PNNL-25597

Pacific Northwest
NATIONAL LABORATORY
Proudly Operated by Battelle Since 1965

Report on July 2015 Additional Protocol Coordinators Best Practices Workshop

July 2016

ET Gitau
VA Finch
RL Burbank

U.S. DEPARTMENT OF ENERGY

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

PACIFIC NORTHWEST NATIONAL LABORATORY
operated by
BATTELLE
for the
UNITED STATES DEPARTMENT OF ENERGY
under Contract DE-AC05-76RL01830

Printed in the United States of America

Available to DOE and DOE contractors from the
Office of Scientific and Technical Information,
P.O. Box 62, Oak Ridge, TN 37831-0062;
ph: (865) 576-8401
fax: (865) 576-5728
email: reports@adonis.osti.gov

Available to the public from the National Technical Information Service
5301 Shawnee Rd., Alexandria, VA 22312
ph: (800) 553-NTIS (6847)
email: orders@ntis.gov <http://www.ntis.gov/about/form.aspx>
Online ordering: http://www.ntis.gov


This document was printed on recycled paper.
(8/2010)

PNNL-25597

Report on July 2015 Additional Protocol Coordinators Best Practices Workshop

ET Gitau
VA Finch
RL Burbank

July 2016

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

Pacific Northwest National Laboratory
Richland, Washington 99352

Summary

After 10 years of implementation experience, the Office of Nonproliferation and Arms Control (NPAC) within the Department of Energy/National Nuclear Security Administration (DOE/NNSA) conducted the Additional Protocol (AP) Coordinators Best Practices Workshop at Oak Ridge National Laboratory from July 29-30, 2015. The goal of this workshop was to identify implementation best practices, lessons learned, and compliance challenges from the various Additional Protocol Coordinators (APCs) at each laboratory in the DOE/NNSA complex and associated sites. The workshop provided the opportunity for participants to share their insights and establish networks that APCs can utilize to continue to discuss challenges (new and old), identify best practices, and enhance communication and coordination for reporting multi-lab research projects during review activities. Workshop participants included DOE/NNSA HQ, laboratory and site APCs, seasoned experts, members of the original implementation outreach team, and Field Element and site security representatives.

Participants' diverse backgrounds and experiences were vital to capturing best practices regarding:

- Increasing institutional stakeholder awareness
- Early preparation for complementary access
- Planning for staff succession and knowledge management
- Identification of declarable activities
- Expansion in the use of internal comments on declarations
- Use of national security exclusions
- Relying upon the NPAC headquarters team as a partner in the declaration process

The following four prominent recommendations came from the workshop for DOE/NNSA to consider to improve the availability of resources for APCs:

- Increase availability of current training resources
- Update the DOE AP Implementation Handbook
- Provide hands-on training and knowledge transfer resources
- Maintain the DOE AP community's knowledge through continued APC workshops

A key finding of this workshop was the importance of continuous dialogue between APCs and DOE/NNSA HQ and among APCs about experiences and challenges associated with reporting under the AP. Additional workshops may be beneficial in the future, particularly during times of multiple role transitions throughout the complex and/or to serve networking/coordinating needs.

Acronyms and Abbreviations

ANL	Argonne National Laboratory
AP	Additional Protocol
APC	Additional Protocol Coordinators
APRS	Additional Protocol Reporting System
BNL	Brookhaven National Laboratory
CA	Complementary Access
DDA	Declaration Decision Assistant
DLI	Declaration Line Item
DOE	Department of Energy
DWA	Declaration Writing Assistant
IAEA	International Atomic Energy Agency
INL	Idaho National Laboratory
INSEP	International Nuclear Safeguards Engagement Program
LANL	Los Alamos National Laboratory
NNSA	National Nuclear Security Administration
NPAC	Office of Nonproliferation and Arms Control
NRC	Nuclear Regulatory Commission
NSE	National Security Exclusion
ORNL	Oak Ridge National Laboratory
PNNL	Pacific Northwest National Laboratory
SNL	Sandia National Laboratories

