December 11, 1996 SECY 96-250

For: The Commissioners

From: James L. Blaha, Assistant for Operations, Office of the EDO

Subject: WEEKLY INFORMATION REPORT - WEEK ENDING DECEMBER 6, 1996

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*No input this week.

Original signed by
Valeria H. Wilson

for James L. Blaha
Assistant for Operations, OEDO

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O&M-6-1A Regulatory Rpt of WKLY Events

OEDO
GTracy
12/10/96

AO/OEDO
for JBlaha
12/11/96

X O&M-6 Comm

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

INFORMATION REPORT

December 11, 1996 SECY 96-250

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Valerie A. Wilson
for James L. Blaha
Assistant for Operations, OEDO

Contact:
G. Tracy, OEDO
415-1725

SECY NOTE: TO BE MADE PUBLICLY AVAILABLE IN 5 WORKING DAYS FROM THE DATE OF THIS PAPER.

Office of Nuclear Reactor Regulation
Items of Interest
Week Ending December 6, 1996

Salem Unit 2

On December 1, 1996, engineers at Salem Unit 2 discovered that the bottom 2 inches were broken off one rodlet on a RCCA. A second rodlet on a different RCCA was found in the same condition the following day. The apparent cause was absorber swelling between the absorber and the clad at the bottom of the rodlet leading to brittle fracture. Visual video verification indicated that the break was very clean. This type of phenomenon has been observed in Hafnium rods, however the Salem rods were the standard Silver Indium Cadmium RCCAs. A similar occurrence in a Silver Indium Cadmium RCCA was observed some time ago at an Indian Point plant. In that case the RCCA was discharged and no root cause investigation was undertaken.

At Salem the broken rodlet was discovered during a changeout of all 53 RCCAs. These RCCAs have 8.04 EFPY burnup and are being replaced with new RCCAs with an improved design. Fuel assemblies in which the RCCAs with the broken rodlets resided will be inspected to determine the location of the missing piece and it will be extracted.

It is not known when the pieces broke off the rodlets. The vendor (Westinghouse) indicated that the RCCAs would still be expected to fully insert since the rodlets are partially inserted in the assembly during power operation and the broken piece would not be expected to result in mechanical interference. This analysis is continuing. The Reactor Systems Branch is pursuing the issue to determine if there are generic implications.

Notification of Release of the Update to SRP Chapter 7, Instrumentation and Controls in the Federal Register for Public Comment

Federal Register Vol. 61, No. 233 dated December 3, 1996, page 64176 identifies the release of the update of Standard Review Plan (SRP), NUREG-0800, Chapter 7, Instrumentation and Controls for public comment. The comment period is 60 days and will close on January 31, 1997. This update to SRP Chapter 7 is a significant modification to the staff review guidance and criteria for I&C systems due primarily to the addition of guidance developed over the past 15 years on the review of digital computer-based I&C systems. The SRP Chapter 7 update also incorporates other criteria and staff positions adopted since the last SRP update in 1981. The SRP Chapter 7 update is available in the Public Document Room, or can be downloaded from the NRC Internet website.

Cracking of BWR Jet Pump Riser Assembly Elbows

On November 26, 1997, the NRC staff was notified by General Electric Nuclear Energy about cracking recently discovered in jet pump riser assembly elbows at a foreign BWR plant. The BWR plant is approximately 25 years old. Cracks were discovered in two of the ten jet pump riser assembly elbows while performing a visual examination (VT-1) using a remote underwater camera. The

circumferential cracks in the 10-inch diameter piping were approximately 180 mm (7") and 190 mm (7.5") in length. No depth measurements were obtained because a volumetric examination is not feasible at this location. The cracking which is believed to be caused by intergranular stress corrosion cracking (IGSCC) occurred in the heat-affected zone of the weld connecting the elbow to a thermal sleeve. The possibility of cracking having been caused by other means (e.g., thermal fatigue) is still being evaluated.

