"For PDR"

December 23, 1986

For: The Commissioners

From: T. A. Rehm, Assistant for Operations, Office of the EDO

Subject: WEEKLY INFORMATION REPORT - WEEK ENDING DECEMBER 19, 1986

A summary of key events is included as a convenience to those Commissioners who may prefer a condensed version of this report.

| Contents | Enclosure |
|---|---|
| Administration | A |
| Nuclear Reactor Regulation | B |
| Nuclear Material Safety and Safeguards | C |
| Inspection and Enforcement | D |
| Nuclear Regulatory Research | E |
| General Counsel | F* |
| International Programs | G |
| State Programs | H* |
| Resource Management | I* |
| Analysis and Evaluation of Operational Data | J |
| Small & Disadvantaged Business Utilization & Civil Rights | K* |
| Regional Offices | L* |
| CRGR Monthly Reports | M* |
| Executive Director for Operations | N* |
| Items Addressed by the Commission | O* |
| Meeting Notices | P |
| Proprietary or Other Sensitive Information (Not for external distribution) | Q |

*No input this week.

T. A. Rehm, Assistant for Operations
Office of the Executive Director
for Operations

Contact:
T. A. Rehm, EDO
492-7781

HIGHLIGHTS OF WEEKLY INFORMATION REPORT

WEEK ENDING DECEMBER 19, 1986

## State of Ohio and Toledo Coalition for Safe Energy Sue NRC

On Tuesday morning, December 9, 1986, the State of Ohio filed a petition with the 6th Circuit Court. The Petition requested a review of the NRC's denial of the State's 2.206 petition and sought to stay the restart of Davis-Besse. A Petition seeking similar review and stay filed on Wednesday, December 10, 1986, by the Toledo Coalition for Safe Energy.

On Friday morning, December 12, 1986, the Sixth Circuit Court denied both the State of Ohio's petition (to stay the restart of Davis-Besse) and the similar petition for a stay by the Toledo Coalition for Safe Energy.

## Marble Hill

By Order Terminating Construction Permits dated December 16, 1986 the staff terminated construction permits CPPR-170 and CPPR-171 for Marble Hill, Units No. 1 and No. 2.

Public Service Company of Indiana stopped construction on these units in December 1983. At the point of cessation of construction Units 1 and 2 were approximately 55% and 35% complete.

## Meeting With DOE on High Level Defense Waste

On December 9-10, 1986 NRC and DOE held a public technical exchange in Washington, DC on the activities at the Defense Waste Processing Facility (DWPF) at Savannah River, South Carolina and the West Valley Demonstration Project at West Valley, New York as they relate to the Waste Acceptance Process for radioactive waste to be disposed of in a geologic repository. DOE reviewed the overall status of the waste glass projects, description of the process, product description, quality control programs and schedules. Agreements were reached between NRC and DOE on the scope of plans for sampling the radioactive production glass and basic elements of the process control programs to assure the quality of the waste glass. Agreement was also reached relative to future meetings to resolve outstanding major open items such as the Waste Compliance Plan and quality assurance for DWPF.

## Sequoyah Fuels Update

Sequoyah Fuels (SFC) has had difficulties maintaining $UF_6$ production during the week of December 12 because of residual moisture in the system. However, they now feel that all moisture has been removed and anticipate continued operation of the fluorination system. SFC checked a fill station on Friday, December 12, 1986, by draining 80 pounds of $UF_6$ into a cylinder. This operation was successful and fluorination continued over the weekend. SFC began filling the first cylinder (14-ton cylinder) on Monday December 15th. When completed, the cylinder contained 27,310 pounds of $UF_6$. All other operations are progressing without incident.

OFFICE OF ADMINISTRATION

Week Ending December 19, 1986

ADMINISTRATION OF THE FREEDOM OF INFORMATION ACT

STATUS OF REQUESTS

| | Initial Request | Appeal of Initial Decision |
|---|---|---|
| Carryovers, 1985 | 181 | 15 |
| Received, 1986 | 869 | 237 |
| Granted | 661 | 101 |
| Denied | 221 | 91 |
| Pending | 168 | 60 |

ACTIONS THIS WEEK

Received

| | |
|---|---|
| Steven Aron, The Cleveland Clinic Foundation (86-852) | Requests copies of reports by the NRC and the University of Wisconsin regarding an incident at the University where sealed sources of IR-192 were lost after implementation in pigs. |
| Charles Paulson, Attorney-At-Law (86-853) | Requests copies of three categories of records related to operation Doomsday, atomics testing in Nevada in the 1950's. |
| Cindee Virostek, Kiski Valley Coalition (86-854) | Requests copies of all notifications to Region I regarding incidents at NUMEC that caused or threatened to cause exposures, radioactive releases, loss of facility operation, or damage to property at levels defined at 10 CFR 20.403(a) and (b). |
| Steven Sholly, MHB Technical Associates (86-855) | Requests three categories of records regarding "discretionary enforcement" discussed in a September 9, 1986 meeting with NRC staff and utility representatives. |
| Katherine Senter, Sierra Club (86-856) | Requests a copy of OIA's report on Region IV. |
| Charles Ashbaugh, Nuclear Theory & Technologies (86-857) | Requests copies of five categories of records related to a November 21, 1986 staff meeting to discuss neutron-irradiated gemstones. |

