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**ENERGY**

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under Contract DE-AC05-76RL01830

# **Pacific Northwest National Laboratory National Environmental Policy Act Compliance Program FY 2010 Annual Report**

April 2011



**Pacific Northwest**  
NATIONAL LABORATORY

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**Pacific Northwest National Laboratory  
National Environmental Policy Act  
Compliance Program**

**FY 2010 Annual Report**

RS Weeks

April 2011

Prepared for  
the U.S. Department of Energy  
under Contract DE-AC05-76RL01830

Pacific Northwest National Laboratory  
Richland, Washington 99352



## Summary

During fiscal year (FY) 2010, Pacific Northwest National Laboratory (PNNL) Environmental Protection and Regulatory Programs Division (before March 1, 2011 known as the Environmental Management Services Department) staff performed a number of activities as part of PNNL's National Environmental Policy Act (NEPA) compliance program. These activities helped to verify U.S. Department of Energy (DOE) Pacific Northwest Site Office (PNSO) and Richland Operations Office (RL) compliance with NEPA requirements and streamline the NEPA process for federal activities conducted at PNNL.

Self-assessments were performed to address NEPA compliance and cultural and biological resource protection. The NEPA self-assessments focused on implementation within the PNNL Energy and Environment Directorate and routine maintenance activities conducted during the previous calendar year. The cultural and biological resource self-assessments were conducted in accordance with the PNSO Cultural and Biological Resources Management Plan, which specifies annual monitoring of important resources to assess and document the status of the resources and the associated protective mechanisms in place to protect sensitive resources.



## Acronyms and Abbreviations

ARPA-E	Advanced Research Projects Agency–Energy
ARRA	<i>American Recovery and Reinvestment Act of 2009</i>
BPA	Bonneville Power Administration
CX	categorical exclusion
CY	calendar year
DOE	U.S. Department of Energy
DOE-RL	U.S. Department of Energy Richland Operations Office
EA	environmental assessment
Ecology	Washington State Department of Ecology
ECR	environmental compliance representative
EPR	Electronic Prep & Risk
ES&H	Environment, Safety, and Health
FMP	facility modification permit
FY	fiscal year
GPS	Global Positioning System
HDI	How Do I
ISO	International Organization for Standardization
NEPA	<i>National Environmental Policy Act of 1969</i> , as amended
NETL	National Energy Technology Laboratory
ORP	U.S. Department of Energy Office of River Protection
PNNL	Pacific Northwest National Laboratory
PNSO	U.S. Department of Energy, Pacific Northwest Site Office
ROD	Record of Decision
SEPA	<i>State Environmental Policy Act</i>
SME	subject matter expert
USFWS	U.S. Fish and Wildlife Service





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## 1.0 Introduction

During fiscal year (FY) 2010, staff of the Pacific Northwest National Laboratory (PNNL) Environmental Protection and Regulatory Programs Division<sup>1</sup> performed a number of activities as part of the PNNL program for compliance with the *National Environmental Policy Act of 1969* (NEPA), as amended. These activities helped to verify compliance by the U.S. Department of Energy (DOE) Pacific Northwest Site Office (PNSO), Richland Operations Office (RL), and Office of River Protection (ORP) with NEPA requirements and streamline the NEPA process for federal activities conducted at PNNL. In addition, self-assessments were performed to address NEPA compliance and cultural and biological resource protection. The NEPA self-assessments focused on implementation within the PNNL Energy and Environment Directorate and routine maintenance activities conducted during the previous calendar year.

This annual report documents the work of PNNL NEPA staff from October 1, 2009, through September 30, 2010. In Section 2, the details of staff operations are presented. Section 3 provides the performance metrics. Conclusions drawn based on the fiscal year's work are provided in Section 4. Sources cited in the text are listed in Section 5. The Appendix reproduces the PNNL memorandum documenting a NEPA self-assessment of routine maintenance activities performed at PNNL during calendar year 2009.

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<sup>1</sup> Before March 1, 2011, this division was known as the Environmental Management Services Department.



## 2.0 Operations

### 2.1 Project-Specific Documents

During FY 2010, PNNL NEPA staff prepared or supported the preparation of 48 DOE National Energy Technology Laboratory (NETL) environmental checklists, 6 Advanced Research Projects Agency–Energy (ARPA-E) environmental checklists, 1 *State Environmental Policy Act* (SEPA) checklist, 3 project-specific categorical exclusions (CXs), and 2 environmental assessments (EAs).

1. NEPA compliance staff continued to play a highly visible role as *American Recovery and Reinvestment Act of 2009* (ARRA) funding was disbursed at PNNL and at our partner organizations. NEPA staff supported environmental compliance representatives (ECRs), project staff, partner organizations, and PNSO staff to comply with the unprecedented NEPA reporting requirements that accompanied ARRA funding. The following projects used ARRA funding and required NEPA reviews in FY 2010:
  - NEPA staff supported the Battelle SmartGrid award from NETL. PNNL NEPA staff developed 12 NEPA environmental checklists for partner organizations, which involved working directly with electric power organizations from five northwestern states. Based on these checklists, NETL required two EAs (one prepared by a NETL contractor, one prepared by the Department of Commerce and adopted by DOE). NEPA staff coordinated the development and review of these EAs. The other proposals required a total of 12 CXs (several partners had multiple proposals).
  - A NETL checklist was prepared for a proposal to use a solvent to capture CO<sub>2</sub> from coal-fired power plants.
  - NEPA checklists were prepared for six Building Energy Efficiency Through Innovative Thermodevices proposals through ARPA-E, operated by the DOE Office of Energy Efficiency and Renewable Energy. Several of these checklists also addressed partner activities, requiring extensive interaction with offsite partners. All checklists led to approved CXs.
  - NEPA staff worked with the PNNL project lead of an algal biofuels consortium to develop a unique Microsoft® Excel matrix of environmental information and impacts for submittal to NETL. This effort used the Excel matrix format instead of the usual NETL environmental checklist because of the complicated nature of the proposal. There were 34 partners, located across the United States, involved in all aspects of algal fuel production, including researching appropriate algal feedstocks, developing growth facilities, processing optimization of algal energy conversion, genetically adapting algae for optimum hydrocarbon production, and gasifying algae remnants (after lipid extraction) to produce methane.
  - A NETL environmental checklist was prepared for a project to develop a context-aware adaptive home energy manager. The goals of the project were to manage, monitor, and recommend better modes of operations for on-demand home appliances and support and to analyze the performance of the home energy manager pilot deployment.

2. A SEPA checklist was prepared for the Big Sky Regional Carbon Partnership/Battelle–Pacific Northwest Division. This SEPA checklist was developed to address potential environmental impacts associated with a proposal for a CO<sub>2</sub> sequestration test to be conducted at the Boise White Paper, LLC, industrial site in western Walla Walla County. Working with a very short development period, the checklist was submitted to the Washington Department of Ecology on July 2, 2010. Ecology comments on the checklist were received on August 3, and a revised checklist and formal responses to comments were submitted 3 days later. During a teleconference held on August 25, 2010, Ecology asked for additional minor changes to the checklist, and the revision was submitted 2 days later on August 27. On October 15, 2010, based in part on the SEPA checklist, Ecology issued the first Washington State injection permit for a CO<sub>2</sub> sequestration project in a continental flood basalt formation.
3. A NEPA CX was issued on September 29, 2010, for a proposal to conduct monitoring of uranium in groundwater north of the 300 Area. The objective was to deploy and test an instrument that can perform near real-time, fully autonomous measurements of uranium in contaminated groundwater plumes. Because the field site is located near the Columbia River, cultural and biological resource reviews were obtained for the proposal.
4. The Bonneville Power Administration (BPA) funds a number of PNNL natural resource and energy projects. To support these research activities, PNNL NEPA staff have developed contacts with the BPA Environmental Policy and Strategic Planning staff in Portland, Oregon. This coordination verifies that PNSO and BPA NEPA compliance are integrated without duplication for BPA-funded research projects performed by PNNL. During FY 2010, NEPA review for the following projects was coordinated with BPA:
  - BPA Backup Scheduling Facility – a proposal to use the Electricity Infrastructure Operations Center in the Math Building; Electronic Prep & Risk (EPR) 60368
  - Channel Maintenance – a project to expand the evaluation area for sediment disposal (from channel dredging) to include all reservoirs in the Lower Snake River corridor; EPR 58895.

## **2.2 Sitewide Categorical Exclusions**

For the first time since 1996, no new sitewide CXs were developed. Even so, sitewide CXs continue to represent an effective and necessary means to address activities that 1) clearly fit within a class of actions that DOE has determined do not individually or cumulatively have a significant effect on the environment, 2) do not possess extraordinary circumstances that may affect the environment, and 3) are not “connected” to other actions with potentially significant impacts. As the need for additional sitewide CXs is identified, PNNL NEPA staff will work with the PNSO NEPA specialist to develop them.