To date only one U.S. licensee has performed an inspection of this jet pump riser elbow area. The licensee's limited inspection found no cracking. Nonetheless, GE has performed structural, systems, and risk analyses of cracking at this location. The stresses under normal operation and LOCA conditions at this location are relatively small and only a small amount of intact weld (approximately one inch) is needed to maintain structural integrity. If separation does occur during normal operation, GE believes it would be detected by plant operators. Failure of this weld under normal operation does not result in a safety concern.

According to General Electric, a safety concern might exist if the jet pump riser were to separate under a large break LOCA condition. The worse case scenario occurs when the remaining ligament of the cracked riser is large enough to remain intact during normal operations (greater than 0.7 inches) but small enough to fail under acoustic loads of a large-break recirculation piping LOCA (less than 0.85 inches). The length of this remaining ligament is on the order of 5 percent of the recirculation pipe circumference. A safety concern would exist, if a large-break (recirculation piping) LOCA occurs, the cracked riser severs due to the uplift forces and the riser brace fails. Under this scenario, as the riser lifts, the diffusers would detach from the jet pump assembly at a slipjoint. The two holes from the diffusers would feed the LOCA and would create a loss of inventory with a magnitude equal to one train of ECCS. In this configuration, GE cannot ensure that the core will be covered to 2/3 core height.

However, GE has determined that the riser braces on about half of the domestic BWR plants would prevent the jet pumps from separating if the weld were completely severed. Furthermore, for the remaining BWR plants, fatigue would reduce the ligament from 0.85 to 0.7 inches in a matter of hours limiting the time frame when the worst-case scenario could be postulated. In addition, GE has determined that the possibility of a LOCA coincident with a crack in the riser assembly that would cause the riser to fail under LOCA conditions but not be detected under normal operation is extremely remote.

The BWR Vessel and Internals Project (BWRVIP) is working closely with GE and the foreign owner and plans to develop a course of action for U.S. plants. GE is planning to issue a Service Information Letter shortly. The staff is considering issuing an information notice on this subject and is continuing to assess the potential impact of this issue on plants' licensing and design bases.

Arkansas Nuclear One Unit 1 -- Primary-to-Secondary Steam Generator Tube Leakage

On November 29, 1996, primary-to-secondary leakage was identified in the B once-through steam generator (OTSG) of Arkansas Nuclear One, Unit 1 (ANO-1). The licensee estimated that the leak rate was approximately 40 gallons per day (gpd). Since the leakage was first detected, the rate has gradually increased above the initial measurement. As of 12/4/96, the leak rate is slowly oscillating between 50 and 90 gpd. The ANO-1 technical specifications limit the maximum leakage to 500 gpd through any one OTSG. The licensee has established an administrative leakage limit for plant shutdown of 100 gpd. Currently the licensee is tracking the leak rate through increased secondary side sampling, condenser offgas monitors and with N-16 steam line monitors.

Inspection at Lucent Technologies

NRC inspectors conducted an inspection at Lucent Technologies (Lucent) on November 18-20, 1996, to determine if Lucent (previously known as AT&T) had an adequate quality assurance program to design, manufacture, and test Class 1E high and low specific gravity round cell batteries. The inspectors determined that Lucent does not have a quality assurance program that meets 10 CFR 50 Appendix B, and that Lucent may not have adequately tested the high specific gravity acid batteries for Class 1E applications. Lucent sold one battery to Duke Power Company as Class 1E. Arizona Power Company, NTS and Wyle purchased commercial-grade batteries from Lucent, and dedicated them for safety-related use. The NRC will also inspect C&D Charter Company, where the AT&T batteries are manufactured.