CONTACT: Donnie H. Grimsley
492-7211

Received, Cont'd

| | |
|---|---|
| Ellyn Weiss, Union of Concerned Scientists (86-858) | Requests a copy of Technical Report A-3825-R prepared by Brookhaven for the NRC. |
| Ophelia Williams, J/R/A Associates (86-859) | Requests a copy of NRC's response to Yankee Rowe's October 15, 1985 request for exemption from 10 CFR 50.62 requirements. |
| Steve Culpepper, Capital City Press (86-860) | Requests a copy of the OIA report regarding Region IV. |
| Ophelia Williams, J/R/A Associates (86-861) | Requests a copy of Volume 8 of BMI-2104, "Radionuclide Release Under Specific LWR Accident Conditions." |
| Ophelia Williams, J/R/A Associates (86-862) | Requests copies of (1) October 20, 1986 memo from Denton to Stello regarding Phase 2 maintenance surveillance, and (2) July 7, 1986 memo from Denton to Stello, "Review and Assessments of Water Hammer Occurrences, 1981." |
| Ophelia Williams, J/R/A Associates (86-863) | Requests a copy of a January 11, 1986 ACRS letter regarding control of heavy loads. |
| Ophelia Williams, J/R/A Associates (86-864) | Requests copies of SECY papers 86-162, 86-184, 86-228, 86-234, 86-164, 86-316, and 86-258. |
| Ophelia Williams, J/R/A Associates (86-865) | Requests a copy of an August 1986 document by an IDCOR Group to the BWR Owners Group. |
| Michael O'Brien, Clark, McGreevy & Johnson, P.C. (86-866) | Requests copies of the investigatory records and report pertaining to allegations by QC inspectors' regarding the Byron nuclear power plant. |
| Andrew Schlesinger, ABC News (86-867) | Requests copies of records concerning the Hanford "N" reactor and the Savannah River reactors which were reviewed by NRR and referenced in NRR's June 23, 1986 memo to V. Stello and V. Stello's June 30, 1986 memo to the Commissioners. |
| Per Ramfjord, Sidley & Austin (86-868) | Requests copies of any contracts NRC has entered with Quantex Corporation, Rockville, Maryland. |
| (An individual requesting information) (86-869) | Requests a copy of a report submitted in 1983 from Dr. Wald of the University of Pittsburg to Region I regarding Nuclear Metals, Inc. of Massachusetts. |

Received, Cont'd

| | |
|---|---|
| Gregory Holmes, MHB Technical Associates (86-A-235-86-151) | APPEAL the lack of response to a request for the chron and reading files of Mr. Hans Schierling from September 1, 1981 through December 31, 1983, concerning the Diablo Canyon nuclear power plant. |
| Gregory Holmes, MHB Technical Associates (86-A-236-86-197) | APPEAL the lack of response to a request for the chron and reading files of Mr. Hans Schierling from January 1, 1981 through March 20, 1986, concerning the Diablo Canyon nuclear power plant. |
| (NRC employee) (86-A-237-84-61) | APPEAL TO THE COMMISSION NRC's response to a request for records concerning himself. |

Granted

| | |
|---|---|
| Kristine Albrecht, Food Irradiation Response (86-752) | In response to a request for inspection reports and other records regarding the low-level contamination of the Status 4 Atlantic Richfield Company irradiator, made available six records. |
| Vincent Kiernan, The Herald (86-785) | In response to a request for records identifying four categories of information concerning current projects at the Lawrence Livermore or Sandia-Livermore Labs for the NRC, made available four records. |
| David White, The Ohio State University (86-787) | In response to a request for copies of minutes or other records of special meetings between the NRC and Toledo Edison Company staff regarding the loss-of-feedwater event on June 9, 1985, at the Davis-Besse nuclear power plant, made available six records. Informed the requester that 50 additional records subject to this request are already available at the PDR. |
| Martin Hill, San Diego Magazine (86-797) | In response to a request for records pertaining to the Nuclear Fuel Fabrication facility operated by GA Technologies located on Flintkote Avenue in La Jolla, California, informed the requester that records subject to this request are already available at the PDR. |
| Paul George (86-811) | In response to a request for copies of all accident or safety reports to the NRC by the University of California or any other interested party relating to the research reactors located in Etcheverry Hall, Berkeley, California, made available 42 records. Informed the requester that one record subject to this request is already available at the PDR. |
| Steven Aftergood, Committee to Bridge the Gap (86-812) | In response to a request for four categories of records related to the rule to limit the use of HEU in research and test reactors, made available three records. Informed the requester that nine additional records subject to this request are already available at the PDR. |

Granted, Cont'd

| | |
|---|---|
| Paul Bowman, Syncor International Corporation (86-820) | In response to a request for copies of all correspondence since April 1985 concerning license amendment requests and supporting records for the Washington Hospital Center, made available 12 records. |
| Lyle Graber, NUS Corporation (86-827) | In response to a request for copies of enclosures to the following records: (1) La Crosse letter dated August 27, 1986, transmitting the Semi-annual Effluent Report; (2) Big Rock Point letter dated August 28, 1986, transmitting the Semi-annual Effluent Release Report; and (3) Turkey Point and St. Lucie SALP report dated August 21, 1986, made available one record. Informed the requester that the remaining requested records are already available at the PDR. |
| (NRC employee) (86-828) | In response to a request for records regarding any actual or requested change in her job series, grade, or position, made available four records. |
| Sara Powell, Interactive Features, Inc. (86-830) | In response to a request for lists of NRC's publications with the offices that sponsor or publish the publications, made available five records. |
| Scott MacDonald (86-839) | In response to a request for lists of (1) 1985 and 1986 LERs with contact names and phone numbers and (2) RO and SRO's, made available a copy of item 2. In response to item 1, made available printouts of LERs sorted by docket number, year and LER number. Informed the requester that the NRC does not have lists with contact names and phone numbers, however, this information is already available at the PDR in each LER. |
| Ellyn Weiss, Union of Concerned Scientists (86-847) | In response to a request for a copy of the Performance Appraisal Team report on the review of TMI-1 from August 25 to September 5, 1986, informed the requester that this report is already available at the PDR. |

Denied

| | |
|---|---|
| Jeff Fowler, KTVY (86-576) | In response to a request for inspection reports and/or violation reports for the last five years on the Kerr-McGee Cimarron plant in Oklahoma, made available three records. Informed the requester that 19 additional records subject to this request are already available at the PDR. Denied portions of six records containing unclassified safeguards information. |

Denied, Cont'd

| | |
|---|---|
| David Perkey, NUS Corporation (86-799) | In response to a request for copies of SECY-86-173 and SECY-86-258, denied portions of these papers, disclosure of which would tend to inhibit the open and frank exchange of ideas essential to the deliberative process. |
| Billie Garde, Government Accountability Project (86-A-197-86-386) | In response to an APPEAL TO THE EDO for the release of two denied records regarding a request for records concerning Enforcement Action 86-09 dated May 3, 1986, on the Comanche Peak nuclear power plant, denied one record in its entirety and portions of one record containing the advice, opinions, and recommendations of the staff in the deliberative process of determining proper enforcement actions regarding the Comanche Peak nuclear power plant. |

