



Department of Energy
Washington, DC 20585

December 20, 2011

MEMORANDUM FOR DISTRIBUTION

FROM: JAMES B. O'BRIEN
DIRECTOR
OFFICE OF NUCLEAR SAFETY
OFFICE OF HEALTH, SAFETY AND SECURITY

SUBJECT: Facility Representative Program
Performance Indicators Quarterly Report, July – September 2011

This memorandum summarizes the Facility Representative (FR) Program Performance Indicators Quarterly Report covering the period July through September 2011. Data for these indicators were gathered by field elements per Department of Energy (DOE) Technical Standard 1063-2011, *Facility Representatives*, and reported to Headquarters program offices for evaluation and feedback to improve the FR Program.

Highlights from this report:

FR Staffing/Qualification/Oversight Data

- DOE was staffed at 180 FR Full Time Equivalents (FTE), which is 90 percent of the full staffing level (DOE goal is 100 percent). Four FRs left due to transfer, promotion, or retirement. Three new FRs were hired from industry and one FR manager re-assumed FR duties.
- DOE has 81 percent of the required fully-qualified FR staff (DOE goal is > 80 percent).
- DOE FRs spent 76 percent of their time on oversight activities (DOE goal is > 65 percent).

FR Program Highlights

Individual site program highlights are included in the current FR Quarterly Report.

Current FR information and the current and past quarterly performance indicator reports are available at the FR web site at www.hss.energy.gov/deprep/facrep. If you have any questions or comments on this report, please contact me at (301) 903-1408 or the DOE FR Program Manager, Earl Hughes, at (202) 586-0065.



Facility Representative Performance Indicators July-September 2011

OFFICE OF ENVIRONMENTAL MANAGEMENT (EM)

<u>Location</u>	<u>Analysis FTE</u>	<u>Approved FTE</u>	<u>Actual Staff</u>	<u>% Staff *</u>	<u>Gains / Losses</u>	<u>% Core Qualified *</u>	<u>% Fully Qualified *</u>	<u>% Oversight Time **</u>
CBFO	3	3	3	100	0	100	100	71
ID (EM) ¹	10	10	8 (+1)	80	0	90	80	87
OR (EM) ²	18	17	17	94	0	89	89	78
ORP ³	14	14	14	100	±1	93	86	88
PPPO ⁴	6	6	6	100	0	83	83	73
RL ⁵	17	15	15	88	-2	88	82	72
SPRU ⁶	2	2	2	100	0	50	0	70
SR ⁷	36	34	32	88	+2	81	81	91
WVDP	2	2	2	100	0	100	50	55
EM Totals	108	103	88	81	±3	86	72	76
DOE GOALS	—	—	—	100	—	—	>80	>65

Location Key:

CBFO = Carlsbad Field Office
 ID = Idaho Operations Office
 OR = Oak Ridge Office

ORP = Office of River Protection
 PPPO = Portsmouth/Paducah Project Office
 RL = Richland Operations Office

SPRU = Separations Process Research Unit
 SR = Savannah River Operations Office
 WVDP = West Valley Demonstration Project

* % Staff and % Qualified:

The number on board divided by the Analysis FTE.

** % Oversight Time:

The number of hours spent in oversight activities divided by the number of available work hours in the quarter. The number of available work hours includes normal scheduled work and overtime, but not leave or special assignments greater than one week assigned.

Notes:

- 1 One ID (NE) FR was on detail to assist the eight ID (EM) FRs, and is core qualified.
- 2 One OR (EM) FR came off detail and is now included in qualification and oversight statistics.
- 3 ORP performed a new staffing analysis in July 2011 showing 14 FRs required vice 15. One FR transferred to a non-FR position and one FR was hired.
- 4 One PPPO FR was on detail all quarter and not included in oversight statistics.
- 5 RL performed a new staffing analysis in August 2011 showing 17 FRs required vice 19. Hiring constraints resulted in 15 authorized. Two FR Team leads previously included in the statistics were taken out of the calculations in recognition of their managerial duties. RL closed out their Recovery Act work and ceased using support service contract personnel for oversight of non-nuclear Recovery Act work.
- 6 All SPRU FRs are experienced and previously qualified at other sites, but may not be Fully Qualified at SPRU due to short project life.
- 7 SR hired two new FRs from private industry.

EM Facility Representative (FR) Highlights:

- ID (EM): FRs found serious issues with Lockout/Tagout execution at the Advanced Mixed Waste Treatment Project (AMWTP).
- ID (EM): An FR Team Work Lead led a DOE Readiness Assessment for waste retrieval operations at the AMWTP Retrieval Enclosure. The assessment was suspended due to unsatisfactory conduct of operations and radiological controls work practices.
- ID (EM): An FR identified inconsistencies in requirements flow-down to subcontractors.

