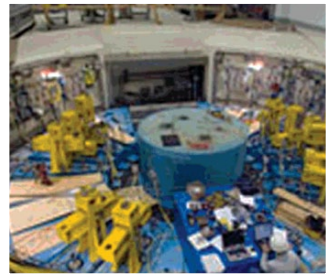


**2012**

*Department of Energy  
Facility Representative  
Safety System Oversight &  
Fire Protection Program  
Workshop*

*Safety • Operations • Excellence*

**May 14-18, 2012  
Las Vegas, Nevada**





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Visit the Facility Representative website at <http://www.hss.energy.gov/deprep/facrep>, the Safety System Oversight website at <http://www.hss.doe.gov/deprep/ftcp/sso/sso-standard.asp>, and the Fire Protection Program website at <http://www.hss.doe.gov/nuclearsafety/nfsp/fire/>.

The FR-SSO Company Store can be accessed by visiting <http://ces.landsend.com/FR-SSO-Shop>.

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## ***Speakers and Panelists***





**Glenn S. Podonsky**  
Chief Health, Safety and Security Officer  
U.S. Department of Energy

Mr. Glenn S. Podonsky is the Energy Department's Chief Health, Safety and Security Officer. He reports directly to the Office of the Secretary of Energy and manages the major staff organizations responsible for health, safety, and security policy development, assistance, training, enforcement, and the development and deployment of new security technology. His office also conducts health studies to determine worker and public health effects from exposure to hazardous materials associated with Department operations and supports international health programs and the implementation of medical surveillance and screening programs for current and former workers. He also is responsible for the independent oversight of environment, safety, and health, safeguards and security, cyber security, and emergency management programs within the Department and the National Nuclear Security Administration. Mr. Podonsky's independent oversight program is the only one of its kind within the executive branch of the government, which has become an important catalyst for dramatic improvements and substantial savings in safety and security. His office also operates the National Training Center, a center for safety and security training designed to ensure appropriate and effective training of Federal and Contractor personnel involved in protecting vital national resources.

Over the past 27 years with the Department of Energy, Mr. Podonsky has held a number of senior positions of ever increasing positive influence on departmental operations, from Director of the Office of Security Evaluations, Deputy Assistant Secretary for Oversight, Director of the Office of Independent Oversight and Performance Assurance, Director of the Office of Security and Safety Performance Assurance, to the position he now holds.

As Director of the Office of Security and Safety Performance Assurance, he was responsible for providing direction for the development and promulgation of the Energy Department's security policies, deployment of technical assistance, and independent oversight of safety and security. As Director of the Office of Independent Oversight and Performance Assurance, he was responsible for the independent oversight of the Department's nation-wide nuclear safeguards, security, cyber security, emergency management, and environment, safety, and health programs.

As Deputy Assistant Secretary for the Office of Oversight from December 1994 to May 1999, Mr. Podonsky was responsible for establishing and directing the Department's independent oversight of environment, safety and health, and safeguards and security programs. At this time, the Department placed all oversight activities under one organization, to ensure a more effective, meaningful approach to the oversight of health, safety, and security. His office also was instrumental in the development of the Integrated Safety Management concept, designed to systematically integrate safety into management and work practices at all organizational levels.

Before serving as Deputy Assistant Secretary for Oversight, Mr. Podonsky served as Deputy Assistant Secretary for Security Evaluations, responsible for directing the Department's independent nuclear safeguards and security oversight program, which served as the Secretary's principal focal point within the Department of Energy for all safeguards and security inspection and evaluation matters.

*(Glenn S. Podonsky, continued)*

Prior to joining the Department of Energy in 1984, Mr. Podonsky served as a nuclear materials inspector and conducted analytical evaluations of the nonproliferation programs of the United Nations International Atomic Energy Agency member states, including Korea, Taiwan, and Japan. In 1979, as a private consultant, he was responsible for completing a study of the technical qualifications required for nuclear power plant operators in order to mitigate a Three Mile Island-type nuclear accident. While at the Nuclear Regulatory Commission, he served as a licensing official for the non-power reactor program.





**William C. Ostendorff**  
Commissioner  
U.S. Nuclear Regulatory Commission

The Honorable William C. Ostendorff was sworn in for a second term as a Commissioner of the U.S. Nuclear Regulatory Commission (NRC) on July 7, 2011, to a term ending on June 30, 2016. His first term was from April 1, 2010, to June 30, 2011.

Mr. Ostendorff has a distinguished career as an engineer, legal counsel, policy advisor, and naval officer. Before joining the NRC, Mr. Ostendorff served as the Director of the Committee on Science, Engineering and Public Policy and as Director of the Board on Global Science and Technology at the National Academies.

Mr. Ostendorff came to the National Academies after serving as Principal Deputy Administrator at the National Nuclear Security Administration from April 2007 until April 2009. From 2003 to 2007, he was a member of the staff of the House Armed Services Committee. There, he served as counsel and staff director for the Strategic Forces Subcommittee with oversight responsibilities for the Department of Energy's Atomic Energy Defense Activities as well as the Department of Defense's space, missile defense and intelligence programs.

Mr. Ostendorff was an officer in the United States Navy from 1976 until he retired in 2002 in the grade of captain. During his naval career, he commanded an attack submarine, an attack submarine squadron and served as Director of the Division of Mathematics and Science at the United States Naval Academy.

Mr. Ostendorff earned a bachelor's degree in systems engineering from the United States Naval Academy and law degrees from the University of Texas and Georgetown University. He is a member of the State Bar of Texas.



**Joseph F. Bader**  
Member, Defense Nuclear Facilities Safety Board

Mr. Joseph F. Bader, of the District of Columbia, was appointed a Member of the Defense Nuclear Facilities Safety Board on November 30, 2004, and was re-nominated by the President and confirmed on March 19, 2010.

Mr. Bader has held executive and senior management positions primarily in the nuclear weapons complex and nuclear power sectors for Hill International, Inc.; Fluor Daniel, Inc.; Urenco, Inc.; Exxon Nuclear; and Westinghouse Electric Corporation. He has conducted numerous program/project reviews and has extensive knowledge of design, construction management and operations of R&D facilities, materials production, and power plants.

Mr. Bader set up and managed Fluor Daniel's Arlington, VA, office involved in the DOE Weapons Complex Reconfiguration Program. Mr. Bader received a B.S. in Mechanical Engineering from Villanova University and an M.S. in Nuclear Engineering from the University of Virginia.



**Dae Chung**  
Principal Deputy Assistant Secretary  
of Environmental Management

Mr. Dae Chung has thirty years of combined experience in the U.S. government and commercial nuclear industries managing and leading a broad spectrum of programs, projects and operations, ranging from nuclear safety policy development and oversight to management and execution of the world's largest nuclear clean-up program. In addition to his executive leadership and management experience Mr. Chung has broad technical skills and experience in various nuclear design, engineering, safety analysis, project management, and policy development and oversight of a wide variety of management systems, facilities, and operations; including: DOE defense nuclear reactor and production facilities; nuclear facility decommissioning; nuclear waste processing and management; and commercial nuclear power reactors.

Mr. Chung began his professional career in 1982 as a nuclear engineer with Westinghouse Electric Corporation in the area of reactor physics and core design and became a senior lead engineer responsible for all aspects of core design, licensing, and start-up and operational support for a number of nuclear power plants in the U.S. and overseas. He also led several major R&D studies involving new reactor designs and marketing analyses for demonstration of advanced fuel design features and long term fuel management viabilities.

Since joining DOE in 1989, he has served in increasingly responsible technical and management positions in the Office of Environment, Safety and Health, the Office of Nuclear Energy, the Office of Defense Programs, and the Office of Environmental Management (EM). Mr. Chung has pioneered development of key DOE nuclear safety polices and directives — including those associated with safety analysis, nuclear facility design, nuclear criticality safety, nuclear facility decommissioning, and long-term safe storage of nuclear materials — making significant contributions towards safe and reliable start-up and operation of many nuclear facilities in support of Department's defense, nuclear R&D, and legacy nuclear cleanup programs. His expertise in nuclear safety, facility design and engineering, and safety authorization basis has been widely recognized in the DOE complex and abroad. He was a consultant to IAEA for its initiative on developing safety evaluation guide for nuclear facilities decommissioning. Mr. Chung also successfully led an international program to improve technical pedigree of nuclear criticality benchmark experimental data by collaborating with a number of nuclear institutes around the world and published resulting handbooks under the OECD Nuclear Energy Agency framework.

Mr. Chung was appointed as a Senior Executive Service position in 2004 and served as the Director of Licensing in EM, responsible for environmental regulatory compliance, safety authorization bases, and radioactive package certification functions. In this position he had a DOE line approval authority role in start-up and restart of all major nuclear facilities and activities within EM. In 2006 Mr. Chung became the Deputy Assistant Secretary (DAS) for Safety Management and Operations in EM, responsible for managing an EM corporate policy and oversight program to ensure appropriate implementation of the Department's nuclear safety, Integrated Safety Management System, worker safety, radioactive packaging and transportation, and quality assurance (QA) requirements. Mr. Chung was also responsible for managing EM program's nuclear materials strategic initiatives and spearheading corporate policy on integration of safety into the early design

*(Dae Chung, continued)*

phases for all EM's nuclear construction projects. Under his leadership, all surplus plutonium from several sites was successfully transported to a single consolidated location resulting in significant cost savings in terms of long-term safe and secure storage of the materials. He reinvigorated the EM QA program by establishing a new office of Quality and Standards and initiated a QA Corporate Board, comprised of DOE senior managers and contractor senior executives, to provide useful common guidance and share lessons on pressing quality issues in design, manufacturing, construction, and commissioning across the EM Complex — promoting collaboration and best practices. During his tenure as DAS, EM contractor safety performance, technical integrity, and quality and mission reliability improved significantly.

In July 2009, Mr. Chung was appointed as the Principal Deputy Assistant Secretary of EM at DOE. As the most senior career executive for the EM program, he was responsible for policy direction to the Headquarters and Field Organizations (≈1600 federal and over 30,000 contractor employees) and the management and execution of all aspects of the EM program's large portfolio with an annual budget of approximately 6 billion dollars. Mr. Chung successfully championed several initiatives to improve EM leadership, contract management and project performance, and established strategic goals and objectives for the major program elements, including high-level waste, transuranic waste, and spent nuclear fuel. He initiated and successfully managed a revised contract strategy that has placed a cost-cap for one of its large nuclear construction projects culminating in savings of over tens of million dollars. Under his leadership EM implemented rigorous external peer review processes for all major projects and operations, strengthening technical and operational confidence in many aspects of EM mission as well as reducing the overall life cycle cost estimates for the future operation by more than several billion dollars. Mr. Chung also provided testimonies and presentations to U.S. Congress and other government agencies in the area of nuclear cleanup programs as well as safety aspects of the DOE mission.

Recently, Mr. Chung was assigned as the Principal Deputy Chief for Nuclear Safety and Technical Matters in the Office of Health, Safety and Security at DOE. He is responsible for providing high-level leadership, policy, guidance, oversight, and advice on all nuclear safety programs and activities across the DOE complex to ensure stability of sound policy and proper implementation of DOE Federal Rules and corporate directives and standards. Other major responsibilities include promotion of investments in nuclear resources development in DOE as well as collaborating with national and international institutes, including academia and industry partners to achieve excellence in nuclear safety and mission reliability. At this capacity Mr. Chung provides advice to the Deputy Secretary and other senior officials in the Department on nuclear safety and nuclear operations matters. He is also directing Department's extensive pilot activities to capture lessons following the cataclysmic Fukushima Daiichi Nuclear Power Plant accident in Japan in terms of strengthening beyond design basis and severe accident mitigation regulatory framework at DOE nuclear complex.

Mr. Chung has had a number of speaking opportunities at various domestic and international professional conferences and workshops during his career. Within the past two years, Mr. Chung has been invited to speak as a keynote or moderator at several international conferences related to radioactive waste management and nuclear safety, including: International Conference on Environmental and Radioactive Waste Management; Korean Nuclear Society Annual Meeting; International Symposium on Radiation Safety Management; and 2012 Pacific Basin Nuclear Conference.

His honors include the Presidential Rank Award and many achievement and special acts awards.

Mr. Chung has a B.S. degree in Nuclear Engineering from the University of Maryland and a M.S. degree in Mechanical Engineering from the University of Pittsburgh. He also received an Executive Certificate in Management and Leadership from the Massachusetts Institute of Technology Sloan School of Management.

## Panelists for the Discussion: *Safety Culture*

### **Ken Koves** (Moderator)

#### Institute of Nuclear Power Operations

During the past six years, while at the Institute of Nuclear Power Operations, G. Kenneth Koves, Ph.D., has worked with the power reactors to better identify and address organizational contributors to station events and better define and measure the construct of safety culture. He has been instrumental in working toward common language framework for safety culture both domestically and internationally. Dr. Koves has been doing research in the relationship between safety culture and power plant safety and performance. Recent presentations on safety culture have been to the G8 Nuclear Safety and Security Group and the ACRS subcommittee on Reliability and Probabilistic Risk Assessment. He also has been leading workshops on safety culture domestically and globally; most recently in India. While at Sprint, as a Senior Organization Development Consultant, Dr. Koves specialized in the areas of organization culture assessment and change, strategic direction and alignment, organization structure design, and survey development/administration.

Dr. Koves received his B.A. in Psychology from Wheaton College in Illinois and his M.S. and Ph.D. in Industrial/Organizational Psychology from the Georgia Institute of Technology in Atlanta.

### **John Boulden**

#### Office of Enforcement and Oversight

Mr. John S. Boulden III is the Director of the Office of Enforcement and Oversight within the Office of Health, Safety and Security (HSS). He previously worked in the HSS Office of Independent Oversight as the Acting Director; prior to that, he was the Director for the Office of Cyber Security Evaluations. Before joining the Department, John served for 32 years in the U.S. Navy, completing tours of duty on four nuclear powered submarines, including having command of the USS Los Angeles (SSN 688). His career also included numerous shore duty assignments, spanning the full spectrum of Naval Reactors Program assignments and culminating in serving as the Director of the Submarine Warfare Operations Research Division (SWORD) at the Office of Naval Intelligence from 2000 to 2004.

### **James McConnell**

#### National Nuclear Safety Administration

Mr. James McConnell is the Assistant Deputy Administrator for Nuclear Safety, Nuclear Operations, and Governance Reform for NNSA's Defense Programs. He is responsible for safety, operations of Defense Programs' nuclear infrastructure, including environmental operations and packaging and transportation, as well as transformation to improved Governance and Oversight within NNSA Defense Programs.

Prior to his current position, Mr. McConnell held several other positions within NNSA, including Director of the Office of Safety and Assistant Deputy Administrator for Nuclear Safety and Operations for NNSA's Defense Programs. He was responsible for safety, infrastructure, operations, and construction projects within NNSA Defense Programs, as well as management and oversight of NNSA's eight Site Offices.

Mr. McConnell was the first Chief of Defense Nuclear Safety (CDNS) for NNSA. In that position, he established the office and functions for the CDNS and was responsible for the development and implementation of enterprise-wide safety programs such as the NNSA Biennial Review Process.

Prior to joining NNSA, Mr. McConnell held several senior staff positions at the Defense Nuclear Facilities Safety Board, including Deputy Technical Director; Group Leader of the Nuclear Weapons Program; and Site Representative at the Pantex Plant.

*(James McConnell, continued)*

A former U.S. Navy submarine officer, he holds a Bachelor's degree in Electrical Engineering from the U.S. Naval Academy and engineering Master's degrees from the Catholic University of America and George Washington University.

### **James Hutton**

#### **Office of Environmental Management**

Mr. James A. Hutton is the Acting Associate Deputy Assistant Secretary for Safety, Security, and Quality Programs and Chief Nuclear Safety Advisor for the Department of Energy (DOE) Office of Environmental Management. He has 30 years of civilian and military nuclear safety experience and training and is qualified as a DOE Senior Technical Safety Manager and Nuclear Safety Specialist and licensed as a Nuclear Regulatory Commission Senior Reactor Operator. In commercial nuclear power, he was licensed as a Senior Reactor Operator and served in senior management and operations positions at several nuclear power stations and at utility corporate headquarters. As a U.S. Navy officer, he was qualified on four different nuclear propulsion plants and as a Chief Engineer. He is a registered Professional Engineer and holds a Bachelor of Science in Electrical Engineering from Lafayette College, Master of Business Administration from Villanova University, and an Executive Certificate in Management and Leadership from MIT Sloan School of Management.

### **Carol Sohn**

#### **Office of Science**

Ms. Carol Sohn has an extensive background in nuclear safety analysis and nuclear materials processing. She obtained her B.S. in Chemical Engineering from Purdue University and her Master's of Science in Management from the Purdue Krannert School. Over the past 32 years, she has worked at Los Alamos National Laboratory, Pacific Northwest National Laboratory, and for the Department of Energy. She is currently serving as the Office of Science Chief of Nuclear Safety.

### **P.K. Niyogi**

#### **Office of Nuclear Energy**

Dr. P.K. Niyogi is a Safety Engineer in the Department of Energy's (DOE) Office of Integrated Safety and Program Assurance (NE-31). He has over 30 years of safety, risk and reliability engineering experience with DOE, U. S. Nuclear Regulatory Commission (NRC), and the nuclear industry.

As a specialist in facility safety and risk analysis, Dr. Niyogi performs activities in oversight, as well as management, of projects related to NE facilities and provides expert technical support to management in developing policies, programs, and resource management plans. He is a member of DOE's Safety System Oversight Steering Committee and the Facility Representative Steering Committee representing the Office of Nuclear Energy. Dr. Niyogi managed reviews of numerous safety basis documents, including documented safety analysis; technical safety requirements; safety evaluation reports; unreviewed safety question determinations; and environmental impact statements. He served as a technical expert and played a key role in the Department-wide Plutonium and Highly Enriched Uranium Vulnerability Assessment Projects. Before coming to DOE, he was a Senior Nuclear Engineer at NRC's Office of Nuclear Regulatory Research, where he performed and managed research in various areas of safety and risk analysis, including the state-of-the-art probabilistic risk assessment (NUREG-1150) for U.S. nuclear power plants; risk-based technical specifications; seismic safety margins; new source terms; and the expert elicitation process. Dr. Niyogi worked for United Engineers and Constructors in Philadelphia as Manager of the Systems Safety Analysis Group, and managed safety analyses for licensing of several domestic and foreign nuclear power plants.

Dr. Niyogi received his M.S. and Ph.D. in Civil Engineering from the University of Pennsylvania.

### **Stacy Charboneau**

#### Office of River Protection

Ms. Stacy Charboneau is the Deputy Manager for the U.S. Department of Energy's Office of River Protection (ORP). Ms. Charboneau has over 20 years of experience managing projects involving nuclear operations, maintenance, deactivation and environmental remediation.

Prior to becoming the Deputy Manager for ORP, Ms. Charboneau was the Assistant Manager for the Tank Farms Project, with responsibility for managing the storage, treatment and disposal of more than 56 million gallons of chemical and radioactive waste stored in 177 underground tanks at Hanford.

Ms. Charboneau started at Hanford in 1994 as an engineer in the Waste Operations Division. Prior to coming to Hanford, she was at the U.S. Department of Defense's Naval Undersea Warfare Center in Keyport, Washington.

In addition to her tenure at the Office of River Protection, Ms. Charboneau has served with the Richland Operations Office as the Deputy Assistant Manager for the River Corridor Project; Federal Project Director for River Corridor and Central Plateau projects, including the Plutonium Finishing Plant; Engineering and Construction Manager for the Spent Fuel Project; and Facility Representative at waste management and laboratory facilities.

Ms. Charboneau holds a Master's Degree in Engineering Management from the University of Massachusetts and a Bachelor's degree in Electrical Engineering from South Dakota State University.

