

December 22, 2006

Mr. Edward Merritt, Reactor Supervisor  
Purdue University  
School of Nuclear Engineering  
Nuclear Engineering Building  
400 Central Drive  
West Lafayette, IN 47907-2017

SUBJECT: NRC INSPECTION REPORT NO. 50-182/2006-201

Dear Mr. Merritt:

This letter refers to the inspection conducted on December 12-14, 2006, at the Purdue University Research Reactor. The inspection included a review of activities authorized for the facility. The enclosed report presents the results of that inspection.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observation of activities in progress. Based on the results of this inspection, no safety concerns or noncompliance with U.S. Nuclear Regulatory Commission (NRC) requirements were identified. No response to this letter is required.

In accordance with Section 2.390, "Public inspections, exemptions, requests for withholding," of Title 10 of the *Code of Federal Regulations*, a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Should you have any questions concerning this inspection, please contact Mr. Kevin M. Witt at 301-415-4075.

Sincerely,

**/RA/**

Johnny Eads, Branch Chief  
Research and Test Reactors Branch B  
Division of Policy and Rulemaking  
Office of Nuclear Reactor Regulation

Docket No. 50-182  
License No. R-87

Enclosure: NRC Inspection Report No. 50-182/2006-201

cc:

Mayor  
City of West Lafayette  
609 W. Navajo  
West Lafayette, IN 47906

Indoor and Radiologic Health  
Indiana State Department of Health  
2 North Meridian Street, 5<sup>th</sup> Floor  
Indianapolis, IN 46204-3006

State Board of Health  
ATTN: Director, Bureau of Engineering  
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Mr. Jere Jenkins  
Laboratory Director  
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Dr. James Schweitzer  
Radiation Safety Officer  
Purdue University  
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West Lafayette, IN 47907-2051

Test, Research, and Training  
Reactor Newsletter  
University of Florida  
202 Nuclear Sciences Center  
Gainesville, FL 32611

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cc w/enclosure: Please see next page

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**ACCESSION NO.: ML063540047**

**TEMPLATE #: NRR-106**

OFFICE	PRTB:RI		PRTB:LA		PRTB:BC	
NAME	KWitt		EHylton		JEads	
DATE	12/19/2006		12/20/2006		12 /22/2006	

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U. S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF NUCLEAR REACTOR REGULATION

Docket No.: 50-182

License No.: R-87

Report No.: 50-182/2006-201

Licensee: Purdue University

Facility: Purdue University Reactor

Location: West Lafayette, Indiana

Dates: December 12-14, 2006

Inspector: Kevin M. Witt

Approved by: Johnny Eads, Branch Chief  
Research and Test Reactors Branch B  
Division of Policy and Rulemaking  
Office of Nuclear Reactor Regulation

## EXECUTIVE SUMMARY

Purdue University  
Report No: 50-182/2006-201

The primary focus of this routine, announced inspection was the on-site review of selected aspects and activities since the last NRC inspection of the licensee's Class II non-power reactor safety programs including: organization and staffing; procedures; experiments; health physics; design changes; and committees, audits and reviews.

### Organization and Staffing

- The licensee's organization and staffing remain in compliance with the requirements specified in Technical Specification Section 6.1.

### Procedures

- The procedural control and implementation program satisfied Technical Specification requirements.

### Experiments

- The program for the control of experiments satisfied regulatory, procedural and Technical Specification requirements.

### Health Physics

- Surveys were being completed and documented acceptably to permit evaluation of the radiation hazards present.
- Postings met the regulatory requirements specified in 10 CFR Parts 19 and 20.
- Personnel dosimetry was being worn as required and doses were well within the licensee's procedural action levels and NRC's regulatory limits.
- Radiation monitoring equipment was being maintained and calibrated as required.
- The Radiation Protection Program being implemented by the licensee satisfied regulatory requirements.
- Effluent monitoring satisfied license and regulatory requirements.

### Design Changes

- No significant nor minor changes had been made at the facility since the last operations inspection.

### Committees, Audits, and Reviews

- Review and oversight functions required by the Technical Specifications were acceptably completed by the Committee on Reactor Operations. One Unresolved Item

was identified due to the failure to conduct the required emergency and security plan audits as specified by Technical Specification 6.2.6.

Follow-up on Previous Open Items

- The IFI regarding audits of the qualifications and training of the licensed operators remains open. The NCV regarding the operator being allowed to continue licensed activities without meeting the conditions of the license is closed.