Oconee Nuclear Station, Units 1, 2, 3

All three units remain in the cold shutdown condition while inspections, assessments and modifications of the secondary systems continue as a result of the moisture separator reheater drain line rupture on Unit 2 that occurred on September 24, 1996. To date there have been 167 of 216 inspections completed on Unit 1. They have resulted in identification of 47 modifications, of which 7 have been completed. For Unit 2, 211 of 213 inspections have been completed, 57 modifications identified and 33 completed. For Unit 3, 26 of 230 inspections have been completed, 4 modifications identified and none have been completed. A restart meeting at the site is scheduled for December 30, 1996. Present plans call for startup of Unit 2 on January 6, Unit 1 on January 16 and Unit 3 on January 31, 1997.

A series of 6 integrated tests of the Oconee emergency electrical system are planned for December 19-22, 1996. The tests will be comprehensive and are being designed to demonstrate the ability of the Keowee hydro station and the Lee combustion turbine to supply emergency power to the 3 Oconee units in the event of various loss of offsite power and loss of coolant accident scenarios. Region II and NRR personnel are communicating with Duke Power Company to ensure that all concerns are addressed and will be on site to observe the tests.

On November 25, 1996, Duke Power Company announced that it plans to merge with PanEnergy of Houston, Texas. The new company will be called Duke Energy, with

headquarters in Charlotte, NC. PanEnergy is a major local supplier and wholesale marketer of natural gas. It is expected that the merger process will take approximately 18 months to complete.

Commonwealth Edison Company -- Commonwealth Engineering Initiatives

In a letter dated 11/12/96, the licensee informed the NRC that as a result of recent inspections and events at Zion and LaSalle, it has initiated the following corrective actions at all of the nuclear stations to improve the quality, maintenance, and accessibility of information:

- Completed validating the UFSAR information for a minimum of two systems against the operating and surveillance procedures.

- Established engineering oversight teams to review operability and safety (50.59) evaluations.

- Changed Action Request screening program to include a licensed operator and an Engineering Department representative on the screening committee.

- Completed a review of TS interpretations against the TS.

- Completed a review of Safety Evaluations of old modifications with partial implementation and established schedules to close them out in a timely manner.

- Commenced an Engineering Department safety system functional inspection at each ComEd site.

- Commenced effectiveness reviews of the PORCs.

In the 11/12/96 letter, the licensee also noted that the recent ISI at Dresden identified some instances of missing information, lack of ready access to design information, and problems with control of design information. The licensee determined that the problems are present to varying degrees at its other sites. As a consequence, the following short-term actions were directed to be taken at all stations:

- Review top 10 risk significant systems to verify that current plant conditions are safe and support continued operation by February 1997.

- Establish an Engineering Assurance Group by 02/97.

- Revise Nuclear Engineering procedures and training to provide specific direction to engineers on steps to be followed whenever a potential design basis discrepancy is identified by 02/97.

- Expand SQV audits of major contractors. Action Plan to be completed by 12/31/96.

- Define the set of calculations that are critical to maintaining design control and reconstitute them when they do not exist.

Further the licensee will develop, by 12/31/96, a comprehensive plan to upgrade the quality and access to design information. It will be developed in conjunction with the response to the NRC's recent 10 CFR 50.54(f) letter on design basis control.

Dresden, Unit 2 Status

Dresden Unit 2 continues operation at 100% power. The unit has been in power operation for approximately 100 days. There are no major LCOs or equipment problems existing on Unit 2.

Dresden, Unit 3 Shutdown Update

On 10/26/96, Dresden Unit 3 experienced a trip of the 3B Recirculation MG Set. Subsequent to the MG Set trip, the licensee shut down Unit 3 and commenced an investigation into the cause of the equipment failure.

Testing identified that a ground exists on the "C" phase of the 3B Reactor Recirculation Pump Motor. The motor disassembly, lifting of the stator and inspection have been scheduled to be completed the first week of December. The licensee completed a 10 CFR 50.59 evaluation on the recirculation pump motor repair/replacement on 11/18/96. Restart of the unit is expected to immediately follow motor repair/replacement.