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EM Facility Representative (FR) Highlights:

- OR (EM): An FR at the Transuranic Waste Processing Facility expressed concern about the use of personnel protective equipment (PPE) as the primary control measure planned in the design phase of the Cask Processing Enclosure (CPE). The FR recommended that consideration should be given to engineering controls to serve as the primary control measure instead of requiring facility personnel to wear PPE for a significant part of the operation. Based on the FR feedback, the project incorporated appropriate engineering measures into the design of the CPE to allow that drum-outs without respiratory protection.
- OR (EM): An FR at K-25 observed that engine fuel tanks were filled before the engines were allowed to cool as required by the applicable work package, and that a fire watch did not possess a dedicated fire extinguisher during equipment refueling. As a result, contractor personnel were retrained.
- OR (EM): The contractor at the 34 Building Decontamination and Decommissioning project discovered unknown quantities of hydrofluoric acid and was about to continue work until an FR reminded them that this was a changed condition that should be thoroughly reviewed.
- OR (EM): An FR at the Toxic Substances Control Act Incinerator facility identified a number of 480-volt breakers that had inconsistent tags or labels which described them both as abandoned/de-energized and energized/dangerous. In addition, some 10-year-old lockouts were still applied. As a result, the contractor performed corrective actions and is performing an extent-of-condition review.
- OR (EM): An FR at Building 3019 reviewed the facility Vehicle Access and Refueling Operations procedure and found two steps that contradicted each other. Another step contained inspection actions by someone who would not be a facility employee. These steps implement safety basis controls and required timely correction.
- OR (EM): An FR questioned whether newly discovered contamination in a grassy area could have spread to another area adjacent to a Liquid and Gaseous Waste Operations facility. As the result, radiation control technicians found additional elevated contamination levels in that area. The area was subsequently posed as a Contamination Area.
- OR (EM): An FR at the Molten Salt Reactor Experiment reviewed an engineering calculation to justify elimination of air monitoring equipment and found the calculation to be inadequate. The contractor agreed and the calculation will be reissued with a corporate-level review.
- OR (EM): An FR at Building 3019 observed numerous issues with measuring and test equipment unique identifiers and calibration/inspection data.
- ORP: During the C-107 Retrieval System Startup an FR identified an operating slurry pump prior to the crew noticing it. The FR alerted the crew to the abnormal situation and they took immediate action to stop the pump. Troubleshooting revealed a wiring discrepancy which made the pump activate when the Hydraulic Power Unit was supposed to be in recirculation.
- ORP: An FR identified more than 20 ladders beyond their periodic inspection date, although no operators were using ladders past inspection. The issue is still being resolved by the contractor.
- ORP: In response to a lesson-learned at Oak Ridge, an FR identified six instances of improper maintenance of fire extinguishers on mobile equipment. The FR also identified that this was a failure to prevent recurrence, since there had been five instances of employee-identified issues with fire extinguisher maintenance. These issues are still being resolved by the contractor.

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EM Facility Representative (FR) Highlights:

- ORP: During the startup of the C-107 retrieval operations, an FR identified that the physical layout of the control room created a condition that caused substantially compromised command and control. The layout compromised communication between team members, which resulted in delayed recognition of abnormal key pump parameters. The FR pointed out the abnormal indication to the retrieval team, resulting in shutting the pump down to evaluate the condition.
- ORP: A Waste Treatment Plant FR found workers using an elevated scissor lift that had one wheel placed on a steel hole cover, raising the wheel above the working surface and causing the lift to lean to one side. The FR stopped the work and encouraged workers to engage Safety Assurance division personnel to determine the actions necessary to provide a proper level surface. Workers met with Safety Assurance and leveled the lift using plywood. The FR also identified several other areas in which scissor lift use could be improved.
- ORP: A Waste Treatment Plant FR noted that a leading edge had been created by an excavation. (A leading edge is a moving unprotected fall hazard area created by work such as excavation or roof-laying that advances across the work site.) The contractor had erected a non-conforming guardrail to protect the leading edge. The FR contacted Safety Assurance personnel who committed to address the edge. The following day the FR noted the previously non-conforming guardrail had been replaced with another non-conforming guardrail. The FR again contacted the contractor who committed to have it replaced with a conforming guardrail; again it was not properly addressed. The FR contacted the contractor a third time and a proper guardrail was installed.
- RL: FRs identified negative trends in contractor timeliness for final occurrence reports.
- RL: FRs identified configuration management issues, including failure to implement the configuration baseline and inadequate corrective actions to correct drawings to reflect field conditions.
- RL: FRs identified safety system records at Building 324 were not maintained up to date.
- RL: An FR identified noncompliance with the Unreviewed Safety Question review and determination process.
- RL: FRs identified several problems with radiological work planning and execution.
- RL: An FR identified lack of attention to detail and potential loss of safety compliance focus by workers and managers during Trench 7 retrieval activities.
- RL: An FR identified poor quality of objective quality evidence supporting Construction Acceptance Tests at the 200 West Pump-and-Treat project.
- SPRU: Due to the expected short life of the project, DOE-SPRU is evaluating the feasibility of fully qualifying FRs for the short duration of the project.
- SPRU: FRs established credible Federal oversight of operations, provided oversight of the planning and execution of 25 complex work packages geared toward resumption of full scale D&D activities, and developed and documented 15 issues related to safety and conduct of operations.
- SR: One FR completed full qualification.
- SR: FRs identified an error in the contractor's engineering calculations related to the amount of water that was available to support Savannah River National Laboratory Sprinkler Systems.