## REPORT DETAILS

### **Summary of Plant Status**

The licensee's 1 kilowatt (kW) research reactor has been operated in support of experiments, reactor operator training, and periodic equipment surveillances. During the inspection, the reactor was not operated.

#### **1. Organization and Staffing**

##### a. Inspection Scope (Inspection Procedure [IP] 69001)

The inspector reviewed the following regarding the licensee's organization and staffing to ensure that the requirements of the Technical Specification (TS) Sections 6.1 and 6.2 were being met:

- organizational structure
- qualifications of reactor staff and members of the Committee on Reactor Operations (CORO)
- CORO meeting minutes for June 29, October 21, and December 29, 2005, and March 31, and June 21, 2006
- Draft CORO meeting minutes for September 28, 2006
- Reactor Log Book entries from November 3, 2005 to present
- TS for the Purdue University Reactor-1 (PUR-1), Amendment No. 10, dated March 7, 2000

##### b. Observations and Findings

Through discussions with licensee representatives, the inspector determined that management responsibilities, as well as the organizational structure at the facility, had not changed since the last inspection in the area of operations (refer to NRC Inspection Report No. 50-182/2005-201). All coordination of facility operations is conducted by the Laboratory Director (LD) and the Reactor Supervisor (RS). The inspector noted that the LD position was not specified in the TSs and the relationship of the LD in the licensee organization was unclear. The inspector communicated to the licensee the need for a clear organizational framework that is in compliance with the requirements of the TSs. This item will be identified as an Inspector Follow-up Item (IFI) by the NRC and will be reviewed during a future inspection (IFI 50-182/2006-201-01).

The PUR-1 staff's qualifications satisfied the training and experience requirements stipulated in the TSs. The operations log and associated records confirmed that shift staffing met the minimum requirements for duty personnel. Review of records verified that management responsibilities were administered as required by TS and applicable procedures. The annual reports summarized the required information and was issued at the frequency specified in TS Section 6.6.1. No special reports were submitted pursuant to TS Section 6.6.2.

After discussing facility operations with licensee personnel, the inspector determined that the FD and RS are the currently licensed operators and hold Senior Reactor Operator (SRO) licenses. One individual recently completed an NRC operator licensing examination for an SRO license and is waiting for the results from the NRC. The inspector noted that the current NRC list of operators for the PUR-1 only lists the FD under all qualified operators. The expiration date for the RS SRO license has passed and the RS has submitted an application to the NRC for renewal in a timely manner. In accordance with 10 CFR 55.55(b), "If a licensee files an application for renewal or an upgrade of an existing license on Form NRC-398 at least 30 days before the expiration of the existing license, it does not expire until disposition of the application for renewal or for an upgraded license has been finally determined by the Commission." The NRC is still acting on the renewal of the SRO license for the RS.

c. Conclusions

The licensee's organization and staffing remain in compliance with the requirements specified in the TSs.

**2. Procedures**

a. Inspection Scope (IP 69001)

The inspector reviewed the following to ensure that the requirements of TS Section 6.4 were being met concerning written procedures:

- selected PUR-1 procedures as noted in this report
- procedure revision, review, and approval process
- PUR-1 Procedure M-5, "Procedure for Radiation Area Monitor (RAM), Model GA-2A", dated July 28, 1995
- PUR-1 Procedure M-5A, "Procedure for Calibration of Radiation Area Monitor (RAM), Model GA-6", dated April 25, 2001

b. Observations and Findings

Procedures had been formulated for the safe, routine operation of the reactor. Records showed that procedures for potential malfunctions (e.g., radioactive releases and contaminations, and abnormal events) had also been developed and were available to be implemented as required. The inspector noted that procedural changes were being reviewed and approved by the CORO as required by TS. Training of personnel on procedures and changes was acceptable. Through observation of various activities at the facility, the inspector determined that licensee personnel conducted activities in accordance with applicable procedures. During review of the procedures, the inspector reviewed a procedure for calibration of the older model radiation area monitors (RAMs). A procedure for new models has been approved and all of the older models have been replaced by newer models. The licensee plans to propose to the CORO to officially remove the procedure for the older models from service. Review of CORO meeting minutes and discussions with the licensee indicated that no new procedures or procedure changes have been approved since the previous inspection.

c. Conclusions

The procedural control and implementation program satisfied Technical Specification requirements.