Contents

1.0 Background and Need

After 10 years of implementation experience, the Office of Nonproliferation and Arms Control (NPAC) within the Department of Energy/National Nuclear Security Administration (DOE/NNSA) conducted the Additional Protocol (AP) Coordinators Best Practices Workshop. The goal of this workshop was to identify implementation best practices, lessons learned, and compliance challenges from the various Additional Protocol Coordinators (APCs) at each laboratory in the DOE/NNSA complex and associated sites. The workshop provided the opportunity for participants to share their insights and establish networks that APCs can utilize to continue to discuss challenges (new and old), identify best practices, and enhance communication and coordination for reporting multi-lab research projects during review activities.

Workshop participants included DOE/NNSA HQ, laboratory and site APCs, seasoned experts, members of the original implementation outreach team, and Field Element and site security representatives. An attendee list is provided in Appendix A. Participants' diverse backgrounds and experiences were vital to capturing the best practices and recommendations contained in this report.

A key finding of this workshop was the importance of continuous dialogue between APCs and DOE/NNSA HQ and among APCs about experiences and challenges associated with reporting under the AP. Additional workshops may be beneficial in the future, particularly during times of multiple role transitions throughout the complex and/or to serve networking/coordinating needs.

2.0 Topics and Discussion

The 2-day agenda covered topics including:

- DOE/NNSA AP Process
- How Sites Prepare for Declarations
- Determining What Is Declarable
- Internal AP Training/Education
- Succession Planning/Knowledge Management
- Site-specific Declaration Issues
- AP Declaration Tools and Resources
- National Security Exclusions
- Nuclear Regulatory Commission (NRC) Complementary Access (CA) Overview
- CA Preparations and Exercises

The topics chosen provided participants with a holistic view of DOE/NNSA AP implementation processes, laboratory and site experiences addressing key implementation issues, and challenges associated with preparing for potential CAs. Presenters were designated from various sites to represent a range of experiences and insights. A copy of the agenda is provided in Appendix A.

2.1 DOE/NNSA AP Process Overview

Presented by DOE/NNSA HQ, the overview summarized the AP process *after* laboratories and sites submit their declaration line items (DLIs). This included information about the types of reviews performed by the various DOE/NNSA offices, the security reviews performed, and the process for handling the receipt of a request for CA from the International Atomic Energy Agency (IAEA).

2.2 How Sites Prepare for Declarations

Each laboratory and site provided an overview of their annual review process, specifically highlighting the number of projects reviewed each year, the resulting number of DLIs, and the composition of review teams and management involvement in the process.

2.3 Determining What Is Declarable

DOE/NNSA led a discussion focused on exploring topics such as the "landlord" determination (regardless of who funds an activity, it is the location where the activity occurs that dictates which entity should declare the activity), and where the responsibility lies to inform foreign partners and collaborators that a specific activity was declared. The definition of basic science and the potential for a site and the IAEA to have conflicting interpretations of R&D activities was also covered.

2.4 Internal AP Training/Education

PNNL provided an overview of their internal AP training and education program for their AP compliance team, general staff, and their management team. Discussion focused on leveraging AP training materials available from the International Nuclear Safeguards Engagement Program (INSEP) and the use of various media to educate staff (such as a Pacific Northwest National Laboratory [PNNL] internal implementation website, 1-on-1 discussions, email, and telephone communications). Discussions addressed the importance of achieving senior management buy-in and engaging internal stakeholders early and often to minimize impact on project work.

2.5 Succession Planning/Knowledge Management

Oak Ridge National Laboratory (ORNL) and Brookhaven National Laboratory (BNL) led a discussion centered on their recent experiences with succession planning and knowledge management, including the importance of documenting internal review processes and procedures through a process control or narrative document. Discussions also focused on the importance of establishing a reliable network of staff at each site to assist with the review process and with the interpretation of the AP when reviewing activities for declarability. Lastly, participants discussed the applicability of available training resources, specifically the APEX course at BNL, for training staff responsible for domestic implementation of the AP.