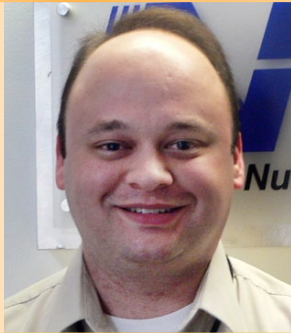






## ***Facility Representative of the Year Nominees\****





**Jonathan Barnett**  
Savannah River Site Office (NNSA)  
Savannah River Tritium Facility

**Description of Duties**

Mr. Jonathan Barnett is a fully qualified Facility Representative (FR) with the National Nuclear Security Administration (NNSA), Savannah River Site Office (SRSO), where he provides technical oversight of the Tritium Facilities (H-Area New Manufacturing, H-Area Old Manufacturing, and the Tritium Extraction Facilities). The primary mission of the Tritium Facilities is to support the NNSA Stockpile Stewardship Program by providing Tritium and Non-Tritium loaded reservoirs to the Department of Defense and to maintain the nation's capability to extract Tritium.

**Nomination Justification**

During an assessment of the Tritium Facilities Operations Procedures and System Alignment Checklists (SAC), Mr. Barnett identified multiple Conduct of Operations deficiencies. Specifically, Mr. Barnett identified that the contractor was not performing SACs at the frequency required by Tritium Facilities and Savannah River Site operations procedures for the "Control of Equipment and System Status." Mr. Barnett also identified that the contractor was not maintaining the Central Control Room Status Files for SACs as required by operations procedures. As a result of Mr. Barnett's findings, the SRSO Manager issued a letter to the contractor communicating the Conduct of Operations weaknesses raised by Mr. Barnett. A formal corrective action plan was developed by the contractor and is currently being implemented.

While performing FR oversight activities of an outage to install a Bypass Switch for the H-Area New Manufacturing Facility Uninterruptible Power Supply, Mr. Barnett identified an improper procedure change where the contractor bypassed

the Unreviewed Safety Question (USQ) screening and evaluation process. The procedure in question contained the minimum and maximum values for controlling glovebox differential pressures relative to the process rooms. During previous outage activities, operations personnel noted that low glovebox oxygen levels could best be maintained if glovebox pressures were sustained at near-atmospheric pressures and as a result, operations personnel decided to maintain the boxes slightly more positive than described in the procedure. The change to a more positive glovebox pressure level was implemented through Shift Orders instead of a formal procedure change process. Mr. Barnett questioned the contractor's methodology and after further evaluation, the contractor determined that a USQ Evaluation and Safety Basis Change Request were necessary to accommodate the procedure modification.

During the months of June and July 2011, the other two qualified Savannah River Site Office Facility Representatives were out of the office for an extended period of time. This was due to the loss of a family member and an unexpected 120-day detail assignment to an Assistant Manager position. Mr. Barnett, being the only available qualified facility representative, provided technical oversight for three Hazard Category 2 nuclear facilities until a former Facility Representative was re-qualified to stand the watch. During this period, Mr. Barnett was required to be on-call for an extended period of time while being responsible for the required daily and monthly assessment evaluations.

Mr. Barnett served as a technical reviewer for the Tritium Facilities Fiscal Year 2011 Documented Safety Analysis (DSA) update and for the H-Area New Manufacturing Facility DSA Change for the

*(Jonathan Barnett, continued)*

Uninterruptable Power Supply Bypass Switch Installation. Mr. Barnett was recognized for conducting thorough reviews, providing very good comments to the review team, and identifying technical issues that the contractor was required to address before the document was approved.

In addition to his other duties, Mr. Barnett supported the DOE/NNSA Enterprise by serving effectively as the SRSO lead for the Packaging and Transportation functional area and by supporting the Nuclear Non-proliferation organization at SRS with frequent safety walk downs of the Waste Solidification Building and Mixed-Oxide Fuel Fabrication Facility construction sites. He also performed a supporting role in Helium-3 Program Management by performing a thorough technical document review of the recently published Feasibility Study for the Transfer of Offsite Helium-3 to the Savannah River Site, providing the contractor with excellent comments which greatly increased the accuracy and value of the final report. He also worked closely with the contractor to develop methods to improve Helium-3 recovery in the Tritium process which will result in reclamation of additional supplies of this extremely precious national resource.

Mr. Barnett also served as a mentor to an NNSA Future Leader intern on the SRSO staff, teaching him how to perform effective oversight of operations, maintenance, and safety. He also performed Technical Qualification Program checkouts for individuals on the SRSO staff and in other DOE organizations on site.

For Mr. Barnett's outstanding technical oversight of the Tritium Facilities to ensure safe and secure operations, he is deserving of the honor of Department of Energy Facility Representative of the Year for 2011.



## **Gregory Bazzell**

Portsmouth/Paducah Site Office  
Portsmouth/Paducah Project Office

### **Description of Duties**

Mr. Gregory Bazzell serves as the Portsmouth/Paducah Project Office (PPPO) lead Facility Representative for the Portsmouth DUF<sub>6</sub> conversion facility. The DUF<sub>6</sub> conversion facility is a new Department of Energy (DOE) facility designed to chemically convert UF<sub>6</sub> that has been depleted in the Uranium 235 isotope to uranium oxide, a chemically stable compound. Two facilities have been constructed and are in phased restart in preparation for long-term operations. The lead facility is located at Portsmouth, Ohio. The other facility is located at Paducah, Kentucky.

### **Nomination Justification**

Mr. Bazzell has provided exceptional leadership in the oversight of the contractor during the activities associated with readying the facility for long-term operations. He has coordinated closely with the PPPO Safety System Oversight (SSO) engineer in efforts to ensure that the contractor's implementation of the systems engineering program is adequately implemented. In particular, Mr. Bazzell has provided leadership through his active oversight of contractor operations and maintenance activities. He has excelled at integrating quality assurance principles into the DOE oversight process and overseeing the implementation of safety management programs. Mr. Bazzell has supported the review and improvement of the facility safety basis documents. Mr. Bazzell has led efforts to ensure adequate conduct of operations rigor in the implementation of TSR controls. He is consistently present in the field and has coordinated with the SSO to ensure that the breadth and depth of oversight activities are adequate and appropriate.

Mr. Bazzell has been diligent in ensuring that preventive measures have been rigorously implemented. He has been proactive in ensuring that the contractor has adequately implemented the foreign material exclusion program. The implementation of the program is critical due to the nature of the facility systems and components. In addition, Mr. Bazzell has led and participated in assessments to ensure compliance with safety bases and that quality assurance requirements have been adequately met.

Mr. Bazzell is a seasoned Facility Representative and has been exemplary in demonstrating his abilities during an extremely crucial time for the PPPO oversight organization.



## Jason Campbell

### Y-12 Site Office Oak Ridge Site

#### Description of Duties

Mr. Jason Campbell is assigned to the Y-12 Site Office (YSO), Oak Ridge, Tennessee, as Facility Representative (FR) for Group I and Group II Operations. Group I Operations encompass highly enriched material machining, casting, and purification. Group II Operations include all assembly and disassembly/recovery operations, nuclear warehouse facilities and material management operations.

Mr. Campbell completed initial qualification as an FR for Group I in June of 2010. Mr. Campbell has been a significant contributor to the FR program at Y-12 since 2008. His achievements resulted in his nomination for the Linton Brooks Medal for Dedication to Public Service award in 2010. He has also shared his expertise as a Facility Representative to programs outside Y-12 through monitoring activities in Russia for the US-Russia HEU Transparency Program. Based on Mr. Campbell's performance as a FR in Group I Operations, Mr. Campbell was selected to provide more focused oversight of operations in a Group II facility where conduct of operations performance had significantly declined.

#### Nomination Justification

Mr. Campbell is recognized as a leader and a subject matter expert in the chemical purification and processing at Y-12. He is often consulted by contractor and site office staff for clarification of operational and reporting requirements.

Mr. Campbell directly oversees daily activities whenever they are scheduled, often flexing his work schedule to oversee critical work during extended hours and weekends. He averages over 70 percent of his working hours in total contractor oversight activities.

Mr. Campbell does an outstanding job of maintaining day-to-day awareness of all activities in his primary areas of coverage. He has an outstanding communication style and can readily communicate complex issues/concerns to both contractor and DOE/NNSA management. Because of Mr. Campbell's experience and expertise in operational awareness, he was also called upon to support delivery of material to a foreign Government.

Mr. Campbell has demonstrated his willingness to bring value to the Y-12 organization by volunteering in 2011 to serve on a site office committee to develop improvements to the YSO workplace environment. He is a dedicated employee who has also demonstrated his desire to see fellow YSO colleagues succeed. One case in point relates to a co-worker who had struggled to master the technical knowledge needed to complete technical qualification on one of Mr. Campbell's assigned facilities. He devoted all unassigned assessment time during a 6-month period to instruct the co-worker in the intricacies of the purification design and operation. In the process, Mr. Campbell developed a new approach to training materials that will be used as part of the site's Technical Qualification Program. The result was successful completion of the co-worker's initial technical qualification and improvements to the training program.

His inquisitiveness while observing contractor activities has uncovered numerous inadequacies in procedure execution and operational performance. Mr. Campbell's diligent oversight of Conduct of Operations performance improvement activities was instrumental during preparations for a Defense Nuclear Facilities Safety Board (DNFSB) response

related to concerns over the development and execution of technical procedures. He leads his peers by example through providing thoroughly detailed and exceptionally high-quality oversight reports and issues resulting in resolution of contractor performance problems.

During 2011, Mr. Campbell completed 85 assessments of contractor performance and prepared 48 detailed assessment reports identifying multiple contractor performance issues. In addition, he successfully managed the YSO Lessons Learned program and presented 45 reports during the year.

Mr. Campbell possesses expert-level knowledge in the area of uranium purification and continues to work with YSO staff to improve knowledge and understanding of Y-12 processes and systems, including the design of the new Uranium Processing Facility. His knowledge and oversight abilities are effectively used in oversight activities to ensure that contractor activities are conducted safely. His technical expertise, commitment to excellence, and personal drive all contribute to his performance as an outstanding FR.



## Bradley Davis

### Idaho Operations Office Idaho National Laboratory

#### Description of Duties/Nomination Justification

Mr. Bradley Davis is a Senior Facility Representative (FR) assigned to the Radioactive Waste Management Complex (RWMC) and the Idaho Nuclear Technology and Engineering Center (INTEC) at the Idaho National Laboratory (INL). In addition to these assigned facilities, Mr. Bradley maintains FR qualification at the Advanced Test Reactor, a total of 13 nuclear facilities. The RWMC is a large radioactive waste disposal facility with operations to bury waste and recover old waste for re-disposal. INTEC is a former nuclear fuel reprocessing facility where highly enriched uranium was recovered from used fuel. It is now a clean-up project.

Mr. Davis' exceptional knowledge and broad experience proved essential in his direct oversight of contractor activities and operations. He identified improper hoisting and rigging practices and communicated them to the contractor, resulting in improved processes and safe handling of equipment.

While providing backup FR oversight of construction activities at the Sodium Bearing Waste Treatment (SBWT) Project, a new Hazard Category 2 nuclear facility, his thorough and careful oversight proved essential to ensuring the safe execution of work on a major construction project. He also mentored a junior FR to assume the role of primary FR for the SBWT project, ensuring continuity of FR oversight in a critical phase of construction and ultimate transition to testing and startup.

Mr. Davis led an office-wide effort to develop, document, and implement a consistent, streamlined oversight process for the Idaho Operations Office. He tirelessly coordinated staff from two very different Program Secretarial Offices (Nuclear Energy and

Environmental Management) and provided oversight of three different prime contractors, resulting in the development and implementation of an effective, efficient, and integrated oversight process.

Supporting an urgent staffing request from the Assistant Secretary for Environmental Management, Mr. Davis volunteered to serve at the Separations Processing Research Unit (SPRU) Decontamination and Decommissioning Project outside of Niskayuna, New York. He spent a total of 6 weeks during two different assignments, providing oversight of contractor actions following a major contamination accident. His dedication and long hours providing field oversight were significant to the DOE Complex in keeping senior leadership apprised of contractor actions and field conditions in a very critical time during event recovery.

While serving as the Radiological Assistance Program (RAP) Region 6 Team Leader, Mr. Davis ensured public safety at the 2011 Cheyenne Frontier Days celebration in Cheyenne, Wyoming. He coordinated with other Federal, state, and local agencies to provide radiological monitoring and surveillance services for the event. His professionalism, leadership, and technical knowledge were instrumental in maintaining public safety for the nearly 200,000 people attending the event.

Mr. Davis is a proven leader, innovator, and expert in his field. His initiative and dedication to excellence directly contributed to superior safety oversight in Idaho and SPRU, as well as extensive office-wide improvements and efficiencies in oversight processes and the FR program. He made significant contributions to the missions of the DOE Idaho field office and the Department.





**Lisa A. Domnoske-Rauch**  
Office of River Protection  
Hanford Site

**Description of Duties and Background**

Mrs. Lisa Domnoske-Rauch is assigned to the Office of River Protection (ORP), Richland, Washington, as a Tank Farm (TF) Facility Representative (FR) in support of base operations activities. The ORP Mission is to retrieve and treat the 56 million gallons of highly radioactive and toxic waste from 177 large, underground storage tanks and close the Tank Farms to protect the Columbia River. Mrs. Domnoske-Rauch has been a qualified Tank Farm FR since December 2009. She maintains FR qualifications for all single- and double-shell Tank Farm facilities and is completing her cross-qualification to provide backup oversight for the 242-A Evaporator facility. Her duties include the following.

**Facility Representative**

Oversight of Tank Farm maintenance and operations: tank-to-tank waste transfers, routine preventive and corrective maintenance, nuclear safety basis compliance, worker safety and health regulatory compliance, radiological control regulatory compliance, and environmental protection and compliance.

Mrs. Domnoske-Rauch serves as an FR directly supporting line management in the field oversight of tank farms base operations. In this role she provides oversight for all programmatic and operational activities within Tank Farms. This includes daily walk-throughs of the facilities, attending critiques, performing readiness assessments, and monitoring surveillance and maintenance activities associated with ensuring operability of Safety-Significant equipment identified in the Tank Farms Documented Safety Analysis. Maintaining oversight at Tank Farms is particularly challenging due to the diverse activities of Operations and Construction; the FR

must have a broad range of knowledge and skills to ensure proper formality of operations.

**Facility Representative Training Coordinator**

While accomplishing her FR functions, Mrs. Domnoske-Rauch was also the ORP Facility Representative Training Coordinator. This function includes maintaining FR qualification cards, exam banks, training records, and coordination of FR continuing training and FR candidate progress.

**Nomination Justification**

This past year, Mrs. Domnoske-Rauch performed her assigned FR duties in a manner that consistently exceeded standards of excellence. Examples of her notable technical assistance to the ORP FR program, in addition to her significant contributions to the ORP mission, include the following.

- *Identified significant weaknesses in tank waste transfer operations* – During preparations for tank waste transfer operations when a valve was found out of position, Mrs. Domnoske-Rauch identified that a DSA defense-in-depth feature to verify valve line-ups was not adequately implemented to minimize the potential for a misroute or dead-heading condition. In addition, she identified multiple issues with transfer work instructions during multiple transfer operations that led to a significant contractor improvement initiative to enhance the rigor and effectiveness of tank waste transfer operations.
- *Performed a comprehensive surveillance of the TF Investigation of Abnormal Events Process* – Mrs. Domnoske-Rauch performed a surveillance of the contractor process and implementation of the investigation of abnormal events process and

(Lisa A. Domnoske-Rauch, continued)

identified issues with unclear contractor roles and responsibilities, inadequate report content, and weaknesses in the training program for fact-finding facilitators.

- *Identified a failure to implement the USQ process for changes to procedures performed on tank farm equipment described in the Documented Safety Analysis by the site infrastructure contractor* – In conjunction with ORP nuclear safety staff, Mrs. Domnoske-Rauch performed a surveillance of the TF USQ process. The review identified numerous discrepancies, as well as a condition pertaining to the site infrastructure contractor (separate prime contractor reporting to RL). In this case, a procedure used by the site infrastructure contractor to perform functional tests on TF equipment described in the TF DSA was not receiving the required USQ review for changes. This issue resulted in a comprehensive evaluation of procedures managed by the site infrastructure contractor to correct the discrepancy.
- *Leadership of the ORP Facility Representative Program Self-Assessment* – Mrs. Domnoske-Rauch led a team of four qualified FRs in performing a comprehensive self-assessment of the FR program per DOE-STD-1063-2011, Facility Representatives. The team determined that the ORP FR program met the requirements of the Standard and identified six improvement items and eight observations to drive continuous improvement. Improvements include strengthening qualification and continuous training records, better trending of FR oversight data, and better communication between FR groups regarding lessons learned and sharing.
- *Identified numerous Conduct of Operations and Radiological Control noncompliance areas for improvement* – Mrs. Domnoske-Rauch's principal objective as a Tank Farm FR has been to drive improvement in Conduct of Operations and Radiological Controls performance. As a result, she has identified many issues that have resulted in improved performance; substantial corrective actions have been implemented to prevent recurrence, including the following.

- Several instances where operations logbooks were not maintained in accordance with contractor procedure
- Untimely reporting of injuries
- Work steps performed out of sequence
- Valves positioned without use of associated continuous use procedure
- Multiple procedure/instruction issues such as actions within notes, technical errors, human performance error traps, and administrative errors
- Special tool evaluation not performed as required on a T-handle wrench assembly used during TF pit work to ensure all safety concerns are considered before using the tool
- Inadequate communication during a TF piping system leak check that led to confusion regarding the status of the system and when pressurization or draining of the system occurred
- Failure to review radiological status maps prior to entry despite previously identified instances of the issue

Mrs. Domnoske-Rauch possesses a unique and diverse set of knowledge, skills, and abilities that serve to make her an outstanding FR. Her contributions in furthering the ORP mission and FR program are many and her peers frequently consult with her on historical TF waste transfer or operational practices or issues. Her operational expertise, TF historical knowledge, and ability to apply engineering principles and safety standards to the TF nuclear activities, coupled with her ability to observe, evaluate and pursue improvements, exceed the standard for outstanding performance as a DOE FR.



**Kevin T. Gray**  
Sandia Site Office  
Sandia National Laboratories

### Description of Duties/Nomination Justification

Technical Area V (TA-V) is located on the Kirtland Air Force Base, and contains two Hazard Category 3 Nuclear Facilities, the Gamma Irradiation facility (GIF) and the Auxiliary Hot Cell Facility (AHCF); and two Hazard Category 2 Nuclear Facilities, the Annular Core Research Reactor (ACRR) and the Sandia Pulse Reactor (SPR) at the Sandia National Laboratories (SNL). TA-V is responsible for operating the GIF; AHCF; and the two test reactors, ACRR and SPR, which are vital to national security for conducting weapons surety testing for the National Nuclear Security Administration (NNSA).

Mr. Kevin Gray was specifically selected and assigned to be a Facility Representative at TA-V based on his superb technical competence (B.S. in Nuclear Engineering; extensive experience from the Naval Nuclear Propulsion Program, Commercial Nuclear Reactor Operations, Institute of Nuclear Power Operations [INPO], Radiological Controls, Solid Waste Management, etc.) and his strong interpersonal skills. Mr. Gray has consistently outperformed his peers in many respects.

- Mr. Gray consistently demonstrates his meticulous approach to identify, analyze, communicate, and track to completion nuclear safety and Environment, Safety, and Health (ES&H) issues. Kevin's attention to detail influenced rising levels of contractor management's expectations within TA-V, and, as a direct result, has driven continuous improvements in multiple areas, including the use of INPO documents and INPO training courses to achieve these improvements.

- Mr. Gray facilitated the implementation of INPO standards of performance within the facility. His direct involvement with TA-V management and staff stressing a "Strong Nuclear Safety Culture" has significantly improved procedural compliance and operational readiness as evidenced during the recent external reviews.
- As a TA-V Facility Representative, Mr. Gray was responsible for orchestrating Sandia Site Office (SSO) oversight activities for two major activities: (1) the repackaging of legacy transuranic waste and (2) the actual loading activities placing TRU waste into TRUPACTs at TA-V. All legacy Contact Handled (CH) TRU Waste was successfully repackaged and shipped off-site as part of this important American Recovery and Reinvestment Act (ARRA) Milestone. All Remote Handled (RH) TRU Waste was successfully repackaged, and all but 10 drums have been shipped to the Waste Isolation Pilot Plant (WIPP). The 10 remaining drums were scheduled to be shipped to WIPP in March 2012.
- Providing oversight during facility confinement ventilation system modifications and readiness activities for repackaging six drums containing highly dispersible forms of Pu-238, Pu-239, Am-241, Cm-243, and Cm-244 under a 10 CFR 830 Exemption, Mr. Gray worked a grueling schedule consisting of back shifts, weekends, and holidays. Kevin's intimate involvement in each of these activities enabled him to identify numerous problems early, allowing facility management to effectively resolve issues without any negative impact to the aggressive TRU Waste shipping schedule.