**3. Experiments**

a. Inspection Scope (IP 69001)

To ensure that the requirements of TS Sections 3.5 and 4.5 were being met concerning experimental programs, the inspector reviewed selected aspects and/or portions of:

- selected experiment forms
- selected irradiation request forms
- potential hazards identification
- Procedure 91-2, "Sample Irradiation in Reflector", dated June 1991
- Procedure 91-3, "Sample Irradiation in Drop Tubes", dated June 1991
- Procedure 05-1, "Sample Irradiation Procedure for a Sample With Unknown Reactivity Worth, New Experiment", dated June 14, 2005
- Reactor Log Book entries from November 3, 2005 to present

b. Observations and Findings

One of the experiments conducted at the PUR-1 is the irradiation of various materials for the purpose of neutron activation analysis. The most frequently used experimental facilities are the drop tubes, which are of different diameters and in different positions around the core. Samples that have been irradiated at PUR-1 include various materials that are produced or utilized. The RS approves all routine samples to be irradiated in accordance with the TS limitations. No new experiments had been initiated, reviewed, or approved since the previous inspection at the facility. If any new experiments were to be initiated, they would be reviewed and approved by the CORO. The inspector confirmed that all of the experiments conducted were in accordance with TS limits and procedural requirements. In general, a majority of the experiments conducted were of a similar nature. There were a few unique experiments conducted on different samples, and the licensee ensured that all TS limitations on experiments were followed for those evolutions.

c. Conclusions

The program for the control of experiments satisfied regulatory, procedural and TS requirements.

**4. Health Physics**

a. Inspection Scope (IP 69001)

The inspector reviewed the following to verify compliance with 10 CFR Part 20 and TS Sections 4.2(d) and 4.3(d):

- radiological signs and posting in various areas of the facility
- facility and equipment during tours
- radiation protection training records
- maintenance and calibration of radiation monitoring equipment
- organization and staffing
- radiological signs and posting
- Current inventory of portable radiation survey instruments
- Calibration and periodic check records for selected radiation survey and monitoring instruments for the past year
- Quarterly bimonthly personnel radiation exposure records for 2005 to present
- Purdue University Radiation Safety Manual, last modified December 12, 2006
- Health Physics Procedure, "SOP - Reactor Water Sampling and Analysis", revised January 2005
- Health Physics Procedure, "SOP - Reactor Room Survey", revised January 2005
- Health Physics Procedure, "SOP - Reactor Water Gamma Spec. Analysis", revised January 2005
- Health Physics Procedure, "SOP - Calibration of Pocket Dosimeters", revised January 2005
- Health Physics Procedure, "SOP - Radiation Survey Instrument Calibration", undated
- Health Physics Procedure, "SOP - Survey Meter Efficiency to Beta Radiation", revised January 2005
- Audit of Radiation Safety Program Content and Implementation for 2005, dated December 12, 2006
- Completed Reactor Room Survey Forms, dated January 19, 2006 to present
- Completed Reactor Irradiation Checklist Forms, dated October 7, 2005 to present
- Reactor Air and Water Annual Report for 2005
- Reactor Water and Reactor CAM Filter analysis reports for 2005 to present
- Memorandum to Ed Merritt from Jim Schweitzer, "Calibration of Nuclear Engineering Instruments", dated March 15 and September 8, 2006

b. Observations and Findings

The Department of Radiological and Environmental Management's (REM) radiation protection program applies uniformly to all of the NRC-licensed activities on campus. The licensee's program for radiological health and safety related to the reactor license was evaluated during this inspection.

(1) Surveys

The inspector reviewed the monthly radiation wipe and meter surveys of the reactor facility. The purpose of the monthly surveys is to find any unusual conditions and provide early indications of emerging problems. Surveys were also conducted when samples were removed from the reactor pool. Surveys by the campus REM Health Physics (HP) personnel were conducted in accordance with the appropriate procedure. The results were documented on the appropriate forms, evaluated as required, and corrective actions taken

when readings or results exceeded set action levels. The number and location of survey points was adequate to characterize the radiological conditions.

If the licensee notes elevated readings in unclassified areas exceeding 200 disintegrations per second per 100 square centimeters, the licensee classifies the area as contaminated and immediate remediation is commenced. A review of the survey records indicated that no anomalies were noted. The inspector also reviewed the surveys of experiment samples being removed from the reactor pool. The licensee noted that the maximum radiation level of samples permitted to be removed from the pool is one rem at a distance of one foot.