## **2.3 Hanford NEPA Meetings**

PNNL NEPA staff have participated regularly in the Hanford Site DOE and contractor NEPA meetings, where subject matter experts (SMEs) discuss innovative methods of compliance, current concerns, and development of procedures and sitewide documents, and work together to develop effective methods of streamlined compliance.

## **2.4 New Hanford NEPA Procedures; PNNL NEPA Clearance Form**

During FY 2010, the Hanford NEPA Compliance Officer developed formal procedures for NEPA compliance for DOE-RL and DOE-ORP. The first procedure developed was the NEPA Quality Assurance Plan, which applies to all activities performed under the Hanford Site NEPA compliance program. The second procedure provides instructions, direction, and guidance for undertaking NEPA reviews; establishes a review screening process; and requires contractors to develop and submit a NEPA review screening form for all activities that involve DOE-RL or DOE-ORP funding or use Hanford Site facilities or real property. After DOE approval, in accordance with President Obama's transparency initiative, NEPA review screening forms are posted on a web page accessible to the public for review and information.

Before posting to the web page, contractors are responsible for verifying that the information in the NEPA review screening form is suitable for public review. Therefore, an approved information clearance form must accompany the draft form. Working with the PNNL Information Release Office and Legal staff, PNNL NEPA staff developed a PNNL NEPA Program clearance form to serve this purpose.

## **2.5 Requirements Management Records of Decision**

PNNL is implementing a new —How Do I? (HDI) system for delivering concise and easy-to-understand processes to help staff conduct work in accordance with PNNL requirements.

The first step to implement HDI requirements analysis involves development of new Records of Decision (RODs). In FY 2010, a number of RODs that document how NEPA requirements are implemented at PNNL were finalized. During the next fiscal year, the remaining RODs, addressing SEPA, cultural, and biological resource protection, will be completed. The cultural and biological resource protection RODs will be updated in coordination with cultural and biological resources SMEs.

## **2.6 Integration of NEPA Compliance with the Electronic Prep and Risk System**

PNNL NEPA staff continue to rely on the EPR system to perform and document NEPA reviews for experimental research projects and DOE capital-funded building construction and modification projects. The PNNL NEPA SME, representing the Environmental Protection and Regulatory Programs Division, is a member of the EPR steering committee, which is tasked with supporting optimal performance of the EPR content and process.

This FY, the environmental compliance information in the EPR was revised. The revisions included updates to the questions addressing historic resources, waste management, pollution prevention, and air emissions. These updates all help the ECRs perform their environmental reviews, including the NEPA review.

The EPR and NEPA reviews are also an integral component of PNNL's identification of environmental aspects and impacts to support ISO 14001:2004, the International Organization for Standardization (ISO) environmental management systems standard.

## **2.7 NEPA Training/Updates**

Within a short time of assuming their positions, all staff who support the NEPA compliance program at PNNL must complete the NEPA training course, which consists of a reading assignment. The PNNL Enterprise Learning organization maintains the training records.

To maintain an adequate knowledge base, the PNNL NEPA SME monitors the NEPA, cultural, and biological resource regulatory environment on a daily basis through the use of an e-subscription to a commercial cyber regulations service. In addition, the DOE NEPA and SEPA web pages are accessed regularly. In particular, the quarterly DOE NEPA Lessons Learned reports are often helpful.

## **2.8 PNNL NEPA Internal Procedures and Subject Area**

The ECR-01 and ECR-02 internal procedures are the primary internal procedures that address NEPA compliance.

The ECR-01 procedure, which addresses the environmental review of EPRs, was updated in FY 2010 to include Start Clean–Stay Clean principles, Hanford Site access procedures, State of Washington joint aquatic resource permit applications, and references to the new PNNL facilities.

The ECR-02 procedure, which addresses the environmental reviews of facility modification permits, was updated to include Start Clean–Stay Clean principles, revised forms, and updated descriptions of current work procedures.

The NEPA and Cultural and Ecological Resource Reviews subject area was not updated in FY 2010. It is expected to migrate to an HDI Workflow in the next fiscal year.

## **2.9 SEPA and Greenhouse Gases**

The State of Washington is developing guidance on how to address greenhouse gas emissions within the SEPA checklist. The guidance will provide 1) advice on how the existing SEPA checklist can be used to identify and disclose greenhouse gas emissions, 2) links to tools that can be used to estimate emissions, 3) possible ways that emissions can be voluntarily reduced, 4) information on state laws that require some level of emission reduction or mitigation, and 5) examples of SEPA analyses that have included greenhouse gas emission evaluations. The draft guidance is out for public review; the comment period ended on November 17, 2010. Once implemented, this change can be expected to result in additional analyses for submittal of SEPA checklists.

## **2.10 Washington State Proposal to Establish Aquatic Reserve**

On September 15, 2010, the Washington Department of Natural Resources proposed to adopt the Protection Island Aquatic Reserve Management Plan and designate an aquatic reserve in the Strait of Juan de Fuca. The PNNL Marine Sciences Laboratory in Sequim essentially borders the proposed reserve, and there were concerns about the effect of the aquatic reserve on the Laboratory's operations and research. The NEPA SME coordinated an integrated response within the designated public comment time limits, provided the state with information about the research conducted by the Laboratory, volunteered the



Marine Sciences Laboratory director for membership on the Aquatic Reserve Implementation Committee, and invited the Washington Department of Natural Resources staff to visit the Laboratory. The Washington Aquatic Reserves program manager, Kyle C. Murphy, appeared appreciative of the input and contacts. The Battelle comment letter was one of two comments addressed directly in the SEPA Notice of Final Determination, and provisions were made for the commissioner of the Department of Natural Resources to visit the Marine Sciences Laboratory.

## **2.11 Noxious Weed Control on the PNNL Site**

Several species of noxious weeds, including Russian knapweed (*Acroptilon repens*), rush skeletonweed (*Chondrilla juncea*), yellow star-thistle (*Centaurea solstitialis*), and diffuse knapweed (*Centaurea diffusa*) were identified on the PNNL Site in 2009. In April 2010, a coordinated effort involving staff from several PNNL groups (ecology, environmental services, and facilities) mapped the primary weed populations and determined to implement herbicide hand-spraying using backpack sprayers on the largest groupings of rush skeletonweed and yellow star-thistle. This treatment was intended to significantly knock down the population and reduce seed production. A literature search is being conducted on the best way to control and eradicate a large stand of Russian knapweed, which is more extensive and less responsive to some herbicides.

During each spray event, NEPA and biological resource staff accompanied the licensed sprayers to confirm species identities. Cultural resource staff accompanied the sprayers when activities were located near the Columbia River or within another zone of cultural significance. The tribes were informed beforehand of the activity and were invited to attend each event. Unfortunately, it was difficult to provide very early advance notice, as spraying was limited to early-morning periods (often on weekends) when temperatures and winds were within specific ranges, which resulted in several cancelled spray events when atmospheric conditions were not appropriate for application.

Although the multiple spray events in FY 2010 appear to have knocked down much of the rush skeletonweed and some of the yellow star-thistle, additional spraying will be required in future years. Many of the noxious weeds appear to be located in broad strips bordering the submarine reactor road, possibly indicating that use of this road (and the extensive preliminary road spraying with water that is conducted before each use) might be a potential recurring noxious weed seed source.

## **2.12 Battelle Environmental Forum**

Battelle has instituted the Environment, Safety, and Health (ES&H) Community of Practice across the DOE sites where Battelle has a presence. The Community of Practice is intended to share management practices and tools, identify and document best practices, share learning, and exchange experiences. The intent is to learn about and consider implementing the best environmental compliance practices from around the country. The NEPA SME participated in several Battelle teleconferences when the focus of the discussion was on various aspects of NEPA compliance at DOE sites. These teleconferences were followed up with additional interaction with a subset of participants.

## **2.13 Contractor Environment, Safety, and Health Plan Updates**

PNNL NEPA staff took the lead to provide updates to the environmental portions of the PNNL Contractor ES&H Plan and to develop a new general contract provision for all PNNL contractors that addresses the protection of cultural and biological resources. The effort was coordinated with a number of environmental SMEs and ECRs so that accurate and up-to-date information was provided to update the environmental chapter of the Contractor ES&H Plan. The revision resulted in substantial updates throughout, refocused the chapter on environmental issues, and deleted out-of-date requirements.

## 3.0 Performance Metrics

### 3.1 Number of Reviews

Environmental compliance representatives and PNNL NEPA staff conducted 1,933 NEPA reviews during FY 2010 for research and support activities (1,553 EPR reviews, 317 user proposals for the Environmental and Molecular Sciences Laboratory, and 63 facility-modification permits). NEPA staff reviewed each EPR review in a one-over-one manner to verify that potential project environmental impacts were adequately considered and NEPA (and as appropriate, SEPA) coverage was correctly applied. In nearly every case, activities were adequately addressed in previously approved NEPA documentation, such as CXs, environmental assessments, environmental impact statements, and supplement analyses. When there was no adequate previously approved documentation, PNNL staff prepared project-specific or programmatic reviews for approval by DOE.