2.6 User Facilities and Other Site-Specific Declaration Issues

Argonne National Laboratory (ANL) led a discussion on site-specific issues, focusing on their process for reviewing activities at ANL user facilities for declarability. ANL shared that, as their user facilities have separate management systems from their laboratory, the ANL AP team has embedded a question in the user facility application form to capture projects that may be declarable under the AP.

2.7 AP Declaration Tools and Resources

ORNL's Additional Protocol Reporting System (APRS) technical team (which manages and maintains APRS) led a discussion on the tools and resources available to assist with domestic AP implementation. Discussion primarily focused on the resources available to APCs through APRS including various training materials and videos, referential documents, and software such as the Declaration Decision Assistant (DDA) and the Declaration Writing Assistant (DWA). Participants were particularly interested in whether AP training videos hosted on APRS could be made available to site employees without access to APRS (for example, by downloading the materials to a desktop).

2.8 National Security Exclusions

DOE/NNSA presented on how National Security Exclusion (NSE) is viewed or handled from the HQ perspective and the importance of engaging DOE/NNSA HQ when reviewing activities that a laboratory or site believes may require invoking the NSE. Sandia National Laboratories (SNL) and Los Alamos National Laboratory (LANL) provided additional insight into their experiences with NSEs. SNL highlighted the challenges associated with being co-located with a military base and the additional restrictions placed onto the laboratory when reviewing activities for declarability. LANL highlighted the importance of identifying sensitive locations where work is to be performed, in cases where the activity has not been initiated but is expected to during the reporting period.

2.9 Nuclear Regulatory Commission CA Overview

The NRC provided an in-depth briefing on the two CAs executed in the United States since the AP entry-into-force. This discussion focused on the preparation processes once the request for CA was received, the activities for which the request was made, the roles and responsibilities of each stakeholder in executing the CA, and lessons that the NRC learned about executing a CA for the U.S. commercial nuclear industry.

2.10 CA Preparations and Exercises

PNNL provided an overview of their CA procedures, including development and staff roles and responsibilities during the preparation and execution of a CA. PNNL also shared their experiences testing their CA procedures through the use of spot-checks, table-top exercises, and dry-runs, and their plans for a full mock CA. Lastly, PNNL and HQ briefly discussed the CA e-Learning module created for training students and foreign partners and its availability to domestic AP teams for training and education.

The presence of participants with recent IAEA experience was an unexpected resource. These individuals shared IAEA perspectives on declaration decisions and processes, which allowed participants to gain a broader understanding of how information provided as part of an AP declaration is reviewed and verified at the IAEA.

3.0 Best Practices

3.1 Stakeholder Awareness

Engaging internal stakeholders not directly involved in the AP declaration process (for example, principal investigators of potentially declarable projects, facility managers, etc.) early and often to educate them on the AP and a site's review process is essential to ensure that the site can fulfill its reporting responsibilities with minimal impact on project work. Fostering support among senior management is important to ensure the success of the AP team. Additionally, offering information and education resources such as websites, fliers, or emails for general staff, project investigators, and project managers helps establish buy-in among staff and greater awareness of each site's reporting requirements.

3.2 Prepare Early for CA

A request for CA can occur at any time. The NRC's experiences highlighted the importance of each site creating site-specific CA procedures as well as validating these procedures regularly to ensure individuals are aware of their responsibilities and each part of the organization can respond appropriately. Specific points included:

- Ensuring affected stakeholders are engaged as part of the CA preparation process
- Actions to take should a medical or restroom emergency arise during the visit that might require the afflicted CA team member to diverge from established managed access routes
- Handling press inquiries surrounding CA.

3.3 Succession Planning/Knowledge Management

The possibility of unexpected personnel turnover due to incapacity or job change cannot be ignored. To ensure that no individuals becomes a single point of failure, sites should ensure that declaration processes and procedures are written down and kept up-to-date, records of each annual review are maintained, and these records are accessible by multiple individuals. Sites should plan for succession in ways that create several layers of expertise, to include both senior experts and former APCs, active AP team members, and early career staff trained to assume the role in the future.