(Kevin T. Gray, continued)

SSO and SNL management truly appreciated Mr. Gray's involvement. Quick identification and resolution of concerns facilitated the safe repackaging of these materials on schedule. This allowed SSO and SNL to meet their commitments to DOE-CBFO and DOE HQ to support the ARRA Milestone for Small Quantity Site (SQS) de-inventory of legacy TRU.

- After discussing a number of issues raised by DNFSB staff regarding the accident analyses for ACRR, Mr. Gray aggressively followed up on informal reports involving Potentially Inadequate Safety Analyses (PISAs) related to ACRR and influenced their proper reporting via the Occurrence Reporting and Processing System (ORPS). These PISAs resulted in developing and implementing operating restrictions related to facility Material at Risk (MAR). The new conservative MAR limits ensure current accident scenarios do not exceed the Evaluation Guidelines (EG). Kevin continues to push for continuous improvement in safety basis implementation.
- Mr. Gray has contributed to the ongoing project of Special Nuclear Material de-inventory at SNL. His knowledge of Conduct of Operations and the facility inventories have been indispensable as the de-inventory project has moved forward. Following the current schedule, Mr. Gray's efforts will result in downgrading/eliminating four nuclear facilities/activities at SNL in the next 2-3 years.
- Through his diligence and using his extensive INPO background, Mr. Gray was an integral part of the most POSITIVE STEP IMPROVEMENT in Safety Culture and Safety Conscience Work Environment of any facility at Sandia. Within the last 12 months, TA-V continued to demonstrate they are the "BEST" Sandia facilities promoting INPO principles of a Strong Nuclear Safety Culture, Integrated Safety Management, and Procedural Compliance based on SSO and external evaluations.
- In 2011, Mr. Gray was directly responsible for many of the significant improvements in the "feedback and continuous improvement" portions of TA-V's ISMS implementation. Critiques, post-

job reviews, incorporating lessons learned into work processes, Occurrence Reporting, and event causal analysis all improved because of Mr. Gray's mentoring. SNL safely repackaged ALL legacy TRU Waste in 2011, largely because of Mr. Gray's personal efforts.

- Mr. Gray was a "Key Player" providing oversight and guidance of the development of a Criticality Safety Training Course using the SPR Critical Experiments (SPR/CX) test reactor. This "hands on" course allowed students to monitor approaches to criticality using different core configurations. To prepare for the course, SNL needed to make design changes to the reactor to allow approaches to criticality to be controlled by reactor vessel water height instead of adding or subtracting fuel elements from the core. This provided for a faster approach to critical ( $K_{eff}=1$ ) and 1/M plots to be created in a timely manner for the class. Mr. Gray provided vital briefings to the site office leadership on the impacts of the proposed modifications, resulting in timely determination of the readiness path forward. He closely followed the design and configuration changes, as well as the readiness activities, to ensure the course was a success. The course, sponsored by Jerry McKamy, has received numerous accolades. This course serves a vital role until courses at Nevada's Critical Experiments Facility (CEF) become available.

Kevin Gray's superb technical expertise, and his ability to affect positive change, have earned him the respect and admiration of the other SSO Facility Representatives, SSO senior management, and the DNFSB staff. Kevin's personal involvement resulted in many of the observed performance improvements related to Safety Culture, Conduct of Operations, Radiological Controls, and Environment, Safety, and Health at Sandia's Technical Area V. Kevin is an invaluable asset to the DOE Complex.



**Cathy Kerley**  
Oak Ridge Operations Office (SC)  
Oak Ridge National Laboratory

**Description of Duties**

Ms. Cathy Kerley is the Department of Energy (DOE) Facility Representative (FR) for multiple hot cell facilities located at the Oak Ridge National Laboratory (ORNL). Ms. Kerley has responsibility for the Material Development and Examination Complex, Buildings 3525 and 3025E, and the Radioisotope Development Laboratory, Building 3047B. Building 3525, a Hazard Category 2 facility, was constructed in the early 1960s to meet the need to safely handle increasing levels of radiation in the physical, chemical, and metallurgical examination of nuclear reactor fuel elements and reactor parts. The facility has the capability to handle alpha, beta, and gamma radiation in the shielded cell complex, which is the heart of the facility. Building 3025E, a Category 3 facility, contains six shielded beta-gamma manipulator cells for the handling, testing, and examination of monolithic metallic samples. Key programmatic activities currently underway in these facilities include advanced fuel cycle research, fundamental research on materials that have been exposed to extreme environments, novel national security applications, and waste form development in support of defense program and environmental management activities. Building 3047B is a hot cell facility that has hosted a variety of chemical and mechanical processes. The facility includes four manipulator hot cells in addition to laboratory space. Building 3047B, a Hazard Category 3 facility, is currently in standby condition. Ms. Kerley has been a qualified Facility Representative since 2009.

**Nomination Justification**

Ms. Kerley has provided exemplary service to the DOE Office of Science and ORNL in numerous areas

encompassing Facility Representative duties: day-to-day awareness and oversight of facility activities, working knowledge of Documented Safety Analysis (DSA) and Technical Safety Requirements (TSRs), and subject matter expertise and leadership across the Laboratory for facility startup and restart.

Ms. Kerley does an outstanding job of maintaining day-to-day awareness of all activities in her assigned facilities. She collaborates with the contractor to instill DOE's expectations with regard to quality assurance, disciplined operations, effective stewardship of facilities and equipment, and conscientious fulfillment of program guidance. She conscientiously provides her management with timely input of facility activities and progress on both program work and facility maintenance and modification. She actively engages the subject matter experts supporting the Site Office in facility walkthroughs and activities involving their areas of expertise. She excels in her evaluation of contractor performance and providing lessons learned for the fiscal year contractor evaluation process. Her evaluations were detailed and provided insight into contractor practices and attitudes that affect safety and efficiency of operation.

Throughout the year, Ms. Kerley has actively participated in quarterly assessments of the Contractor in various Conduct of Operations or Environment, Safety and Health areas, including leading one of the assessments focusing on Packaging and Transportation Safety. In performing these assessments, she invited other Site Office Facility Representatives to assist in evaluating her assigned facilities, as well as participating in evaluations of other Facility Representatives' facilities. These assessments are key activities that ensure ORNL's

*(Cathy Kerley, continued)*

nuclear facilities are being operated in a safe and efficient manner. She also partnered with UT-Battelle in performing the Independent Oversight Effectiveness Review of Corrective Action Plan from the HS-64 Inspection of the Radiochemical Engineering Development Center, Building 7920.

One 2011 activity, which is particularly telling of the manner in which Ms. Kerley partners with ORNL staff and conducts oversight for the Department, involved separation of reactor components. The issues surrounding this activity were numerous, involving the DSA, Criticality Safety, Work Control, Health and Safety for standard industrial and potential beryllium hazards, and security. Ms. Kerley closely followed activities preparing for the operation, from planning and obtaining equipment to developing the work package and supporting documentation. She kept DOE management informed of progress and issues, and her involvement contributed to the successful completion of this project.

Ms. Kerley is an active participant in review and approval of the safety analysis reports (SAR) and TSR submittals for her assigned facilities. She works closely with the Safety Basis Analyst regarding current and planned facility activities and their impact on the safety analysis. In 2011, she monitored the Irradiated Fuels Examination Laboratory, Building 3525, implementation of the SAR and TSR and shadowed the contractor's Independent Verification Review. She has been active in the review of two Safety Basis Supplements (SBS) and is a valuable member of the review team for the associated Safety Evaluation Reports.

Ms. Kerley uses her technical capabilities to support the ORNL Site Office mission in multiple areas. As an experienced Industrial Hygienist, she provides advice and counsel to the Site Office Industrial Hygienist, sharing work documents, operational progress, and sampling results, and participating in facility visits involving beryllium work.

Ms. Kerley led the Independent Peer Review of the Modernization of Laboratory Facilities (MLF) Project completion, in support of Critical Decision (CD) 4. The \$96 million dollar line item MLF Project consisted of design and construction of a state-of-the-art laboratory and office building with approxi-

mately 160,000 gross square feet of laboratories and office space for materials and chemical research at ORNL. She led a team of professionals in determining the status of Key Performance Parameters, identified outstanding items or issues, briefed senior DOE management (the Project Acquisition Executive) on the results of the peer review, and assured completion of formal review documentation. She effectively coordinated this review in a very short time, providing high-quality information for DOE to use in the determination of project completion.

In addition to her duties of facility oversight, Ms. Kerley provided invaluable service to all Office of Science nuclear facilities in her collaboration with other Site Office personnel, Office of Science-Headquarters, in the development of Office of Science Management System (SCMS) procedures for conducting Readiness Assessments and Operational Readiness Reviews. The new SCMS procedure will be used by all Office of Science facilities in conducting Readiness Assessments and Reviews. She served as a valuable resource to ORNL as they revised their restart and readiness procedures. After revision of the ORNL procedures, she led the DOE team that reviewed, commented, and ultimately recommended approval of the improved documents.

Ms. Kerley also supports two Emergency Management roles for the department. She maintains qualifications for the DOE Consequence Assessment position in the ORNL Emergency Operations Center and as a Region 2 Federal Team Lead for the Radiological Assistance Program (RAP). In these capacities she provides a first-response resource in assessing an emergency situation and advising further steps to evaluate and minimize the hazards. In her role as a RAP Federal Team Lead, Ms. Kerley led deployments to support RAP activities at the World Equestrian Games in Lexington, Kentucky, and World Series in St. Louis, Missouri.



**Edwin Martinez**  
Nevada Site Office  
Nevada National Security Site

**Description of Duties**

Mr. Edwin Martinez is recognized throughout the NNSA Nevada Site Office (NNSA/NSO) as an outstanding Facility Representative (FR) based on his oversight and leadership skills at his assigned facilities. Mr. Martinez has made significant contributions to achieving missions critical to the Stockpile Stewardship Program throughout the year and has consistently gone above and beyond traditional FR duties to ensure Nevada National Security Site (NNSS) missions are fulfilled and performed safely from groundbreaking through execution to event closure. NNSA/NSO management has recognized his talents and ability to work with multiple and diverse contractors at the NNSS to ensure that the public of the State of Nevada can feel confident its NNSA partner is working in a consistent and safe manner.

Mr. Martinez was responsible for numerous nuclear/high-hazard infrastructure facilities across the NNSS. He is the FR responsible for the oversight of the Joint Actinide Shock Physics Experimental Research (JASPER) facility and the NNSS High Explosive Facilities [Baker Site and the Big Explosives Experimental Facility (BEEF)] with these facilities being integral pieces to the Stockpile Stewardship Program at NNSA/NSO. Mr. Martinez has been assigned this duty for just over 1 year and has supported the FR Program for 10 years.

This year, Mr. Martinez has demonstrated strong leadership abilities and assisted in furthering the NNSA mission in several areas, as indicated below.

**Nomination Justification**

- Mr. Martinez was intimately involved in the JASPER Management Self-Assessment (MSA),

Contractor Operational Readiness Review (CORR) and the Operational Readiness Review (ORR). Mr. Martinez' interface and review assisted NNSA/NSO in declaring readiness to proceed after safety, security, authorization basis, and training requirements were completed and verified. Mr. Martinez completed tasks to support the ORR team, which included the logistical support and preparations required for the ORR team at the NNSS. After the conclusion of the ORR, Mr. Martinez was an integral part of the Root Cause Analysis (RCA) process, the Extent of Condition (EOC) reviews, and the associated Correction Action Plans (CAP) for the pre-start and post-start findings. He assisted the management team that provided Verification and Validation (V&V) for the findings, especially the ones in the field at JASPER. This required Mr. Martinez to work long hours to allow the Contractor to meet their schedule for the restart of JASPER by the end of FY 2011. Several lessons learned were developed from previous ORRs at the NNSS (the Barolo Sub-Critical Experiment ORR process and the Critical Experiments Facility ORR from the previous year), and these lessons learned were used during preparations for the JASPER ORR.

- Mr. Martinez provided onsite safety oversight for the following high-profile events: at BEEF – Phoenix Mini-Generator System Test 3, Death Stalker #2 Truck Shot (Cargo Area Overpressure Test) and Pele 1 and Pele 2; at JASPER – Surrogate Shot Events #87, #88, #89 and #91 and Special Nuclear Material Shot Events #90, #92 and #93. Mr. Martinez was instrumental in providing constant oversight and technical expertise that, in part, allowed senior DOE/HQ and NNSA/NSO

(Edwin Martinez, continued)

management to make decisions to execute these events on time with confidence that no safety concerns were pending or would develop during execution of Shots at BEEF or the Shot Events at JASPER. He was instrumental in providing this support for NNSA/NSO to ensure the Contractor followed their work control processes, which were recently reviewed by the JASPER ORR (a Hazard Category 3 facility). Mr. Martinez provided oversight from the planning stages as a member of the Integrated Project Team (JASPER Return to Operations Project Team), developed a Criteria and Review Approach Document (CRAD) for the JASPER Configuration Management Program, and, after authorization to restart JASPER, the execution of Shot Event #90. The outcome of the restart of JASPER operations conducted at the NNSS resulted in high-level data that are being used to complete milestones for the Stockpile Stewardship Program.

- Mr. Martinez was recently assigned to JASPER and HEF (October 2010). Thus, he was required to complete additional qualifications for his assignment to the new facilities. The expectation for completion of a new facility specific qualification for the newly assigned FR is 18 months. Mr. Martinez completed his JASPER FR Qualification in less than 6 months, completing it before the start of the JASPER ORR. His effort exceeded the expectations of NNSA/NSO Management and the requirements of the FR Program. He has also maintained current, his FR Qualification to Waste Management Operations (WMO) at the NNSS. Thus, NNSA/NSO maintains the flexibility to use his talents and abilities as the backup FR assigned to WMO.

Mr. Martinez has had a profound impact on operations at his assigned facilities. As a result of being thoroughly familiar with his facilities, his background in operations and engineering, and his knowledge of laws, regulations and strong operational practices, he has successfully intervened to prevent injury to workers. Further examples of Mr. Martinez' achievements and notable input include the following.

- Mr. Martinez led a NNSA/NSO team of various contractor personnel [Nevada Enterprise (NvE)

Requirements Implementation Team (RIT)] to perform an applicability analysis and verification of requirements associated with the local NNSA/NSO directive, "Activity Level Work Control."

The RIT developed a recommendation (Position Paper) to remove this local directive and replace it with value added consensus standard(s) such as ISO 9001, ISO 14001 or equivalent standard. He also prepared the Power Point Presentation for NNSA/NSO Senior Management, essentially a Federal Requirements Analysis of the local NNSA/NSO directive. NNSA/NSO Senior Management accepted the recommendation of the RIT.

- During the fourth Quarter of FY 2011, the NSO FR Program was completing a comprehensive Formal Assessment at the NNSS, focusing on Conduct of Operations at all the nuclear and high-hazard facilities (except JASPER). Mr. Martinez volunteered to assist the Assessment Team by using the appropriate CRADs for Conduct of Operations at Baker Site and BEEF. This allowed the FR Program to finish the Formal Assessment on schedule. During the first Quarter of FY 2012, Mr. Martinez was the Lead Assessor for the Formal Assessment of Conduct of Operations at JASPER. The results of the assessment assisted Contractor Management in enhancing their Conduct of Operations program. Due to Mr. Martinez' efforts as the Lead Assessor, the Formal Assessment was done well before the scheduled end date.

In summary, NNSA/NSO clearly recognizes Mr. Martinez for his outstanding safety prowess and superior technical abilities to assist NNSA/NSO's mission-critical operations in resolving safety items before they become serious issues. Throughout the past year, it was evident that Mr. Martinez has displayed a strong ability to analyze a situation or problem, determine the root cause, and provide potential management fixes in a timely manner that have saved taxpayer dollars, as well as avoiding significant downtime in mission-critical facilities. He consistently performs at a high level to ensure a safe working environment at the NNSS and has exceeded, on a regular basis, the FR duties and responsibilities. Therefore, NNSA/NSO is proud to nominate Mr. Edwin Martinez for the NNSA Facility Representative of the Year Award.





**Kevin T. (Todd) McGhee**  
Oak Ridge Operations Office (EM)  
Oak Ridge Site

**Description of Duties**

Mr. Todd McGhee's assigned facilities at Oak Ridge National Laboratory (ORNL) include the following.

- *Tank W-1A Removal and Remediation Project* – Tank W-1A, a Hazard Category 2 Nuclear Facility, was an underground tank constructed in 1951 for the accumulation of highly radioactive waste from separation laboratories located at the Oak Ridge National Laboratory (ORNL). It has been a major source of groundwater contamination and has become a priority for remediation by both DOE and state/Federal regulators. Efforts to remove the tank over the past decade proved unsuccessful due to the high concentration of transuranic (TRU) waste and radiological dose. The current scope for this project includes tank removal and excavation of the surrounding soil to the extent of contamination. The project received considerable scrutiny from the Defense Nuclear Facilities Safety Board (DNFSB) due to the unique radiological challenges, migration of contaminated groundwater, and site location relative to the central campus of ORNL.
- *Melton Valley Solid Waste Storage Facility (MVSWSF)* – MVSWSF consists of 16 facilities and 1 mobile facility used for venting and purging of hydrogen from (TRU) waste containers. The facilities include 10 Hazard Category 2 and 6 Hazard Category 3 facilities. The facilities are used to stage, repackage, and store Contact Handled TRU, Remote Handled TRU, and mixed TRU waste. The facilities are included in a single Safety Basis Document containing an extensive suite of controls (over 43 Specific Administrative Controls) and

accompanying Design Features.

- *Hot Cells D&D Project* – Building 3026, a Hazard Category 3 facility constructed during World War II, was a hot cell and laboratory facility used for the segmenting of large reactor components, reactor fuel assemblies, and research and development of reactor fuels. The project scope is remediation and demolition of six hot cell structures located within the central campus of ORNL. Technical challenges for the project include potential for high radiological dose, release of hazardous materials, waste management, and structural demolition (cell walls are up to 5 feet thick). The project is developing a technical approach for source term removal and demolition. Current activities include decontamination of cell structures and site preparations as the project prepares for their upcoming Operational Readiness Review (ORR).

**Nomination Justification**

- *Tank W-1A* – Mr. McGhee's most significant contributions were attributed to his oversight and leadership to assist the Tank W-1A project readiness to start safe operations. He maintained constant operational awareness of this critical DOE project and provided real-time feedback to line management. Mr. McGhee interjected a positive operational compliance and nuclear safety culture into the project. Mr. McGhee's leadership, oversight, and feedback were instrumental to the successful project startup of the removal actions. Due to the complex nature of the work and the issues identified during readiness preparations, he managed subject matter experts and dedicated staff support for the project. This included conducting daily team meetings with DOE support

(Todd McGhee, continued)

staff to ensure an appropriate level of focused oversight was performed. These efforts ultimately resulted in a successful project startup, including high-profile, contractor and DOE ORRs.

Mr. McGhee maintained persistent awareness of the radiological hazards and controls that were developed and implemented for the project. This included participation in the project's ALARA Review Team. He routinely encouraged the project to focus on an appropriate balance to ensure adherence to the principles of ALARA. Due to Mr. McGhee's extensive Radiological Protection background, he was able to provide valuable suggestions for process improvements that were incorporated by the contractor to reduce workers' radiological exposures. To date, the Tank W-1A project has received far less dose than the estimated 21 man-rem, due in part to Mr. McGhee's involvement.

Mr. McGhee evaluated issues regarding low airflow rates and premature loading of air filters within the containment structure of the W-1A footprint. He was concerned that airborne activity may migrate from the site to the central campus area of ORNL. As a result of Mr. McGhee's concerns, the project performed engineering evaluations and determined that additional modifications to the HVAC system were warranted to ensure adequate airflow was maintained.