The preliminary results of the Dresden ISI inspection identified concerns with the Dresden Station's control of calculations and with the performance of site and corporate engineering activities. In response to the ISI concerns by letter dated 11/08/96, ComEd provided action plans which will be undertaken to provide confidence in the adequacy of the design basis and engineering activities at the Dresden Station. In response to the ISI findings in the area of engineering the NRC, on 11/21/96, issued a Confirmatory Action Letter (CAL). The CAL confirmed that ComEd would provide documentation on their progress and meet with the NRC on a monthly basis to discuss the findings from the action plan commitments described in the licensee's 11/08/96, letter. The first meeting with the licensee is scheduled for 12/19/96 at the Dresden Site.

Fermi Unit 2, Shutdown During Startup From Refueling Outage

Detroit Edison, the licensee for Fermi 2, shut the plant down during the startup from the fifth refueling outage because of a number of equipment problems that were encountered. The most significant problems were:

- the pressure switches used for the low-low-set function and position indication for one safety relief valve failed to respond when the valve was operated

- a high temperature alarm was received for the lower thrust bearing on the "B" reactor recirculation pump

- a body-to-bonnet leak was found on one of the "third MSIVs" (these valves are outboard of the outboard MSIVs and are not controlled under technical specifications)

- excessive leakage of hot water from one or more manual valves on a common drain header from the reactor water cleanup system

- intermediate range monitor (IRM) "D" failed

The licensee determined the recirculation pump high temperature alarm was caused by a bad thermocouple. Investigations and repairs are being pursued for the other problems. Restart is tentatively scheduled for Friday, December 6.

Office of Nuclear Material Safety and Safeguards
Items of Interest
Week Ending December 6, 1996

Japanese Visit to Discuss Transportation Physical Security

On December 4, 1996, staff from the Transportation Storage and Safety Section, Spent Fuel Project Office, met with a Japanese delegation. The discussion focused on the management of physical security information related to the transportation of special nuclear materials and spent fuel. The information provided on U.S. regulatory requirements and practices in this area was requested to aid the Japanese in their review of domestic policies. No follow-on activities are scheduled.

Meeting Regarding the Decommissioning and License Termination of the Fort St. Vrain Nuclear Generating Station

A Public Meeting to discuss the Decommissioning and License Termination of the Fort St. Vrain Nuclear Generating Station was held on December 3, 1996, in Platteville, Colorado. Representatives of the Nuclear Regulatory Commission and the Public Service Company of Colorado conducted this informational meeting to provide the public the opportunity to discuss the decommissioning and license termination of the Public Service Company of Colorado's Fort St. Vrain Nuclear Generating Station.

Agreement with the State of Utah Department of Environmental Quality to Reduce Dual Regulation of Licensees

On December 3, 1996, staff from the Uranium Recovery Branch, Division of Waste Management, and representatives of the State of Utah Department of Environmental Quality (UDEQ) agreed to a Nuclear Regulatory Commission proposal to reduce dual regulation of licensees. This proposal, which was transmitted to the UDEQ on November 27, 1996, concerned the NRC staff's on-going review of Plateau Resources Limited's (PRL's) license renewal application for the resumption of operations at the Shootaring Canyon uranium mill site, in Garfield County, Utah. UDEQ staff are also in the process of reviewing PRL's application for a State groundwater discharge permit for the mill. An important focus for each of these reviews is PRL's proposed design for the mill tailings impoundment liner.

The NRC staff proposed, in the interest of reducing dual regulation of licensees and to increase the efficiency of the reviews, that the UDEQ take the lead in reviewing the liner design issue. The NRC staff would defer to the UDEQ on a final determination relative to this design issue, as long as the NRC staff was confident that the State's review was protective of public health and safety, consistent with NRC regulations. The UDEQ staff agreed to this proposal.

The UDEQ committed to sending a copy of the liner design submitted by PRL to the NRC for staff review and comment.