3.4 Identifying Declarable Activities

Sites should rely on redundant methods to identify potentially declarable activities. This includes the financial database referenced in the DOE AP Handbook and additional resources such as project risk management offices and scope, change, and resource management systems. When in doubt about an activity's declarability, sites should contact the HQ AP team for guidance.

3.5 Expand the Use of Internal Comments

The "Internal Comments" field of the declaration is not transmitted to the IAEA. Laboratories and sites should rely on this field to relay additional information to DOE/NNSA for their consideration while

reviewing a DLI. Examples include: detailed information regarding project percent complete, additional information regarding collaborators, and expanded statements on the scope of work. When sites provide this additional, elective information to DOE/NNSA, it helps DOE/NNSA to field IAEA questions faster, without re-engaging the site. It also reduces the number of items returned to APCs for clarification during the HQ AP review process.

3.6 National Security Exclusions

Recent experiences at several laboratories demonstrated the importance of continued, open dialogue between laboratories/sites and DOE/NNSA HQ regarding the need to invoke the NSE. While DOE/NNSA or another member of the interagency may invoke the NSE during the review of submitted DLIs, laboratories and sites are the first line of defense to ensure that information of national security significance is not disclosed to the IAEA. Laboratories and sites, in addition to informing DOE/NNSA HQ, must maintain records of NSEs for records management and possible future inquiries.

3.7 NPAC as a Partner, not an Adversary

NPAC is the office responsible for coordinating and managing AP submittals for the DOE/NNSA complex. If an APC is uncertain about an activity determination or has a question pertaining to the declaration process, they should not hesitate to reach out to NPAC for assistance. NPAC should be seen as a resource for sites when a need arises.

4.0 Recommendations

The best practices highlighted in this report are meant to better inform and prepare APCs for preparing and completing the AP declaration for their laboratory/site. However, four prominent recommendations came from the workshop for DOE/NNSA to consider to improve the availability of resources for APCs:

- Increase availability of current training resources
- Update the DOE AP Implementation Handbook
- Provide hands-on training and knowledge transfer resources
- Maintain the DOE AP community's knowledge through continued APC workshops

4.1 Increase Availability of Current Training Resources

It is recommended that DOE/NNSA investigate if training materials currently available for domestic and international AP implementation can be consolidated and made available to all interested individuals, not just AP implementation team members with APRS access. This would facilitate educating and training staff at laboratories and sites and prevent duplication of resources by each laboratory or site.

4.2 Update the DOE AP Implementation Handbook

The DOE AP Implementation Handbook was last updated in August 2008 prior to the U.S. AP's entry-into-force. The simplest updates to the handbook could include updating of entity names, contact information, screen shots, and any typos from the last version. A more comprehensive update could incorporate the best practices identified above, and assess the alignment of this domestic resource with material developed by INSEP. Additional material could be developed such as self-assessment performance metrics to measure how well DOE/NNSA, laboratories, and sites perform during declaration preparation.

4.3 Provide Hands-on Training and Knowledge Transfer Resources

Current training tools and resources available to APCs only *relay* information via videos and written text. No training resources are available that allow individuals the opportunity to practice reviewing projects for declarability or preparing declaration line items. Prior to 2008, DOE/NNSA sponsored several table-top exercises at various laboratories/sites to help APCs learn and prepare for implementation. To better facilitate continuous education and prepare an incoming generation of AP implementation staff, it is recommended that DOE/NNSA create an e-learning module or simulation to provide hands-on training exercises on identifying potentially declarable activities, reviewing identified activities, completing the DDA and DWA, and uploading the DLIs to APRS etc. This tool could also include challenging situations such as an uncooperative PI, a difficult access location, an NSE situation, or an opportunity to educate the new lab director or site manager. APCs could also utilize such a tool as a refresher for themselves and their key team members in preparing to launch annual declaration activities.

4.4 Looking Ahead: Maintaining the DOE AP Community's Knowledge

The APC Best Practices Workshop was the first of its kind during DOE's decade of AP implementation efforts. The outcomes from this workshop have far-reaching effects that promote consistency, accuracy, and completeness of DOE's declarations. To maintain the momentum and level of knowledge across the DOE complex, one additional recommendation is to repeat this workshop every five years.