Mr. McGhee voiced concerns regarding work planning and control for the project. He performed numerous reviews of work packages, procedures, and Radiological Work Permits. These reviews revealed weaknesses that could have potentially led to unsafe work practices. Mr. McGhee met with contractor management on numerous occasions to share his feedback and incorporate additional detail into these work control documents. Significant changes were subsequently made to the work control documents that helped the project prepare for successful ORRs.

Mr. McGhee discovered that the contractor had violated its USQ process by performing work prior to the completion and approval of a USQD. As a result, ORO-EM is currently planning a for-cause review of the contractor USQ process.

Mr. McGhee raised a concern regarding drainage from the project. A walkdown of the site during a rain event indicated that drainage was passing through and under the containment structure. If not corrected, rainwater would have entered the excavation area and potentially spread highly contaminated runoff to the central campus of ORNL. The project subsequently made significant modifications to redirect water away from the excavation footprint.

Mr. McGhee performed an unannounced off-shift inspection of ongoing work activities at W-1A where he found that hoisting and rigging operations were being performed outside the scope of the work control documents. Work was stopped by the contractor, and plans were modified to ensure adequate controls were applied. In another case, he observed workers not using a tagline for a suspended load, as required by the work control documents. Work was halted, a fact-finding meeting was held to discuss the breakdown, and personnel were retrained on the various controls of the work package, including hoisting and rigging requirements.

- **3026 Hot Cell Project** – Mr. McGhee was recently assigned to the ORNL 3026 Hot Cell Project because of his success with Tank W-1A and because of the complex radiological issues associated with this project. During his initial reviews, Mr. McGhee identified concerns with work control, electrical safety, and Conduct of Operations.
- **MVSWSE** – During an assessment, Mr. McGhee reviewed field implementation of various Technical Safety Requirements (TSR). He observed that combustible material in excess of TSR requirements had been staged within the 30-foot boundary of the facility, and not in a closed metal container, as required. This resulted in a TSR violation. The contractor took immediate corrective

actions, filed an occurrence report, performed a root cause analysis, and developed a corrective action plan.

As part of a routine surveillance for compliance with Specific Administration Controls (SAC), Mr. McGhee identified a SAC that was not flowed down into the work control documents. Project personnel revised associated work packages and procedures, along with updated worker awareness training on the SAC.

During walkdowns at two separate facilities, Mr. McGhee identified suspect/counterfeit parts, including turnbuckles and shackles that had “China” markings and no other manufacturer stamps. He also identified several discrepancies associated with lack of configuration control and receipt inspection. As a result, the contractor performed an Extent of Condition review of all contractor facilities at ORNL, Y-12 National Security Complex, and the East Tennessee Technology Park.

Mr. McGhee observed that a fork truck was going to be used to remove a 500-pound over-pack lid with the fork tines adjusted against the outer edge of the lid and that the flanges on the lid did not appear to be designed for lifting by a fork truck. As a result of the concern, the project stopped work and used an approved method using lift points and slings attached to a crane.

During a pre-job briefing, Mr. McGhee identified a potential risk to workers because rigging attached to an over-packed Remote Handled TRU cask was inaccessible for a comprehensive rigging inspection. The rigging had been attached to the cask since 1998. As the result of Mr. McGhee’s concern, the project suspended the lift until remote inspections of slings could be performed.

Mr. McGhee attended a pre-job briefing where he noted that not all representatives from functional areas involved in the work were present. Mr. McGhee expressed this concern with the contractor management. As a result, appropriate personnel were present at all subsequent pre-job briefings.

During a review of the Conduct of Operations matrix of applicability for both W-1A and the

MVSWSF, Mr. McGhee found issues that suggested program weaknesses in ensuring compliance with DOE Order 422.1, *Conduct of Operations*. The identified weaknesses also impacted matrices for approximately eight other facilities. Mr. McGhee worked directly with the contractor Conduct of Operations managers to provide feedback that was used to strengthen not only his programs, but others as well.

- *Other – Outside Support* – Mr. McGhee has provided support to DOE-HQ for numerous contractor reviews. In 2011, DOE-HQ requested that he support a review of the contractor’s response to an event at the Savannah River Site Solid Waste Management Facility. During the review, three findings, three significant observations, and four observations were identified. Mr. McGhee is highly regarded by several offices within DOE-HQ.

In summary, Todd McGhee fulfilled his FR responsibilities throughout 2011 in a manner that demonstrated leadership and dedication to excellence. He demonstrated a strong desire to improve DOE oversight, not only at his assigned facility, but across ORO-EM and the DOE Complex. Mr. McGhee’s documented accomplishments spanned the areas of conduct of operations, operational readiness, hoisting and rigging, work planning and control, nuclear safety, management, radiological protection, quality assurance, electrical safety, and others, as described above.



## Robert Robb

### Livermore Site Office

### Lawrence Livermore National Laboratory

#### Description of Duties

Mr. Robert Robb is assigned to the Livermore Site Office (LSO), Livermore, California, as Facility Representative (FR) for the High Energy Radiography Facility, Tritium Facility, and Hardened Engineering Test Facility. One of these facilities is a Hazard Category 2 nuclear facility, and the other two are Hazard Category 3 nuclear facilities. Mr. Robb qualified at his assigned facilities on March 3, 2009. In addition, Mr. Robb is currently cross-qualifying on the Plutonium Facility. As Facility Representative for three nuclear facilities, Mr. Robb is responsible for oversight of the radiography, radiation measurements, tritium target fills, tritium materials handling systems research and development, and actinide analytical chemistry operations.

#### Nomination Justification

Mr. Robb has fulfilled his FR responsibilities throughout calendar year 2011 in a highly effective and professional manner. His enthusiasm and dedication in performance of his duties have clearly resulted in positive impacts to operations at his assigned facilities and among his peers. He has also made positive contributions toward improving the LSO FR program. All this combined makes him a candidate for DOE Facility Representative of the year. Examples of his notable contributions and achievements include the following.

- During a routine walkthrough Mr. Robb discovered that the actual configuration of the tritium stack monitor, an equipment-important-to-safety, was not consistent with what was described in the Tritium Facility's Documented Safety Analyses. Upon further review of this system, Mr. Robb identified that the stack monitor pumps were

installed such that there was very little to zero air flowing through the tritium detection chamber due to dead heading against the pumps' flow switches. As a result, a discrepancy-as-found condition Occurrence Report was filed by the contractor and steps were taken to remediate the condition.

- While reviewing a contractor safety basis change for a proposed startup activity in the Hardened Engineering Test Facility, Mr. Robb recognized that a potential inadequacy of the safety analyses existed for an unanalyzed event that consisted of an inadvertent discharge of a firearm that could impact an ANSI-certified sealed source.
- Mr. Robb observed a Waste Technician handling tritium swipes coming out of the Tritium Grinder Room. His interview with the technician revealed that the technician was taking swipes to process them through a liquid scintillation counter. The results would be used to determine if contamination levels were acceptable to remove respirator requirements. Further inquiry by Mr. Robb revealed that the Waste Technician's tasks in taking and counting tritium swipes had not been identified, documented, or supervisor-approved via LTRAIN, which would have identified the need for appropriate training. As a result, it was discovered that the technician did not complete the necessary training to take swipes and operate the liquid scintillation counter. Mr. Robb's actions prevented a potential safety issue from impacting personnel.
- While observing a concrete penetration activity, Mr. Robb identified that workers were not following all concrete penetration and silica work

controls in accordance with the work permit and associated work procedures such as not wearing voltage-rated gloves and foot wear, not wearing hearing and eye protection, not using a silica dust-capturing vacuum attachment, and not adequately controlling the work area access. Further review of the documents identified that an inaccurate Occupational Exposure Limit for silica was listed in a procedure. Corrective actions developed and implemented by the contractor have resulted in improvements in the usage of appropriate personnel protective equipment and engineered controls.

- Mr. Robb identified a weakness in the Tritium Facility TSR-level combustible loading administrative control. Based on Mr. Robb's review of the contractor's Fire Protection Engineer's combustible loading spreadsheet, he recognized that some of the rooms in the facility's Radioactive Material Area were missing. In addition, Mr. Robb identified that training requirements were not being implemented as described in the administrative control procedure.
- Mr. Robb was also instrumental in providing quality oversight of the contractor's Readiness Assessment (RA) of the Building 334 shaker table activity. Mr. Robb observed all aspects of the contractor's RA including review of all applicable documents, attendance at all RA team meetings and interviews, observation of dry runs and emergency drills, and review of the final contractor RA report. Mr. Robb was clearly the eyes and ears of LSO Senior and Line Management and was instrumental in ensuring the successful start up of this activity.
- Mr. Robb provided the day-to-day mentoring of a LSO FR-in-training while continually maintaining oversight of his facilities. Mr. Robb took the time to ensure that the FR-in-training comprehensively understood the contractor's work control process; worked with the FR-in-training to assist in developing a working-level knowledge of their assigned facilities' processes and controls; mentored on approaches to conducting effective assessments; worked to establish an effective working relationship with the contractor; reviewed their assessment reports to ensure quality documents

were forwarded to the contractor; and assisted in progressing initial qualification. Mr. Robb's dedicated effort has laid a solid foundation for the FR-in-training to successfully complete qualification.

Throughout 2011, Mr. Robb has displayed exceptional qualities as a Facility Representative. His working level knowledge of his assigned facility and work activities, technical competence, mentoring capabilities, and his ability to persuade the contractor have all been instrumental in identifying and resolving issues that could have a major impact on safety. His day-to-day oversight as a Facility Representative has clearly driven improvements at his assigned facilities. Mr. Robb has consistently demonstrated the highest standards in performance of his Facility Representative duties, and he is well respected by the contractor, his peers, and LSO management. Based on his valuable contributions, LSO recommends Robert Robb for consideration as Facility Representative of the Year.



## **Anthony (Tony) R. Robinson**

### Savannah River Operations Office (EM)

### Savannah River Site

#### **Description of Duties**

Mr. Tony Robinson is a Senior Facility Representative (FR) assigned to conduct operational oversight of the Savannah River National Laboratory (SRNL) facilities at the Savannah River Site (SRS). SRNL has approximately 46 major buildings/laboratories and capital structures including a 313,273 square foot Hazard Category 02 nuclear facility that is almost 60 years old.

#### **Nomination Justification**

Mr. Robinson was initially qualified in March 2009 as a Facility Representative (FR) for the H and F Tank Farms and assumed responsibility for SRNL facilities in May, 2010. Mr. Robinson not only completed all of his required FR oversight activities in an exceptional manner, he demonstrated outstanding knowledge and leadership in his oversight of the Contractor's implementation of their Documented Safety Analysis (DSA) and Technical Safety Requirements (TSR). He made contributions during 2011 that resulted in several improvements, not only at SRNL, but with applicability to other facilities on site. Mr. Robinson was instrumental in enhancing relationships with key technical managers at SRNL as well as DOE-HQ, while articulately communicating DOE's expectations to maintain operational excellence and ensuring these expectations are met.

Mr. Robinson served as technical expert for the review of SRNL safety basis documents and participated on the review teams for two DSA updates in 2011. Mr. Robinson also brought attention to an overall weakness in the review and approval of engineering documents and the overall reliability of the fire protection system for SRNL.

Mr. Robinson championed a team-based approach to the conduct of Independent Verification Reviews, with safety basis experts to enhance our oversight. This practice was highlighted as a positive attribute in a June 2011, Department of Energy Office of Health, Safety, and Security (HSS) assessment. Mr. Robinson additionally played a pivotal role in the planning and conduct of the HSS Assessment of the SRNL DSA Rev. 09 Implementation from July through December 2011. This additional responsibility was very time consuming and unplanned, but Mr. Robinson's active involvement, technical expertise and analysis, and inquisitive attitude contributed significantly to the identification of several deficiencies and observations for the SRNL fire protection system. The HSS assessment team was very complimentary of his knowledge and his comprehensive understanding of the facility, as well as his ability to analyze and identify issues and weaknesses in work processes.

As a result of his analysis and field review, in September 2011, Mr. Robinson identified an error in a Technical Safety Requirements (TSR) reference calculation on the volume of available firewater that resulted in a PISA and a positive USQ determination. Compensatory measures were then put in place after he reviewed and approved them. This discovery also resulted in a re-evaluation of the adequacy of available water for the fire protection system for the main laboratory. This was a significant finding that resulted in an extent of condition review being conducted for all back-fit analyses prepared on the site since 2009 and the development of a site-wide lessons learned to prevent such errors in the future.

Mr. Robinson also identified a safety significant component (fire pump controllers) that did not have a TSR surveillance to ensure operability of the fire-water system, resulting in a contractor deficiency for an inadequate derivation of the TSRs. This resulted in the establishment of a surveillance to ensure that the automatic start function of the fire water supply pumps is operable.

In addition, he discovered fire suppression gauges that were classified as safety significant and were given grace periods to perform calibrations, which was in violation of National Fire Protection Association (NFPA) requirements. This finding resulted in a contractor site-wide extent of condition assessment looking at fire protection systems across SRS and a TSR revision through the annual DSA update process.

Mr. Robinson also identified numerous issues that ultimately resulted in improvements to contractor performance in the areas of nuclear safety and conduct of operations. The following are some examples of critical areas where Tony made exceptional contributions that exemplify his technical acumen and leadership.

- Mr. Robinson conducted an emergent assessment on the Movement of Material at Risk from GSA Safes to Fire King Safes that resulted in a DSA change to facilitate efficient facility operations while maintaining compliance with DOE-STD-3009.
- Mr. Robinson is often sought out by other organizations for his expertise. He served as the Conduct of Operations lead for the 2-week Readiness Evaluation for the startup of the Saltstone facility following a Documented Safety Analysis revision and Facility Hazard Categorization upgrade. The result was two pre-start findings that required corrective actions.
- Mr. Robinson was also selected to participate as a subject matter expert for a site-wide Safety System Oversight assessment where his review of SRNL resulted in an observation that improvements are needed to provide strengthened SSO monitoring of safety system health, system maintenance, and contractor resource allocation for facility maintenance.

- Mr. Robinson proactively initiated dialog with the contractor to increase the overall safety posture of SRNL by proposing cost-effective design modifications to a safety significant system that would increase system reliability and reduce the overall risk of facility operations.
- Mr. Robinson prepared and delivered a Lessons Learned presentation on the explosion at the Texas City Refinery for both technical and non-technical personnel. He did an excellent job in communicating the major safety concerns in a clear and understandable manner for a diverse audience.

Overall, Mr. Tony Robinson has done an outstanding job not only in carrying out his Facility Representative responsibilities in an exceptional manner, but he demonstrated outstanding commitment to ensure nuclear safety excellence at SRNL. His many contributions have resulted in a number of substantive improvements at SRNL and across the Savannah River Site.



## Susan S. Stewart

### Los Alamos Site Office Los Alamos National Laboratory

#### Description of Duties

Ms. Susan Stewart is a Facility Representative (FR) for the U.S. Department of Energy (DOE) National Nuclear Security Administration (NNSA) at the Los Alamos Site Office (LASO), Los Alamos, New Mexico. Ms. Stewart was assigned the Science and Technology Operations (STO) Facilities at the Los Alamos National Laboratory (LANL) after completing her qualifications on January 21, 2011. STO consists of 8 building complex areas with 128 occupied structures and 1.9 million square feet of major radiological/chemical/biological/research laboratories. Four of the complexes include DOE mission-critical and mission-dependent facilities. STO operations are primarily related to research and development (R&D) and diagnostic activities. The programmatically diverse activities within STO support nuclear/chemical forensics, national security intelligence, nuclear emergency response, nuclear stockpile management, nonproliferation, specialized alloy design and ultra-precision machining, medical isotope production, environmental sampling, waste disposal/remediation, superconductivity, biological safety, international treaty verification, nanoparticle technologies, and many other areas. In her role as FR, Ms. Stewart oversees all operations and programmatic activities within STO.

#### Nomination Justification

Ms. Stewart has shown herself to be a valuable asset to the LASO FR team by stepping forward to take on a new FR position that involves oversight of a wide array of hazardous technical R&D operations and where the implementation of Formality of Operations was uneven, at best.

Ms. Stewart has a firm and thorough understanding of Conduct of Operations (ConOps) and the

Integrated Safety Management System (ISMS). Ms. Stewart's field observations and follow-through have assisted STO in the systematic integration of safety into management and work practices.

- While reviewing a work document and walking down the work area, Ms. Stewart identified that workers were required to perch on a tall ladder and lean out while hand-guiding a load being lowered by a crane. A worker had to position a very heavy, flanged, metal canister to fit tightly inside a small opening centered on top of a larger, 5-foot-wide by 9-foot-tall canister. The work document had not identified the appropriate PPE, the pinching hazard between canisters/flanges, the ladder fall hazard (need for scaffolding), the suspended load cone of safety, or any crane signaling training. Ms. Stewart paused the work. Multiple work planning issues had gone unnoticed because neither the personnel performing the Research and Development activity nor the reviewers had been trained in crane operation or ladder safety.
- While attending a maintenance Plan of the Week, Ms. Stewart identified two electrical modifications that were supporting installation of new equipment that the facility operations had not authorized. Program personnel had not followed the process required for review of new activities. Work was paused pending engineering evaluation of electrical/HVAC modifications required to support the activity and Operations approval of the work documents.
- While observing a pre-job brief related to restart of Beryllium operations, Ms. Stewart identified that work documents did not have proper hazard controls identified, facility life safety inspections



for the area had not been completed, and personnel knowledge of beryllium worker techniques was inadequate. LANL corrected the work control documents and replaced and/or retrained personnel prior to resuming work. A new system was put into place to track life safety inspections.

- While walking down facility flooding due to freeze protection issues, Ms. Stewart observed water running out of electrical panels. Her concern for the workers led her to investigate the lockout/tagout (LO/TO) and she discovered that the initial responder had not applied a lock or tag, but just opened a motor control center breaker. Workers were immediately removed from the flooded areas until all required LO/TOs were identified and placed. Training for Duty Officers was conducted and STO developed new policies for responding to flooded buildings.

Ms. Stewart's technical, facility, and field knowledge and constant awareness and questioning attitude while walking down her assigned facilities led to multiple significant safety authorization basis issues being identified, including the following.

- Ms. Stewart observed that new equipment had been set up outside a building. Upon investigation, she discovered that Special Nuclear Material had been removed from the authorized area without the knowledge of the nuclear material custodian (NMC) and had been left unattended and unsecured. Ms. Stewart paused work immediately and notified Contractor/DOE line management and Security. The activity was not covered by an approved work document and was not authorized via the safety authorization basis to be conducted in that location. Facility Operations was not aware that the equipment had been installed. The Contractor initiated a special management assessment of radiological source and nuclear material handling, which resulted in five Findings and 50 Opportunities for Improvement. New procedures and work documents were instituted, nuclear material balance areas were re-defined, and NMC and source handler training was modified.
- While verifying explosive storage locations, Ms. Stewart found a lab performing engineered nanoparticle activities that were not authorized in

that facility. She also identified that the required nanotechnology safety briefings and postings were not present. An STO extent of condition investigation identified nine other nanoparticle operations in multiple locations that were not authorized in the safety basis. LANL and LASO ES&H Subject Matter Experts (SME) have scheduled a joint assessment of nanoparticle activities.

Ms. Stewart's attention to detail and analytical evaluations have made her a respected resource for evaluating and reporting on the effectiveness of the Contractor. She has contributed significantly to the DOE/LASO team through her positive and professional interface with SMEs and her participation in numerous assessments and shadowing activities, including the following.

- Team Member for joint Federal (HSS and LASO) and LANL Facility Centered Assessment that evaluated implementation of STO Formality of Operations, ES&H, ISMS, Criticality Safety, Safety Basis and other DOE requirements
- Team Leader for LASO FR Assessment on LANL implementation of ConOps, Technical Procedures, per DOE O 422.1
- LASO Shadow for LANL Nuclear Nonproliferation Division Assessment of Radiological Source and Nuclear Material Handling
- LASO Shadow for LANL Integrated Work Management Assessment
- Team Member for two LASO FR Assessments: LANL Hazardous Materials Protection Program and LANL Implementation of ConOps, Control of Equipment and System Status, per DOE O 422.1
- Provided input for LASO Safety Systems Oversight Assessments on identification of quality levels for life safety equipment

Ms. Stewart embodies the belief that a strong Formality of Operations and ISMS process enables DOE to protect its workers, facilities, and the environment to further the DOE mission. The Los Alamos Site Office has nominated Ms. Susan Stewart for the 2011 DOE Facility Representative of the Year because of her outstanding execution of her FR duties and her worthy contributions to LANL, LASO, and DOE.