Office of Nuclear Regulatory Research
Items of Interest
Week Ending December 6, 1996

Denial of Petition for Rulemaking Signed by the EDO

On December 9, 1996, the Executive Director for Operations approved denial of petition for rulemaking PRM-61-3, "Heartland Operation to Protect the Environment." The petitioner requested that the NRC amend its regulations regarding government ownership of a low-level radioactive waste disposal site that is consistent with petitioner's view of the applicable Federal statutes.

This notice informs the Commission that, in accordance with the rulemaking authority delegated to the EDO, the EDO has signed this denial of petition for rulemaknig and proposes to forward it on December 17, 1996, to the Office of the Federal Register for publication, unless otherwise directed by the Commission.

Technology Transfer to the State of Pennsylvania on Modelling Degradation of Underground Concrete Vaults

On November 26, 1996, the Waste Management Branch (RES) staff participated in a one-day workshop in Harrisburg, Pennsylvania. The purpose of the workshop was to transfer research results to the State of Pennsylvania on modelling degradation of concrete structures. The research results are incorporated into a computer program called 4SIGHT which was developed by the National Institute of Standards and Technology (NIST) under NRC sponsorship. The computer program is expected to facilitate performance assessment of concrete engineered facilities. Attendees at the workshop included NRC, NIST, Pennsylvania Bureau of Radiation Protection, Idaho National Engineering Lab (INEL), Rogers and Associates and Roy Weston Inc. (the latter two are consultants to Pennsylvania's Bureau of Radiation Protection).

4SIGHT is a numerical computer model that incorporates the synergism of multiple degradation mechanisms in concrete. It predicts the hydraulic conductivity and other transport properties of concrete vaults as a function of time which is one of the major inputs in the performance assessment calculations for engineered waste facilities. A one dimensional finite difference equation is used to propagate ions by precipitation/dissolution of available salts which, in turn, changes the transport properties and the rate of ion transport. The result is a model which incorporates the synergism of multiple degradation mechanisms in concrete. The program has the capability to incorporate among other features, radionuclide transport and cracking in concrete structures. Presentations on 4SIGHT and its capabilities were made by NIST and NRC. The workshop ended with a hands on computer demonstration of the program by NIST.

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Office for Analysis and Evaluation of Operational Data
Items of Interest
Week Ending December 6, 1996

Incident Response Training

On December 3rd, a member of IRD conducted training for all Region I States, Licensees, and some Federal agencies on Incident Response, the Response Coordination Manual and the Response Technical Manual. This is a part of ongoing efforts under the AEOD State Outreach program to better communications and coordination with potential responders to nuclear power plant accidents.

Preliminary Notifications (PNs)

a. PNO-I-96-083, Mercy Catholic Medical Center, CONTAMINATED RADIOPHARMACEUTICAL PACKAGE RECEIVED BY HOSPITAL

b. PNO-I-96-084, Dupont-Merck Pharmaceutical Co., MOLYBDENUM-99/TECHNETIUM-99M SPILL FROM HOLDING TANK

c. PNO-III-96-070A, S. C. Johnson and Son, Inc., MISSING DENSITY GAUGE SOURCE (UPDATE)

d. PNO-IV-96-062, Pacific Gas & Electric Co. (Diablo Canyon 1), PLANT SHUTDOWN GREATER THAN 72 HOURS

e. PNO-IV-96-063, Entergy Operations, Inc., RESUMPTION OF DRY CASK LOADING ACTIVITIES

Office of Administration
Items of Interest
Week Ending December 6, 1996

Procurement Reform - Commerce Business Daily on Internet

On December 2, 1996, the Commerce Business Daily (CBD) became available on the Internet. Prior to this date, proposed Federal procurements and contract awards were announced through a daily paper version of the CBD that was made available through subscription. The Internet version, which can be accessed at http://cbdnet.access.gpo.gov, is fully accessible to interested parties and includes full search capabilities. This new system offers not only wider distribution of notices but the potential for significant time savings during the submission and posting of CBD notices. DC published its first notice, a combined notice/solicitation, using this new system on December 3.