For the past 10 years, a report has been available to NEPA reviewers that identifies when a project manager re-signs an EPR form, which is usually an indication that the project scope has changed. This report helps to address the problem of “scope creep” for projects with multi-year funding. However, because NEPA reviews can occur several times per year for a single project (whenever a project manager re-signs the EPR), it should be noted that the number of NEPA reviews does not correlate directly with the number of experimental projects at PNNL.

### 3.2 Self-Assessments

Four self-assessments were performed during FY 2010, including two NEPA self-assessments and one each for cultural and biological resource protection.

1. A NEPA self-assessment was conducted on August 11, 2010, in accordance with the EMSD-ADMIN-001 Self-Assessment Procedure, with participation and support from the PNSO NEPA specialist. The self-assessment focused on NEPA reviews performed by one of the ECRs for the Energy and Environment Directorate. The overall level of NEPA compliance knowledge, judgment, and application was more than satisfactory. Several suggestions to improve the PNNL NEPA program were made and are being evaluated for implementation.
2. A NEPA self-assessment of PNNL routine maintenance activities conducted during calendar year 2009 was completed on March 29, 2010. This form of review is conducted on an annual basis because usually more than 15,000 routine maintenance activities are conducted annually, and maintenance activities are typically conducted with little specialized Facilities and Operations planning support or environmental review support. The NEPA staff reviews a randomly generated statistical subset of maintenance actions to confirm that maintenance activities 1) do not involve significant environmental impacts; 2) are limited in scope, cost, and duration; and 3) are adequately addressed under existing NEPA reviews. The activities are reviewed also to detect trends that might indicate that a more intensive and directed review should be conducted. The latest assessment reviewed 414 randomly selected projects, representing about 2.5 percent of the total maintenance projects performed in 2009 (see Appendix).

Self-assessments for cultural and biological resource protection were performed for the undeveloped portions of the PNNL Site. These surveys are required under the *Pacific Northwest Site Office Cultural and Biological Resources Management Plan* (PNSO 2008), which specifies annual monitoring of important resources to assess and document the status of the resources and the associated protective mechanisms. Both self-assessments for 2010 were provided to PNSO.

3. A cultural resource review was conducted on October 14, 2010. Three sensitive cultural resource areas were monitored for natural (erosional) and man-made impacts—a precontact cemetery with historic component (45BN1426), precontact village site with historic component (45BN028/104), and precontact open camp/village site (45BN105). During the monitoring effort, site conditions were documented with Global Positioning System (GPS) technology, photographs, and field notes. During every annual monitoring effort, reviewers have taken overview photographs at a number of specific locations and aspects using GPS points. The resulting data support a comparison of current photographs with earlier photos, allowing the identification of changes due to erosional aspects, human intrusion, or other habitat alteration. In addition, GPS points and photographs were taken to identify archaeological or historic features of note, diagnostic artifacts, and stone tool locations. Several tribal representatives participated, including staff from the Wanapum, Confederated Tribes and Bands of the Yakama Nation, Nez Perce Tribe, and Confederated Tribes of the Umatilla Indian Reservation.
4. A biological resource survey was issued in February 2011. Fieldwork occurred during the months of active plant growth—April, June, and July 2010—and consisted of pedestrian surveys to observe and document the vegetation and wildlife. During June, an early morning survey was also conducted in the riparian zone to document breeding birds. In early July, a PNNL biologist noticed that a major portion of the stockpiled soil at the Physical Sciences Facility construction site had been removed for landscaping, which resulted in the partial destruction of the bank swallow habitat within the stockpiled soil. As a result, on July 8, 2010, PNNL self-reported the event to the U.S. Fish & Wildlife Service (USFWS). The issue is part of an ongoing USFWS investigation.

## 4.0 Conclusions

The EPR system continues to be fine-tuned—a balance must be maintained between obtaining necessary information for reviewers and timely ease of completion by research staff. NEPA staff continue to educate research staff about helpful features of the EPR, such as the capability of copying EPRs and attaching files, as well as the importance of providing detailed project information in the EPR.

The federal ARRA funding program this year continued to result in an unprecedented level of required NEPA compliance reviews. The \$88 million SmartGrid project, awarded this year with Battelle in the lead, required a significant level of NEPA staff time and effort.

PNNL has strengthened the environmental compliance requirements for subcontractors through significant updates to the Contractor ES&H Plan and the development of a new general contract provision that addresses protection of cultural and biological resources.

PNNL has made a good start at controlling noxious weeds on the undeveloped portion of the PNNL Site. Although the multiple herbicide spray events in FY 2010 appear to have knocked down much of the rush skeletonweed and some of the yellow star-thistle, additional spraying will be required in future years.

Several self-assessments were completed this year, including the cultural and biological resource self-assessments, which were completed in accordance with the *Pacific Northwest Site Office Cultural and Biological Resources Management Plan* (PNSO 2008). The plan specifies annual monitoring of important resources to assess and document the status of the resources and the associated protective mechanisms.

A total of 1,933 NEPA reviews were performed during FY 2010 by PNNL ECRs and NEPA staff. PNNL activities were largely addressed by two avenues of NEPA documentation: 1) previously approved environmental assessments and environmental impact statements and 2) previously approved sitewide and programmatic CXs. In particular, the application of sitewide and programmatic CXs is enormously valuable for maintaining NEPA compliance by PNNL research and facility-modification activities. In addition, because DOE increasingly emphasizes cooperative research efforts with other federal agencies, private companies, and consortia, it is important that sitewide and programmatic NEPA analyses remain available for timely NEPA reviews for both onsite and offsite activities.



## 5.0 References

*American Recovery and Reinvestment Act of 2009.* Pub. L. 111-5, February 17, 2009.

*National Environmental Policy Act of 1969*, as amended. Pub. L. 91-190, 42 U.S.C. 4321-4347, January 1, 1970, as amended by Pub. L. 94-52, July 3, 1975, Pub. L. 94-83, August 9, 1975, and Pub. L. 97-258, § 4(b), Sept. 13, 1982).

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PNSO. 2008. *Pacific Northwest Site Office Cultural and Biological Resources Management Plan.* DOE/PNSO Guide 11, Revision 2, U.S. Department of Energy Pacific Northwest Site Office, Richland, Washington.





## **Appendix**

### **NEPA Compliance Review for Maintenance Activities at PNNL for Calendar Year 2009**



## Appendix A

### NEPA Compliance Review for Maintenance Activities at PNNL for Calendar Year 2009



Project No.

Internal Distribution

Date	March 29, 2010	John Akers
To	Distribution	Scott S. Allen
		John Holland
		Delores Lutter
From	Regan Weeks	Michelle Peterson
	EMSD NEPA Compliance	Mike Silvia
		Mike Stephenson
Subject	Memorandum Evaluating Calendar Year 2009 PNNL	Jennifer Su-Coker
	Maintenance Activities for Compliance with DOE <i>National</i>	Bob Wilson
	<i>Environmental Policy Act</i> Requirements	NEPA RIDS File

The U.S. Department of Energy (DOE) requires that contractors appropriately document their *National Environmental Policy Act of 1969* (NEPA) application for specific activities and verify that activities are performed in compliance with the requirements in the approved NEPA documentation. **This memorandum provides documentation of the NEPA compliance review for maintenance activities at DOE's Pacific Northwest National Laboratory (PNNL) for calendar year (CY) 2009.**

Facility maintenance activities, described below, are broken into two general classes at PNNL: 1) those that might involve building modifications that require the support of the Engineering and Construction Division or work that requires planning because of the complexity of the tasks (planned work) and 2) those that fall into dispatch, routine, fabrication, and preventative maintenance activities and do not require specialized project support.

A substantial subset of planned work, called alterations and modifications, requires a facility modification permit (FMP). Environmental compliance representatives (ECRs) perform an environmental review of FMP, including, as appropriate, a NEPA review, and the NEPA or State of Washington Environmental Policy Act (SEPA) coverage is documented in the project files. Because alterations and modifications are reviewed on a case-by-case basis for DOE NEPA application before starting a project, these types of activities are not addressed further in this review. **This evaluation focuses on planned work that is not "alterations and modifications."**

Dispatch, routine, fabrication, and preventative work do not usually require specialized engineering support. The hazards have been identified and controlled through existing administrative procedures, and they impose minimal or no impacts to a facility or its occupants. These types of work are defined in the Facilities and Operations (F&O) ADM-016 procedure. **These activities are not individually reviewed for NEPA compliance before taking an action and are, therefore, also the focus of this evaluation.**

To summarize, this assessment focuses on work efforts that are not reviewed individually through other processes—planned work (except alterations and modifications) and dispatch, routine, fabrication, and preventative work.

### Annual Review of F&O Work Actions

Because there were more than 15,000 work requests in CY 2009, it is not feasible or economical to review maintenance actions individually for NEPA compliance before implementation. Therefore, an alternative method to verify compliance is used. On an annual basis, PNNL NEPA compliance staff review a statistically selected percentage of activities performed during the previous calendar year. This annual review provides an index of NEPA compliance for maintenance-related actions. If certain classes of activities appear to warrant special attention, the review serves to direct future assessments, reviews, and actions.