WEEKLY INFORMATION REPORT
DIVISION OF CONTRACTS
WEEK ENDING DECEMBER 19, 1986

PROPOSAL UNDER EVALUATION

RFP No.: RS-NRR-86-051
Title: "Technical Assistance in Support of NRC Reactor Licensing Activities"
Description: Performance of technical evaluations in support of licensing actions and other support work on licensing activities including: generic and plant-specific safety assessments, Near Term Operating Licenses (NTOLs), generic issue resolution, risk assessments, and analyses of operating reactor experience.
Period of Performance: Three years plus option for two years
Sponsor: Office of Nuclear Reactor Regulation
Status: Negotiations have been completed. Best and Final offers are due on January 8, 1987.

CONTRACTS AWARDED

IFB No.: RS-ADM-87-174
Title: "Text Processing Services"
Description: Furnish all plant, equipments, materials and labor to perform text processing services for NRC's Electronic Text Processing Branch.
Period of Performance: Two years
Sponsor: Office of Administration
Status: A fixed price requirements type Contract No. NRC-10-87-174 was awarded to Keyboard Telecommunications in the amount of $448,630 effective February 1, 1987.

RFP No.: RS-ADM-87-208
Title: "Human Skill Building Training Courses"
Description: Presentation of four courses entitled, "Conflict Resolution," "Small Group Dynamics," "Interviewing Techniques," and "Conducting and Participating in Meetings."
Period of Performance: Two years
Sponsor: Office of Adminstration
Status: A fixed price indefinite quantity type Contract No. NRC-10-87-208 was awarded to SBA/Space Qualified Systems Corporation in the amount of $208,294 effective December 10, 1986. This firm has been certified by the Small Business Administration as a socially and economically disadvantaged firm eligible for noncompetitive awards under that agency's 8(a) program.

OFFICE OF NUCLEAR REACTOR REGULATION

ITEMS OF INTEREST

Week Ending December 19, 1986

Oconee 1, 2, 3

A small seismic tremor was experienced at the Oconee site about 9:00 A.M. on December 11, 1986. The Oconee site is located on the Keowee River in western South Carolina near the Tennessee/Georgia border. The tremor was not felt by site personnel but measured about 2.5 on the Richter scale as reported by a nearby university. Preliminary indications are that no seismic instruments at the Oconee site were triggered.

The licensee is performing a structural inspection of the Keowee and Jocasse dams.

This was the fourth tremor of this magnitude at the Oconee site in 1986.

State of Ohio and Toledo Coalition for Safe Energy Sue NRC

On Tuesday morning, December 9, 1986, the State of Ohio filed a petition with the 6th Circuit Court. The Petition requested a review of the NRC's denial of the State's 2.206 petition and sought to stay the restart of Davis-Besse. A Petition seeking similar review and stay filed on Wednesday, December 10, 1986, by the Toledo Coalition for Safe Energy.

On Friday morning, December 12, 1986, the Sixth Circuit Court denied both the State of Ohio's petition (to stay the restart of Davis-Besse) and the similar petition for a stay by the Toledo Coalition for Safe Energy.

Callaway

Thermal hydraulic anomalies have been detected at Callaway. They were discovered recently, but it has been determined that they existed since Feb. 1986. Callaway was shut down in April 1986 for a refueling outage.

The anomalies include coincident deviations in reactor coolant flow (decrease of about .3%), temperature (increase of about 1°F) and neutron flux (decrease of about .7%). The anomalies are of about 20 seconds in duration and have an average frequency of 3 minutes. There is no evidence of any loose part flow blockage, or obvious internals abnormality.

Union Electric Company (UE) has hired two independent consultants to investigate the anomalies. Preliminary evaluation showed no indication of core barrel vibration or fuel movement. Further evaluations are expected by December 16, 1986.

The staff plans to meet with the licensee to discuss the safety implications of the observed anomalies as soon as the latest consultant evaluations are completed.

Marble Hill

By Order Terminating Construction Permits dated December 16, 1986 the staff terminated construction permits CPPR-170 and CPPR-171 for Marble Hill, Units No. 1 and No. 2.

Public Service Company of Indiana stopped construction on these units in December 1983. At the point of cessation of construction Units 1 and 2 were approximately 55% and 35% complete.

Limerick

The Philadelphia Electric Company's management announced on December 17, 1986 that Limerick, Unit 1 had recently set a record for continuous first cycle operation for BWR's greater than 830 MWE. Limerick, Unit 1 recently passed the 158 day mark (154.5 effective full power days) for continuous operation in fuel cycle 1. Plant shutdown is not expected prior to February-March, 1987. The next closest were Leibstadt, a BWR6/1220 MWE, for 134 days, Susquehanna 2 for 122 days and WNP-2 for 101 days. The data for these 3 plants are for days of continuous operation and do not reflect whatever capacity the plant operated at.

Millstone 1 Return to Power

Millstone Unit 1 returned to power on December 15, 1986 after 15-day unplanned outage to replace the main 24/345 kv transformer that was damaged on November 30, 1986. The plant was synchronized to the electric grid at 8:30pm on December 15, 1986 and is, as of 9:00am on December 16, 1986, at 70% of rated power. During the outage:

- the damaged main transformer was replaced with an on-site spare
- main turbine shaft seals were replaced to reduce air leakage into the main condenser
- drywell cooler problems were resolved
- drywell wall thickness was measured at selected locations using UT to assure no thinning
- selected electrical splices were inspected to assue EQ compliance

Power ascension to 100% is continuing.

ABWR

The Tokyo Electric Power Company has announced its intention to construct two nuclear power plants of the ABWR design. It has begun negotiations with the fisherman's union and the local governments at the Kashiwazaki-Kariwa

site north of Tokyo on a inland sea, where the ABWR plants will be units #6 and 7. TEPCO will file a formal application for permission to construct the plant in early 1988, and expects to begin construction in 1989. Commercial operation is scheduled for 1996 for unit 6 and 1998 for unit 7.