Significant FOIA Requests Received during the 5-Day Period of November 29 - December 05, 1996:

Records relating to Salem and Hope Creek which lead to the issuance of a 1/29/96 Trending Letter to PSE&G. (J.O'Neill of Shaw, Pittman, Potts & Trowbridge; FOIA/PA-96-506)

Copy of an October 21, 1996 memo from Mr. Lieberman regarding an NRC policy on FSAR changes. (O.Williams; J/R/A Associates; FOIA/PA-96-507)

Records related to an August 17, 1996 event at Virginia Power's Surry Station. (Individual; FOIA/PA-96-508)

Listing of Palladium-103 and Iodine-125 licensees. (R. Meserve; Covington & Burling; FOIA/PA-96-509)

Transcript of interview regarding Northeast Utilities Millstone facility. (Individual; FOIA/PA-96-510)

Office of the Controller
Items of Interest
Week Ending December 6, 1996

Travel Redesign and Automation Effort

OC kicked off a travel redesign and automation effort on November 18, 1996 with a reengineering session which had headquarters and regional participation. The team identified and discussed several ideas for simplifying the agency's travel process. Several issues were identified for further research, and the team expects to have specific recommendations for a simplified process by March 1997. The team will then begin evaluating available travel management software packages with implementation targeted for FY 98.

Office of Personnel
Items of Interest
Week Ending December 6, 1996

Benefits Brochures Developed for NRC Employees

The Office of Personnel has recently developed benefits brochures for all NRC employees. These brochures summarize the various government benefits each employee receives. Distribution is starting to employees this week.

Arrivals

MCCARTHY, William	HEALTH PHYSICIST (PFT)	NMSS
SOLORIO, David	REACTOR SYSTEMS ENGINEER (PFT)	NRR

Departures

MCBREARTY, Michael	REACTOR ENGINEER (PFT)	RI

Office of Public Affairs
Items of Interest
Week Ending December 6, 1996

Media Interest

Chairman Jackson was interviewed by several news media regarding the NRC reorganization; Kathy Hart and David Stellfox, Inside NRC, and Greg Lagerquist, CBS-TV Portland, ME.

Press Releases

Headquarters:

96-172	NRC Announces Major Reorganization
96-173	Note to Editors -- ACRS Meetings
96-174	Note to Editors -- ACRS Meeting
96-175	NRC Issues Second Partial Initial Decision on Louisiana Energy Services License Application
96-176	NRC Seeks Qualified Candidates for Advisory Committee on Reactor Safeguards
96-177	NRC Issues Interim Guidance on Transportation of Steam Generators
96-178	NRC Amends Regulations Governing High-Level Radioactive Waste Repository
96-179	Nuclear Regulatory Commission Certifies Two Standardized Reactor Designs

Regions:

I-96-78	Calvert Cliffs Nuclear Plant Rated "Superior" in Three Areas, "Good" in Fourth Area of NRC Assessment Report
II-96-99	NRC Staff Proposes $50,000 Fine Against Southern Nuclear Operating Company at Farley
II-96-101	Summer Nuclear Plant Rated "Superior" in Three Areas, "Good" in Fourth Area of NRC Assessment Report
III-96-71	Special NRC Team Inspection Beginning at Point Beach Nuclear Power Station
III-96-72	NRC Staff Proposes $325,000 Fine Against Wisconsin Electric Co. For Violations of NRC Requirements at Point Beach Nuclear Plant

III-96-73	Quad Cities Nuclear Plant Rated "Good" in Two Areas, "Acceptable" in Two Areas in NRC Performance Assessment
IV-96-61	NRC Staff Authorizes Loading of Spent Fuel Into Dry Casks at Arkansas Plant

Office of International Programs
Items of Interest
Week Ending December 6, 1996

IAEA Vacancy Notices

The following notices from the International Atomic Energy Agency have been posted on NRC bulletin boards:

P-4	Project Manager for Model Project INT/5/144 Technical Co-operation	96/800
P-4	NDA Equipment Specialist Safeguards	96/087
P-5	Section Head Safeguards	96/088
P-4	Head, LAN Systems Support Unit Nuclear Energy	96/089
P-3	Systems Analyst (Financial Systems) Administration	96/092
P-2	Systems Analyst (Financial Systems) Administration	96/093

Region I
Items of Interest
Week Ending December 6, 1996

Meeting with Commonwealth of Pennsylvania

Staff from the Division of Nuclear Materials Safety and the Regional State Liaison Officer attended a meeting in Harrisburg, PA, on December 4, 1996, to discuss resolution of the Kiski Valley Water Pollution Control Authority (Leechburg, PA) onsite uranium contaminated ash pile. Meeting attendees included representatives from the Commonwealth of Pennsylvania and the Office of Nuclear Materials Safety and Safeguards. The Water Authority has accumulated ash in an onsite lagoon from incineration of dewatered sludge. The uranium contamination is believed to have resulted from water released from the Apollo B&W site. Although these releases were in accordance with applicable release limits, incineration has resulted in a concentration of uranium waste products. Various options for disposal were discussed, considering risk and dose assessments.

Licensing Orientation

To assist State staff with implementation of the licensing program after NRC enters into an Agreement with the Commonwealth of Massachusetts, the DNMS hosted a three-day licensing orientation for four Massachusetts license reviewers. NRC staff presented information covering several topics. Included were file reviews for different types of complex Massachusetts licenses, overview of NRC allegation and enforcement policies, financial assurance and decommissioning issues, administrative handling of license applications and document control, and automated processing of licenses.

Region II
Items of Interest
Week Ending December 6, 1996

Florida Power Corporation - Crystal River

Region II representatives presented the Crystal River 3 SALP to the licensee at a public meeting on December 2, 1996. The characterization of three functional areas lowered in this assessment. The Crystal River SALP scores of 3 in both Operations and Engineering and 2 in Maintenance and Plant Support are the lowest of any plant in Region II.

General Electric Co. - Fuel Facility in Wilmington, NC

On December 3, 1996, the licensee reported the loss of some criticality controls in connection with its calciner process. The loss resulted in the accumulation of material, containing uranium enriched to 4.9 percent uranium-235, in the annular space of a calciner. The calciner converts ammonium diuranate (ADU) to uranium oxide by heating it to about 800 degrees Fahrenheit as the material moves down the inside of a rotating, heated tube and then reacting with hydrogen gas. The tube is a nominal 10 inches inside diameter by 26 feet long. The annular space is between the rotating tube and heat shield within the calciner.

The licensee first noticed a problem with the calciner on November 30, 1996. After allowing cooling sufficient to examine the calciner, the licensee opened the calciner heat shield and outer casing on December 3, 1996. A visible accumulation of material was observed in the bottom of the casing. Approximately 38-39 kilograms of material was removed and placed into criticality safe storage containers. The material contained uranium in the form of oxide. Considering the type material and as found conditions, the licensee and NRC determined the criticality safety margin to be adequate.

The cause of the material accumulation in the annulus space was a crack about 3/8-1/2 inches wide running around the circumference of the tube. The crack was approximately three feet from the tube end. The breakage of the tube represented a loss of one criticality safety control (for geometry) on the calciner process. Another control to stop material accumulation outside the tube when the tube breaks was a switch which detects slow movement or stoppage of the tube. The switch is designated as an Active Engineered Control AEC) and shuts down the flow of ADU and process gases to the calciner when activated. The switch did not activate in this case, since the tube continued to rotate after the break.

On December 3, 1996, the licensee established an investigation team and halted the use of all similar calciners until the root cause and corrective actions have been evaluated and reviewed with the NRC. The licensee anticipates this will be completed by December 7, 1996.

On December 3, 1996, Region II and NMSS established a special inspection team to review the licensee's nuclear criticality safety analysis and evaluation of the incident. The team is led by the Fuel Facilities Branch Chief in Region II.