The F&O Maintenance Management database (Maximo) was queried regarding the PNNL projects scheduled in CY 2009. This database includes all planned, dispatch, routine, and preventative maintenance work requests generated at PNNL. The database includes activities performed at privately owned and/or operated facilities and DOE-owned facilities. It should be noted that maintenance activities at private facilities do not generally use DOE funds; therefore, a DOE NEPA review is not applicable (though a SEPA review might be applicable).

To facilitate this evaluation, a randomly generated statistical subset (2.5%) of all CY 2009 maintenance actions was reviewed (see Attachment A). This statistical subset of planned (except alterations and modifications), dispatch, routine, and preventative maintenance work shows that several general types of related activities occur repeatedly. These include providing lock-and-key services, adding proximity or magnetic card entry readers, providing individual office signs, changing compressed gas bottles and filters, repairing broken instruments and building components, fabricating small items for research projects, performing routine periodic calibrations and oil changes, moving equipment and materials from one facility to another or to the excess yard, relamping buildings, and routine transport of waste to PNNL waste treatment, storage, and disposal facilities.

### NEPA Application

PNNL maintenance actions typically fall under one of several sitewide categorical exclusions (CXs) approved by the Pacific Northwest Site Office NEPA Compliance Officer or Hanford NEPA Compliance Officer<sup>(a)</sup> for implementation by contractors. These CXs address classes of actions such as:

- Routine maintenance activities
- Installation and modification of telecommunications networks
- Removal, handling, and disposal of asbestos
- Safety and environmental improvements to facilities
- Building stabilization and deactivation activities
- Disconnection of utility services
- Relocation of equipment and machinery
- Implementation of minor energy conservation projects
- Minor road and utility alterations
- Safety and security component installation and alteration.

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<sup>(a)</sup> The Hanford NEPA Compliance Officer is sometimes the approving entity because of the involvement of DOE Richland Operations Office facilities and/or property.

In addition, there are two Environmental Assessments (EAs) that provide NEPA review for certain activities:

- Maintenance and operation activities at the Environmental Molecular Sciences Laboratory is addressed under the EA titled, *Resiting, Construction, and Operation of the Environmental and Molecular Sciences Laboratory at the Hanford Site, Richland, Washington*. The Finding of No Significant Impact was issued by the Hanford Manager on July 7, 1994.
- Construction (and eventual operation) of the Physical Sciences Facility is addressed under the EA titled, *Construction, and Operation of a Physical Sciences Facility at the Pacific Northwest National Laboratory, Richland, Washington*. The Finding of No Significant Impact was issued by the acting manager of the Pacific Northwest Site Office on January 29, 2007.

### Conclusion

Although no activity-specific NEPA review is performed before maintenance actions are implemented, the statistically selected subset of CY 2009 activities reveals that maintenance activities do not generally involve significant environmental impacts. These activities are quite limited in scope, cost, location, and duration, which helps to minimize potential environmental impacts. In addition, activity trends were not detected that might indicate that a more directed review and evaluation should be performed. Finally, the NEPA evaluations for these types of activities appear to be adequately addressed in the sitewide CXs listed above.

It is considered appropriate to continue 1) initiating maintenance actions without a prior NEPA review and 2) reviewing a statistical subset of activities annually. The alternative, requiring an individual NEPA review before initiating every maintenance activity, would require substantially more resources, cause work delays, and offer little or no corresponding environmentally protective benefit. This annual review supports the identification of trends and potential concerns associated with maintenance activities.



## Attachment A: Randomly Generated Statistical Subset of Maintenance Actions During CY 2009

	LOCATION	WORK TYPE	DATE	SUPERVISOR	DESCRIPTION
1	SIGMA5	DW	01-Sep-09	MCKINNEY, RC	Main Lobby Door Sigma 5
2	325HVAC	PW	19-Oct-09	AREL, ES	Perform needed repair on HVAC unit
3	325	PW	27-Aug-09	AREL, ES	Support moving SEM components to lab 327A
4	RTL520	DW	29-Sep-09	JANSSEN, DG	Power Supply - Trouble shoot
5	325R&D	PW	23-Mar-09	AREL, ES	Repair Safe Drawer
6	331PIPE	PW	10-Dec-09	AREVALO, G	Change out RO water filters
7	RTLPIPE	PM	01-Feb-09	BRUUN, ML	Load RTL Shwr/Eyewash Round "Private_Q13"
8	329	PW	02-Nov-09	AREVALO, G	change electrical outlet to 30A, NEMA L5-30P plug
9	325R&D	PW	21-Oct-09	AREL, ES	Remove argon cylinder from south wall
10	PSL	DW	05-Feb-09	HALL, JE	Sample holder
11	LSLII	DW	26-Oct-09	GOFORTH, M	Uninstall water purification systems
12	SIGMA3	DW	01-Oct-09	GOFORTH, M	Name Plate for New Hire - Sigma3/405
13	318HVAC	PW	20-Jan-09	AREVALO, G	Repair Heat Pump
14	PSLR&D	FB	20-Feb-09	HALL, JE	metal machining
15	350HVAC	PW	22-Jan-09	MCMANAMON, DS	sheetmetal support
16	3020PIPE	DW	12-Jun-09	CRAVENS, DL	Fill Dewar with liquid nitrogen
17	320ELEC	PW	14-May-09	MCMANAMON, DS	check disconnect 320/165
18	ETB	DW	20-Mar-09	HALL, JE	Move Boxes of videos and TV/VCR/DVD player
19	325R&D	PW	27-Jan-09	AREL, ES	Move Boxes to ESB
20	PSL	DW	10-Aug-09	HALL, JE	Gas Cylinder Move
21	PSL	DW	03-Apr-09	HALL, JE	Omni lock removal
22	LSLPIPE	DW	03-Feb-09	GOFORTH, M	Clean Condenser Water Strainer
23	CEL	DW	23-Apr-09	MCKINNEY, RC	H2 for CEL Compressor
24	PSLPIPE	DW	13-Aug-09	HALL, JE	men's restroom toilet clogged
25	PSL	DW	04-Mar-09	HALL, JE	Liquid nitrogen fill
26	ETB	DW	26-Aug-09	GOFORTH, M	Department Placard for TTP
27	CEL	DW	17-Apr-09	HALL, JE	pick up CEL trash
28	3020ELEC	PW	15-May-09	BRAWN, DR	Adjust temp & lighting 5/20/09
29	PSL	DW	04-Dec-09	HALL, JE	Helium
30	PSL	DW	22-Jun-09	GOFORTH, M	Name Plate Request for New Hire - PSL/1172
31	3020ARCH	DW	24-Mar-09	EBERHART, DJ	Move 2 drawer filing cabinet
32	325ELEC	PW	30-Oct-09	AREL, ES	Replace Elevator panel cover
33	3020PIPE	DW	19-Oct-09	CRAVENS, DL	Fill 2 Dewars with liquid nitrogen
34	PSL	DW	01-Jun-09	HALL, JE	Oxygen Cylinder
35	325PIPE	PW	03-Jun-09	AREL, ES	Remove sink and pedestal in room 303
36	320	PW	17-Jul-09	MCMANAMON, DS	Name Plate for Katy Fordyce
37	PSL	DW	18-Jun-09	HALL, JE	repair a temperature controller
38	331G	PW	20-Oct-09	AREVALO, G	Offload RPM Equipment at 331G
39	326	PW	26-May-09	MCMANAMON, DS	solder jumper on PID valve controllers
40	PSLR&D	DW	09-Nov-09	HALL, JE	fill liquid N2
41	BIL	DW	08-Apr-09	GOFORTH, M	change out empty cylinder
42	3020PIPE	DW	12-Jan-09	CRAVENS, DL	Refill nitrogen dewar