Reactor water samples were evaluated monthly for alpha and beta radiation as well as tritium content. No abnormal readings were indicated. Filters from the Reactor Continuous Air Monitor (CAM) were analyzed on a bi-weekly basis for alpha and beta radiation. The samples that were taken indicate that the reactor integrity has not been compromised and shows no trend of breakdown, release, or degradation.

(2) Postings and Notices

The inspector reviewed the postings required by 10 CFR Part 19 at the entrances to various controlled areas including the Reactor Room and radioactive material storage areas. The postings were acceptable and indicated the radiation and contamination hazards present. The facility's radioactive material storage areas were noted to be properly posted. No unmarked radioactive material was found in the facility.

(3) Dosimetry

The licensee used a National Voluntary Laboratory Accreditation program-accredited vendor, Global Dosimetry Solutions, Inc., to process personnel dosimetry. Through direct observation, the inspector determined that dosimetry was acceptably used by facility personnel. For visitors to the facility, no dosimetry is issued for monitoring due to low background readings and no direct exposures to sources. If a source is to be manipulated or direct exposures are anticipated, pocket dosimeters are issued to the students. Records indicate that no abnormal readings were obtained.

An examination of the records for the inspection period showed that all exposures were well within NRC limits and within licensee action levels. There are currently three staff members at the facility that are being monitored, in addition to the REM personnel that perform duties less than full-time at the facility. Extremity monitoring, accomplished through the use of finger rings, also showed relatively low doses to the hands of staff members. All of the personnel associated with the facility received exposures approximating background levels. The highest extremity exposure received during a two month monitoring period for the past two years was approximately 13 millirem (mrem). For any whole body or extremity exposures that exceed 100 mrem in a two month period, a letter is sent to the badge holder notifying the individual of the exposure.

(4) Radiation Monitoring Equipment

The calibration of portable survey meters and friskers was typically completed by REM personnel at the radiation safety office while fixed radiation detectors and air monitoring instruments were typically calibrated by PUR-1 staff. The inspector talked with the licensee about the calibration equipment and verified that the sources and electronics used were sufficient to conduct the calibrations. The calibration records of portable survey meters, friskers, fixed radiation detectors, and air monitoring equipment in use at the facility were reviewed. Calibration frequency met the requirements established in TS 4.2(d) while records were being maintained as required. The inspector observed that proper precautions are always used to maintain doses for calibrations as low as reasonably achievable (ALARA).

(5) Radiation Protection Program

The licensee's Radiation Protection and ALARA programs were established and described in the Purdue University Radiation Safety Manual (RSM) and through the various HP procedures that had been reviewed and approved. The programs contained instructions concerning organization, training, monitoring, personnel responsibilities, and audits. The inspector verified that annual reviews of the RSM were being completed by the licensee as required by 10 CFR Part 20. No issues related to the RSM were identified in the review of the program.

The ALARA Program is outlined and established in the RSM, which is accessible via the internet. The ALARA program provided guidance for keeping doses as low as reasonably achievable and was consistent with the guidance in 10 CFR Part 20. The inspector noted that the information contained in the manual was all-inclusive and provided working examples of proper radiation safety.

The RSM requires that all personnel who work with radioactive materials receive training in radiation protection, policies, procedures, requirements, and the facilities prior to having unescorted access at the facility. The REM staff is responsible for conducting the training and the training includes practical applications. A test is administered at the end of the training to verify that the individuals understood the material presented. Refresher training is required for all personnel on an biennial basis. The training covered the topics required to be taught in 10 CFR Part 19 and the review of training materials and tests indicated that the staff were instructed on the appropriate subjects.

(6) Facility Tours

The inspector toured the Reactor Room and the accompanying laboratories. Control of radioactive material and control of access to radiation and high radiation areas were acceptable. The postings and signs for these areas were appropriate. The inspector also determined that there were no measurable releases of gaseous or liquid radioactive material from the research reactor facility.