Appendix A

Workshop Participant List, Photo, and Agenda

Appendix A

Workshop Participant List, Photo, and Agenda

Participant	Organization
Aaron Perea	SNL
Ann Bustos-Gonzales	LANL
Carla Miller	INL
Cathy Ottinger Farnum	SNL
Chad Braden (APRS team)	ORNL
Dylan Wolf (APRS team)	ORNL
Ed Wonder	DOE/NNSA
Harvey Heckman	DOE-ORO
Jason Brantley	USEC/Centrus
Jennifer Dallas	SNL
Jessica White-Horton	ORNL
Joe Carbonaro	BNL
Josh Tackentien	BNL
J'Tia Hart	ANL
Justin Reed	ANL
Kate Glynn	DOE/NNSA
Kevin Hannan (APRS team)	ORNL
Mary Johnson (APRS team)	ORNL
Melissa Einwechter	DOE/NNSA
Ricardo Rose	LLNL
Roberta Burbank	PNNL
Ron Cain (APRS team)	ORNL
Sandra Guendling	ANL
Steve Silvers	DOE-ORO
Travis Gitau	PNNL
Val Finch	PNNL
Virginia Wright	INL
Yana Feldman	LLNL


DOE AP All Hands Meeting
July 29-30, 2015
GO STORE

Attendees: J'Tia (Taylor) Hart, Justin Reed, Sandra Guendling (ANL), Joe Carbonara, Josh Tackentien (BNL), Kevin Carney, Virginia Wright, Carla Miller (INL), Ricardo Rose, Yana Feldman (LLNL), Ann Bustos-Gonzales (LANL), Roberta Burbank, Travis Gitau, Val Finch (PNNL), Cathy Ottinger Farnum, Jennifer Dallas, Aaron Perea (SNL), Jason Brantley (USEC/Centrus), Jessica White-Horton, Ron Cain, Dylan Wolf, Mary Johnson, Kevin Hannan, Chad Braden (ORNL), Harvey Heckman, Steve Silvers (DOE-ORO)

29 July 2015

Event contact: Jessica White-Horton (865)574-1075; (865)604-1959			
Time	**Event**	**Lead**	**Place**
8:30	Welcome	Melissa Scholz, Kate Glynn	5200, 202A
8:45	AP Process Overview	Melissa Scholz, Ed Wonder	5200, 202A
9:45	How Each Site Prepares Declarations	Kate Glynn	5200, 202A
10:30	Break		
11:00	Determining what is/isn't Declarable	Kate Glynn	5200, 202A
11:45	Lunch		ORNL Canteen
13:00	Internal AP Education/Training	Travis Gitau, Roberta Burbank, Val Finch	5200, 202A
13:45	Succession Planning/Knowledge Management	Jessica White-Horton, Josh Tackentien, Joe Carbonaro	5200, 202A
14:45	User Facilities and Other Site-Specific Declaration Issues	J'Tia Hart	5200, 202A
18:30	No Host Dinner		Calhouns, Turkey Creek

30 July 2015

Event contact: Jessica White-Horton (865)574-1075; (865)604-1959			
Time	**Event**	**Lead**	**Place**
9:00	APRS, Declaration Tools & Resources	APRS Team	4100, J302
10:30	National Security Exclusions	Cathy Ottinger Farnum, Aaron Perea, Ann Bustos-Gonzales	4100, J302
11:00	Break		
11:30	VTC- Readout from 2010 CA; Potential for Future CAs	Eric Freeman	4100, J302
12:15	Lunch		ORNL Canteen
13:30	CA Preparations and Exercises	Val Finch , Roberta Burbank, Travis Gitau	4100, J302
14:30	Final Thoughts, Q&A, Closing Remarks		4100, J302

Pacific Northwest
NATIONAL LABORATORY

Proudly Operated by **Battelle** *Since 1965*

U.S. DEPARTMENT OF
ENERGY

902 Battelle Boulevard
P.O. Box 999
Richland, WA 99352
1-888-375-PNNL (7665)

www.pnnl.gov