Agriculture Brochure was reviewed and updated by IZRRAG team members in 2008 and was distributed by ODA. The brochure is distributed to Ohio food producers, processors and distributors located within a ten mile radius of a nuclear power plant, and the brochure is made available to counties within a fifty mile radius of those plants.

ODA participated in the Perry Nuclear Power Plant full participation exercise conducted on October 7, 2008 and the hostile action drill for the Davis-Besse Nuclear Power Station held on November 13, 2008.

ODA also participated in the IZRRAG training that was conducted on November 7, 2008 in preparation for the Ingestion Zone table-top exercise scheduled for September 23, 2009 and for the sampling team exercise scheduled for October 22, 2009. After Action activities included a review of the State REP plan.

As the result of retirements in June of 2009, several new members of the ODA field monitoring and sampling teams will need to be trained. They will attend the IZRRAG training scheduled for September 9, 2009. Those new team members will also need to attend ICS courses to prepare them in understanding and integrating the federal NIMS requirements.

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### **OHIO DEPARTMENT OF COMMERCE DIVISION OF INDUSTRIAL COMPLIANCE**

The overall mission of the Ohio Department of Commerce (ODC), Division of Industrial Compliance is to serve Ohio by promoting the safety and soundness of our customer industries through an innovative and effective team of highly motivated employees. The Ohio Department of Commerce is one of the state's chief regulatory agencies. Commerce is different from most

state agencies, since it must operate like a private business enterprise as opposed to being funded primarily by Ohio's General Revenue Fund dollars. The agency exists on the fees and assessments from the industries that it regulates.

### **URSB Involvement**

ODC is a member of the Ohio Utility Radiological Safety Board (URSB). ODC is committed to help ensure nuclear safety for the citizens of Ohio by monitoring the Davis-Besse and Perry Nuclear Power Plants quality assurance programs.

### **Agency Specific Activities**

During SFY09, ODC continually monitored the Davis-Besse and Perry Nuclear Power Plants In-service Inspection Program of Nuclear Power Plant Components. Chapter 4101:4-5 of the Ohio Administrative Code mandates this monitoring. In this chapter it refers to Section XI, Rules for In-service Inspection of Nuclear Power Plant Components, of the ASME Boiler and Pressure Vessel Code. This Section provides rules for the examination, testing, and inspection of components and systems in a nuclear power plant.

The rules of this Section constitute requirements to maintain the nuclear power plant and to return the plant to service, following plant outages, in a safe and expeditious manner. The rules require a mandatory program of examinations, testing, and inspections to evidence adequate safety. The rules also stipulate duties of the Authorized Nuclear In-service Inspector to verify that the mandatory program has been completed, permitting the plant to return to service in an expeditious manner.

The Owner of the nuclear power plant is assigned the responsibilities to develop a program, which will demonstrate conformance to the requirements of this Section. These responsibilities include: (a) Provision of access in the design and arrangement of the plant to conduct the examination and tests; (b) development of plans and schedules, including detailed examination and testing procedures for filing with the enforcement and regulatory authorities having jurisdiction at the plant site; (c) conduct of the program of examination and tests, system leakage and hydrostatic pressure tests, as well as in-service tests of pumps and valves; (d) recording of the results of the examinations and tests, including corrective actions required and the actions taken.

Duties of the Authorized Nuclear In-service Inspector are assigned by Section XI to verify that the responsibilities of the Owner and the mandatory requirements of this Section are met. Duties performed this past fiscal year by the Authorized Nuclear In-service Inspectors included: (a) witnessing of pressure tests; (b) reviewed nondestructive examination procedures and repair programs; (c) verified that the visual examinations and tests on pumps and valves had been completed and the results recorded.

### **Future Activities**

The Department Staff will continue to monitor the In-service Inspection Programs of Davis-Besse and Perry Nuclear Power Plants, and will provide technical assistance to the URSB when questions arise regarding the requirements of ASME Section XI.

## **PUBLIC UTILITIES COMMISSION OF OHIO**

### **The Public Utilities Commission of Ohio**

The Public Utilities Commission of Ohio (PUCO) works to assure all residential and business consumers access to adequate, safe and reliable utility services at fair prices, while facilitating an environment that provides competitive choices. The PUCO regulates electric, natural gas, telecommunications, water/wastewater and transportation companies operating in the State of Ohio.

