This monthly status report summarizes activities related to Homeland Security in the Pacific Northwest, including Washington, Oregon, Idaho, and Alaska. This issue highlights advances in:

- Testing radiation detection at intermodal rail at cargo ports
- Sharing emergency response needs with DHS leadership
- Determining dosimetry needs for emergency responders
- Connecting visualization and analytics science with industry
- Gaining benefits to DHS from Puget Sound restoration efforts.

Tacoma Chosen for Intermodal Rail Radiation Detection Test Center

The Domestic Nuclear Detection Office (DNDO) announced in May that it has chosen the Port of Tacoma for a rail test center to evaluate the capabilities of radiation detection systems in an intermodal rail environment. The SAFE Port Act of 2006 directs the Secretary of the Department of Homeland Security to establish an Intermodal Rail Radiation Detection Test Center. This center will test concepts specific to the challenges posed by on-dock rail, in addition to other detection schemes. The test center will join current DNDO test locations at the Nevada Test Site and the New York Cargo Terminal to support evaluation of radiation detection systems and will provide DNDO, U.S. Customs and Border Protection (CBP), and the Port of Tacoma with the capability to understand the potential operational impacts of scanning intermodal rail cargo with radiation detection systems.

The test center will consist of two elements. A core office will house and support the central communications, information technology, and logistics while one or more mobile satellite offices at the port will house the systems to be tested. Once a test is finished, the mobile offices can be removed or relocated, returning the port to normal operations. The test center will initially test DNDO-developed passive radiation detection systems (which do not emit radiation) and progressively support radiography and active interrogation systems as appropriate. The tests conducted at the center will include potential roles for the port operator, terminal operators, railroad operators, longshoremen, and CBP.

The Pacific Northwest National Laboratory’s (PNNL) Barbara Reichmuth was instrumental in drafting the white paper that led to the collaboration between DNDO, CBP, and the Port of Tacoma for the center. Reichmuth proposed the Port because it is representative of other ship-to-rail cargo ports around the country and includes four terminals with different configurations to aid testing. She also helped DNDO identify technical challenges of locating the test center, determine appropriate scope, and chart the path to working with stakeholders and bringing the center to fruition.

DNDO Director Meets with Regional Responders

When Mr. Vayl Oxford, DNDO Director, visited the Seattle/Tacoma area in May, he requested PNNL to organize a small, informal gathering of response community members to discuss regional needs regarding radiological and nuclear security. In particular he recognized that the coming Olympics present a national security challenge and wanted to identify ways to enhance the region’s radiological and nuclear security. Participants including Pierce County Emergency Management, Seattle Fire Department, Washington State Patrol, the National Guard Civil Support Team, State Public Health, Port of Tacoma, CBP,
Seattle Police Department, and the Washington State Military Department shared their perception of needs and issues regarding radiological/nuclear security, reinforced the regional position that user engagement in technology development and associated policy from concept through development will improve and probably streamline the development of viable solutions, and proved the ease of working with this community relative to many other major urban areas and states. Mr. Oxford offered radiation protection training and assessment reports on technologies evaluated for radiation detection and measurement. He also offered the DNDO state and local office contact to help with technology consultation to help locals make appropriate purchase decisions.

Regional Emergency Responders Weigh in on Dosimetry Needs

The Department of Homeland Security (DHS) is developing a standard for dosimetry used by emergency responders. To support standard development, the American National Standards Institute (ANSI) working group for this standard, ANSI N42.49, tasked PNNL with studying the current practices and future needs of emergency response organizations. Representative emergency response organizations that were interviewed included fire departments for Bainbridge Island, the U.S. Department of Energy’s Hanford Site, and the cities of Kennewick, Pasco, Richland, and Seattle; the King County Sheriff’s Hazardous Materials Team; the police departments of Richland and Seattle; the Washington State Department of Health; and the Washington State Patrol District 3.

PNNL’s study revealed that the common concern of all organizations was the health and safety of the responder. This fundamental philosophy dictated most of the practices and equipment used by the organization. With respect to radiation, the responder primarily sought to determine whether radiation was present and to what extent. Emergency responders identified a number of problems and issues with current radiation dosimetry used in this way. No form of radiation dosimetry satisfied all responders. Responders had complaints about passive dosimeters, passive direct-reading dosimeters, and electronic pocket dosimeters. However, dosimetry incorporating passive and active elements could meet the needs of most responders, with the passive element providing a continuous, accurate, rugged dose-of-record and the active element providing real-time indication and alarm capability.

Lead researchers Dan Sisk and Michelle Johnson identified wider issues as well, including the wider definition needed for “first responder,” many of whom may who arrive at the scene without specialized training or equipment; the need for a flexible standard that can accommodate the various applications in emergency situations (not traditional occupational settings); and the need for economically priced equipment and efficient deployment strategies to keep acquisition, infrastructure, and maintenance costs reasonable.