	LOCATION	WORK TYPE	DATE	SUPERVISOR	DESCRIPTION
43	3020HVAC	PW	09-May-09	CRAVENS, DL	Repair Vortex Damper, SF-007, AHU-004
44	TSW	DW	29-Apr-09	MCKINNEY, RC	Freon Drain from 2 Refrigerators
45	SIGMA4	DW	04-Mar-09	HALL, JE	Take Catalog Bin to SIGMA4
46	LSLII	DW	05-Jan-09	GOFORTH, M	Low drinking water pressure in 515
47	APELR&D	FB	24-Jul-09	NELSON, DE	Welding of Platinum Crucibles
48	3020PIPE	DW	15-May-09	CRAVENS, DL	Gas replacement
49	SALK	DW	23-Feb-09	HALL, JE	Non-office Move
50	2400STV	DW	05-Oct-09	HALL, JE	Need a new lock/key for file cabinets
51	325ELEC	PW	06-May-09	AREL, ES	Relamp
52	ETB	DW	02-Dec-09	HALL, JE	Non-office Move
53	350ARCH	PW	30-Sep-09	AREVALO, G	NAME PLATE
54	320	PW	01-Apr-09	MCMANAMON, DS	need HV filter box made
55	747A	DW	13-May-09	MCKINNEY, RC	Repair 2 HPGe Detectors
56	SARRPIPE	PM	01-Oct-09	BRUUN, ML	Drinking Fountains
57	APELPIPE	DW	05-Aug-09	CRAVENS, DL	Nitrogen Cylinder Change
58	ROB	DW	11-Dec-09	GOFORTH, M	Carpet stretched-out
59	MATHELEC	PW	19-Aug-09	HALL, JE	Lift power leads to MATH parking lot lights
60	APELELEC	PW	24-Jun-09	BRAWN, DR	APEL Prox Card for Kriston Brooks
61	ANNEX	DW	04-Dec-09	HALL, JE	Cleaning of the fenced area north of AML
62	350A1	PW	18-Dec-09	AREVALO, G	repair laundry shed
63	PSLARCH	DW	04-Aug-09	MCKINNEY, RC	Noisy Door
64	LSLII	DW	27-Dec-09	GOFORTH, M	Advance floor buffer repair
65	6652L	PW	18-Jun-09	MCMANAMON, DS	Open Lead Boxes for RCT/FSR Survey's
66	BRSW	DW	19-Aug-09	HALL, JE	Move pallet/crate from 6th St warehouse to RSW
67	3020R&D	PW	14-Dec-09	CRAVENS, DL	Vacuum Pump Oil Change
68	RT20PIPE	DW	25-Nov-09	JANSSEN, DG	RTL-520 Safety Shower bucket leak
69	350HVAC	PW	23-Jul-09	AREVALO, G	HP-6 TS with Apollo
70	CELPIPE	PM	01-Oct-09	BRUUN, M L	Load CEL Shwr/Eyewash Round "Private_Q04"
71	RTL520	DW	31-Jul-09	HANEY, JM	floor service
72	320	PW	05-Jun-09	MCMANAMON, DS	Repair printer and check out nim HV module
73	LSLII	DW	30-Jan-09	GOFORTH, M	Pick up package & take to shipping 1:00PM
74	ROBMECH	DW	23-Mar-09	HALL, JE	Repair ice machine/ROB/Lunchroom
75	APELR&D	PW	10-Sep-09	CRAVENS, DL	Millwright
76	RT20PIPE	DW	16-Apr-09	MCKINNEY, RC	Leaking reheat valve lab 218
77	325PIPE	PW	02-Sep-09	AREL, ES	Air sample manifold
78	325R&D	PW	02-Mar-09	AREL, ES	Taper Top of Vise Grips for Bottle Holder
79	BSELPIPE	DW	09-Apr-09	CRAVENS, DL	Moving gas cylinder
80	3020R&D	PW	06-Jan-09	CRAVENS, DL	MBE-II Stage Modifications
81	350	PW	01-Jul-09	AREVALO, G	PM Service G43-19845 (Scheel)
82	PSLR&D	FB	02-Feb-09	HALL, JE	fabricate fixture
83	3020ELEC	DW	23-Mar-09	CRAVENS, DL	Relamp 1400 Hallway
84	2400STV	DW	21-Sep-09	GOFORTH, M	Remove & Recycle Posters
85	PSLELEC	DW	20-Jan-09	HALL, JE	replace light bulbs
86	3310	DW	03-Dec-09	HALL, JE	remove wooden pallets from BSF dumpster area



	LOCATION	WORK TYPE	DATE	SUPERVISOR	DESCRIPTION
87	331ELEC	PW	27-Apr-09	AREVALO, G	Relamp/Repair light in hall by room 113A
88	CEL	DW	19-May-09	MCKINNEY, RC	Anchor Strut Posts
89	ISB1	DW	14-Dec-09	HALL, JE	Cabinet Key
90	331MECH	PW	31-Aug-09	AREVALO, G	Check source of water under autoclaves
91	RTL580	DW	09-Jun-09	MCKINNEY, RC	Repair metal miter saw
92	325ELEC	PW	18-Mar-09	AREL, ES	Relamp
93	RT20ARCH	DW	02-Sep-09	JANSSEN, DG	RTL 23 / Install blinds
94	331C	PW	09-Oct-09	MCMANAMON, DS	move 1 metal tubes to 331C and size reduce them
95	3020R&D	FB	23-Mar-09	CRAVENS, DL	Cut test plates to size
96	3310	DW	23-Oct-09	HALL, JE	Deliver 6-ft table folding table
97	PSL	DW	29-Dec-09	HALL, JE	Liquid nitrogen fill
98	PSLR&D	FB	09-Oct-09	HALL, JE	Cut bilayers, 69x69mm
99	EDL	DW	13-Aug-09	HALL, JE	work on trailer
100	BSELR&D	FB	21-Oct-09	CRAVENS, DL	Repair dishwasher door latch hinge
101	CELR&D	FB	24-Apr-09	HALL, JE	Fabricate New Hopper
102	325HVAC	PW	28-Apr-09	AREL, ES	Calibrate DWYER - 2004 (BC#15437)
103	3020R&D	FB	10-Dec-09	CRAVENS, DL	PPMS Hardware
104	APELR&D	FB	11-Aug-09	NELSON, DE	Distribution Head Housing
105	331ELEC	PW	18-Dec-09	AREVALO, G	electrical support
106	3020PIPE	DW	21-Aug-09	CRAVENS, DL	New CO2 cylinder for SG2 in 1422
107	3020ARCH	DW	23-Nov-09	CRAVENS, DL	Add Keyboard Tray
108	331	PW	27-May-09	AREVALO, G	Remove Freon from frig so frig can be excessed
109	PSL	DW	22-Jan-09	HALL, JE	Remove Hydrogen/Oxygen/Methane Lines
110	SALK	DW	20-Jan-09	HALL, JE	Transport Furnace
111	LSLPIPE	DW	02-Mar-09	GOFORTH, M	Leaking fixtures on urinal
112	3020R&D	FB	14-Jul-09	CRAVENS, DL	Electrical help
113	RTLPIPE	PM	01-May-09	BRUUN, ML	Load RTL Shwr/Eyewash Round "Private_Q13"
114	APELR&D	PW	29-Jul-09	CRAVENS, DL	Check and install transducer
115	LSLMECH	DW	12-May-09	GOFORTH, M	toilet paper dispensers
116	325R&D	PW	10-Aug-09	AREL, ES	Support to Move Equipment
117	APELARCH	DW	31-Jul-09	CRAVENS, DL	Fix door handle for APEL 106
118	325PIPE	PW	18-May-09	AREL, ES	Verify proper operation of R&D chiller for rm 409
119	326	PW	29-Jul-09	MCMANAMON, DS	Make up keys for file cabinets
120	325ARCH	PW	11-Nov-09	AREL, ES	Replace dirty ceiling tiles in Room 302
121	APELPIPE	DW	13-Apr-09	CRAVENS, DL	change the gas flow meter
122	SALKMECH	DW	07-Dec-09	JANSSEN, DG	Trouble Shoot Liebert
123	ESB	DW	30-Nov-09	HALL, JE	one box from ESB to RHA
124	3020R&D	PW	15-Oct-09	CRAVENS, DL	DRAIN OIL FROM LEYBOLD PUMP
125	326	PW	13-Apr-09	MCMANAMON, DS	Replace old heater with new heater in autoclave
126	320	PW	03-Jun-09	HANEY, JANICE M	320 Semi-Annual Floor service
127	SIGMA5	FB	13-Feb-09	NELSON, DE	Cut louvered panels
128	329	PW	29-Dec-09	AREVALO, G	replace helium cylinder
129	OFFSITE	DW	21-Jan-09	EBERHART, DJ	Transportation
130	EESB	DW	09-Nov-09	HALL, JE	Non-office Move