## Patrick Sullivan

### Brookhaven Site Office Brookhaven National Laboratory

#### Description of Duties

Mr. Patrick Sullivan is assigned to the Brookhaven Site Office (BHSO), Upton, New York as an Office of Science (SC) Senior Facility Representative for the Brookhaven National Laboratory's (BNL) Collider Accelerator Department (CAD) and the Superconducting Magnet Division (SMD). These facilities include eight active accelerator facilities, including the Relativistic Heavy Ion Collider (RHIC); two accelerators under commissioning status; one accelerator granted exemption status; and a design, production, and test facility for superconducting magnets. Between CAD and SMD there are over 100 buildings occupied by approximately 400 employees, with a total annual budget of approximately \$150 million. In addition, the programs in these areas support an international user community of over 1,500 scientists including research at the famed STAR and PHENIX Detectors and production of superconducting dipole magnets for the Large Hadron Collider (LHC) at CERN.

As the CAD Facility Representative (FR), Mr. Sullivan is responsible for Department of Energy (DOE) oversight of the accelerator authorization bases (including Safety Assessment Documents (SAD) and Accelerator Safety Envelopes (ASE)), accelerator operations, radio-isotope production, and accelerator facility maintenance at CAD and as a Subject Matter Expert (SME) for other BNL accelerators. As the SMD FR, Mr. Sullivan has oversight responsibilities that include superconducting magnet design and production and testing of magnets and for their associated facilities for use at BNL and other domestic and international accelerator facilities that utilize BNL's expertise in superconducting properties. Mr. Sullivan also provides daily monitoring for Federal projects

underway involving the design and construction of new accelerators and accelerator components, including a Superconducting Radio Frequency (SRF) polarized cathode electron gun co-funded by the U.S. Navy; an Ion Rapid Cycling Medical Synchrotron jointly funded in a Cooperative Research and Development Agreement; the RHIC Coherent Electron Cooling upgrade; and the Heavy Flavor Tracker installation at STAR.

#### Nomination Justification

During Mr. Sullivan's DOE career, he has continued to make significant positive impacts to contractor operations as well as the DOE oversight process. Mr. Sullivan demonstrates exceptional skills in preparing analytical, persuasive, and concise technical reports and documents. Mr. Sullivan is well known throughout the Office of Science accelerator community for his insights on the accelerator authorization process. Mr. Sullivan consistently exceeds expectations in his role as an FR. He has had a pivotal role in the leadership and development of programs and procedures that guide the BHSO FR Program and the Contractor Assurance System at BHSO and BNL respectively.

Examples of Mr. Sullivan's achievements and notable contributions for 2011 include the following.

- While providing DOE oversight to one of BNL's largest facilities, Mr. Sullivan was involved with an investigation of an event that had a profound effect on BNL's operations, including the potential for adverse community relations. A leaking Cs-137 source resulted in the spread of contamination throughout the Collider Accelerator Department's facilities, office areas, and vehicles. Additionally, the leaking source resulted in personnel contamination of two Radiological Control Technicians

(RCTs) and one personal vehicle. During this incident, a Cs-137 source was being transported throughout the accelerator facility to perform instrument response checks of stationary area monitors. The source had inadvertently tipped over inside the cab of the transport vehicle. The RCTs, assuming it was sealed, righted the source and continued on. The initial BNL ORPS report lacked pertinent information and raised concerns of personnel throughout DOE. Through his partnering role and leadership, Mr. Sullivan worked diligently with the contractor to revise the initial report and to stop work with all radioactive sources while an investigation was conducted. Mr. Sullivan monitored the investigation to ensure it was performed with the rigor and quality of a DOE-led Accident Investigation. The final report, including causal analysis and corrective action plan, was reviewed by a DOE HQ-appointed committee. The committee was satisfied with the report and pending corrective actions enabling BNL to resume operations with radioactive sources. Lessons learned from this event have been shared numerous times throughout the DOE community.

- The Superconducting Magnet Division's Cryogenic Compressor Oil Leak event also benefited from Mr. Sullivan's oversight during the subsequent contractor investigation. In this event, a remotely operated compressor skid developed a leak and while still operating, discharged over 100 gallons of oil inside the building and out onto a parking lot. Although the compressor was being remotely operated, there were no interlock mechanisms associated with compressor pressure. The compressor continued to force out the oil until it was shut down by an operator from home by remote means. Although the cause of the leak was a sheared copper tube in a compression fitting, Mr. Sullivan required the contractor to investigate further. It was then found that the failure was actually a design flaw in the assembly of the tubing system. An inadequate number of supports caused excessive vibration in the compression fitting allowing a fatigue failure. Mr. Sullivan worked closely with the contractor to identify other weaknesses in the compressor operation process. His experience

with contractor operations, technical expertise in hazard analysis, and his exceptional communications skills enabled him to facilitate and assist the contractor in revising the cryogenic compressor operation. Under Mr. Sullivan's focused guidance, corrective actions and a lesson learned were developed that would prevent or mitigate a possible recurrence at this facility or others with similar equipment.

- BHSO continues to rely upon Mr. Sullivan's knowledge to perform independent and comprehensive reviews and recommend approval for startup and routine operations of BNL's newly commissioned accelerators.
  - Mr. Sullivan is currently monitoring commissioning of the Electron Beam Ion Source (EBIS), with operations expected in FY13. The EBIS will replace the ageing Tandem van deGraaf.
  - As RHIC operations proceed into the next decade, significant improvements in particle collision intensity will be required. One project, Coherent Electron Cooling (CEC), will utilize an electron accelerator to "cool" or reduce beam phase space volume to maintain a narrow, intense beam. Mr. Sullivan has provided initial oversight and meaningful feedback as the project moves through design and into construction.
  - BNL is currently at CD-2 for the Heavy Flavor Tracker (HFT) project at the RHIC STAR Detector. HFT is designed to provide a tracking system that will allow for very high resolution vertex measurements during particle collisions in the STAR Detector. Mr. Sullivan is working closely with the contractor as they undergo an Unreviewed Safety Issue (USI) analysis for any required changes needed in the Accelerator Safety Envelope.
- As part of BHSO's Integrated Assessment Schedule (IAS), Mr. Sullivan performed an assessment of BNL's Accelerator Safety. The assessment looked at the USI process required at BNL's institutional level and how it was being implemented at the individual facilities. The completed assessment indicated that the contractor's institutional

(Patrick Sullivan, continued)

accelerator safety processes needed revision. Mr. Sullivan is working closely with the contractor as they revise their processes.

- In keeping with Mr. Sullivan's recent work on rewriting DOE O 420.2B, *Safety of Accelerator Facilities*, Mr. Sullivan is again assisting the DOE accelerator community by authoring sections of the soon to be revised DOE G 420.2-1, *Accelerator Facility Safety Implementation Guide*.
- As a member of BHSO/BNL's Emergency Response Organization (ERO), Mr. Sullivan was an integral part of the lab's response to Hurricane Irene in August 2011. The storm required a shutdown of all BNL operations and emergency sheltering for the onsite resident population. One ERO responsibility was to man the BNL Emergency Operations Center (EOC) 24/7 throughout the storm. Shortly after the storm touched down and after ensuring his family was safe, Mr. Sullivan reported to the EOC to relieve another DOE co-worker and to ascertain the damage the laboratory sustained. The storm cleanup required closing BNL for one day as crews removed trees and other debris so laboratory buildings could be deemed safe for occupancy.
- In a somewhat unique role, Mr. Sullivan was asked to participate in a Peer Review of BNL's new Integrated Facility Management (IFM) Program. Instead of each building/facility being considered an individual facility with a part-time building manager, the IFM program aims to assign a professional building management team to all facilities with the responsibility to maintain the built facility. Although not truly a peer of this process, with his detailed knowledge of the program, Mr. Sullivan was requested by the contractor to participate. Feedback provided by the contractor identified Mr. Sullivan as being a critical factor in the review's overall success.

Mr. Sullivan consistently meets and exceeds the expected performance for an SC Facility Representative. His ability to identify contractor process weaknesses and more importantly to willingly educate and guide the contractor in identifying their own weaknesses, and then to go on to facilitate implementing improvements with the contractor ensures

that BNL has one of the most successful accelerator safety programs, as well as other environment, safety, and health programs, in the DOE Complex. His ability to fully comprehend the DOE, SC, BHSO, and BNL mission continues to lead to measurable and efficient improvements in the way BHSO performs work. In his partnering role with the contractor, Mr. Sullivan has maintained BNL's continued success in science at the forefront of his responsibilities.



**John Thurston**  
Pantex Site Office  
Pantex Plant

**Description of Duties**

Mr. John Thurston has served as a qualified Department of Energy (DOE) Facility Representative at the Pantex Site Office (PXSO) since 2008. Most recently, Mr. Thurston was assigned oversight responsibilities in 10 HAZCAT 2 Nuclear Explosive Operations Assembly/Disassembly bays. He is assigned responsibilities for day-to-day oversight of nuclear weapon assembly and disassembly, as well as operations of the weapon tooling warehouse. These assignments require Mr. Thurston to maintain a detailed working knowledge of Conduct of Operations, a broad range of plant manufacturing and maintenance processes, authorization basis, engineering practices, and quality and safety standards. Mr. Thurston is expected to provide high quality analysis of safety and operational events to Pantex Site Office Management.

**Nomination Justification**

During a facility tour, Mr. Thurston noticed a new hoist malfunctioning in a nuclear explosive disassembly facility. In discussions with operating personnel, he discovered the hoist had begun to malfunction that day. Mr. Thurston recognized the grinding sound made by the hoist during operation as a potential issue with chain travel. In cooperation with contractor operating personnel, John examined the hoist chain and block and identified the presence of powdery metallic material generated by the chain wear. As a result of Mr. Thurston's questioning attitude, the contractor initiated a detailed investigation that resulted in replacement of one hoist and changes to the lubrication and inspection practices for all other similar hoists. Additionally, the hoist that was removed and replaced was returned to the manufacturer for further analysis and evaluation to identify

the wear mechanism and determine any design or material changes that might be required to remedy the issue.

While conducting an assessment of Operator Aids in nuclear explosive operating facilities, Mr. Thurston noticed that personnel transferring material into and out of the facility were not strictly adhering to the written requirements of their procedures. The blast doors in these facilities are controlled by electronic blast door interlocks and monitored by a computerized system for egress, exit, and tracking of personnel movements into and out of facilities. The control of these doors serves both a nuclear safety function and a nuclear explosive safety function. Minor differences in how, when, and who operates the doors could have the unintended consequence of affecting nuclear safety or nuclear explosive safety. As he investigated the issue further, he discovered a lack of coordination among contractor personnel. Mr. Thurston discovered that disagreement on the best ways to control these doors had contractor nuclear safety, nuclear explosive safety, operations and security personnel "gridlocked." As a result, the contractor was preparing to implement another layer of controls over the already existing procedures in an attempt to "sailor proof" the process. This proposal was to lock metal door handle covers on these doors during operations and institute a lock and key control system to force personnel to follow specific protocol with regard to door controls during certain operations involving transfers of nuclear explosives and during certain nuclear explosive operations. However, this plan only added another layer of complexity for operating personnel to control of doors that were already controlled and monitored electronically and already required formal control of physical door locks and keys during

*(John Thurston, continued)*

operations and upon securing the facilities. In effect, putting locks on top of locks, on doors that were already electronically secured and monitored.

After thoroughly studying the systems and processes involved and coordinating the issue with contractor subject matter experts and operating personnel, Mr. Thurston brought the issue to PXSO management. His discussion with subject matter experts revealed that with minor but coordinated and well-thought-out changes to current operating practices and a small amount of additional training for operating personnel, it would be completely unnecessary to implement the door handle covers and associated locks and keys. Complexity could be reduced for operating personnel while still meeting all requirements for safety and security. As a result of Mr. Thurston's efforts, the contractor prepared a white paper outlining the issues and proposed resolutions and is moving forward with the corrective actions needed.

During an assessment of on-shift training practices, Mr. Thurston identified that the contractor Manufacturing Division was not in compliance with requirements prohibiting provisionally qualified personnel to perform hands-on training on nuclear explosives without a review and approval by nuclear explosive safety (NES) personnel. Mr. Thurston discovered that personnel performing nondestructive evaluation of nuclear explosives were routinely allowed to hoist nuclear explosives and x-ray them to develop proficiency and that no NES documentation existed analyzing and approving this practice. During investigation of the issue Mr. Thurston determined that this analysis had been previously conducted but had been lost during document revisions and thus the requirement fell out of new procedures undetected by the contractor. John's efforts resulted in suspension of the practice until the analysis was complete and adequately documented. It also resulted in much clearer direction for operating personnel regarding specific configurations that were approved for hands-on training and the specific processes under which they could be conducted. Mr. Thurston's identification of this issue and subsequent follow up to ensure proper closeout benefitted plant safety and the operating personnel, who received clearer guidance and training for the conduct of their proficiency training.

Therefore, for his contribution to the improved safety of the Pantex plant, his determination to understand operating issues, his questioning attitude, and his keen powers of observation, Mr. John Thurston is nominated to be the U.S. Department of Energy Facility Representative of the Year.



**Allison Wright**  
Richland Operations Office  
Hanford Site

**Description of Duties**

Ms. Allison Wright was selected as the Department of Energy Richland Operations Office (DOE-RL) 2011 Facility Representative (FR) of the Year. Ms. Wright proved herself to be one of the most competent, diligent, detailed, inquisitive, driven, and helpful FRs. She was assigned to the River Corridor Contract Field Remediation Project, which was responsible for cleaning up waste sites and burial grounds along or near the Columbia River. The waste sites contained a variety of materials (e.g., spent fuel, Transuranic, unknown mixtures of chemicals, zirconium shavings, uranium turnings, chromium, lead, high-dose items, etc.) and had a multitude of hazards and controls (industrial and nuclear). Ms. Wright was responsible for numerous dig sites and burial grounds and provided outstanding oversight of high-hazard Burial Ground 618-10 that was commencing initial operations.

**Nomination Justification**

Ms. Wright identified numerous issues related to operations and work management at the site, including, but not limited to, lack of test procedures; use of incorrect procedures; failure to follow procedures; failure to use/establish safety-related databases; missing quality information; inadequate area posting; lack of subject matter expert involvement/approval of documents; and uncontrolled operator aids. Because of the number and severity of issues identified, the contractor stopped work for almost two months to address and reevaluate operations.

Ms. Wright teamed with another FR to identify numerous configuration management issues across the entire suite of contractor operations (e.g., inaccurate as-built drawings, drawing change processes

problems, items not within configuration control, etc.). The review resulted in a reactive surveillance and the need for a contractor Corrective Action Plan. In addition to her outstanding oversight, she also found time to mentor a new FR candidate. She provided tours and explained operations, gave checkouts, developed written and oral board questions, sat on practice and actual boards, and was just there when needed. All of these attributes and accomplishments make Ms. Allison Wright RL's Facility Representative of the Year.







# ***Safety System Oversight Annual Award Nominees\****

*\*Nomination submissions may have been edited for this document.*





**Elaine Diaz**  
Office of River Protection  
Hanford Site

**Description of Duties**

Mrs. Diaz has served since 2009 at the Office of River Protection (ORP) as the Heating, Ventilation and Cooling (HVAC) and Process Gas Treatment Safety System Oversight Engineer (SSO) for the Waste Treatment Plant (WTP) Project.

**Nomination Justification**

Mrs. Diaz identified a safety hazard from potential leakage of high concentrations of oxides of nitrogen from the Low Activity Waste facility melter off-gas system. She led an assessment, developed findings, and held a series of meetings with the contractor to address corrective actions. When the designers resisted changes as technically impossible, Mrs. Diaz led a project to perform an independent DOE fan-sizing calculation and hold discussions with vendors to demonstrate that the proposed solution would not greatly impact the facility design. The designers ultimately adopted the proposed solution, changing from a forced-draft to an induced-draft system. This keeps the hazardous chemicals under vacuum with respect to the equipment room, significantly reducing the hazard to facility workers. Mrs. Diaz continues oversight of the design change implementation.

Mrs. Diaz also identified an unverified assumption used as a basis for the project's prototype High Efficiency Particulate Air (HEPA) filter design. The designers planned to address the assumption by adding additional design margin, which would have required filter replacement at very low dust loading, adding to the operating cost of the WTP. Upon learning of a HEPA test program in academia funded by a DOE Headquarters grant, Mrs. Diaz coordinated a joint effort by DOE, the designers, expert peer

reviewers, and academia to conduct testing to verify the filter design. The testing identified a fatal design flaw — the filters failed prematurely when exposed to the temperature and humidity conditions expected in some WTP systems. Mrs. Diaz's work led to early identification of the flawed design and re-engineering to avoid impacts to the WTP Project.

Mrs. Diaz pioneered a test effort to characterize performance of High Efficiency Mist Eliminators (HEMEs) on the project. When vendor information queries found no data on high solids loading of HEMEs, Mrs. Diaz suggested a test to demonstrate performance and inform critical procurement decisions. The test was conducted and provided information to resolve a key technical issue and support a procurement decision.

Mrs. Diaz has a B.S. in Mechanical Engineering from the University of Portland and an M.S. in Industrial Engineering from New Mexico State University. Mrs. Diaz is a licensed Professional Engineer in the state of Washington; a member of the mid-Columbia chapter of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers; and a Leadership in Energy and Environmental Design (LEED) Accredited Professional. Her work experience includes critical engineering lead and cognizant engineer roles for three Hanford Site contractors, and 6 years as an aircraft maintenance officer in the Air Force.

Mrs. Diaz has demonstrated sustained excellence in technical expertise, attention to details, and dedication to improving the safety of the Waste Treatment Plant Project. Her outstanding performance has earned the recognition of the Safety System Oversight Annual Award.



## Chris Fischahs

Los Alamos Site Office  
Los Alamos National Laboratory

### Description of Duties

Mr. Chris Fischahs is assigned as a Safety System Oversight (SSO) staff member to National Nuclear Security Administration (NNSA) Los Alamos Site Office (LASO) Field Operations Safety Engineering Team (FO/SET). He is responsible for overseeing and assessing Los Alamos National Laboratory (LANL) nuclear facility safety systems to ensure they will perform as required by the safety basis and other requirements and for providing DOE line managers with accurate objective information on the performance of these systems. Duties to meet this responsibility include performing the following.

- Independent formal system and process assessments and operation-awareness oversight activities to evaluate the ability of safety systems to meet established safety and performance requirements of the Documented Safety Analysis (DSA).
- Oversight and assessment of LANL's Cognizant System Engineer (CSE) Program for compliance with DOE O 420.1B, *Facility Safety*.
- Assessment of field implementation and implementing processes of for the safety management program for configuration management.
- Technical review of project designs to ensure that safety systems are properly specified to support safety system functional requirements with credible safety analysis.
- Review of contractor assurance system products for adequacy, program management and awareness.
- Mentoring of new SSO staff members to develop the above skills.

### Nomination Justification

Mr. Fischahs' thorough understanding of safety system operational and safety basis management requirements, and his ability to perform broad and deep assessments to the full spectrum of requirements, has resulted in the identification of system-specific and system-management process vulnerabilities that, when resolved, directly contribute to significant improvements in public and worker safety and operations efficiency. His timely oversight and feedback to LASO management and the Contractor in 2011 on safety systems, LANL nuclear facility projects, and safety system management processes has promoted risk-informed decision-making for managing continued operations, improving and approving nuclear facility designs, developing contract incentives for performance improvement, and planning future oversight activities. Listed below are some examples of outstanding oversight activities completed, some results of those activities, and recognition received to demonstrate the breadth and value of Mr. Fischahs' contributions to the SSO program.

- Mr. Fischahs led the Waste Characterization, Reduction, and Repackaging Facility (WCRRF) Fire Suppression System (FSS) assessment May 1-13, 2011, and identified 17 findings and 10 observations. Six findings directly challenged the ability of the assessed system to perform the safety functions credited in the safety basis, including the preconditioning of the FSS prior to the performance of the hydrant flow test surveillance and the hydraulic demand of the FSS not being revised to account for the FSS' configuration change from a branched/tree design into a looped system.