NVAC Consortium Meeting Brings Science to Industry

The National Visualization and Analytics Center (NVAC), which is managed for DHS by PNNL, hosted a consortium meeting May 14 and 15 in Redmond, Washington. Joe Kielman, DHS Research Futures Director, opened the meeting; Barbara Graff, Director of Emergency Management for the Seattle Police Department, gave the keynote address; and Joe Rozek of Microsoft was a guest speaker. Attendees from government, academia, and industry participated in discussions on analytical support to prepare, respond, and recover for security and health; and information fusion, analysis, and dissemination. Panelists included representatives from DHS Immigration and Customs Enforcement, Indiana Intelligence Fusion Center, Automated Regional Justice Information System (ARJIS), the Regional Medical Resource Center, Purdue University, Microsoft Research, i2, Raytheon, National Center for Foreign Animal and Zoonotic Disease Research, National Consortium for the Study of Terrorism and Responses to Terrorism, University of North Carolina at Chapel Hill, and the University of Pittsburgh. Several NVAC technologies as well as the Regional Visualization and
Analytics Centers at the University of North Carolina at Chapel Hill, Georgia Tech, Stanford, the University of Washington, Penn State, and Purdue University were featured in poster sessions. Consortium members also toured the Seattle Sector U.S. Coast Guard facility and the Seattle Police Department Command Center.

The VAC Consortium includes industry partners 10th Dimension Media Group, Inc.; Attenex; Boeing; Future Point Systems, Inc.; GCS Research; GreenLine Systems; i2; Microsoft Research; Objectivity; Tableau Software; and Raytheon as well as the National Institute of Standards and Testing. Detective Aaron Reynolds of the Seattle Police Department praised the event for bringing together such powerhouses in research. He also requested PNNL support in identifying how to leverage the ARJIS work to the northwest.

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**PNNL Staff Member Recognized for Pandemic Planning Expertise**

Michael Loehr, Director of Preparedness for Public Health - Seattle and King County, recently thanked PNNL for providing Ann Lesperance’s expertise to assess critical response needs of health agencies and first response organizations in the Seattle area. In particular, Lesperance was instrumental in coordinating with Public Health and the Washington Department of Health on the development and presentation of critical preparedness issues and proposed solutions involving influenza pandemic response. She framed the issues, developed the arguments, and took the lead in presenting findings to the health and medical leadership of DHS. She has also been a member of the King County Business Leadership Circle since its inception. This coordinating group serves as a forum for critical infrastructure and private sector representatives to coordinate with Public Health - Seattle and King County on issues involving business continuity, emergency response, and information management during public health disasters. Loehr stated that he considered Lesperance and PNNL to be valuable partners and that he looked forward to continuing to work together.

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**DHS May Benefit from Puget Sound Restoration**

PNNL staff with expertise in environmental management and national security met in Seattle in May to share insights on how a Washington State project could help meet DHS needs. Washington Governor Christine Gregoire recently kicked off the $8B Puget Sound Restoration Program (PSRP), which will clean up pollution such a sewage in the waterway by 2020. The cost will be financed by state and federal agencies, with the initial budget of $238M over the next 2 years going to form the working construct of the organization and set up an action plan. Federal agencies signing the memorandum of understanding include the Environmental Protection Agency, National Oceanic and Atmospheric Administration, U.S. Geologic Survey, Fish and Wildlife Service, and the National Park Service.

The U.S. Coast Guard obviously stands to gain as well, with the outcomes aligning with the mission and technical gaps identified by the DHS Science and Technology (S&T) Directorate’s Borders and Maritime Division. With this in mind, PNNL maritime expert Bill Peterson presented a concept to Captain Metruck, Captain of the Port, U.S. Coast Guard District 13, on how that agency could become involved. If DHS were to invest in key areas, the agency could leverage much of what is learned under the PSRP. A pilot program could demonstrate the use of environmental data and modeling capability to effectively identify and respond to an incident as well as effectively restore the area. Peterson is scheduled to meet with Admiral Houck, District 13 Coast Guard Commander, in June.

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**PNSO Leadership Briefed on Regional Stretch Goal**

Steve Stein and Mike Mitchell briefed the U.S. Department of Energy’s Pacific Northwest Site Office (PNSO) in May on the status of PNNL’s Northwest Regional Stretch Goal. Stein and Mitchell provided an overview of the cumulative status of the goal, forecast performance for fiscal year end, and responded to
questions from PNSO staff. Specific areas of the goal, such as becoming recognized as a regional partner, developing relationships with regional stakeholders, engaging the regional academic community, conducting regional workshops, and bringing national homeland security leadership to the region, have all been met or exceeded. The Northwest Homeland Security Center for Science and Technology is on track for a successful implementation by September. This virtual center is organized around state and federal advisory groups that include key stakeholders in homeland security. PNSO had a favorable response to the progress to date.

Upcoming Events

June 14
Interagency Biological Restoration Demonstration (IBRD) Planning Meetings
Seattle

June 28
Regional Technology Integration and IBRD Coordination Meeting
Seattle

July 23-27
Evergreen Sentry 2007 Full Field Exercise
Northwest Region

Around the Region in Homeland Security is a monthly status report from the Pacific Northwest National Laboratory in support of the Homeland Security Regional Stretch Goal to bring together major stakeholders from across the region that have a vested interest in homeland security challenges and issues and provide a collaborative environment that addresses Northwest regional homeland security requirements, needs, and challenges. For more information on PNNL’s involvement in Homeland Security in the Pacific Northwest, contact Steve Stein, Regional Stretch Goal Program Manager at steve.stein@pnl.gov or 206-528-3340. For more information on how PNNL supports Homeland Security across the nation, contact Mike Mitchell, Homeland Security Sector Manager at Michael.Mitchell@pnl.gov or 509-375-6353.