NRC TMI-2 CLEANUP PROJECT DIRECTORATE WEEKLY STATUS
REPORT FOR DECEMBER 8 - 21, 1986

NOTE: Due to the Christmas holiday, the next Weekly Status Report will be issued on January 5, 1986, covering the period December 22, 1986 through January 4, 1987.

1. DEFUELING

- The licensee is continuing efforts to identify tooling and techniques which will facilitate defueling. Since completing the core drilling operation (November 14, 1986) the licensee has been unable to resume removal of the damaged core. The drilling operation has not been successful in reducing the previously-identified "hard crust" region to easily-removed rubble. Relatively large pieces of the hard crust remain and existing tooling has not yet proved effective in moving or reducing it.
- Operation of the Defueling Water Cleanup System (DWCS) and the Temporary Reactor Vessel Filtration System has improved reactor coolant system (RCS) clarity.
- Work continues on the modifications needed for full system testing of the coagulant addition to the DWCS. The use of coagulants in parallel with DWCS filtration may provide a more effective means of maintaining the clarity of water in the reactor vessel. Testing of the system is planned to being the week of December 22.

2. UNUSUAL EVENT

- On December 16, 1986, a worker was injured in the reactor building containment when a temporary lead shield fell on him. The shielding, consisting of lead-filled curtains hung from a rack, is used to shield a contaminated stairway in the building. The worker was removed from the reactor building after being given first aid by the emergency response crew. The worker was transported to Hershey Medical Center by a company owned ambulance at 10:00 AM. Although the worker was initially believed to have been slightly contaminated by the accident, it was later determined that no contamination resulted from this event. The worker was examined and found to have no serious injuries, and he reported back to work the same day.

3. ENVIRONMENTAL MONITORING

- US Environmental Protection Agency (EPA) sample analysis results show that TMI site liquid effluents are in accordance with regulatory limits, NRC requirements, and the City of Lancaster Agreement.

- TMI water effluents are sampled from the station (Units 1 and 2) discharge and analyzed by EPA. Gamma spectrum analyses of the seven daily composited samples (November 29 - December 6, 1986) indicated no TMI-2 related radioactivity.
- EPA's gamma spectrum analysis of the NRC's TMI outdoor air sample for December 11 - 18, 1986 showed no reactor related radioactivity.
- The Lancaster water works intake composited seven daily samples (November 30 - December 6, 1986). The gamma spectrum analyzed by EPA showed no reactor related radioactivity.

4. AUXILIARY AND FUEL HANDLING BUILDING ACTIVITIES

- Reclamation of DWCS filters continues.
- Testing of the Fuel Handling Building ventilation system modifications are complete.

5. NRC EVALUATIONS IN PROGRESS

- Technical Specification Change Request numbers 49, 51, 52, and 54.
- Recovery Operations Plan Change numbers 31 and 33.
- Solid Waste Facility Technical Evaluation Report.
- Heavy Load Safety Evaluation Report, Revision 3.
- Disposal of Processed Water Report.
- Safety Evaluation Report for Use of Plasma Arc Cutting Torch.
- Ex-Vessel Defueling Safety Analysis.
- Temporary Reactor Vessel Filtration System Safety Evaluation Report, Revision 3.
- Safety Evaluation for the Addition of Coagulant to the RCS.

6. MEETING

- The next meeting Advisory Panel for the Decontamination of Three Mile Island Unit 2 is tentatively scheduled for January 21, 1987 in Lancaster, PA. The exact date, time, location and agenda will be confirmed at a later date.

  Persons desiring to speak before the Advisory Panel are requested to contact Mr. Thomas Smithgall at 717-291-1042, or write him at 2122 Marietta Avenue, Lancaster, PA 17603.

OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

Items of Interest

Week Ending December 19, 1986

## Mixed Waste

On December 11, 1986, Sher Bahadur participated as a mixed waste panel member in a 2-day seminar, "Integrating the Waste Management System," sponsored by the Illinois Department of Nuclear Safety in Chicago. Mr. Bahadur presented an overview of the mixed waste problem, outlined principal issues, summarized recent history, and presented the current NRC approach. The other panel members represented the U.S. EPA, Brookhaven National Laboratory, US Ecology, and Duke Power Company.

## Meeting With DOE on High Level Defense Waste

On December 9-10, 1986 NRC and DOE held a public technical exchange in Washington, DC on the activities at the Defense Waste Processing Facility (DWPF) at Savannah River, South Carolina and the West Valley Demonstration Project at West Valley, New York as they relate to the Waste Acceptance Process for radioactive waste to be disposed of in a geologic repository. DOE reviewed the overall status of the waste glass projects, description of the process, product description, quality control programs and schedules. Agreements were reached between NRC and DOE on the scope of plans for sampling the radioactive production glass and basic elements of the process control programs to assure the quality of the waste glass. Agreement was also reached relative to future meetings to resolve outstanding major open items such as the Waste Compliance Plan and quality assurance for DWPF.

## Meeting With Atomic Energy Forum

The Division of Waste Management (DWM) met with the Atomic Industrial Forum, Subcommittee on High-Level Waste (HLW) on December 16. NRC staff presented briefings on current NRC HLW activities and on the draft staff Generic Technical Position on Items and Activities Subject to 10 CFR Part 60, Quality Assurance Requirements. Briefings were also given by DOE on the status of their HLW activities. This meeting is part of an ongoing effort by DWM to set up an exchange on HLW issues and topics with members of the technical community, industry, states, and Indian tribes.