### **The PUCO Transportation Department**

The PUCO Transportation Department works to facilitate safe and secure commercial transportation on public highways, railroads, and at transportation facilities as well as promote quality and equitable service in a proactive manner for the public and commercial carriers in the household goods, bus, and ferryboat industries.

The PUCO Transportation Department is responsible for enforcing state and federal motor carrier and rail safety requirements within the state of Ohio.

#### Transport of Radioactive Materials – PUCO Regulatory Responsibilities & Capabilities

The Governor has designated the PUCO as the state's routing agency for radioactive materials and spent nuclear fuel. The PUCO Transportation Department is responsible for the enforcement of federal and state regulations governing the highway and rail road transport of hazardous materials, including radioactive materials. The Transportation Department staff includes fourteen Hazardous Materials Specialists and 1 supervisor trained to standards prescribed by the United States Department of Transportation (US DOT), the Federal Motor Carrier Safety Administration (FMCSA) and the Commercial Vehicle Safety Alliance (CVSA). These personnel are certified to conduct inspections of highway radioactive materials shipments using the CVSA Level VI, Enhanced North American Standard (NAS) Inspection for Radioactive Shipments. The Level VI inspection procedure is limited to radiological shipments and includes inspection procedures of the US DOT/CVSA NAS Level I inspection. The Level VI inspection procedures include US DOT radiological requirements and stringent "out-of-service criteria" for trucks transporting the materials. CVSA Level VI inspections include close examination of the driver, the vehicle, and the radioactive materials packaging and cargo. Radioactive materials shipments that are not examined under the Level VI process are inspected using the North American Standard Level I procedures. Also, several PUCO Transportation Department personnel are certified by the US DOT Federal Railroad Administration (FRA) to inspect rail shipments of radioactive materials. Along with checking for compliance with the US DOT Hazardous Materials Regulations, these PUCO personnel are also FRA certified to inspect rail equipment, track, and operating practices.

When encountered in transportation, PUCO HM Specialists regularly inspect packaging of Class 7 materials that are not subject to the CVSA Level VI inspection criteria. These inspections include a radiological survey. These personnel are also trained in radiological decontamination and control procedures found in 49 CFR 173.443.

PUCO personnel often work very closely with Ohio Emergency Management Agency and Ohio Department of Health personnel to coordinate and conduct inspections of high level and special interest radioactive materials shipments. This includes radioactive industrial sources, shipments of radioactive waste from the de-commissioning of US DOE facilities in Ohio as well as containers of depleted Uranium Hexafluoride ( $UF_6$ ) in transit from Oak Ridge, TN to the US DOE Piketon, OH facility. PUCO personnel inspect and escort all US DOT regulated Highway Route Controlled Quantities (HRCQ) and Quantities of Concern (QC) shipments that enter or travel through Ohio.

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# NUCLEAR POWER PLANT ACTIVITIES



## NUCLEAR POWER PLANT ACTIVITIES

Two nuclear power plants are located in Ohio, the Davis-Besse Nuclear Power Station and the Perry Nuclear Power Plant. A third nuclear power plant, the Beaver Valley Power Station, is located in Pennsylvania within 5 miles of the Ohio border. The following three sections describe the plants in more detail and activities of SFY09.

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### DAVIS-BESSE NUCLEAR POWER STATION



First Energy Nuclear Operating Company's Davis-Besse Nuclear Power Station, is near Oak Harbor, Ohio in Ottawa County. The plant is owned by First Energy Nuclear Operating Company and operated by the First Energy Nuclear Operating Company (FENOC).

The station operated safely and reliably during the year. Several activities to highlight from the past year include a unit power uprate, NRC and FEMA observed hostile-action-based Emergency Response Drill, the NRC and FEMA Evaluated Emergency Response Exercise, two plant power reductions, independent assessments in key programs completed in accordance with commitments made to the Nuclear Regulatory Commission and an after the fact Alert Emergency Classification following an explosion in the unit's switchyard located in the Owner Controlled Area.

#### **Hostile Action Based Drill**

Davis-Besse conducted a hostile-action-based drill on Thursday, Nov. 13, as part of an ongoing program coordinated by the Nuclear Energy Institute (NEI). NEI will use the results from the drill to implement evaluated security threat exercises industry-wide in the next few years – just one in a string of security-related improvement initiatives. Like other emergency plan evaluated exercises, the future security-threat-related exercises will be graded by the Nuclear Regulatory Commission and the Federal Emergency Management Agency. Overall the hostile-action based drill went well. Lessons learned were captured to further improve emergency response.