(7) Environmental Monitoring

A thermo-luminescent dosimeter (TLD) is placed in the classroom directly above the PUR-1, as well as the classroom located next to the reactor facility. Records show that there was no exposure to these rooms during the previous two years. There was no liquid effluent discharged from the facility. The licensee indicated that the public sewer authority does not allow for disposal of liquid waste into the sanitary sewers. The licensee also indicated that gaseous releases from the facility were minimal, which the biweekly CAM filter analysis indicated. The licensee noted that the activity of the CAM filters demonstrates that no dose from reactor operations is possible.

c. Conclusions

The inspector determined that: (1) surveys were being completed and documented acceptably to permit evaluation of the radiation hazards present, (2) postings met the regulatory requirements specified in 10 CFR Parts 19 and 20, (3) personnel dosimetry was being worn as required and doses were well within the licensee's procedural action levels and NRC's regulatory limits, (4) radiation monitoring equipment was being maintained and calibrated as required, (5) the Radiation Protection Program being implemented by the licensee satisfied regulatory requirements, and (6) effluent monitoring satisfied license and regulatory requirements.

**5. Design Changes**

a. Inspection Scope (IP 69001)

In order to verify that any modifications to the facility were consistent with 10 CFR 50.59 and TS Section 6.2, the inspector reviewed:

- completed audits and reviews
- procedures requiring review of changes under 10 CFR 50.59
- CORO meeting minutes for June 29, October 21, and December 29, 2005, and March 31, and June 21, 2006
- Draft CORO meeting minutes for September 28, 2006
- Reactor Log Book entries from November 3, 2005 to present

b. Observations and Findings

Through review of applicable records and interviews with licensee personnel, the inspector determined that no significant nor minor changes had been initiated and/or completed at the facility since the last inspection. The inspector also verified that administrative controls were in place that required the appropriate review and approval of all changes prior to implementation.

c. Conclusions

No significant nor minor changes had been made at the facility since the last operations inspection.

**6. Committees, Audits, and Reviews**

a. Inspection Scope (IP 69001)

The inspector reviewed the following to ensure that the audits and reviews stipulated in TS Section 6.2 were being completed:

- CORO meeting minutes for June 29, October 21, and December 29, 2005, and March 31, and June 21, 2006
- Draft CORO meeting minutes for September 28, 2006
- Memorandum to CORO file entitled, "Updated CORO Membership", dated August 1, 2005
- Reactor License Audit of the Technical Specifications, dated March 24, 2006
- 2003 Security Audit Covering the Security Plan for the Purdue University Reactor, dated July 6, 2003
- 2003 PUR-1 Emergency Response Plan Audit, dated July 6, 2003

b. Observations and Findings

The composition and meeting frequency of the CORO satisfied the TS requirements. The latest meeting minutes indicated that one of the members of the CORO has left the University and the licensee is in the process of appointing a new member. The minutes of the meetings demonstrated that the CORO provided the review and oversight required by the TS. Issues brought up by the CORO were resolved in an appropriate time frame and were noted in CORO meeting minutes.

Designated members of the CORO, including others such as HP personnel, conducted audits of the technical specifications as required and the full CORO reviewed the results. Minor issues that were not safety related were noted in the audit reports, and the inspector observed that any safety related items were properly controlled. The inspector noted that there were no significant issues discovered and that the licensee took appropriate corrective actions in response to the audit findings. The inspector noted that the safety reviews and audits, and the associated findings, were acceptably detailed. The inspector reviewed the most recent emergency plan and security plan audits. The last date of the audits was July 6, 2003 for the E-Plan and S-Plan. These dates correspond to a time period of approximately 41 months. TS 6.2.6.d and e specifies the E-Plan and S-Plan shall be audited biennially, with no interval to exceed 2 ½ years. The licensee was aware of the importance of conducting these audits within a timely manner. The licensee expressed a concern about the willingness of CORO members to effectively participate in the audits of the E-Plan and the S-Plan. Due to the busy schedules that all members of the CORO undertake, no member was available to conduct the audits. The licensee has told the inspector that they plan to conduct the audits as

soon as possible. The licensee was informed that failure to conduct the required emergency and security plan audits as specified by TS 6.2.6 was identified as an Unresolved Item<sup>1</sup> (URI) pending corrective actions and implementation of controls to prevent recurrence. This issue will be reviewed during a future inspection (URI 50-182/2006-201-02).

c. Conclusions

Review and oversight functions required by the TS were acceptably completed by the CORO. One URI was identified due to the failure to conduct the required emergency and security plan audits as specified by TS 6.2.6.