Isotope Enrichment

On December 17, staff members of NMSS, OGC and SEC met with representatives of All Chemical Isotope Enrichment (AlChemIE) for further discussions on the firm's plans to obtain and use DOE centrifuge machines for enrichment of stable isotopes. If negotiations with DOE are successfully concluded by mid-March 1987, AlChemIE expects to submit a license application under 10 CFR Part 50 by May 1987. A license is required because the definition of a production facility in the Atomic Energy Act and 10 CFR Part 50 includes any equipment and facility capable of and designed for the separation of uranium isotopes, even though AlChemIE would limit its use of the centrifuges for enrichment of only certain stable isotopes for medical and industrial purposes. The proposal by AlChemIE to DOE includes the leasing of the facility at Oak Ridge used for centrifuge testing and demonstration or a facility at Piketon, Ohio constructed by DOE for production-scale centrifuge enrichment. The minimal procedural aspects of Part 50 licensing were discussed and the scope of information necessary for preparation of an environmental assessment was reviewed. AlChemIE requested further clarification on security requirements, particularly personnel clearance processing, and the role of NRC and DOE on these matters. Additional discussions are to be held between NRC and DOE staff regarding implementation of NRC and DOE responsibilities in this area.

Sequoyah Fuels Update

Sequoyah Fuels (SFC) has had difficulties maintaining $UF_6$ production during the week of December 12 because of residual moisture in the system. However, they now feel that all moisture has been removed and anticipate continued operation of the fluorination system. SFC checked a fill station on Friday, December 12, 1986, by draining 80 pounds of $UF_6$ into a cylinder. This operation was successful and fluorination continued over the weekend. SFC began filling the first cylinder (14-ton cylinder) on Monday December 15th. When completed, the cylinder contained 27,310 pounds of $UF_6$. All other operations are progressing without incident.

Office of Inspection and Enforcement
Items of Interest
Week Ending December 19, 1986

1. Items of Interest

Surry Synopsis

IE Information Notice No. 86-106, Feedwater Line Break, was issued this week to all nuclear reactor facilities to alert them to the potentially generic problem with feedwater pipe thinning and circumstances surrounding the event. The licensee and NRC continues followup inspections at the facility.

Preliminary results from ultrasonic testing (UT) outside containment indicates that pipe thinning has been detected to various degrees elsewhere in the secondary system, and thinning has also been detected in the discharge line. The UT program is continuing. The licensee has postulated that the pipe thinning phenomenon may be attributable, in part, to the high purity water scavenging of magnetic buildup under harsh conditions (high temperature-turbid environment).

Two additional fatalities were reported this week bringing the total to four. Two workers remain in the hospital; one in serious condition.

2. Civil Penalties Paid

None.

3. The following Significant Enforcement Actions were taken during the past week:

a. An Order Imposing Civil Penalties was issued to Texas Utilities Electric Company (Comanche Peak) in the amount of $50,000. This action was based on two issues involving the applicant's cable tray reinspection program and electrical penetration assemblies. (EN 86-27A)

b. An Order Imposing Civil Penalties was issued to Philadelphia Electric Company (Peach Bottom 3) in the amount of $200,000. This action was based on errors by personnel regarding their rod withdrawal program. (EN 86-37A)

c. An Order Imposing Civil Monetary Penalties was issued to Star Jet Services (Oklahoma City, OK) in the amount of $500. This action was based on multiple violations which include failure to perform surveys and failure to properly store licensed materials. (EN 86-66A)

d. A Notice of Violation and Proposed Imposition of Civil Penalty was issued to Illinois Power Company (Clinton 1) in the amount of $50,000. This action was based on an incident of discrimination in violation of 10 CFR 50.50.7. (EN 86-93)

e. A Notice of Violation and Proposed Imposition of Civil Penalty was issued to Omaha Public Power District (Ft. Calhoun) in the amount of $15,000. This action was based on a Severity Level IV violation involving an inadequate vital area barrier; the civil penalty was proposed because this violation is similar to a previous violation for which the licensee failed to take effective corrective actions. (EN 86-94)

4. The following IE Information Notices and Bulletins were issued during the past week:

a. IE Information Notice No. 86-14, Supplement 1, Overspeed Trips of AFW, HPCI, and RCIC Turbine was issued to all nuclear power reactor facilities holding an operating license or a construction permit.

b. IE Information Notice No. 86-102, Repeated Multiple Failures of Steam Generator Hydraulic Snubbers Due to Control Valve Sensitivity was issued to all nuclear power reactor facilities holding an operating license or a construction permit.

c. IE Information Notice No. 86-103, Respirator Coupling Nut Assembly Failures was issued to all nuclear power reactor facilities holding an operating license or a construction permit and fuel fabrication facilities.

d. IE Information Notice No. 86-104, Unqualified Butt Splice Connectors Identified in Qualified Penetrations was issued to all pressurized and boiling water reactor facilities holding an operating license or a construction permit.

e. IE Information Notice No. 86-105, Potential for Loss of Reactor Trip Capability at Intermediate Power Levels, was issued to all holders of an operating license or a construction permit for pressurized water reactors or boiling water reactors.

f. IE Information Notice No. 86-10[illegible] Feedwater Line Break was issued to all nuclear power reactor facilities holding an operating license or a construction permit.

5. The following IE Preliminary Notifications were issued during the past week:

a. PNO-TMI-86-05, GPU Nuclear Corporation (TMI-2), Worker Injured in Reactor Building.

b. PNO-I-86-97, Pennsylvania Power and Light (Susquehanna 2), Unplanned Shutdown to Repair Instrument Gas System Leak.

c. PNO-I-86-98, E. I. Dupont (Billerica, MA) - Hand Exposure in Excess of Regulatory Limits.

d. PNO-I-86-99, Del-Med, Inc. (South Plainfield, NJ) - Spent Molybdenum-99/Technetium-99m Generators Stolen from Carrier.

e. PNO-II-86-91B, Virginia Electric Power Company (Surry1&2), Update on December 9 Secondary System Pipe Failure and Fatalities.

f. PNO-II-86-91C, Virginia Electric and Power Company (Surry 1&2), Secondary System Pipe Failure (Update).

g. PNO-II-86-91D, Virginia Electric and Power Company (Surry 1&2), Secondary System Pipe Failure - Update.

h. PNO-II-86-92, Duke Power Company (Oconee-3) - Shutdown Due to Increased Reactor Coolant Pump Violation.