### **Unit Power Uprate**

In July 2008 Davis-Besse successfully implemented its 1.6 percent power uprate after the plant completed required work activities. Results indicated the uprate provided about 15 additional megawatts (MW) output rather than the original planned 12 MW. Overall, the power uprate project was completed about 77 days ahead of schedule and closed one of Davis-Besse's Cycle 16 priorities.

### **May 2009 Emergency Response Exercise**

The Davis-Besse Emergency Response Organization (ERO), together with the offsite response organizations, successfully demonstrated the ability to protect the health and safety of the public during the biennial ERO evaluated exercise on May 12, 2009. All onsite emergency response facilities were involved. Offsite participation included full participation from Ottawa and Lucas Counties, and partial participation from the State of Ohio. Overall, more than 400 players were involved in the evaluated exercise.

All 52 scheduled drill objectives were successfully demonstrated along with 9 of the 10 drill/exercise Nuclear Regulatory Commission (NRC) performance indicator (PI) opportunities. The one missed NRC PI opportunity was due to the Initial Notification Form for the General Emergency inaccurately describing the offsite radiological release. A release requiring offsite protective actions was selected while in fact there was only a minor release occurring due to the venting of steam.

The FEMA evaluation team was pleased with the offsite players' demonstration. Only one Area Requiring Corrective action was documented and subsequently cleared by the evaluators that involved knowledge of dosimeter limits during emergency worker decontamination in Lucas County.

### **Unit Downpowers**

12/27/08

Davis-Besse safely returned to service at 9:48 p.m. on Saturday, Dec. 27 following an 86-hour forced Turbine/Generator outage to address an oil leak on the Main Turbine #2 bearing. Early Christmas Eve morning, Operations investigated a report from Site Protection regarding haze and an exhaust type smell in the Turbine Building. The initial notification to Operations was due to the alertness of Site Protection officers that observed smoke coming from the bearing area between the High Pressure and Low Pressure Turbines. Operations assessed the condition and took immediate actions to remove the Turbine from service. A rapid power reduction began at 5:30 a.m. and at 7:54 a.m. the Turbine/Generator was removed from service; however, Reactor power was maintained at about 18 percent through the duration of the outage. The team was able to confirm an oil leak and identified the source as coming from the High Pressure Turbine #2 bearing area. A buildup of carbon was found on the #2 bearing oil deflector, causing the oil to not drain as designed. Instead, the oil was absorbed by the insulation in that area. Hot piping in the area of the oil-soaked insulation is believed to be the source of the smoke observed earlier. Crews worked around the clock to disassemble the bearing casing, remove and clean the oil deflectors, remove the oil soaked insulation, then reinstall new insulation, the oil deflectors and bearing casing. Prior to returning the unit to service an oil-leak test was performed on the #2

bearing area to ensure the issue was resolved. The DB team worked through the disassembly, repairs and reassembly safely and event-free.

4/21/09

On April 21, 2009, the Davis-Besse team successfully completed the maintenance outage which included plugging Low-Pressure Condenser tube leaks, cleaning out the Low-Pressure Condenser water boxes, replacing both of the Pressurizer code safety valves and performing other work to improve the plant's condition and ensure continued safe and reliable operation. Completion of these tasks restored operating margin to the unit and strengthened the plant's ability to continue to operate safely and reliably.

### **Independent Assessments**

As part of the NRC confirmatory order related to the Davis-Besse reactor vessel head degradation event, Davis-Besse committed to performing independent assessments of four key programs for a period of five years (2004-2008). The Key programs assessed were the corrective action program, engineering, operations and safety culture. The five year assessment period has ended and the NRC has returned Davis-Besse to their normal oversight process.

### **Transitory ALERT Declaration**

On June 25, 2009 at 0049 hours, the Davis-Besse Control Room received indications that 1 of the 2 switchyard buses was de-energized. A subsequent walk down of the switchyard determined that a potential transformer that monitors voltage on the 'B' phase of the 'J' bus was destroyed. The isolation of the 'J' bus results in the #1 Startup Transformer also being de-energized, which placed the station in a 72 hour Limiting Condition of Operation per Technical Specification 3.8.1.