## 7. Follow-up on Previous Open Items

a. Inspection Scope (IP 92701)

The inspector reviewed the licensee's actions taken in response to a previously identified IFI and a non-cited violation (NCV).

b. Observation and Findings

- (1) IFI 50-182/2005-201-01 - Follow-up to verify that the licensee's future audits of the qualifications and training of the licensed operators ensure that all conditions of the operator's licenses are being met.

NRC Inspection Report No. 50-182/2005-201, dated September 2, 2005, addressed the situation. During that inspection, the inspector noted that the conditions specified in 10 CFR part 55.53 for reactor operator (RO) or SRO licenses were not being reviewed to ensure compliance with the regulations. The inspector will verify that future audits conducted by the CORO ensure that all conditions of the operator's licenses are being met.

During this inspection, the inspector determined that the licensee was not reviewing the license conditions for the licensed operators in accordance with the requirements specified in 10 CFR 55.53. The licensee indicated that these audits have never been conducted before and were generally included in the overall TS audit required by TS 6.2.6.a. The licensee stated that this audit will be completed in the near future. This item will remain open.

- (2) NCV 50-182/2005-201-02 - The licensee allowed an operator to continue licensed activities without meeting the conditions of the license.

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<sup>1</sup>An Unresolved Item is a matter about which more information is required to determine whether the issue in question is an acceptable item, a deviation, a nonconformance, or a violation.

NRC Inspection Report No. 50-182/2005-201, dated September 2, 2005, addressed the situation. During that inspection, the inspector had the licensee review the log books to determine whether all of the active operators performing the functions of an operator or senior operator had met all of their license conditions during the inspection period. The licensee determined that during the July - August, 2004 quarter, the only licensed SRO did not operate the reactor for a total of four hours. Cessation of reactor operations was caused by confusion about the status of the SRO's license, since the expiration date of the license had just passed. After the quarter was over, the SRO contacted the NRC for further explanations on whether the license was still active due to the expiration date passing, but no mention was made of not meeting the conditions of the license. Pursuant to this time frame, the licensee did not declare the SRO's license inactive in accordance with 10 CFR 55.53(e) and the SRO continued to operate the reactor without supervision.

During this inspection, the inspector determined that in general, all of the active operators performing the functions of an operator or senior operator had met all of their license conditions during the inspection period. Future audits of the licensed operators at the facility will ensure that all license conditions are met. This item is closed.

c. Conclusions

The IFI regarding audits of the qualifications and training of the licensed operators remains open. The NCV regarding the operator being allowed to continue licensed activities without meeting the conditions of the license is closed.

**8. Exit Interview**

The inspection scope and results were summarized on December 14, 2006, with members of licensee management. The inspector described the areas inspected and discussed in detail the inspection findings. No dissenting comments were received from the licensee.

## PARTIAL LIST OF PERSONS CONTACTED

### Licensee

V. Bralts, Interim Head of Nuclear Engineering  
M. Handy, Health Physicist  
J. Jenkins, Laboratory Director  
E. Merritt, Reactor Supervisor  
J. Schweitzer, Radiation Safety Officer and Director, REM  
B. Revis, Electronics Technician

## INSPECTION PROCEDURES USED

IP 69001          Class II Non-Power Reactors  
IP 92701          Follow-up

## ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened

50-182/2006-201-01    IFI          Follow-up with the licensee to ensure that a clear organizational framework is developed.  
50-182/2006-201-02    URI          Failure to conduct the required emergency and security plan audits as specified by TS 6.2.6.

### Closed

50-182/2005-201-02    NCV          The licensee allowed an operator to continue licensed activities without meeting the conditions of the license.

### Discussed

50-182/2005-201-01    IFI          Follow-up to verify that the licensee's future audits of the qualifications and training of the licensed operators ensure that all conditions of the operator's licenses are being met.

## LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System (NRC's system)
CAM	Continuous Air Monitor
CFR	Code of Federal Regulations
CORO	Committee on Reactor Operations
E-Plan	Emergency Plan
HP	Health Physics
IFI	Inspector Follow-up Item
IP	Inspection Procedure
kW	Kilowatt
LCO	Limiting Conditions for Operation
LD	Laboratory Director
MREM	millirem
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
PUR-1	Purdue University Reactor 1
RAM	Radiation Area Monitor

REM	Radiological and Environmental Management
RSM	Radiation Safety Manual
RO	Reactor Operator
RS	Reactor Supervisor
SRO	Senior Reactor Operator
TLD	Thermo-Luminescent Dosimeter
TS	Technical Specifications
URI	Unresolved Item