i. PNO-III-86-144A, Toledo Edison Company (Davis-Besse), State Petitions to Halt Davis-Besse Startup (Update).

j. PNO-III-86-145, St. Luke's Memorial Hospital (Racine, WI), Diagnostic Misadministration of Iodine-131.

k. PNO-III-86-146, Consumers Power Company (Palisades), Threatening Call.

l. PNO-III-86-147, Washington University (St. Louis, MO), Unauthorized Repair of Teletherapy Units.

m. PNO-III-86-148, Detroit Edison Company (Fermi 2), Weapons, Marijuana Confiscated.

n. PNO-III-86-149, Commonwealth Edison Company (LaSalle 2), Feedwater Pump Seal Leak.

o. PNO-III-86-150, Toledo Edison Company (Davis-Besse) - MSIV Repair.

p. PNO-III-86-151, Commonwealth Edison Company (Byron-2) - Pipe Crack.

q. PNO-V-86-92, Southern California Edison Company (SONGS 3), Potential Hand Exposure of 512 REM.

OFFICE OF NUCLEAR REGULATORY RESEARCH

Items of Interest

Week Ending December 19, 1986

2D/3D

The final details of INEL instrument refurbishments during the Upper Plenum Test Facility (UPTF) outage period in January-February 1987 were worked out on December 11 and 12, 1986 at the facility site in W. Germany. Two representatives from INEL and MPR Associates participated in the working meeting with the German personnel.

Because of the additional degradations in the UPTF turbine flowmeters, RES has decided to order two turbine flowmeters to replace the defective ones. These two turbines are part of the 36 instrument modules which are used to measure the mass flow rates across the upper plenum-core interface. Two additional defective turbines in the upper plenum will not be replaced because of a lower measurement priority. RES is planning to replace defective instruments only if the data loss seriously impairs our ability to obtain useful technical results from the test program.

ROSA-IV

The ROSA-IV system in Japan performs large-scale thermal hydraulic tests under a cooperative program with the NRC. The test results are used to help the NRC in resolving licensing and safety issue and in verifying scaling parameters in NRC safety analysis codes.

The experiments conducted in the ROSA-IV Large Scale Test Facility in October and November of 1986 included TR-LF-01 (i.e., a station blackout with feedwater terminated and no HPI) and ST-SG-03 (i.e., a steady-state steam generator heat transfer test with steam generator secondary inventory completely depleted), A test to simulate the pressure vessel lower plenum break will be conducted on December 17, 1986. The results of this test will help the NRC in resolving the instrument line rupture issue.

Davis-Besse Uncertainty Study

A loss of Feedwater transient occurred at the Davis-Besse Nuclear Power Station on June 9, 1985. The plant is a pressurized water reactor (PWR) of the raised-loop Babcock-Wilcox design and operated by Toledo Edison Co. This transient resulted in a temporary but total loss of main and auxiliary feedwater. Auxiliary feedwater was eventually restored and the plant was brought to a safe and stable condition.

The NRR staff performed analyses of the Davis-Besse incident including different variations of the recovery method of feed and bleed cooling to remove decay heat. The staff used the Nuclear Plant Analyzer (NPA) with the RELAP5 code. The calculations indicated that feed and bleed could successfully cool the core if initiated early enough. Upon completion of calculations the NRR staff requested RES to determine the uncertainties in these calculations.

Idaho National Engineering Laboratory (INEL) performed the uncertainty study and completed a draft report (EGG-RTH-7458) and submitted it to NRC for comments. Comparisons between the NRR calculations and Davis-Besse transient data showed that the maximum deviations between the calculated and measured reactor coolant pressures and temperatures were about 50psi and 25°F respectively. Corresponding errors in the time to reach a given coolant temperature ranged from 1 to 6 minutes. The study performed by INEL showed that the largest contributor to deviations (uncertainties) was an error in the core decay power following the reactor trip. Other contributors included errors in modeling of pressurizer spray flow and inaccuracies in representing the plant geometry. INEL produced a quality-assured plant model and used it to predict the Davis-Besse transient. These calculations were in better agreement with the measured transient data both qualitatively and quantitatively. The maximum deviation between calculated and measured reactor coolant pressures was 50 psi, which was the same as the NRR calculations, but deviations in temperatures were less than 6°F.

The RELAP5 code was previously assessed against OTIS test data covering feed and bleed recovery procedure. Maximum deviations for pressure and temperatures were about 100psi and 9°F respectively. The phenomena in the full-scale feed and bleed transient are expected to be similar to those observed in the appropriate portions of the OTIS experiments and Davis Besse transient. Hence, uncertainties for a feed and bleed procedure in a B&W plant are expected to be of a similar order of magnitude. The analysis indicates that if feed and bleed is initiated within 20 minutes and full makeup water is available, feed and bleed can be successfully used to cool the core.

Meeting of NRC Staff with Utility Workers Union of America

Members of the NRC staff met with about 70 representatives of the Utility Workers Union of America (UWUA) on December 9, 1986, in Washington, DC (UWUA 1986 Nuclear Safety Conference). At the invitation of the union, staff members made presentations and led subsequent discussions on the following topics: current regulatory initiatives in safeguards (Priscilla A. Dwyer, NMSS); industrial implementation of fitness for duty program (Loren L. Bush, Jr., IE); the Chernobyl accident (Frank J. Congel, NRR); and the proposed major revision of NRC radiation protection standards (R.E. Alexander, RES). The union representatives participated actively in the discussions and made a number of points for further consideration by the staff.

Symposium on "Flow and Transport Through Unsaturated Fractured Rock"

An important aspect of NRC's waste management program for implementing the Nuclear Waste Policy Act of 1982 (Public Law 97-425) is its confirmatory research program to resolve important characterization and analysis issues for high-level waste sites. The Office of Nuclear Regulatory Research has developed, supported, and monitored technical research on unsaturated flow and transport in fractured media in support of NMSS's program in HLW. In order to stay actively abreast of the evolving technology in waste management, the staff participates in national and international symposiums on relevant topics.