The catastrophic failure of the Constant Current Potential Device (CCPD) on 'J' Bus caused flames in the switchyard. Offsite assistance from Carroll Township Volunteer Fire Department was requested, they responded to the station, but their help was not needed to extinguish the fire.

The severity of the CCPD failure was not initially recognized because of the night time conditions and minimal lighting in the area. After further examination of the location of the event, it was determined that the failure of the CCPD should have been classified as an Alert due to an explosion affecting plant operation under EAL 7.D.2. Davis-Besse made the after-the-fact declaration and notified State, local and federal officials.

The event occurred outside of the Protected Area, did not involve any radioactive systems (i.e. no radiological release or potential for release) and no personnel injuries occurred as a result of this event. There was also no impact on reactor power level or any degradation of plant safety as a result of this event. The 'J' Bus was returned to service and declared operable at 23:05 hours on Friday night (6/26/09).

## PERRY NUCLEAR POWER PLANT



The Perry Nuclear Power Plant (PNPP) located on the shores of Lake Erie in Lake County, approximately 35 miles northeast of Cleveland, began commercial operation in November 1987. The plant is owned by First Energy Nuclear Operating Company and operated by the First Energy Nuclear Operating Company (FENOC).

PNPP is a single unit General Electric boiling water reactor (BWR). A BWR is designed to use the steam that is produced inside the reactor to drive the turbine generators. Under ideal conditions, PNPP is capable of producing enough electricity to power 1,220,360 homes in an average month.

The plant operated safely and reliably during the year. Several items to highlight the past year are the 2008 Evaluated Exercise, the February 2009 Refuel Outage 12, Dry Cask Storage project and the June 2009 Turbine Trip and Reactor SCRAM.

Perry Plant transitioned to the Licensee Response Column (requiring only routine Nuclear Regulatory Commission oversight) in July 2008.

### **Perry 2008 Exercise**

The results of the NRC EP Inspection are as follows:

- No significant issues or findings identified in the inspection.
- Performance in the 2008 evaluated exercise demonstrated the Perry is capable of successfully implementing its Emergency Plan to protect the public in the event of a radiological emergency.
- The exercise was successful and received a critical review of performance by the licensee.
- The Emergency Planning risk significant planning standards were met

Overall, the Nuclear Regulatory Commission considered the exercise a success. The scenario was challenging and there were no problems with meeting the emergency preparedness risk significant planning standards (12 successes out of 12 opportunities) for Emergency Action Level classification, notification, dose assessment, and protective action recommendations.

Offsite results from the exercise were also very favorable. FEMA evaluators witnessed performance of over 230 objectives during the course of the week at State of Ohio and county emergency operation centers, traffic access control, field monitoring teams, monitoring and decontamination centers, and schools. There were only two Areas Requiring Corrective Action identified that were re-demonstrated and closed during the exercise.

### **Perry Refueling Outage 12 – February, 2009**

#### **1R12 – Focus to improve equipment reliability (Feb 23- May 12)**

- a. Approximately 2700 work orders completed
- b. 1,042 Preventive Maintenance orders completed
  - Installed high point vents in High Pressure Core Spray, Residual Heat Removal and Reactor Core Isolation Cooling systems
  - Increased operating margin on eight motor operated valves through motor upgrades, valve rework and analysis upgrades
- c. Other Notable 1R12 Work
  - Upgrade of the Division 1 Emergency Diesel Generator governor
  - Rewind of the Motor Feed Pump motor and replacement of bearing seals with an improved design
  - Refurbishment of the 'B' Reactor Feed Pump Turbine, including rotor replacement
  - Replacement of two of the Low Pressure Turbine Rotors and repair to the third
  - Replacement of the 'B' Reactor Recirculation System pump motor and mechanical seal
  - Installation of the new Reactor Recirculation Discharge Gate Valve wedge pins
  - Replacement of 49 Local Power Range Monitors and Source Range Monitor 'C'
  - Replacement of 20 Control Rod Drive Mechanisms and seven Control Rod Position Indicating Probes
  - Replacement of the 'A' Residual Heat Removal Pump Motor

### **Dry Cask Storage Project- 2009 Activities**

- Design Change package developed with the major design change packages (storage pad, haul path, security changes) completed and issued.
- Major excavation work east of the Unit 2 buildings commenced in June, and the upgrade of the Fuel Handling Building crane is planned by end of the year.
- Procedure updates, training and dry runs are slated to begin late in the year with the arrival of major equipment/components (casks, ancillaries).