	LOCATION	WORK TYPE	DATE	SUPERVISOR	DESCRIPTION
131	320	PW	17-Aug-09	MCMANAMON, DS	Instrument D&T
132	PSLR&D	FB	29-Jun-09	HALL, JE	Cut the SMC panel
133	PSLHVAC	PW	14-May-09	HALL, JE	PSL/Exhaust Fan 299 Manual damper repair
134	325R&D	PW	05-Mar-09	AREL, ES	Fabrication of Shielded Air Curtain Transfer Pallet
135	2400STV	DW	07-Dec-09	JANSSEN, DG	swap nitrogen cylinder 2400STV
136	3020ARCH	DW	11-Aug-09	CRAVENS, DL	Repair copying white board 1585
137	331HVAC	PW	24-Apr-09	AREVALO, G	Hood controller
138	325R&D	PW	03-Mar-09	AREL, ES	SAL Air Compressor wiring
139	LSLII	DW	30-Oct-09	GOFORTH, M	remove expired cylinders
140	RT20ELEC	DW	29-Jul-09	MCKINNEY, RC	Fuses needed for MCC in RTL-570
141	325R&D	PW	05-Oct-09	AREL, ES	maintenance of Sal manipulators
142	318TARCH	PW	05-Mar-09	AREVALO, G	roof leak
143	326	PW	16-Nov-09	AREVALO, G	Non-office Move
144	3020R&D	FB	11-Feb-09	NELSON, DE	Drill holes in MgF2 flat (Optical Shop)
145	325	PW	12-Aug-09	AREL, ES	Computer and Printer move
146	RT20ELEC	DW	02-Sep-09	JANSSEN, DG	Relamp all
147	PSLARCH	DW	22-Jan-09	MCKINNEY, RC	PSL Lab 425 ceiling tiles
148	3020ELEC	DW	15-Jun-09	CRAVENS, DL	Establishing electrical connection
149	PSL	DW	08-Jan-09	HALL, JE	Exchange Gas Cylinders
150	3020R&D	FB	21-Jan-09	CRAVENS, DL	EDM metal foam fabrication
151	RT20PIPE	PM	01-Oct-09	BRUUN, ML	Exterior Hose Bib Winterization
152	350HVAC	PW	06-Feb-09	AREVALO, G	Teamster Support
153	350PIPE	PW	11-Nov-09	NELSON, DE	Trouble shoot water jet
154	3020ARCH	PW	20-Apr-09	CRAVENS, DL	Painter Materials/Supplies - Vinyl
155	329	PW	28-Dec-09	AREVALO, G	liquid argon cylinder swap
156	3020ARCH	DW	17-Jul-09	EBERHART, DJ	Reset 1075/1077 on 7/23/09
157	350	FB	17-Jun-09	NELSON, DE	Machine parts per drawing
158	326R&D	FB	10-Jul-09	NELSON, DE	Mg Sheet TENSION samples
159	3020MECH	PW	30-Apr-09	CRAVENS, DL	Guarding for Baldor grinder
160	318PIPE	PW	06-Apr-09	AREVALO, G	Repair leaking pipe
161	3020	DW	19-Aug-09	EBERHART, DJ	Transport Equip to RTL
162	3020PIPE	DW	14-Oct-09	CRAVENS, DL	LN2 Dewar
163	325HVAC	DW	10-Jul-09	AREL, ES	Troubleshoot and Repair Pu Room AC
164	LSLII	DW	24-Aug-09	GOFORTH, M	Supplied air line repair Room 416
165	3020R&D	FB	26-Jan-09	CRAVENS, DL	Fabrication of low-pressure ESI interface
166	3020ARCH	PW	20-Aug-09	EBERHART, DJ	Set up 1075 on 8/25/09
167	3020ARCH	DW	28-Jul-09	LETTAU, JA	Plants Wilting outside Bistro Dining Room
168	3020ARCH	PW	08-Apr-09	CRAVENS, DL	Assembly of 4 silver frames for measuring
169	EESB	DW	30-Sep-09	HALL, JE	Change batteries in OMNI Lock 2000
170	RT20ELEC	DW	02-Mar-09	MCKINNEY, RC	Generator
171	RSW	DW	06-Aug-09	HALL, JE	Move Computers For Imaging
172	PSL	DW	29-Oct-09	HALL, JE	Gas Cylinder – TODAY
173	325R&D	PW	04-Feb-09	AREL, ES	Repair KPA
174	PSL	DW	12-Mar-09	HALL, JE	Move Empty Store Cylinders

	LOCATION	WORK TYPE	DATE	SUPERVISOR	DESCRIPTION
175	318HVAC	PW	29-May-09	AREVALO, G	Repair Electrical Contactor
176	EDLPIPE	DW	27-May-09	HALL, JE	SSS: Steam Control Valves
177	3020R&D	FB	26-Aug-09	CRAVENS, DL	machine ring
178	325R&D	FB	16-Sep-09	NELSON, DE	Welder Support to put flow meter on NF3 line
179	3020R&D	PW	17-Sep-09	CRAVENS, DL	service 2 pumps & add filter to another pump
180	MATHELEC	DW	28-Aug-09	HALL, JE	change in light switch
181	331ELEC	PW	29-Oct-09	AREVALO, G	Replace Fire Alarm Strobe S2-5
182	350	PW	21-Jan-09	AREVALO, G	Install New Metasys Computers in to Racks
183	320R&D	FB	20-Aug-09	NELSON, DE	Machine Ion Funnel Electrode
184	3020ARCH	PW	28-Aug-09	EBERHART, DJ	Set up 1075/1077 on 9/2/09
185	331GR&D	PW	12-Jun-09	AREVALO, G	Remove excess material
186	BSELR&D	PW	12-Aug-09	CRAVENS, DL	install hot water heater
187	329HVAC	PW	25-Jan-09	MCMANAMON, DS	Filter change, Exhaust room inlet filters
188	331	DW	04-Mar-09	AREVALO, G	Transport remaining waste from PGF to 331
189	RT20ARCH	DW	03-Dec-09	JANSSEN, DG	repair door
190	RTL520	DW	11-Dec-09	JANSSEN, DG	to move two bottles of argon
191	SIGMA5	DW	09-Feb-09	MCKINNEY, RC	Replace Nitrogen tank
192	331CA1	PW	09-Jun-09	AREVALO, G	Catalog Bin
193	3430MECH	PW	29-Dec-09	MCMANAMON, DS	Purchase misc. equip
194	RTL520	DW	29-Oct-09	JANSSEN, DG	refrigerant removal
195	329ELEC	PW	22-Jul-09	MCMANAMON, DS	Replace fluorescent lamps
196	3020R&D	FB	22-Jan-09	CRAVENS, DL	Machine a part
197	RTL520	DW	26-Mar-09	MCKINNEY, RC	Repair
198	RTL520	DW	15-Jul-09	MCKINNEY, RC	Argon gas cylinder refill
199	SIGMA3	DW	16-Sep-09	HALL, JE	Remove poster
200	331	PW	08-Oct-09	AREVALO, G	replace control box per B Sparks - Maldi instrmt
201	3020ARCH	PW	22-Apr-09	CRAVENS, DL	move fire extinguisher
202	TSW	PW	01-Sep-09	HALL, JE	Clean/Decon conex and product inside
203	LSLELEC	DW	21-Sep-09	GOFORTH, M	Light replacement
204	329	PW	05-Jun-09	MCMANAMON, DS	replacing nitrogen cylinder in 329/121
205	3020PIPE	DW	16-Jan-09	CRAVENS, DL	Replace empty He cylinder with HP N2 cylinder
206	3020PIPE	DW	09-Jan-09	CRAVENS, DL	Install Hot Water Dispenser at new sink
207	320PIPE	PW	22-Jul-09	MCMANAMON, DS	Secure Gas bottles (ASAP)
208	SIGMA4	DW	23-Apr-09	MCKINNEY, RC	Install task light on riser
209	3020ELEC	DW	09-Mar-09	CRAVENS, DL	EMSL/1030
210	LSLII	DW	23-Oct-09	GOFORTH, M	New curtain
211	326ARCH	PW	03-Nov-09	AREVALO, G	Name Plate: Luke Short
212	PSL	DW	28-Sep-09	GOFORTH, M	Make one each Snorkel & Damper label
213	EESB	PW	10-Mar-09	HALL, JE	Cut And Stamp 4 Keys Each As Listed Below...
214	3760	PW	22-Jan-09	MCMANAMON, DS	Non-office Move
215	ROBELEC	DW	15-Oct-09	HALL, JE	Relamp needed - ROB, south breezeway
216	2400STV	FB	22-Apr-09	NELSON, DE	Fabricate Basegrid part
217	BILR&D	DW	27-Mar-09	GOFORTH, M	Move of sham curtain from 108 to 120
218	326	DW	02-Sep-09	MCMANAMON, DS	Relocate Freezer from 326 to RSW