- Mr. Fischahs concurrently led the Lightning Protection System (LPS) Assessment, covering three nuclear facilities, and identified 12 findings and 4 observations. Three findings directly challenged safety basis requirements and the ability of the assessed systems to perform the safety functions credited in the safety basis, including identification of the continued use of several Area G dome structures that are within the minimum required bonding distance from their catenary LPS down conductors.
- Office of Health, Safety and Security (HSS) Independent Oversight Review Reports for Mr. Fischahs' SSO safety system assessments state that the LASO assessments "were competently performed by knowledgeable LASO personnel using appropriate and challenging criteria. The LASO teams were technically well qualified and, based on prior preparation and knowledge, demonstrated a high degree of familiarity with assessed facilities." Furthermore, HSS concurred with the results of the assessments and highlight a number of significant issues that may challenge the ability of the systems to perform their safety function as described in the safety bases.
- While shadowing a Contractor, performing a Vital Safety System (VSS) assessment of the WCRRF Ventilation System, Mr. Fischahs identified 35 issues affecting the safety system in addition to those identified by the Contractor's assessment team, including the safety basis not fully evaluating the effects of vacuum pumps discharging directly to the outside without filtration, not considering leakage paths downstream from the exhaust HEPA filter banks, and the in-service inspection (ISI) for the exhaust ductwork explicitly excluding visual inspection of equipment downstream of HEPA filters.
- The results of Mr. Fischahs' effort for the above shadowing activity were recognized by Dr. Peter S. Winokur of the Defense Nuclear Facilities Safety Board (DNFSB) in an e-mail he sent to the LASO Site Manager with the subject line of "Thanks for a job well done!" In part, the DNFSB chairman states: "Mr. Fischahs is a great example of the kind of engineer the Board has in mind when we push NNSA to maintain a high-performing cadre of qualified Safety System Oversight engineers and Facility Reps at its site offices."
- While following-up on the Contractor disposition of SSO-identified findings, Mr. Fischahs brought to LASO management's attention that the Contractor's New Information (NI) process appears to circumvent the 10 CFR 830, *Nuclear Safety Management*, requirements for Contractor actions upon discovery of a Potentially Inadequate Safety Analysis (PISA). Weaknesses in the process were acknowledged and, since then, the process has been better integrated with the Unreviewed Safety Question (USQ) procedure and is under revision to correct concerns identified to ensure compliance.
- Through an assessment of processes used to manage VSSs, Mr. Fischahs determined that the Contractor's Nonconformance Reporting (NCR) process did not adequately control nonconforming items in LANL's nuclear facility safety systems. Specifically, the NCR process never defined a path for the dispositioning processes that must be entered to evaluate and resolve nonconforming items in safety systems and not all nonconforming items in the safety systems had been evaluated to ensure that USQ did not exist because of the as-found discrepant condition. The assessment resulted in the revision of the LANL NCR procedure and integration with the Operability Determination and NI processes greatly improving safety system management.
- Through an operational awareness activity that evaluated specific examples of the Contractor's application of graded-approach through Management-Level (ML) determinations, Mr. Fischahs identified that there is no distinction between work control implemented at LANL from ML-4 thru ML-1, even though a greater degree of rigor appears appropriate as SSC importance increases. Many systems important to safety at LANL are identified as ML-4 configuration-managed SSCs yet are not controlled with any greater degree of rigor than other ML-4 SSCs.

(Chris Fischahs, continued)

- As an SSO integrated project team (IPT) member for the LANL Transuranic Waste Facility (TWF) Project and the Radioactive Liquid Waste Treatment Facility Upgrade Project (RLWTF-UP), Mr. Fischahs' assistance ensured that the team's objectives were to implement DOE-STD-1189, *Integration of Safety into the Design Process*, requirements, methodology, and intent into the design. For example, through participation as a design reviewer for both projects, he ensured safety SSC performance criteria were sufficiently defined to ensure that the safety functions were met by the designs. Mr. Fischahs identified code noncompliances, calculation errors, drawing errors, and unprotected assumptions that, when corrected, will result in the construction of safety systems that are code compliant and capable of meeting their intended safety function.
- Mr. Fischahs also continued to support DOE Complex initiatives in 2011 by developing competencies for enhancing system reliability, inspectability, maintainability, and testing while a member of the DOE team revising the DOE-STD-1181-2004, *Facility Maintenance Management Qualification Standard*.
- Mr. Fischahs continued to support LASO programs while demonstrating continuous improvement as a team member on the 2011 LASO SSO and Maintenance Management self-assessments. During each of these efforts, he provided valuable insights that are being used to improve DOE performance.
- Mr. Fischahs routinely recruits less experienced staff members for oversight teams he leads, shares his values, and teaches the skills he employs in successful oversight.
- Mr. Fischahs provided comments during the DOE O 420.1, *Facility Safety*, revision process to improve the clarity of requirements and to improve effectiveness of future implementation.
- Mr. Fischahs' oversight activities often warrant positive mention in the DNFSB Site Representative Weekly Reports to the Board.

Each of the above activities demonstrated technical competence and inquisitiveness; initiated actions that will improve safety basis, code, and DOE Order compliance; reinforced DOE expectations for high-performing operations; and demonstrated that DOE is meeting obligations in the performance of Contractor oversight. These key factors result in more efficient operations that better protect the worker and the public.



**Brian Fiscus**  
Nevada Site Office  
Nevada National Security Site

**Description of Duties**

Mr. Brian Fiscus is a licensed Fire Protection Engineer working as the Senior Safety System Oversight Representative (SSOR) for Fire Protection Systems (FSS) located at the Nevada National Security Site (NNSS) for the following Hazard Category 2 and 3 Nuclear Facilities: Device Assembly Facility (DAF), U1A Underground Complex, Area 5 Waste Management Complex, and Joint Actinide Shock Physics Experimental Research Facility. These facilities involve significant quantities of radioactive and hazardous materials, as well as high explosives. Mr. Fiscus obtained full SSO qualifications on April 2008.

**Nomination Justification**

- Mr. Fiscus is an outstanding leader in the NNSA/NSO SSO Program. In his SSOR capacity, he has developed high-quality Assessment Plans and Assessment Reports in a consistent and timely manner. He has also performed yearly assessments of Safety Class and Safety Significant Systems to ensure system operability, maintainability, and reliability. Based on these assessments, Mr. Fiscus has identified numerous concerns that have resulted in findings, which, when resolved, will enhance fire safety. Mr. Fiscus has been acknowledged by the Defense Nuclear Facilities Safety Board (DNFSB) staff as performing very meaningful assessments, and his insights have fostered an excellent working relationship with the DNFSB and many NNSA Headquarters and Site Office Fire Protection subject matter experts. In light of the above accomplishments, Mr. Fiscus has provided impressive SSOR performance due to his outstanding achievements in

direction, leadership, and skill.

- Mr. Fiscus, as a licensed Fire Protection Engineer, has a predominant knowledge of codes, standards, Department of Energy (DOE) directives, laws, and regulations relating to fire protection engineering. Mr. Fiscus' comprehensive and expert knowledge of the DOE fire protection requirements is critical toward ensuring that the safety basis for the NNSS nuclear facilities reflects the DOE requirements for all safety-related fire protection systems. Due to his knowledge and expertise, Mr. Fiscus was requested, and participated in, a review of the High Pressure Fire Loop Project at Pantex and the Biennial Chief Defense Nuclear Safety Review of the Livermore Site Office.
- Mr. Fiscus has demonstrated unique and/or notable creative service and solutions to complex problems in meeting responsibilities as an SSOR. This was demonstrated through being the Fire Protection Engineer for NNSA/NSO, the DOE Regulatory Enforcement Coordinator, and a member of various Safety Basis Review Teams. These are all collateral duties that Mr. Fiscus simultaneously performs while performing his SSOR role and ensuring that the fire protection Structures, Systems, and Components remain operational. Mr. Fiscus' commitment and dedication to his job are evident by the numerous hours that he works to ensure that the "job gets done." He actively participates in meetings, critiques, surveillances, system walk-downs, and assessments of fire protection safety systems. Mr. Fiscus earnestly reviews and validates closure packages for SSOR findings and DOE Regulatory issues. Mr. Fiscus' prior background as a nuclear safety

(Brian Fiscus, continued)

engineer and his knowledge of Fire Protection Engineering create a synergy that provides the underpinnings for his exceptional performance as an SSOR.

- Mr. Fiscus possesses the unique ability to develop and monitor performance measures, examine records and documents, observe and evaluate operator and maintenance actions, and determine safety system functionality and readiness due to his education and experience in Fire Protection Engineering and Nuclear Safety. Mr. Fiscus has conducted various assessments, following the requirements of DOE O 420.1B, *Facility Safety*, that have provided a baseline of the Fire Suppression Systems at the DAF. Many findings have been in the areas of Configuration Management, Work Control, and Conduct of Operations, in addition to those that relate directly to FSS design, maintenance, and operability. In addition, some of the findings have identified deficiencies in the facility safety basis. Mr. Fiscus has been instrumental in working with the contractor to close and validate various findings that allowed the contractor to be successful in declaring readiness to perform Criticality Experiments Facility and underground Subcritical Experimental operations. Mr. Fiscus has been instrumental in working with the contractor and NNSA program personnel to identify and develop a line-item project to replace failing Fire Suppression System lead-in lines for the DAF. Mr. Fiscus worked with the NNSA/NSO Nuclear Safety Team to approve a Justification for Continuing Operations for the DAF Fire Suppression lead-ins to ensure that there were no impacts to operations at the DAF.
- Mr. Fiscus was the author of multiple assessment reports on Fire Suppression Systems and contractor Fire Protection Programs at NNSS. He has reviewed and provided written comments on multiple contractor Fire Hazard Analysis documents that support the facility safety basis. In addition, Mr. Fiscus was a co-author for various Safety Evaluation Reports, and authored the NSO

O 420.XC, *Fire Protection Program*, document.

- Mr. Fiscus has conducted many meetings with the NNSA contractor to develop strategies to address issues with the Fire Suppression System at the DAF. He has also conducted multiple meetings with DNFSB staff and NNSA/HQ personnel to discuss the issues associated with the fire suppression systems and the identified path forward to address these issues. The concerns with the fire suppression systems and the plans to address them have been discussed with NNSA/NSO management in various executive council meetings.
- Mr. Fiscus routinely demonstrates exceptional performance in situational analysis, provides innovative solutions to complex performance and regulatory compliance problems, and uses creative problem resolution. Mr. Fiscus was the FSS lead for the NNSA/NSO Fire Suppression System Reliability Recommendation Improvement team that recommended the following actions be taken to address the known FSS vulnerabilities at the DAF.
  - Conduct DAF FSS configuration management walk-downs and follow-on actions to ensure compliance with DOE fire protection requirements.
  - Request a line item project to replace the DAF FSS lead-in lines.
  - Work with the NSTec Fire Suppression Cognizant System Engineers to conduct walk-downs of DAF buildings to ensure hydraulic calculations were computed correctly based on as-built conditions.

Mr. Fiscus' support and dedication to the SSO Program have resulted in advancement of the mission of the NNSA/NSO and the Nuclear Security Enterprise.





**David Greer**  
Oak Ridge Operations Office (EM)  
Oak Ridge National Laboratory

**Description of Duties**

Mr. David Greer is the Fire Protection Safety System Oversight Engineer (SSOE) assigned to the Department of Energy (DOE) Oak Ridge Office (ORO) Environmental Management (EM) program. Mr. Greer is responsible for the oversight of 14 credited fire suppression systems. These include 3 dry-pipe fire sprinkler systems and 11 wet-pipe sprinkler systems. These systems are installed in 10 separate Category 2 nuclear facilities, where they provide protection against a release of nuclear material. SSOE responsibilities at ORO include validation of system design parameters; validation of system drawings; oversight of system inspection, testing, and maintenance activities; validation of system configuration control; and oversight of the contractor's system engineer program. Mr. Greer serves the vital role of determining fire protection system performance criteria and surveillance testing requirements to validate system operability. Mr. Greer field inspects each of his assigned systems on a monthly basis and performs formal assessments of each system annually. Mr. Greer has been a backup SSOE for ORO since 2007. CY2011 was the first year that Mr. Greer served as the primary SSOE.

**Nomination Justification**

Mr. Greer has continually fulfilled his SSOE duties in a highly professional and constructive manner. Through his actions, Mr. Greer has consistently demonstrated superior leadership and technical skills, while adding an increased level of rigor to the operational assurance of credited fire protection systems. Some of Mr. Greer's achievements include the following.

- Identifying component failures and their effect on the safety systems. One example from CY2011 is Mr. Greer's discovery of a malfunctioning water pressure gauge. Because of his knowledge of the specific gauge model and its acceptance parameters, Mr. Greer detected the malfunction during one of his monthly system inspections. Upon investigation, it was determined that metal shavings from work on the system earlier in the month had migrated into the gauge, causing the erroneous reading.
- Detecting potential points of failure for his assigned systems and working to ensure any risk is reduced or eliminated. An example from CY2011 is Mr. Greer's recognition that unlocked/unsupervised valves existed onsite that would impair system performance if closed. An added complexity to the situation was that the valves were owned and operated by a separate contractor than the M&O for the facility. Mr. Greer helped coordinate communication between the facility and the valve owner, resulting in a lock being placed on the valve and a procedure being developed for gaining the facility's approval before removing the lock.
- Identifying discrepancies in safety basis documentation and working with contractor and Federal personnel to ensure that the documents are appropriately and adequately modified. Examples from CY2011 include the identification of inappropriate references within two of the facility Technical Safety Requirements (TSR) and the recognition of an improper surveillance requirement for one of the systems.

(David Greer, continued)

- Determining the extent of system upgrades required and testing requirements when existing fire protection systems are required to be elevated to a credited status based on changes in facility hazards. In CY2011, discussions of crediting an additional wet-pipe sprinkler system were held. Mr. Greer discussed the need for system modification and document development with the stakeholders.
- Developing draft surveillance requirements for components which will be placed into service in the near future. Nine of the credited fire suppression systems are fed by an elevated water tank, which is scheduled to be taken out of service in the near future. An electric jockey pump to maintain system pressure and a diesel fire pump to supply operating flow and pressure will take the place of the elevated tank. In CY2011, Mr. Greer worked with the stakeholders to develop draft surveillance requirements for these new features.
- Continually providing leadership in the establishment and implementation of the ORO fire protection oversight program of credited fire protection systems. This includes specific approaches that can be implemented by various contractors' management processes and work activities at EM facilities, including waste storage facilities; waste inspection, characterization, and repackaging facilities; and inactive reactor facilities.
- Demonstrating his extensive knowledge of laws, regulations, and national standards and the need for unique implementation strategies for one-of-a-kind facilities, where issues are often ill-defined and involve some highly complex features associated with hazardous and radioactive materials in high-risk DOE facilities. Mr. Greer also serves as a principal committee member for NFPA 2, *Hydrogen Technologies Code*.
- Communicating with other fire protection SSOEs across the DOE Complex in an effort to identify best management practices that could be implemented at ORO facilities.
- Documenting all field inspections and programmatic assessments in the ORO management system, trending the results, and following issues until closure.
- Conducting facility-specific inspections to assist the FRs' understanding of the operation and maintenance requirements of the credited fire protection systems within their assigned facilities. Facility Representatives are invited to participate in all system monthly inspections and annual assessments associated with their respective facilities. He is respected among the FRs not as just a very knowledgeable SSO, but also as one who is engaged in field implementation and eager to come to the field and make observations.

In summary, DOE-EM has many outstanding Safety System Oversight Engineers with numerous noteworthy oversight achievements supporting critical activities associated with their individually assigned systems. Mr. Greer's willingness to step up and seek out opportunities to contribute beyond his normal area of influence and to strive to improve the overall SSO program set him apart from his peers. Mr. Greer's clearly demonstrated technical and leadership skills go well beyond those expected of a fully qualified SSOE. He performed his duties with a clear understanding of DOE's mission and facilitated the safe and effective accomplishment of work in support of that mission. He sets a high standard of excellence and is a strong role model for his peers.



**Jimmy Guerry**  
Savannah River Site Office (NNSA)  
Savannah River Tritium Facility

**Description of Duties**

Mr. Jimmy Guerry serves as the single SSO Engineer for the Tritium Facilities located at the Savannah River Site. Responsibility for the Tritium Facilities rests with the National Nuclear Security Administration (NNSA), Savannah River Site Office (SRSO). In addition to his SSO duties, Mr. Guerry performs oversight of the contractor's engineering and fire protection programs. He has provided strong leadership for the Savannah River Site Office SSO program. He performs exceptional assessments and writes concise assessment reports that are the model for the site office. He spends a great deal of time in the facilities, observing operations and maintenance activities associated with safety-related systems and other plant equipment.

**Nomination Justification**

Mr. Guerry demonstrates an outstanding knowledge of safety-related systems and engineering and physical science theories and routinely demonstrates his knowledge by providing valuable support to other SRSO staff members. The SRSO Mission Assurance organization, which includes the facility representatives, the SSO engineer, the authorization basis staff, and the quality engineering staff, meets daily to discuss facility status and issues. Mr. Guerry attends these meetings and is called upon regularly to follow up on issues or events that have been observed by other members of the staff. He works closely with the Facility Representatives to ensure that issues associated with safety-related equipment and other systems are being addressed appropriately and expeditiously.

During an SSO assessment, Mr. Guerry identified that there was no surveillance requirement in the Tritium Extraction Facility (TEF) Technical Safety

Requirements (TSR) document to verify the absence of alarm conditions on the safety-significant Worker Protection System. The contractor agreed that this was a deficiency and addressed the concern in the FY11 TSR update by adding the needed surveillance requirement.

While assessing the failure of a mission-critical computer system Uninterruptible Power Supply (UPS), Mr. Guerry identified that the contractor was not monitoring the UPS units for mission-critical computer systems for trouble conditions. As a result, the contractor has developed a formal monitoring protocol for mission-critical computer system UPS units.

During a design review of the new Process Support Building, Mr. Guerry identified a potential issue with the proximity of the new building to an existing Hazard category 2 nuclear facility and its effect on the fire hazards analysis. Until this concern was raised, no fire hazards analysis had been planned for the new building nor were potential impacts on the existing nuclear facility adequately evaluated. He identified an additional concern regarding a potential building collapse into a nuclear facility that was not evaluated through the USQ process. The contractor addressed these issues by performing a fire hazards analysis and by evaluating the potential interactions between the buildings.

As a result of this issue, Mr. Guerry developed a fire protection position paper for all potential building interactions in the Tritium facilities that provides a basis for crediting features in buildings for the prevention of fire spread among adjacent facilities.

Mr. Guerry questioned the height of a nearby process facility stack in relation to the new building from a

*(Jimmy Guerry, continued)*

radioactive material release perspective. Although a study had been performed to show the stack height was adequate to protect personnel, the assumed new building height in the study was based on an old design that was 11 feet shorter than the most current design. Upon Mr. Guerry's pointing out the discrepancy, a new stack analysis study was performed.

Mr. Guerry's assessments have also led to improved efficiencies in plant operations. During early planning for a major electrical outage, he reviewed the contractor's proposal which would have required the purchase and installation of numerous small UPS units to support maintaining safety significant glovebox oxygen monitoring for all facility gloveboxes. The plan involved 30 temporary modifications and many man-hours to both install and remove. He initiated an open discussion between site office and the contractor's engineering organization, which resulted in a better approach. The new approach made use of a Documented Safety Analysis addendum that would require only a small subset of the facility's oxygen monitors. The new approach saved hundreds of man-hours, tens of thousands of dollars, and greatly reduced the outage set up and recovery process.

Mr. Guerry challenged the contractor to reevaluate the replacement frequency for pressure relief devices on the 234-7H environmental conditioning chambers. This review determined that the replacement frequency could be revised from 4 years to 5 years without adversely impacting the system nor did the change require an exemption. Mr. Guerry also reviewed a contractor proposal for a project to replace pressure relief devices in a process that would have resulted in an additional expenditure of \$100,000 and would have resulted in shutting down the process for several weeks and required radiological work in a contamination area. He encouraged the contractor to instead process an engineering equivalency with ASME B31.3, which was later approved.