### **Turbine Trip/Reactor Shutdown (June 21)**

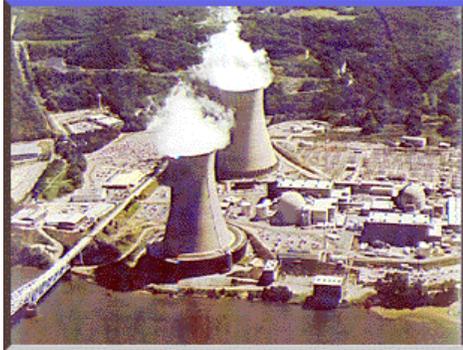
At approximately 17:55 on June 21, 2009 the Perry Nuclear Power Plant experienced a Main Turbine Trip/Reactor SCRAM due to a Moisture Separator Reheater (MSR) 1B, high level signal as indicated by the first hit indication for MSR HIGH LEVEL at the Main Turbine Electro-hydraulic system control panel. At the time of the event, the plant was in Mode 1 at 100% power. All control rods inserted into the core and no Emergency Core Cooling Systems were required or utilized to respond to the event. Reactor coolant level was maintained in its normal band by the feedwater system and decay heat was removed by the main condenser. The plant

maintained a normal electrical line-up with all three Emergency Diesel Generators operable and available if needed. No safety relief valves lifted during the event.

The turbine trip and subsequent reactor trip was the result of the three upper micro switches being closed to energize the MSR high level trip relays in the turbine trip logic. Troubleshooting and problem solving activities identified the potential causes to be calibration issues with the micro switches. At no time during the turbine/plant trip was there a high level indication on any of the MSRs. This was verified through review of computer points, Control Room alarms, and level control indication as shown on plant historic trend data computer. The three MSR 1B upper micro switches were found incorrectly set up. The micro switches were successfully calibrated and functionally checked satisfactory. Perry Plant restarted with the generator synchronization to the grid occurring on June 26th.

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## BEAVER VALLEY POWER STATION



The Beaver Valley Power Station (BVPS) is located in Shippingport, Pennsylvania on the Ohio River approximately 5 miles from the Ohio border. The plant is a two-reactor site, with Unit 1 commencing operation in October 1976 and Unit 2 in November 1987. Beaver Valley Unit 1 and Unit 2 are owned by First Energy Nuclear Operating Company and operated by First Energy Nuclear Operating Company.

The plant operated safely and reliably during the year.

### **Unusual Event Declaration**

On June 18, 2009 an Unusual Event was declared based on Emergency Action Level 4.1 Fire – “Fire in or adjacent to those areas listed in Table 4-1 not extinguished within 15 minutes from the time of Control room notification or verification of control room alarm”. The area of concern was the ERF Substation. While there as no actual fire, it could not be confirmed within 15 minutes, therefore the UE was declared.

### **Refueling Outage**

The 19<sup>th</sup> refueling outage was conducted for Unit 1 from April 20, 2009 through May 21, 2009. Major tasks other than refueling the reactor included the following activities:

- "A" Reactor Coolant Pump Motor replaced
- Insulation replacement
- River Water System Repairs
- Containment Liner Plate thru-wall corrosion inspection and repair

### **Exercises, Drills and Training**

Beaver Valley had a number of successful activities during the year. The following are highlights of the activities:

- Tri State Meetings (Ohio, Pennsylvania and West Virginia) were held July 15, 2008, September 3, 2008, March 2, 2009 and June 24, 2009.
- The MS-1 medical exercise was successfully completed at the Salem Hospital on November 4, 2008.
- A Beaver Valley Hostile Action Drill Table Top was conducted on December 16, 2008.
- The Beaver Valley Hostile Action Drill was conducted on January 27, 2009.
- Institute of Nuclear Power Operations performed an assessment of Emergency Response at the end of the reporting period. The assessment validated the station's own self assessment and provided valuable insights. A Beneficial Practice was developed by the team for distribution to the nuclear industry on Beaver Valley's integration of emergency preparedness with Licensed Operator Requalification Training.
- Mini Drills were conducted on October 2, 2008 and June 11, 2009.
- The BVPS Annual Offsite Agency Training was conducted September 3 & 4, 2008.
- The first Parameters Meeting for the 2010 Federal Evaluated Exercise was held on June 23, 2009.