	LOCATION	WORK TYPE	DATE	SUPERVISOR	DESCRIPTION
219	325ELEC	PW	08-Jan-09	AREL, ES	Install Additional Outlet
220	RTL520	DW	21-May-09	MCKINNEY, RC	Oil Pumps
221	325R&D	PW	04-Feb-09	AREL, ES	M&FS Support
222	RTL520	DW	18-Aug-09	MCKINNEY, RC	Replace cover on junction box on outside light pole
223	ESB	DW	01-Oct-09	HALL, JE	Please pick up 7 boxes from 318 and deliver to ESB
224	3020ARCH	DW	12-Jun-09	EBERHART, DJ	remove carpet protector in 2187
225	PSLHVAC	DW	13-Mar-09	HALL, JE	Exhaust fan B has lost its belt
226	325R&D	PW	02-Oct-09	AREL, ES	File cabinet
227	3020R&D	DW	17-Feb-09	CRAVENS, DL	Fix electrical connection
228	3020R&D	FB	24-Feb-09	CRAVENS, DL	Modifying the sample holder
229	3020ARCH	DW	09-Jul-09	CRAVENS, DL	Additional keys
230	3020ARCH	PW	14-Apr-09	CRAVENS, DL	Replace paper roll in copying whiteboard
231	RTL520	DW	09-Jun-09	MCKINNEY, RC	change water filter on city line
232	BRSW	DW	19-Feb-09	MCKINNEY, RC	remove racks from pallet
233	325ELEC	PW	05-Oct-09	AREL, ES	Refurbish TEM power supply
234	325R&D	PW	11-Mar-09	AREL, ES	Safe in room 5B
235	747A	FB	28-Sep-09	JANSSEN, DG	Coax LN2 Funnel
236	3020PIPE	PW	11-Mar-09	CRAVENS, DL	hydrogen/nitrogen tank
237	LSLII	DW	14-Jan-09	GOFORTH, M	Instrument shipping crate
238	318	PW	24-Aug-09	AREVALO, G	Remove some fluorescent bulbs
239	APEL	DW	14-Oct-09	HALL, JE	Non-office Move
240	331ARCH	PW	30-Jan-09	AREVALO, G	Hang White Board
241	GES	DW	05-Mar-09	MCKINNEY, RC	Create hanging storage for tractor tire chains
242	331	PW	27-Jan-09	AREVALO, G	Move boxes of project files
243	329HVAC	PM	01-Aug-09	SANAN, SK	329 Fume Hood Air Flow Round (GF51110)
244	325ELEC	PW	25-Nov-09	AREL, ES	Install covers on XRDs
245	3020ARCH	PW	02-Nov-09	EBERHART, DJ	Recreate workstation in 1022/1025 area
246	325R&D	PW	17-Feb-09	AREL, ES	Fabricate polymer grips for vise
247	331ELEC	PW	24-Mar-09	AREVALO, G	Relamp/Repair 2-light in room # 173
248	RT20HVAC	DW	01-Nov-09	JANSSEN, DG	Tighten belts on the RTL #1 supply fan
249	3020R&D	PW	10-Jul-09	CRAVENS, DL	Fabricate shipping pallet for Kratos
250	331PIPE	PW	25-Aug-09	AREVALO, G	fabricate Al grate for gutter under autoclave
251	325ELEC	PW	14-Jan-09	AREL, ES	Relamp
252	3020R&D	PW	09-Nov-09	CRAVENS, DL	Craft support for install of new SEM
253	3020ELEC	PW	13-Oct-09	EBERHART, DJ	Move IMPRINTER into Clean Room & unpack
254	326	PW	01-May-09	MCMANAMON, DS	Clean hallways
255	325R&D	PW	23-Jan-09	AREL, ES	Teamster Support for NDA Analysis
256	3020PIPE	DW	01-May-09	CRAVENS, DL	Deliver gas cylinder to EMSL 1229
257	331GR&D	PW	22-Apr-09	AREVALO, G	Run wire from booths 4 to 5 inside conduit, underground 6 "
258	331	FB	19-Mar-09	NELSON, DE	machine Teflon sample holders
259	3020ARCH	DW	17-Feb-09	EBERHART, DJ	Table set-up
260	BRSW	DW	06-Aug-09	MCKINNEY, RC	Carpenter
261	329PIPE	PW	14-Apr-09	MCMANAMON, DS	Hot water pump #2 leaking
262	3020ARCH	PW	23-Jan-09	CRAVENS, DL	Strap pallets of floor tiles

	LOCATION	WORK TYPE	DATE	SUPERVISOR	DESCRIPTION
263	PSL	DW	13-Oct-09	HALL, JE	Pipe fitter
264	ROBARCH	DW	09-Jun-09	GOFORTH, M	Recarpet 1200 Suite
265	331	PW	09-Sep-09	AREVALO, G	Drain 3 refrigerators & 4 freezers - back dock
266	3020R&D	FB	20-Feb-09	CRAVENS, DL	Modify conflat copper rings
267	318R&D	FB	22-Apr-09	NELSON, DE	Repair snoop handle
268	3020R&D	DW	10-Jun-09	EBERHART, DJ	Move mass specs to conex
269	BSELR&D	FB	02-Sep-09	HALL, JE	quartz tube cutting
270	3350	DW	11-Dec-09	JANSSEN, DG	need lightbulb replaced in task light
271	ISB1	DW	17-Mar-09	GOFORTH, M	Coat racks for ISB1 527 and 531
272	SIGMA5	DW	10-Aug-09	JANSSEN, DG	excess old refrigerator
273	PSL	DW	01-Jun-09	HALL, JE	New argon tank
274	BSELR&D	DW	14-Jul-09	CRAVENS, DL	Temporary shield over equipment
275	350R&D	FB	09-Nov-09	NELSON, DE	Manufacturer Sockets
276	PSL	DW	21-Jul-09	HALL, JE	Replacement of N2 and He cylinders
277	350	PW	22-Jun-09	AREVALO, G	Repair electrical cord
278	318ELEC	PW	13-Oct-09	AREVALO, G	Verify Standby Power Components
279	331	PW	29-Sep-09	AREVALO, G	Non-office Move
280	ROB	DW	09-Sep-09	JANSSEN, DG	ROB/1132 - Misc. Maint. needed for staff move
281	3020R&D	FB	30-Jun-09	CRAVENS, DL	PCB funnel plate modification
282	ETB	PW	09-Mar-09	GOFORTH, M	Name Plate for ETB/2227
283	331PIPE	PW	12-Feb-09	AREVALO, G	changeout bottle regulator
284	3020R&D	FB	06-May-09	CRAVENS, DL	Fabricate Copper washers
285	APELR&D	FB	16-Jul-09	HALL, JE	Fab Refractory Pedestal
286	325R&D	PW	01-Jun-09	AREL, ES	N2 tank replacement
287	LSLII	DW	22-Jun-09	GOFORTH, M	Move 55-gallon drums
288	LSLHVAC	PW	16-Apr-09	GOFORTH, M	Hepa filter
289	PSLR&D	DW	29-Oct-09	HALL, JE	fill liquid N2
290	318ELEC	PW	09-Sep-09	AREVALO, G	Re-lamp 146
291	PSLR&D	DW	25-Feb-09	HALL, JE	Replace 3 empty He bottles with full bottles
292	325R&D	PW	18-Jun-09	AREL, ES	Fabricate power jumper cable for mini lathe in cell
293	2400STV	FB	23-Jul-09	MCMANAMON, DS	Fabricate Load Cell Wiring Harness
294	PSL	DW	23-Feb-09	HALL, JE	furnace stand setup
295	RTL520	DW	23-Nov-09	JANSSEN, DG	Hang picture for Georgeanne O'Connor
296	320	DW	07-Apr-09	MCMANAMON, DS	Change cylinder
297	3020R&D	FB	11-Mar-09	CRAVENS, DL	machinist
298	325R&D	PW	27-Apr-09	AREL, ES	fabrication
299	325	PW	09-Jun-09	AREL, ES	Fabricate 3 vial holders
300	3020R&D	FB	12-Feb-09	CRAVENS, DL	Modify Inconel part
301	ROB	DW	15-Dec-09	HALL, JE	Auto Light Switch
302	331PIPE	PW	25-Feb-09	AREVALO, G	repair glycol leak, for room 188 (tin forest)
303	3020R&D	FB	07-Dec-09	CRAVENS, DL	machining PEEK part
304	BSELPPIPE	RT	19-Jan-09	CRAVENS, DL	Cylinder change out as needed. Will call
305	APELARCH	DW	17-Mar-09	CRAVENS, DL	File Cabinet Key Request
306	325HVAC	PW	19-Sep-09	AREL, ES	Sump pump on wall unit A/C, in Lunch room