Tom Nicholson, RES, was co-chairman of a special symposium on "Flow and Transport Through Unsaturated Fractured Rock" at the American Geophysical Union's Fall Meeting held in San Francisco, CA, December 11-12, 1986. The majority of the 26 papers presented dealt with DOE's funded work on Yucca Mountain site characterization studies. Mr. Nicholson presented the keynote paper on "Overview of flow and transport processes and characterization methods for unsaturated fractured media." Other invited papers were "Modeling of isothermal and non-isothermal flow in unsaturated fractured media" (LBL), "Radionuclide transport in an unsaturated fractured medium" (SPECTRA), "Application of hydrologic techniques in characterization of unsaturated fractured rocks" (USGS), and "Three-dimensional computer model of flow and transport in variably-saturated fractured rock" (U. of Arizona). A panel discussion on natural analogues, rock mechanics, unsaturated zone characterization methods, and modeling strategies completed the symposium.

Publications to be Issued in the Near Future

Title: Qualification and Training of Personnel for Nuclear Power Plants (Reg. Guide 1.8, Rev. 2)

Description: Reg. Guide 1.8 provides guidance on training and qualifications of nuclear power plant personnel.

Contact: Clare Goodman, NRR
492-9483

Title: Medical Evaluation of Licensed Personnel for Nuclear Power Plants (Reg. Guide 1.134, Rev. 2)

Description: Reg. Guide 1.134 provides guidance on medical qualification of applicants for operator or senior operator licenses and and on notifying the NRC of disability.

Contact: S. Shankman, NRR
492-9806

Title: Nuclear Power Plant Simulation Facilities for Use in Operator License Examinations (Reg. Guide 1.149, Rev. 1)

Description: Reg. Guide 1.149 provides guidance on certification and approval of a simulation facility.

Contact: J. Wachtel, NRR
492-8508

Title: Electric Penetration Assemblies in Containment Structures for Nuclear Power Plants (Reg. Guide 1.63, Rev. 3)

Description: This regulatory guide endorses IEEE Standard 317-1983, "IEEE Standard for Electric Penetration Assemblies in Containment Structures for Nuclear Power Generating Stations", for meeting Commission's regulations with respect to the design, construction, testing, qualification, and installation of electric penetration assemblies.

Contact: S. Aggarwal, RES
443-37840

## RES RULEMAKING ACTIVITIES

### Licenses and Radiation Safety Requirements for Well Logging Operations (Part 39)

The rule would establish specific radiation safety requirements applicable to licensees who perform operations such as well logging, mineral logging, radioactive markers, and subsurface use of radioactive materials in tracer studies. The proposed rule is necessary to provide the specific guidance necessary to ensure that these operations are performed safely.

The final rulemaking package (SECY-86-366) was signed by the EDO and forwarded to the Commission on December 9, 1986.

### Improved Personnel Dosimeter Processing (Part 20)

Present NRC regulations require NRC licensees to provide personnel monitoring equipment (dosimeters) to certain workers, but provides no standards for processing those dosimeters. This rule will require all NRC licensees to have their personnel dosimeters that require processing processed by a dosimetry service that is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) operated by the National Bureau of Standards.

The final rulemaking package (SECY-86-360) was forwarded by the EDO to the Commission for consideration on December 3, 1986.

### Residual Radioactive Contamination Limits for Decommissioning (Part 20)

This rulemaking would provide limits of residual contamination for land and structures for NRC-licensed facilities to be decommissioned for unrestricted use. The rulemaking has parallelled and is being coordinated with an EPA effort to develop Federal guidance in this area through an Interagency Working Group, in which NRC staff is participating. It has become apparent that Federal guidance on this topic will take a long time to complete (years). Therefore, a recommendation to the EDO to terminate this rulemaking, pending formulation of the Federal guidance, was sent to the EDO on December 12, 1986.

ITEMS OF INTEREST
OFFICE OF INTERNATIONAL PROGRAMS
WEEK ENDING DECEMBER 19, 1986

## ABWR Decision Made in Japan

Tokyo Electric Power Co. has decided to propose construction and operation of two power plant units utilizing the Advanced Boiling Water Reactor (ABWR) design. The two units will be located at the Kashiwazaki site (Units 6 and 7) in Niigata prefecture on the Sea of Japan. The General Electric Co. is a main participant and contributor in the ABWR design.

Formal negotiations with the local government will start shortly. The present schedule calls for start of construction of Unit 6 in 1989 with start-up in 1996.

## International Meeting Notices

The following international meeting notices supplement those announced previously:

IAEA Advisory Group Meeting on Quality Assurance for Installation and Commissioning of Instrumentation, Control and Electrical Equipment of Nuclear Power Plants, February 23-27, 1987, Vienna, Austria

IAEA Specialists Meeting on Reliability of Active Components of Nuclear Power Plants, April 22-24, 1987, London, United Kingdom

IAEA Specialists Meeting within the Framework of the International Working Group on Fast Reactors (IWGFR) on Fission and Corrosion Products Behaviour in Primary Circuits of LMFBRs, May 5-8, 1987, Karlsruhe, Federal Republic of Germany

IAEA Advisory Group Meeting on Promising Locations for Small and Medium Power Reactors, May 11-15, 1987, Vienna, Austria

IAEA International Symposium on Safety Aspects of the Ageing and Maintenance of Nuclear Power Plants, June 29-July 3, 1987, Vienna, Austria

NEA Specialists Meeting on Improving Technical Specifications for Nuclear Power Plants, September 7-11, 1987, Madrid, Spain

IAEA International Conference on Nuclear Power Performance and Safety, September 28-October 2, 1987, Vienna, Austria

Foreign Visitors

On Tuesday Boris Semenov, Deputy Chairman of the State Committee for the Utilization of Atomic Energy in the USSR, met with Chairman Zech, Commissioners Bernthal and Carr, EDO V. Stello, NRR Director H. Denton, and IP Director J. Shea to discuss nuclear safety cooperation and other topics of mutual interest. Mr. Yuri Nazarkin from the Ministry of Foreign Affairs accompanied Mr. Semenov to the meetings and on his tour of the Incident Response Center. Mr. Lawrence Goodrich, Science Officer at the American Embassy in Moscow, also attended the meeting with Commissioner Bernthal.