Region III
Items of Interest
Week Ending December 6, 1996

Point Beach Special Operational Safety Team Inspection

On December 2, 1996, Region III dispatched a special inspection team to evaluate operational safety at Point Beach Nuclear Power Station. The team will conduct around-the-clock surveillance of routine activities in the plant's control room for several days and also review maintenance, testing, and engineering activities. The special team inspection will conclude on December 13, 1996.

The team inspection was scheduled to provide a broad review of plant activities following problems earlier this year with control room operations and with the equipment testing program.

Wisconsin Electric Power Company Meeting -- Point Beach Nuclear Power Station

A management meeting was held in the NRC Region III Office, Lisle, Illinois, on December 5, 1996, between NRC senior managers and Wisconsin Electric Power Company senior managers. The meeting discussion focused on the utility's process improvements for conducting operability evaluations for Point Beach Nuclear Power Station and the status of the facility's performance improvements. The meeting also discussed the issues required to be resolved prior to restarting Unit 2 following completion of its current refueling and steam generator replacement outage.

Advanced Medical Systems, Inc. - Cleveland, Ohio

On December 3 and 6, 1996, approximately 48,000 curies of cobalt-60 were shipped by ChemNuclear Systems, Inc., from Advanced Medical Systems, Inc., Cleveland, Ohio, to Barnwell, South Carolina, for disposal. NRC Region III inspectors were at the facility monitoring the activities, including work performed in contaminated areas, high radiation areas, and all hot cell entries. Region III inspectors also monitored both shipments of sources, which included performing radiation surveys of the loaded casks and trucks. The cobalt-60 sources were packaged in a lead and steel cylindrical liner, which was then placed inside a type B shipping cask. The survey results were well below the applicable NRC and Department of Transportation regulatory limits.

The remaining inventory at the facility consists of approximately 40 curies of packaged waste held in metal drums and boxes, approximately 4,000 curies of bulk and sealed sources contained in an inaccessible storage well in the hot cell, and a 1200 curie sealed source in a source exchange container.

ANS Workshop -- Utility/NRC Interface Workshop

On December 3 and 4, 1996, Region III in conjunction with the American Nuclear Society, conducted a Utility/NRC Interface Workshop in Oak Brook, Illinois. Workshops focused on three topic areas: Inspection Program and Enforcement

Issues; Recent Safety Issues; and Communications Issues. The General Co-Chairmen for the workshop were A. Bill Beach, Regional Administrator, NRC Region III and Harold Kaiser, Chief Nuclear Operating Officer, Commonwealth Edison Company.

Region IV
Items of Interest
Week Ending December 6, 1996

Meeting with TU Electric Regarding Thermolag

A public meeting was held on December 5, 1996, with TU Electric representatives to discuss seven open issues regarding Thermolag at Comanche Peak. Representatives from NRR led the discussions intended to bring the open issues to closure. The licensee plans to provide additional information to address the remaining concerns.

Online Maintenance Meeting with Entergy Operations, Inc. (EOI)

On December 5, 1996, the Director, Division of Reactor Safety, Region IV and several members of the NRC headquarters and Region IV staff participated in a working meeting with representatives from EOI (EOI corporate personnel and representatives from Arkansas Nuclear One, Grand Gulf, River Bend and Waterford 3) at the EOI Corporate Office in Jackson, Mississippi. The attendees discussed online maintenance in a workshop forum, which included discussions on control of risk, tools available, EOI's online maintenance philosophy, and NRC Guidelines and perspectives.

Meeting with Wolf Creek Nuclear Operating Corporation Personnel

On December 6, 1996, a public meeting was held between representatives from Wolf Creek Nuclear Operating Corporation and NRC staff in the Region IV Arlington, Texas, office. Topics of the meeting included the licensee's corrective action program and a safety system functional assessment of the auxiliary feedwater system currently being conducted by the licensee.