	LOCATION	WORK TYPE	DATE	SUPERVISOR	DESCRIPTION
307	LSLII	DW	06-Mar-09	GOFORTH, M	move shelves and cabinets to storage
308	320ELEC	PW	11-Jun-09	MCMANAMON, DS	Emergency Lighting
309	318	DW	07-Aug-09	MCMANAMON, DS	Teamster support/Move misc lab equipment
310	BRSW	FB	20-Mar-09	GOFORTH, M	fabricate half-round end boarders for signs
311	ROBARCH	DW	26-May-09	MCKINNEY, RC	drooping ceiling tile
312	325R&D	PW	06-Aug-09	AREVALO, ES	pads for graduated cylinder bases
313	331	PW	22-Jun-09	AREVALO, G	Move -80C freezer
314	PSL	DW	15-Oct-09	HALL, JE	Termination and insulation of heating elements
315	326	PW	13-Oct-09	AREVALO, G	Non-office Move
316	GESPIPE	PM	01-Jan-09	BRUUN, ML	Load GES Shwr/Eyewash Round "Private_Q08"
317	325R&D	PW	21-Jan-09	AREL, ES	Items from RPL/325
318	PSL	DW	20-Feb-09	HALL, JE	Build a stand for small tube furnace
319	PSLR&D	FB	08-Oct-09	HALL, JE	Grind 430 parts
320	BILPIPE	DW	26-Feb-09	GOFORTH, M	Faucets in mens room not working
321	331G	DW	24-Sep-09	AREVALO, G	Shipment to BDI
322	RTL550	DW	23-Jan-09	MCKINNEY, RC	repair vacuum cleaner
323	3020R&D	PW	24-Aug-09	CRAVENS, DL	RECHARGE FTS-80
324	CEL	DW	11-Dec-09	JANSSEN, DG	bottle changeout
325	326	RT	28-Sep-09	AREVALO, G	FY2010 Gas Bottle Change Out
326	ESB	DW	20-Jul-09	HALL, JE	Pick up 9 boxes from BSEL and deliver to ESB
327	331ELEC	PW	08-Jun-09	AREVALO, G	Re-lamp
328	331G	PW	28-Jul-09	AREVALO, G	Air Conditioner
329	329	PW	18-Mar-09	MCMANAMON, DS	Fabricate 3 each Network/PLC panels per drawing
330	325R&D	PW	09-Jul-09	AREL, ES	Tensile samples
331	350	DW	20-Nov-09	AREVALO, G	Teamster Support
332	PDLEHVAC	DW	10-Jul-09	MCKINNEY, RC	PDLE - Repair A/C
333	325R&D	PW	02-Feb-09	AREL, ES	Office chair and Pedestal
334	PSLR&D	FB	04-Aug-09	HALL, JE	metal rod machining
335	331PIPE	PW	02-Oct-09	AREVALO, G	Make 2 New Labels
336	ETB	DW	30-Mar-09	HALL, JE	Omni lock dead
337	331	DW	28-Jul-09	AREVALO, G	Teamster Support
338	325ELEC	DW	26-Jan-09	AREL, ES	Purchase and move storage cabinets to room 903
339	350	PW	13-Oct-09	NELSON, DE	Relocate Haas lathe from PSL to 350
340	320	PW	28-Aug-09	MCMANAMON, DS	Move, uncrate, & assemble portable fume hoods
341	350	PW	09-Jul-09	NELSON, DE	Replace Regulator on belt sander
342	325R&D	PW	30-Jun-09	AREL, ES	Replace model E manipulator from A-cell
343	329	DW	17-Jun-09	MCMANAMON, DS	Change out 2 gas cylinders
344	3020R&D	FB	14-May-09	CRAVENS, DL	Fabricate the aperture holder
345	APELR&D	FB	12-Oct-09	NELSON, DE	Fabricate PDust Endplates
346	BSELARCH	DW	18-Nov-09	CRAVENS, DL	Repair lock on toolbox
347	329	DW	30-Jul-09	MCMANAMON, DS	change batteries in OMNI
348	329	PW	25-Jun-09	MCMANAMON, DS	Pb cave
349	RT20ELEC	DW	08-Mar-09	MCKINNEY, RC	Relamp
350	LSLII	DW	26-Jun-09	GOFORTH, M	PU package, Transport to shipping



	LOCATION	WORK TYPE	DATE	SUPERVISOR	DESCRIPTION
351	PSLELEC	PW	20-Aug-09	HALL, JE	Repair lights
352	ANNEX	DW	06-Feb-09	HALL, JE	transport gas cylinders from D-5 container to hangar
353	3020ARCH	DW	09-Feb-09	CRAVENS, DL	Check Lock
354	LSLARCH	DW	19-Mar-09	GOFORTH, M	Door hold-open mechanism Room 401
355	325PIPE	PW	12-May-09	AREL, ES	Disassemble slab tank drain system
356	326R&D	FB	15-Jul-09	NELSON, DE	Drill and tap holes in rollers
357	APELR&D	PW	21-May-09	CRAVENS, DL	Build Crate and Move Equipment to Storage
358	3020PIPE	DW	11-Jun-09	CRAVENS, DL	Argon Dewar
359	3760	PW	07-Jan-09	MCMANAMON, DS	Printer needs to be fixed
360	3020ARCH	PW	27-Jan-09	CRAVENS, DL	Additional keys
361	331	PW	17-Mar-09	AREVALO, G	Non-office Move
362	2770WHSE	DW	21-Sep-09	HALL, JE	Move 15 storage cabinets from BRSW to Warehouse
363	3020R&D	DW	20-Nov-09	JANSSSEN, DG	Service generators for long term storage
364	3020ELEC	PW	04-May-09	CRAVENS, DL	Emergency Light Repairs, April 2009
365	325ARCH	PW	27-Jan-09	AREL, ES	paint crack in floor
366	3020R&D	FB	12-Aug-09	CRAVENS, DL	Cut gold rod to 1 inch long
367	BSRC	PW	17-Feb-09	MCKINNEY, RC	Drain water carefully, plan to reuse equipment
368	3350	PW	13-Jan-09	GOFORTH, M	Velcro removal
369	PSLELEC	DW	16-Sep-09	HALL, JE	Re-lamp
370	3020PIPE	DW	28-Oct-09	CRAVENS, DL	ARRA #30 Fitter support
371	3020PIPE	DW	15-Sep-09	CRAVENS, DL	Change He bottle
372	318PIPE	PW	24-Feb-09	AREVALO, G	Repair Valve Packings
373	350R&D	FB	29-May-09	NELSON, DE	EDM anode spacers and window frames
374	PSL	DW	24-Feb-09	HALL, JE	Remove Crates , PSL 1500 Hallway
375	326	PW	13-Jan-09	MCMANAMON, DS	Install OMNI Lock
376	325ELEC	PW	19-Oct-09	AREL, ES	Office relamping - RPL (110 & 104)
377	LSLII	DW	08-Oct-09	GOFORTH, M	Troubleshoot humidifier
378	PSL	DW	19-Feb-09	HALL, JE	Secure bottled gas cylinder
379	SIGMA4	DW	04-Feb-09	GOFORTH, M	Name plate for door
380	3020ARCH	DW	30-Jul-09	CRAVENS, DL	Adjust door handle 1030
381	325R&D	PW	23-Jul-09	AREL, ES	Repair uranium analyzer
382	3350	PW	24-Mar-09	HALL, JE	Re-key Lateral File Cabinet
383	ISB1	PW	19-Feb-09	GOFORTH, M	New Name Plate
384	331	DW	21-May-09	AREVALO, G	Open Lid on Cardboard Recycle Lugger
385	PSL	DW	10-Feb-09	HALL, JE	Cut And Stamp Keys As Listed Below...
386	PSLHVAC	DW	05-Jul-09	HALL, JE	Liebert A/C repair
387	APELR&D	PW	15-Jul-09	CRAVENS, DL	Whisper valve
388	PSLHVAC	DW	06-Mar-09	HALL, JE	Filter Change
389	LSLII	DW	24-Jul-09	GOFORTH, M	Pick up package and deliver to shipping
390	331G	PW	01-Jun-09	AREVALO, G	Non-office Move
391	PSLR&D	DW	30-Jun-09	HALL, JE	fill liquid N2
392	PSL	DW	21-Jan-09	HALL, JE	Clean up shop
393	318ARCH	PW	28-Jan-09	AREVALO, G	Ceiling Tiles
394	326R&D	FB	16-Sep-09	NELSON, DE	Saumyadeep tensile samples

	LOCATION	WORK TYPE	DATE	SUPERVISOR	DESCRIPTION
395	APELR&D	DW	18-Sep-09	CRAVENS, DL	Extension Cord in APEL Lab 204
396	325R&D	PW	23-Feb-09	AREL, ES	hand grind plate surfaces - prepare for heat treat
397	326	DW	09-Jul-09	MCMANAMON, DS	Teamster support
398	3350	PW	10-Feb-09	GOFORTH, M	Move keyboard tray
399	2400STV	DW	23-Apr-09	HALL, JE	Install OMNI Lock At 108 & Key 2 Doors For New Lab
400	PSL	DW	10-Sep-09	HALL, JE	drain oil from transformer
401	3020ARCH	PW	23-Jul-09	CRAVENS, DL	Squeaky keyboard tray
402	331ARCH	PW	19-Aug-09	AREVALO, G	Electrical support
403	RT20ARCH	DW	02-Sep-09	JANSSEN, DG	RTL 57 / Install blinds
404	325HVAC	PW	18-Jun-09	AREL, ES	Calibrate DWYER - 2301 (BC#13228)
405	APELPIPE	DW	08-May-09	CRAVENS, DL	Liquid Nitrogen Fill
406	331ELEC	PW	10-Jul-09	AREVALO, G	Relamp/repair 3 lights in N hallway, 1st floor
407	3020R&D	FB	17-Aug-09	CRAVENS, DL	Machine FHHC apparatus
408	ESB	DW	08-Apr-09	HALL, JE	Pick up 47 boxes from ESB and deliver to RHA
409	PSLMECH	DW	22-May-09	HALL, JE	PS-I - Rm 1300 - Fan Maintenance and H2 pipe mods
410	325	PW	30-Sep-09	AREL, ES	Ancillary items for ICP-OES installation
411	350	PW	12-Mar-09	AREVALO, G	Flip keyboard tray - accommodate right handed user
412	3020R&D	DW	02-Oct-09	CRAVENS, DL	Uncrate/set up equipment
413	350ELEC	PW	22-Jan-09	AREVALO, G	electrical support for shop cleanup
414	AUDELEC	DW	03-Mar-09	HALL, JE	relamp east steps



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