On Thursday Mr. Irving Wang of the Taiwan Power Company met with staff from International Programs and the Safety Research Applications Branch, RES, to discuss NUREG-1160 and the current status of revisions to 10 CFR Part 20.

OFFICE FOR ANALYSIS AND EVALUATION OF OPERATIONAL DATA

ITEMS OF INTEREST

Week Ending December 19, 1986

1. A preliminary AEOD Case Study report on "Air Systems Problems at U.S. Light Water Reactors" was issued for peer review on December 12, 1986. The study analyzes and evaluates the operational experience related to, and the safety implications associated with, failures and degradations of air systems at U.S. LWRs.

   The report presents aspects of air system degradations and plant responses to air system losses which are not addressed in previous studies. It also highlights more than two dozen events in which, contrary to licensing assumptions, a safety-related system failed due to an air system degradation or failure. Operating events involving the loss or degradation of air systems were judged to be safety significant because they may lead, under different circumstances, to potentially serious events and conditions which have not been analyzed in the FSAR.

   The report presents five recommendations which, if implemented, should reduce reactor accident risks by reducing the likelihood for common mode failure of safety systems and by enhancing plant recovery from anticipated and unanticipated transients.

2. AEOD Engineering Evaluation Report, AEOD/E612, "Emergency Diesel Generator Component Failures Due to Vibration," was issued on December 17, 1986. The report provides a review of events involving cracking of small bore piping that resulted in inoperability of emergency diesel generators (EDGs). The cracked lines were found in EDG lube oil, fuel oil and cooling water systems. The piping cracks, which were caused by cyclic fatigue that resulted from engine-induced vibration, were not detected by the inservice inspection or the preoperational testing program for the piping. The failures were only discovered after the cracks propagated completely through the tube wall and fluid was observed leaking from the pipes. There were a total of eight such events which have occurred at eight plants with the EDGs supplied by four different manufacturers.

   Our review indicates that fatigue failures induced by steady-state operation, such as plant equipment or engine-induced vibration, are not normally analyzed in the original piping design. A more complete design review is typically done only after related problems are identified during plant operation. Often the problem is not detected until a leak occurs. Such leaks could result in sudden disabling of the EDGs when needed and could adversely affect a safe plant shutdown in the event of a loss of offsite power.

   Based on the results of this review, AEOD suggested that IE issue an information notice to the potential safety concern of fatigue cracks in fuel oil, lube oil and cooling lines associated with EDGs.

3. Technical Review Report, AEOD/T609 entitled, "Foreign Material and Debris in Safety-Related Fluid Systems," was issued on December 16, 1986. The report was prompted by a recent event at Pilgrim in which the standby liquid control system (SLCS) was declared inoperable after debris was found in both the main and test SLCS tanks. The study found that formal written procedures are commonly used at nuclear power plants to minimize the introduction of foreign material and debris into safety-related fluid systems during system maintenance and modification activities and that these procedures appear to be generally effective. The study also found that at limited number of operating events have been attributed to foreign material and debris contamination during maintenance or modification and that there is relatively minor safety significance associated with these events. The study concluded there is limited risk significance which can be associated with the effect of foreign material and debris on safety-related systems.

4. Technical Review Report, AEOD/T610 entitled, "ADS/RCIC System Interaction Events at River Bend 1" was issued on December 19, 1986. This study was initiated in response to an LER in which the actuation of certain ADS relief valves caused the isolation valves of the RCIC to activate and close rendering the RCIC unavailable. The study found that the events at River Bend 1 involving the ADS/RCIC system interaction appear to have limited safety significance. Each event resulted in the RCIC system being unavailable for less than an hour until the system was returned to the standby condition. The resultant unavailability of the RCIC system was estimated to be nearly insignificant compared to the system's expected yearly total unavailability. The study also found that the ADS/RCIC system interaction events at River Bend 1 were plant-specific events and are not a generic concern. Finally, it appears that the licensee's corrective actions are adequate to prevent recurrence of an ADS/RCIC system interaction. Therefore, it is suggested that no further AEOD action concerning this subject be taken at this time.

5. Technical Review Report, AEOD/T611 entitled "Denied Access Due to Negative Room Pressure" was issued on December 19, 1986. The report was based on an incident in which personnel entry was denied to several areas within the reactor enclosure due to a negative room pressure differential. This negative pressure differential was caused by the inadvertent tripping of the ventilation supply fan while the exhaust fan continued to operate. The regulatory concern that was timely access necessary for operation action might not be available into areas containing safety-related equipment in a plant emergency with a similar failure. The licensee manually tripped the area exhaust fan to reduce the negative room pressure. Whoever, it was noted that automatic tripping of the exhaust fan upon failure of the supply fan would have avoided this event. A search for delayed access events due to a negative room pressure differential did not find any similar events. Therefore, this event appeared to be an isolated case without significant generic safety concern.

DECEMBER 19, 1986

## NMSS MEETING NOTICES

### Division of Fuel Cycle and Material Safety

FOR WEEK ENDING: 12/29/86

| DATE/TIME | DOCKET NUMBER | LOCATION | PURPOSE | ATTENDEES/ APPLICANT | NRC CONTACT |
|---|---|---|---|---|---|
| 12/[illegible]-22/86 | 40-8027 | Gore, OK | To participate in oversight for restart of Sequoyah Fuels Corp. | S. Pennington (FC) | Crow/ Pennington |
| 12/18/86 | 70-143 | Nashville, TN | To meet with State of Tennessee to discuss a problem of contamination at the Erwin City sewage treatment plant. | W. T. Crow (FC) | Crow |
| 12/29/86-1/5/87 | 40-8027 | Gore, OK | To participate in oversight for restart of Sequoyah Fuels Corp. | M. Lauer (FC) | Crow/Lauer |

### Division of Waste Management

| | | | | |
|---|---|---|---|---|
| 12/21-23/86 | Denver, CO | Technical Meeting with Field Office on Hydrology | Michael Young | Michael Young |

### Division of Safeguards

None

ENCLOSURE P