Mr. Guerry reviewed and recommended for approval the stacking of analytical lab waste gas that supports the shutdown and isolation of an old byproduct purification facility. The stacking of the waste gas included savings of approximately \$75,000 for determining that a tritium getter bed would not be needed to support this effort. Any tritium released in the

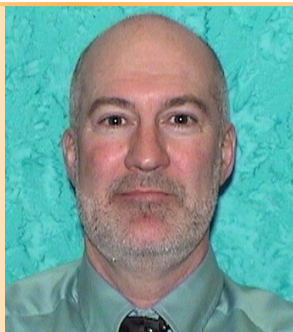
waste gas will be well below permitted limits. The project to install the getter bed was canceled saving the funding for other needs.

Mr. Guerry identified the need for and obtained approval from the Manager, SRSO for a reduction in building fire assessments. DOE Order 420.1B allows building assessments to be set by the Authority Having Jurisdiction. As a result, building fire assessments for administrative buildings and buildings with limited remaining use were removed from the assessment schedule. The basis for the change was that existing NFPA assessments and life safety inspections adequately addressed the buildings and fire programs. There was little to no value-added with the additional building assessments. This effort will save tens of man-weeks of work annually.

Mr. Guerry extensively mentors other staff members. He serves as a Qualifying Official in the Technical Qualification Program and provides training and checkouts for personnel from other program areas at the Savannah River Site, including the Environmental Management and Nuclear Non-Proliferation organizations, in addition to SRSO personnel. Using his extensive knowledge of engineering and physical science principles, he has mentored and supported qualifications for a member of the Future Leaders Program.

Mr. Guerry has worked with the contractor to develop performance indicators that support the Performance Evaluation Process (PEP) for oversight of the contractor's engineering program. He has used the PEP to drive improved performance in the contractor's safety-related system support and engineering programs. Mr. Guerry provides useful, formal feedback to the contractor on a weekly basis by meeting with contractor management, and on a monthly basis through the formal performance feedback process.

For Mr. Guerry's contributions to improving the performance of safety-related systems in the Tritium Facilities, his oversight of the contractor's engineering and fire protection programs, his valuable support to the other staff, and his work to mentor and train other personnel, he deserves the honor of selection as the U.S. Department of Energy Safety System Oversight Engineer of the Year for 2011.



**Mark Hahn**  
Richland Operations Office  
Hanford Site

**Description of Duties**

Mr. Mark Hahn is responsible for overseeing RL contractors' Confinement Ventilation Systems (CVS) that are Vital Safety Systems (VSS) to ensure they perform as required by the safety basis and other applicable requirements. He performs surveillances, walk-downs, assessments, and investigations to confirm safety system performance against established safety and mission requirements. During revisions, or annual updates of the Documented Safety Analyses (DSA) he reviews and approves the CVS sections. In the nuclear safety area he also reviews and comments on Unreviewed Safety Questions (USQ), Justifications for Continued Operation (JCO), and any modifications to his VSS. He is fully responsible for the content and adequacy of all Technical Safety Requirements (TSR) associated with the CVS. He has an expert knowledge of assigned systems, the contractor's application of the cognizant system engineer concept, and safety program management as described in DOE O 420.1, *Facility Safety*. Mr. Hahn is RL's Point of Contact for CVS and Subject Matter Expert (SME) for CVS. Another duty that Mr. Hahn performs is keeping the SSO program documents current. Mr. Hahn also maintains an active Professional Mechanical Engineers license.

Mr. Hahn is located in the Safety and Engineering Division (SED), which is part of RL's Assistant Manager for Safety and Environment (AMSE) group.

**Nomination Justification**

Mr. Hahn performed significant external CVS/HEPA/SME support during 2011.

- Provided support to the DOE Federal Technical Capabilities Panel (FTCP) to develop a CVS Functional Area Qualification (FAQ) Standard. Considerable effort was spent as co-lead with Office of River Protection (ORP), developing the DOE Standard, Confinement Ventilation and Process Gas Treatment Functional Area Qualification. The FAQ is now in REVCOM for comment. (10/10 to 6/11)

- Provided support to HQ HEPA filter Working Team for responding to increased Filter Test Facility failures. This effort resulted from a DNFSB memo which, in turn, resulted in a DOE Plan of Action. Completion of the actions produced policy setting changes for the whole of DOE. (1/11 to 12/11)
- Provided HQ (HSS) support for conducting a DOE-STD-3020/American Society of Mechanical Engineers (ASME) AG-1 review. (11/11)
- Provided support to ASME Code on Nuclear Air and Gas Treatment (CONAGT), which resulted in AG-1 Code section revisions. (1/11 to 12/11)

Most of the facilities that contain Mr. Hahn's VSS were undergoing shutdown, mission change, or D&D in 2011. Several VSS are near their end of life and unexpectedly failed. This created a series of challenging situations where Mr. Hahn had to ensure that the role of the VSS was current with the changing risk. To address reliability on some of these older systems, Mark took classes on vibration monitoring and is helping the contractor to implement this monitoring program on key components.

Mr. Hahn also performed 12 Technical Bases Reviews in 2011, including Safety Bases Validation, which examined in detail the assumptions credited in the accident analysis. The results of some reviews were controversial, resulting in JCOs and substantial changes to the facility safety basis. Many of the issues focused on the technical justification for continued use of aged HEPA filters, including evaluating use

*(Mark Hahn, continued)*

of fire smoke/soot loading and confinement zone differential pressure monitoring, which typically supports DSA approval. Mr. Hahn's resolve and drive for excellence in the Nuclear Safety area have been outstanding.

During the spring of 2011, Mr. Hahn performed project oversight of Next Generation Retrieval and Waste Encapsulation Storage Facility (WESF) K1/K3 Exhaust systems that were undergoing design of safety CVS, which included review of contractor safety design strategies, functional design criteria, requirement documents, and conceptual and preliminary designs. As a result, the K-1/K-3 filters systems are now planned for replacement.

In FY 2011, Mr. Hahn conducted a rigorous review of CHPRC's HEPA Filter Program, including all supporting documentation; design, procurement; quality assurance; and testing and operations. Significant findings were discovered: no requirements for CVS performance trending; no requirements for the HEPA filter program to have SME oversight; and HEPA filter system requirements were not sufficiently prescriptive to ensure VSS requirements to be fully implemented.

During September 2011, Mr. Hahn participated in an independent project review of the Plutonium Finishing Plant (PFP), where he directly identified several risks that will now be analyzed for the Performance Measurement Baseline (PMB).

On May 24, 2011, a PFP Uninterruptable Power Supply (UPS) event resulted in unexpected loss of negative pressure and a TSR violation in the most contaminated zone. In order to control the negative pressure, dampers in the exhaust and supply are modulated. The plant over time had upgraded some of the controls from air-operated to electrical, which operate much faster. This mismatch caused the TSR violation when the UPS event caused a loss of control air. Mr. Hahn was very active in the assessment of changed or new system failure modes that might have been introduced. He specified a number of conditions to make the contractor's Corrective Action Plan more meaningful.

In August 2011, PFP experienced a catastrophic exhaust fan failure, which resulted in a 60-inch-diameter fan breaking loose from its shaft; breaking the

200-HP motor housing; burning up the motor windings; and catching the drive belt on fire. Mr. Hahn has been deeply involved with the recovery activities: failure and causal evaluation; Evaluation of the Safety of the Situation document; the review and approval of Condition of Approval documents; enhanced maintenance plan evaluation; and fan operations and trending. Mr. Hahn's involvement did quickly lead to a JCO, as this event stopped all work in the facility.

During October 2011, the Waste Sampling and Characterization Facility (WSCF), an environmental radiological laboratory, had a low-hood-flow event resulting in hoods being declared inoperable along with a stop work facility shutdown. Mr. Hahn worked closely with the project and was instrumental in participation in critiques, facility inspection and walk downs, evaluation of system design, adequacy evaluation of facility response and technical bases reviews supporting safety basis review and approval.

Mr. Hahn's education, experience, understanding, grasp of the goals, and his continuous participation in the development of the requirements make him an outstanding CVS technical subject matter expert for RL and the DOE Complex. When this is combined with great respect that he has earned from the contractor and his ability to bring issues to management, he becomes an unbeatable SSO for RL's nuclear confinement ventilation systems.



**Richard Mayer II**  
Portsmouth/Paducah Site Office  
Portsmouth/Paducah Project Office

**Description of Duties**

Mr. Richard Mayer serves as the Portsmouth/Paducah Project Office (PPPO) Safety Systems Engineer for the Portsmouth DUF<sub>6</sub> conversion facility. The DUF<sub>6</sub> conversion facility is a new DOE facility designed to chemically convert UF<sub>6</sub> that has been depleted in the Uranium 235 isotope to uranium oxide, a chemically stable compound. Two facilities have been constructed and are in phased restart in preparation for long-term operations. The lead facility is located at Portsmouth, Ohio. The other facility is located at Paducah, Kentucky.

**Nomination Justification**

Mr. Mayer has provided exceptional leadership in the oversight of the contractor during the activities associated with readying the facility for the long-term operations. He partnered with the PPPO Facility Representatives (FR) in efforts to ensure that the contractor's implementation of safety management programs was sufficiently robust to support the planned testing and demonstration of operations. In particular, he has provided leadership through his participation in reviews of contractor operations and maintenance activities. He has demonstrated significant skill and talent in implementing the safety system oversight program at the DUF<sub>6</sub> plants. The DUF<sub>6</sub> facility safety basis has a large number of safety significant controls that include 24 specific administrative controls and 24 safety systems. The large number of safety basis controls for the new facility has been challenging on the contractor and oversight staff. Mr. Mayer has demonstrated leadership in the oversight process used to ensure the adequate implementation of the safety basis controls. He prepared and provided an overview training course for other oversight staff that covered the Technical Safety Requirements. In addition,

he has worked with the DOE safety basis review team to ensure that the lessons learned from the testing phase of the facilities were used to improve the safety basis controls.

In addition, Mr. Mayer has served as the PPPO representative on the DUF<sub>6</sub> facility Startup Review Board (SRB). The SRB is chartered to review and approve testing instructions as part of the functional testing of the facility. The conversion facility is a scaled up version of a similar process, and as a result the development of testing instructions for the new facility has been challenging for the contractor. Mr. Mayer has provided outstanding leadership to ensure that the integrity of the SRB process has been maintained. He has demonstrated exceptional skill in oral presentations and technical briefings and has dealt persuasively with other engineers. He is recognized within PPPO, as well as by the contractor, as the person to resolve issues and determine a path forward. He has contributed significantly to DOE efforts to ensure a safe and effective transition from the restart process to long-term plant operations.

Mr. Mayer has also provided technical oversight on a PPPO project to develop Non-Destructive Assay (NDA) standards and upgrade oversight programs for NDA measurement programs. He is a subject matter expert in NDA and has extensive experience in the development and implementation of NDA measurement programs. His contributions to the oversight process have supported the PPPO corrective actions associated with addressing the lessons learned from the K-25 D&D project. The NDA standards and oversight processes are being implemented to support the characterization programs that are part of the Portsmouth D&D project and will be implemented over the next several years.



## David McGinty

Y-12 Site Office  
Oak Ridge Site

### Description of Duties

Mr. David McGinty serves as a Safety System Oversight Engineer/Safety Basis Analyst for the Y-12 Site Office (YSO). Mr. McGinty has several nuclear facilities and safety systems assigned for his oversight. He oversees secondary confinement, lightning protection, process vacuum systems interlocks, and high-temperature cutoff systems. Additionally, he serves as a safety basis engineer overseeing nuclear materials transportation, nuclear storage facilities, and a special materials processing facility.

### Nomination Justification

Mr. McGinty is a recognized subject matter expert in the Safety System Oversight (SSO) community. He has used his education and 36 years of experience in the nuclear field to drive continued improvements of the YSO SSO program. Mr. McGinty was integral to the development of the latest Mechanical Systems Engineer Qualification Standard. He also serves in a mentoring role to the new engineers in the office.

Mr. McGinty was recently recognized for his outstanding contributions in a recent effort to replace an Enhanced Laser Gas Sampling System with a new Nondestructive Laser Gas Sampling System at the site. The installation of the new system was a Level 2 milestone required to support critical National Nuclear Security Administration production milestones. This project was near completion when the contractor determined an additional inspection was required for the piping assembly within this system, thus creating a possibility for a major delay. Given the tight schedule, Mr. McGinty conducted an owner's inspection of the piping assembly. He worked closely with Babcock and Wilcox Technical Services

Y-12, LLC, to ensure the piping code requirements were met. Despite the extremely short notice, Mr. McGinty completed the inspection in one day — a testimony to his work ethic and knowledge of the piping and pressure vessel codes. As a result of his diligent efforts, the project was able to meet the deadline, which saved Y-12 National Security Complex substantial costs associated with a lengthy delay and return of the unit to the vendor for a certification. For this effort, he was selected as the Defense Programs Employee of the Quarter.

Mr. McGinty's expertise with nuclear safety systems and transportation has led to his assignment as one of YSO's safety basis engineers, and he recently completed the Nuclear Safety Systems qualification. Recently, Mr. McGinty demonstrated his problem-solving skills and tenacity dealing with an emerging issue in a nuclear facility. The nuclear facility was critical to operations at Y-12 and provided production materials to other manufacturing facilities on site, leading to lost production time. The issue required the approval of a Justification for Continued Operation (JCO) that was submitted by the contractor to allow restart of the facility's mission. The approval of the Safety Evaluation Report (SER) and JCO in a timely manner was necessary due to the shutdown of this critical production facility. In order to expedite the NNSA approval, Mr. McGinty was required to quickly address issues between NNSA and the contractor, concisely and accurately prepare the SER, and provide briefings to senior NNSA managers for approval of the documents. His dedicated efforts led to a compliment by the local Defense Nuclear Facilities Safety Board (DNFSB) site representative on his excellent support and well-written and timely Safety Evaluation Report that allowed restart.



Mr. McGinty's creative approach to oversight was very beneficial in the development of the contractor assurance program at Y-12. Mr. McGinty uses shadow and concurrent assessments to gage the contractor's ability to adequately and accurately assess their own programs. He provides feedback on what was effective and what was less than adequate. His feedback has resulted in modifications to the contractor's self-assessment process, resulting in more effective in-depth contractor self-assessments.

Mr. McGinty routinely conducts his work with little oversight and always provides timely and well-prepared work products. YSO regularly relies on him to provide highly technical input on safety systems and safety bases, and he regularly interacts with the DNFSB, contractor, and Headquarters staff to address challenging issues for the site and the Complex. He has conducted SSO oversight assessments at Y-12 for several years and is one of YSO's best employees.

Before joining YSO in 2001, McGinty served as a Project Manager at the Oak Ridge National Laboratory. He received a B.A. degree in mathematics from Berea College and a Master's degree in nuclear engineering from the University of Missouri.



## John (Wes) Mouser

### Savannah River Operations Office (EM)

### Savannah River Site

#### Description of Duties

Mr. John (Wes) Mouser is the Facility Engineer/ Safety System Oversight Engineer assigned to the Department of Energy's Savannah River Operations Office (DOE-SR) Environmental Management program. Mr. Mouser is assigned to the Nuclear Materials Engineering Division (NMED), which is part of the DOE-SR, Assistant Manager for Nuclear Materials Stabilization Organization. This group also has the Facility Representatives Division which helps enhance communications of issues.

Mr. Mouser joined DOE-SR in August of 2009 and completed the SR, Nuclear Safety Specialist, and Safety System Oversight Technical Qualification Programs in October of 2010. He is responsible for the oversight of eight Vital Safety Systems (VSS) in the HB-Line Hazard Category 2 Nuclear facility.

In addition to his duties as the Facility Engineer (FE)/SSO assigned to HB-Line, Mr. Mouser's expertise is utilized in assisting in the oversight of several other Hazard Category 2 Nuclear Facilities not limited to, but including H-Canyon, F-Canyon Complex, F/H-Lab, K-Area, and On Site Transportation Safety Documentation.

#### Nomination Justification

Mr. Mouser's expertise in System Engineering and System Performance Monitoring, the programs in place and relied upon to ensure the configuration control and ability of VSSs to perform their intended design function, is unparalleled. He has demonstrated outstanding leadership and skill in the quality of his assessments and reviews such that they have been praised by both the contractor and DOE management, as well as used as examples to train and mentor others in his field.

Mr. Mouser extensively mentors other staff members and conducts Technical Qualification training and checkouts for personnel from both his own organization and others at the Savannah River Site. He is called upon often to communicate issues to DOE and Contractor Senior Management, as well as Defense Nuclear Facilities Safety Board staff members, and does so with ease and effectiveness.

Mr. Mouser's knowledge of DOE directives, laws, and standards is evident in the number of issues that he identifies that result in the contractor committing to addressing his observations, findings, and concerns without resistance and the subsequent improvements in their programs and processes in place to ensure safe operation of their nuclear facilities. This is in no small part due to Mr. Mouser's ability and desire to both identify issues which have a real impact on safety and propose potential solutions.

Some examples of Mr. Mouser's oversight activities and accomplishments over the last year, which demonstrate his exceptional skills in performance of his responsibilities as an SSO, are listed below.

- During the DOE Operational Readiness Review for Liquid Waste Operations at the Saltstone Facility, Vault 4 (High Organics Operations), Mr. Mouser was the Functional Area Lead for the Safety Basis and Engineering Support areas. He identified pre-startup findings associated with Engineering roles, responsibilities, accountabilities, and authority. Through review of drawings associated with a safety-significant interlock, identified several post-startup findings associated with surveillance testing inadequacies and Shift Operations Manager and Shift Technical Engineer safety basis knowledge weaknesses.

- During the HBL DSA/TSR 3009 Upgrade, Mr. Mouser invested over 140 hours with contractor DSA/TSR development teams to ensure the DSA/TSR met 10 CFR 830 requirements and DOE expectations; more specifically, to ensure the design, functional criteria, and associated surveillance requirements were identified and appropriately documented. As a result of this involvement, the following issues were identified and resolved.
  - Made recommendations and assisted with the facility in changing the operations emergency response during seismic and fire scenarios to reduce the assumed accident analysis leak path factor.
  - Made recommendations and assisted with the facility in the development of a new LCO for HB-Line which credited the H-Canyon safety-class confinement ventilation system.
  - Identified and ensured resolution of several legacy safety basis and facility/equipment design inadequacies associated with new analysis methodologies. These included the following.
    - Changes to leak path factors due to the actual, versus assumed, design of fire barrier walls in the third and fourth level of HB-Line.
    - Resolution of non-seismically qualified ventilation designs in the fifth and sixth level of HB-Line. This included evaluation of several design schemes to select the most reliable, cost-effective design that did not rely on operator intervention.
    - Resolution of non-conservative source terms used in accident analysis calculations (MACCS2) for collocated workers.
  - Identified and assisted in the resolution of overly conservative accident analysis assumptions regarding the accident Material at Risk (MAR). These assumptions did not adequately credit the design of facility glove boxes and fire barriers.
- Developed and conducted training for the AMNMSP organization on the uses of contractor

work control systems, the extraction of work order and functional classification data, the extraction of maintenance history, and the identification of any associated errors and omissions to assist the organization in the conduct of maintenance and engineering assessments.

- Performed an engineering program assessment on the SRNS System Engineer and System Performance Monitoring Programs. The primary emphasis was the System Performance Monitoring program as implemented in the H-Canyon, HB-Line, F Area Complex, F/H Lab, K Area, and L Area. LOIs were developed using DOE Order 420.1B, *Facility Safety*; DOE O 433.1B, *Maintenance Management Program for DOE Nuclear Facilities*; Manual E7, Procedure 3.04, *SSC Performance Monitoring*; and contractor commitments made in STAR items, most notably STAR-CTS-2009-005111 (*System Engineer Program*).

Assessment identified the following.

### Good Practices

- K and L Areas are noteworthy in the following system engineer practices.
  - SHR commitment tracking via the STAR program. Both facilities consistently track the STAR item status through successive SHRs.
  - Development of on-line VSS system notebooks.
  - Performance and documentation of system walk downs by system engineers and managers.

### Observations

- Some of the K and L Area vital safety system (VSS) documented walk downs lack detail regarding walk down criteria and results. The STAR self-assessments simply state that the system was walked down.
- STAR 2009-CTS-005111, Item 28, required the establishment of a system walk down implementation plan for NMD (H-Canyon, HB-Line, F-Canyon, F/H Labs) engineering. This item has

(Wes Mouser, continued)

been repeatedly extended and was overdue at the start of this assessment (June 2011). The STAR item was closed in August 2011 with an engineering standing order (2011-001) that requires schedules to be developed for system walk downs. Nevertheless, since late 2010, H-Canyon and HB-Line system engineers have been relatively consistent in performing and documenting system walk downs. However, for the F Area Complex (FAC) and F/H Lab there is inconsistent evidence of VSS walk downs by system engineers. A notable exception to this observation is the numerous system walk downs documented for the F/H Lab Main Exhaust (ME) system for 772-F.

- STAR 2009-CTS-005111, Item 9, required development of an implementation plan for system notebooks (ref. M&O-2009-00005, *System Notebooks*). This STAR commitment was closed with an implementation plan that indicated that system notebooks would be developed for all NMD VSSs by 2/25/10. However, VSS system notebooks have not been created for the majority of H-Canyon, HB-Line, FAC, or F/H Lab VSSs. A notable exception to this observation is the system notebook for the F/H Lab Main Exhaust (ME) system for 772-F.
- H-Canyon VSS designations vary between the source documents (Asset Suite, SHR software, and InSite VSS List), and can lead to missed evaluations as in the deficiency noted below for the frequency of the 17.8 evaporator SHRs.
- F-Canyon VSS designations vary between the source documents (Asset Suite, SHR software, and InSite VSS List). The listing on InSite indicates the F-Canyon Exhaust Ventilation system and Fan Damper system are two separate systems, but they are evaluated in one SHR along with GS systems (ex: center section ventilation system, isokinetic stack sampler system). This combined SHR presents conclusions that are impossible to evaluate with respect to individual VSSs.
- The F/H Labs safety significant (SS) fire detection and suppression system (FDAS) is not listed on the InSite listing of VSSs for F/H Lab. However, it is evaluated by a SS SHR, and its component location identifiers (CLI) are set up as SS in Asset Suite.
- STAR 2009-CTS-005111, *System Engineer Program*, was created in June 2009 to develop improvements in the M&O (now, SRNS) Engineering System Engineer Program. Item 19 of this STAR item required an effectiveness review. This item was originally scheduled for calendar year 2009, but has been repeatedly extended and is now scheduled for December 2011.
- IFAM Issue: K and L Areas have not set up component location identifiers (CLI) for the appropriate SS/SC passive building components. As a result, maintenance history on these components is being recorded against generic building GS CLIs via an Asset Suite feature which allows SS/SC work orders to be written against GS CLIs.
- IFAM Issue: K and L Area Building SHRs may not be fully evaluating the building condition due to the CLI number issue previously noted, making it labor intensive to evaluate maintenance history performed on the SS/SC components.
- IFAM Issue: H-Canyon has not performed a system health report (SHR) on the SC building structure in over 2 years. F/H Lab has not performed a SHR on the SS building structure in over 3 years. FAC has never performed a SHR on the SS building structure.

### Deficiencies

- Contrary to the requirements of DOE O 433.1B, *Maintenance Management Program for DOE Nuclear Facilities*, and Manual E7, Procedure 1.31, *Master Equipment List*, K and L Areas are not utilizing Asset Suite as the facility Master Equipment List (MEL) for safety-related passive structures, systems, and components (SSC) contained in the Structures and Building (SAB) system.
- Contrary to the requirements of Manual E7, Procedure 3.04, *SSC Performance Monitoring*, H-Canyon, F-Canyon, and HB-Line have exceeded the 15-month SHR frequency for VSSs on multiple systems without any objective evidence (documentation) of facility engineering and operations managers' concurrence (ex: H-Canyon systems ARU, CWR, and the 17.8 evaporator; F-Canyon systems CAEX, Fan Damper System and TRU D/P Monitoring; HB-Line CFP system).

- Contrary to the requirements of Manual E7, Procedure 3.04, *SSC Performance Monitoring*, H-Canyon, HB-Line, F Area Complex, and F/H Labs are not formally tracking SHR commitments in STAR, or a similar database, with the STAR item numbers being fed back into the final SHR. A notable exception to this deficiency is the documentation of STAR item status in SHRs for the F/H Lab Main Exhaust (ME) system for 772-F.

### Concern

In early 2011, SRNS Engineering management informed DOE-SR that it had disbanded the Integrated Facility Aging Management (IFAM) group, but that future IFAM evaluations (largely associated with passive SSCs) would be encompassed by the system performance monitoring process and the associated system health reports (SHR). Similarly, during August – September 2011, planning sessions for a new plutonium oxide campaign for H-Canyon and HB-Line, SRNS management repeatedly stated that facility SSCs (passive and active) would be assured of having the necessary reliability because of their inclusion in the SHR process.

As indicated by the observations and findings of this assessment, the SRNS system engineer/system performance monitoring programs are not being implemented in a manner to demonstrate consistent compliance with site requirements, much less with the increased reliance necessary to fulfill SRNS management commitments. The rigor of program implementation varies between facilities, with facilities having their own unique weaknesses, some of which are significant. Program improvement initiatives were started in 2009, but have been repeatedly extended, and are now only partially implemented.

Because of his expertise in System Engineering and System Performance Monitoring, his demonstration of outstanding leadership, and his skill in performing quality assessments, Mr. Mouser is an exceptional SSO.



## Arnold Preece

Idaho Operations Office  
Idaho National Laboratory

### Description of Duties

Mr. Arnold Preece is the Safety System Oversight (SSO)/Nuclear Safety Specialist (NSS) for the U.S. Department of Energy (DOE) Idaho Operations Office (ID) in Idaho Falls, Idaho. The mission of the Idaho Operations Office is to ensure America's security and prosperity by addressing its energy, environmental, and nuclear challenges through transformative science and technology solutions. Mr. Preece initially qualified as an SSO in August 2006, and has remained qualified and proficient in that role for over five years.

Mr. Preece serves as the Environmental Management (EM) Facility SSO/NSS engineer with primary emphasis on waste management facilities, and with particular emphasis on the initial startup of the new Integrated Waste Treatment Unit (IWTU). In this position, Mr. Preece is responsible for the following.

- SSO lead for all safety systems, structures, and components (SSCs) for four Hazard Category 2 nuclear facilities at the Idaho Nuclear Technologies and Engineering Center (INTEC): the IWTU, Tank Farm Facilities, the Process Equipment Waste Evaporators (PEWE), and the Calcined Solids Storage Facilities (CSSF);
- Leads and conducts annual SSO assessments, safety basis reviews, implementation verification reviews, and Specific Administrative Control assessments;
- Subject Matter Expert (SME) for nuclear safety on the Integrated Project Team (IPT) for the initial startup of the nuclear Hazard Category 2 IWTU facility.

### Nomination Justification

Throughout calendar year 2011, Mr. Preece fulfilled his SSO responsibilities in a manner that demonstrated outstanding leadership and initiative, expert technical knowledge, and dedication to excellence. He made significant contributions to the DOE-ID mission, including substantial contributions to the successful completion of construction for a new Hazard Category 2 nuclear facility (IWTU), and consistently exceeded performance expectations. Mr. Preece's prowess in nuclear safety requirements and standards was self-evident in the resultant very high quality, approved Final Documented Safety Analysis for the new IWTU facility, for which he was the assigned SSO/NSS. He is the recognized technical expert on nuclear safety requirements within the DOE Idaho office. Specific examples of Mr. Preece's notable contributions and accomplishments as SSO during 2011 included:

- *Extensive knowledge of the integral tie between the hazard/accident analysis and the preventive/mitigative control set:* Mr. Preece has worked exhaustively to ensure that the safety functions, functional requirements, and performance criteria for each safety system are well documented in the safety basis and fully address all aspects of the hazards for the four nuclear facilities assigned; maintains regular contact with contractor cognizant engineers, nuclear safety, and operational staff to maintain current on facility conditions and operations to ensure associated safety systems remain operational when required and continue to meet nuclear safety performance criteria.

- *Innovative approach to safety system reviews:* Mr. Preece devised an innovative method for performance-based safety system reviews: by conducting a systematic review of people, paper, and systems on a rotating annual basis, he reviews each system annually while covering all aspects of each system on a 3-year basis; he developed and provides day to day tracking of SSC status and issue resolution.
- *Extremely detail-oriented and safety conscious SSO:* He routinely identifies safety system-related issues that might go unnoticed by others by conducting extremely thorough record and document reviews, comprehensive and detailed system walk downs, and probing personnel interviews; he consistently prepares exceptional written reports in the form of review plans, issue transmittal letters, SSO assessment reports, and safety evaluation reports (SERB); the reports are always clear, concise, thorough, and provide detailed supporting documentation to allow for timely resolution of issues.

Mr. Preece identified an inadequate technical basis to demonstrate the functional requirements for a safety significant steam control valve; his thorough review and detailed documentation resulted in a much-improved safety basis and documented performance criteria. Mr. Preece also identified inadequate hazard and accident analysis associated with a safety significant off-gas piping system; his engineering expertise, in-depth operational knowledge, and persuasive skills resulted in a improved accident analysis and safety basis documentation

Mr. Preece also identified a safety significant valve that was not able to be operated due to its inaccessibility; Mr. Preece's thorough knowledge of the safety basis requirements, operations, and system functional requirements resulted in a well-documented basis for inadequate engineering associated with the ability to operate the remotely located valve; open discussions with the Federal Project Director and contractor management and staff led to design changes and an acceptable resolution to the deficient valve configuration.

- *Key member of the IWTU Integrated Project Team (IPT):* Mr. Preece participated as an active member of the IP T in the conceptual design, preliminary design, and final design reviews of the IWTU nuclear safety basis; with an ultimate focus on protecting the workers, the public, and the environment, he ensured compliant application of the nuclear safety design criteria and the designing of safety into the physical facility throughout conceptual design, final design, construction, and system testing and startup.

Mr. Preece has set the example for the DOE complex with his zeal and dedication in performing his Safety System Oversight function. From the detailed, focused safety system walkdowns, consistent high-quality documentation, and routine and regular communications with Federal and contractor management and staff, he upholds the highest standards for ensuring safety systems are operated and maintained in a manner that supports the safety basis requirements to protect the workers, public, and environment. The quality and far-reaching impacts of Mr. Preece's accomplishments far exceed established requirements or expectations of EM and DOE leadership, and he should be recognized for his dedication and exacting standards by receiving the 2011 DOE Safety System Oversight Annual Award.



## Quang Tran

### Livermore Site Office

### Lawrence Livermore National Laboratory

#### Description of Duties

Mr. Quang Tran maintains and manages the Livermore Site Office (LSO) Safety System Oversight (SSO) Program. He oversees contractor management of Vital Safety Systems (VSS) at Lawrence Livermore National Laboratory (LLNL) nuclear facilities to ensure continued operability and performance in support of NNSA's mission.

#### Nomination Justification

Mr. Tran is one of two SSO Engineers for the Livermore Site Office. He is qualified on all VSS and, for the past year, assumed responsibilities assigned to the Principal SSO Engineer. The LLNL nuclear facilities contain 20 vital safety systems with 4 systems currently not operational.

- January 2011 – December 2011:* Mr. Tran successfully performed all planned and many more unplanned assessment activities to ensure system operability and availability for mission activities. A particular example that demonstrates Mr. Tran's technical inquisitiveness was a surveillance conducted to independently validate the results of Laboratory calculations used to form the basis for the specific administrative control limits of hydrogen species in tritium gloveboxes. This surveillance reviewed information from technical standards, national codes, and industry practice to independently challenge calculation assumptions and determine the percent of hydrogen species that can be introduced into a tritium glovebox before exceeding the lower flammability limit (LFL) for hydrogen. Other assessments of note that were completed above and beyond those required in the calendar year included: engineering review of downgrades proposed for safety significant

portions of the fire suppression system; review of proposed changes to TSR surveillance requirement frequencies; and ongoing follow-up to concerns raised by the DNFSB regarding design, functionality, and maintenance of vital safety systems.

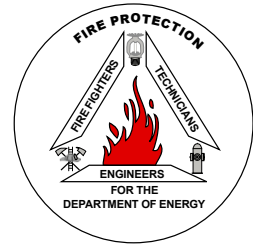
- January 2011 – December 2011:* Mr. Tran led the effort to establish, monitor, and evaluate the contractor's performance against the expectations set forth in the Performance Evaluation Plan (PEP). LSO has successfully incentivized improvements in LLNL's cognizant system engineering program. Last year's efforts focused on training and system condition assessments.
- January 2011 – December 2011:* Mr. Tran completed the triennial review of the NMTP System Engineering Program. This review was a comprehensive review based on the criteria contained in DOE Order 420.1B, *Facility Safety*. Overall, the review found an adequate sustainable program that requires improvements to staffing, the design basis calculation process, preservation of safety basis requirements, and the system design descriptions.
- January 2011 – December 2011:* Mr. Tran completed the triennial self-assessment of the LSO SSO Program. This assessment identified numerous issues related to clarification of roles and responsibilities, training, procedures, and assessment processes. Mr. Tran also led the effort for correction of identified issues and has promptly completed all of the corrective actions.

Throughout 2011, Mr. Tran excelled as the lead for the SSO program at the Livermore Site Office. He consistently demonstrated an unparalleled work ethic that provided both timely and quality work products.



Mr. Quang Tran has a strong working relationship with LSO peers, LLNS counterparts, and LSO management. His professionalism and dedication to getting the job done have made him an invaluable asset to this organization. LSO recommends Quang Tran for the annual SSO award for calendar year 2011.





## ***Walter W. Maybee Award for Fire Protection\****

*\*Nomination submissions may have been edited for this document.*





## Justin T. Zamirowski

Office of Science  
Chicago Office

Mr. Zamirowski is the Assistant Manager for Technical and Infrastructure Services at the Office of Science Chicago Office. He has served the Department of Energy (DOE) and predecessor agencies for 36 years as a Fire Protection Engineer and in various management positions. He holds a professional engineering license in Fire Protection Engineering, as well as DOE qualifications in Fire Protection and Senior Technical Safety Manager.

Mr. Zamirowski was a contributor to the fire protection strategy for the National Synchrotron Light Source II and the Advanced Photo Source. He has conducted 100 or so fire protection program assessments at all the major Office of Science laboratories and at universities conducting research for the Department. These assessments ensure fire protection program effectiveness, as well as ensuring that fire protection features of the facilities meet DOE requirements.

Mr. Zamirowski served as the chairman on two fire investigations and several accident investigations, including the Wide Band Fire at Fermi National Accelerator Laboratory and a fatal, anti-contamination clothing fire at the East Tennessee Technology Park in Oak Ridge.

Mr. Zamirowski has been a member of the DOE Fire Safety Committee from the beginning. He recently stepped down to concentrate on System Safety Oversight reviews of the fire suppression system at Building 325 at the Pacific Northwest National Laboratory after the Office of Science became responsible for the oversight of nuclear safety at this facility.

His long and distinguished service in the Department of Energy led the Fire Safety Committee to recognize his contributions to fire safety by awarding him the 2012 Walter W. Maybee Award.





## ***Facility Representative Contact Information***





Facility Representative Field Office Steering Committee Members

Facility Representative Field Office Steering Committee Members					
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**Facility Representative Field Office Steering Committee Members (continued)**

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*Facility Representative Headquarters Steering Committee Members*

Facility Representative Headquarters Steering Committee Members					
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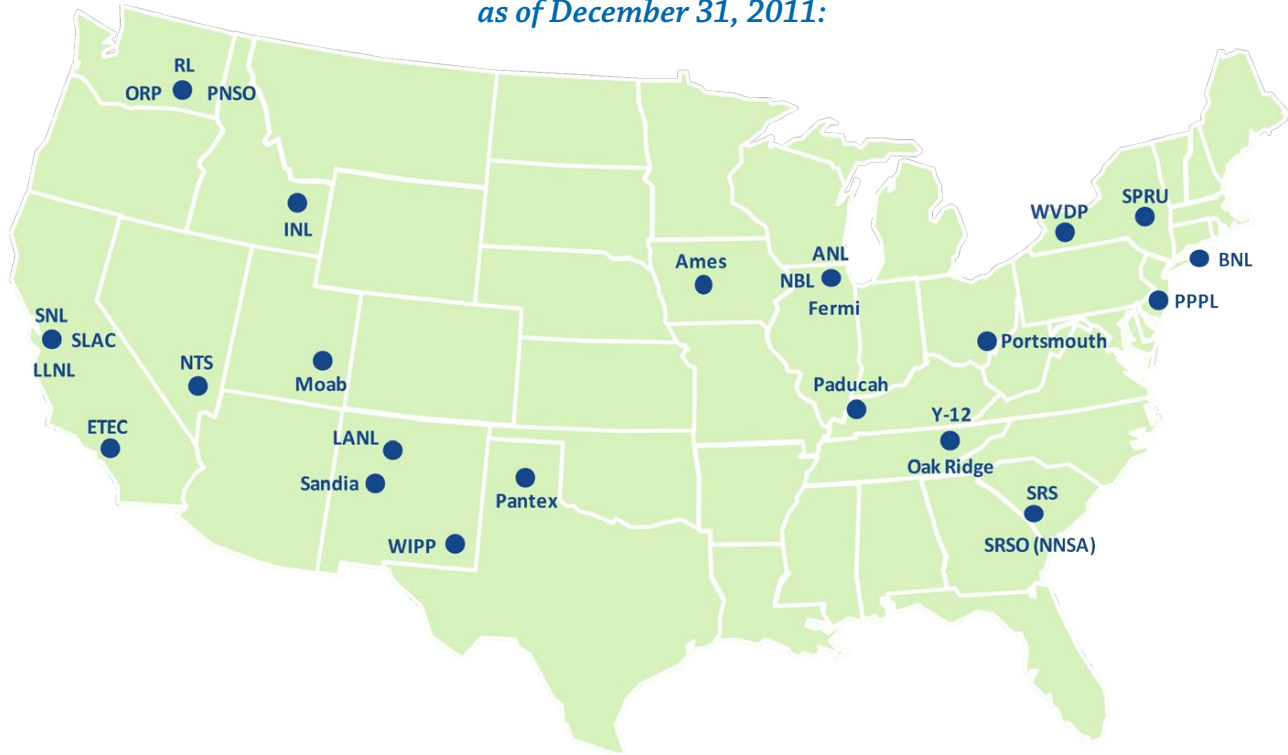




## ***Facility Representative Program Site Distribution***



Facility Representative Program Site Distribution  
as of December 31, 2011:



Facility Representative Program Site Distribution as of December 31, 2011

Site	Map Label	FRs	Site	Map Label	FRs
Ames Site Office / New Brunswick Laboratory	AMES/NBL	1	Pantex Site Office	Pantex	9
Argonne Site Office	ANL	5	Portsmouth Paducah Project Office	Portsmouth Paducah	6
Brookhaven Site Office	BNL	4	Princeton Site Office	PPPL	1
Carlsbad Field Office	WIPP	2	Richland Operations Office	RL	18
Fermi Site Office	Fermi	2	Sandia Site Office	Sandia	6
Grand Junction Office	GJEM	1	Savannah River Operations Office	SRS	32
Idaho Operations Office	ID	16	Savannah River Site Office	SRSO-(NNSA)	4
Livermore Site Office	LLNL	8	Separations Process Research Unit	SPRU	3
Los Alamos Site Office	LANL	14	West Valley Demonstration Project	WVDP	2
Nevada Site Office	NSO	7	Y-12 Site Office	Y-12	8
Oak Ridge Office	Oak Ridge	21	Stanford Linear Accelerator / Energy Technology Engineering Center	SLAC/ETEC	1
Office of River Protection	ORP	14			
Pacific Northwest Site Office	PNSO	4			

Total 189







## ***Safety System Oversight Contact Information***



Safety System Oversight Program Leads

Safety System Oversight Site Program Leads				
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(continued on the following page)

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**Safety System Oversight Steering Committee**

**Safety System Oversight Steering Committee**

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\* Chair, Vice Chair, and Core Team elected August 2011 to 3-year terms





**2012**

*Department of Energy*  
*Facility Representative*  
*Safety System Oversight &*  
*Fire Protection Program*  
*Workshop*