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EM Facility Representative (FR) Highlights:

- SR: FRs identified potential seismic design flaws in a temporary steel deck to be used as a construction aid. The contractor was required to produce calculations and design details to demonstrate the safety of the proposed structures.
- SR: FRs identified pressure gauges and pressure switches that were not being calibrated in accordance with site Fire Protection Program.
- SR: Salt Waste Processing Facility (SWPF) FRs conducted the first SWPF DOE Independent Constructed-as-Designed Assessment that validated a standard approach toward the turnover of critical systems from the Engineering, Procurement, and Construction (EPC) contractor to Operations organizations.
- SR: Nuclear Materials Operations Division FRs discovered two chemicals in the H-Canyon in greater quantities than stated in the H-Canyon Documented Safety Analysis. Compensatory measures were immediately put in place, and later a Potential Inadequacy in the Safety Analysis was determined to exist.
- SR: Operations Oversight Division FRs provided oversight at Brookhaven National Laboratory during reactor decommissioning.
- SR: FRs provided oversight of Recovery Act work resulting in closure of the P and R Reactors, Heavy Water Component Test reactor, PAR Pond facilities, and D-Area Coal Pile Run-off Basin.
- SR: Waste Disposition Operations Division FRs identified issues with H-Tank Farm Operations' compliance with procedures for waste tank temperature control as part of the Corrosion Control Program, resulting in increased awareness and attention to the program requirements.
- WVDP: The FR served as WVDP Acting Deputy Director for two months.

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OFFICE OF NUCLEAR ENERGY (NE)

<u>Location*</u>	<u>Analysis FTE</u>	<u>Approved FTE</u>	<u>Actual Staff</u>	<u>% Staff *</u>	<u>Gains / Losses</u>	<u>% Core Qualified *</u>	<u>% Fully Qualified *</u>	<u>% Oversight Time **</u>
ID (NE)	9	9	8 (-1)	78	0	78	78	73
NE Totals	9	9	7	78	0	78	78	73
DOE GOALS	—	—	—	100	—	—	>80	>65

* Location Key:

ID = Idaho Operations Office

* % Staff and % Qualified:

The number on board divided by the Analysis FTE.

** % Oversight Time:

The number of hours spent in oversight activities divided by the number of available work hours in the quarter. The number of available work hours includes normal scheduled work and overtime, but not leave or special assignments greater than one week assigned.

Notes:

One of 8 ID (NE) FRs was on temporary detail to augment ID (EM) FR staffing, leaving 7 FTE for actual staffing.

NE Facility Representative (FR) Highlights:

- ID (NE): An FR at the Advanced Test Reactor (ATR) Complex was recognized as the 2010 Facility Representative of the Year during a ceremony at the FR Workshop and later in person by the Secretary of Energy at DOE Headquarters.
- ID (NE): An ATR Complex FR identified a lack of clean area controls and foreign material exclusion (FME) practices during fire system maintenance, and deficiencies with the use of radiological controls hold points in work control documents. The FR worked with the contractor to address these conditions, resulting in improved FME practices by the contractor during fire system maintenance and improved radiological controls implementation and oversight in work control documents.
- ID (NE): ATR Complex FRs, with the assistance of other DOE-ID FRs, led a focused surveillance of the ATR during the reactor startup following an event. This effort included direct observation of all reactor tank work, reactor refueling, and reactor startup control room activities over a six-day period to verify contractor corrective actions for the event.
- ID (NE): An ATR Complex FR served a four-week temporary detail with the Idaho Cleanup Project, augmenting Federal oversight of construction and turnover activities of key waste treatment systems at the Integrated Waste Treatment Unit.
- ID (NE): During routine operational awareness activities at the Materials and Fuels Complex, an FR teamed with the assigned SSO staff and provided oversight of a reactor startup at the Neutron Radiography Reactor. The team identified several issues with control of trainees and procedural compliance. These issues, combined with an improper valve line-up prior to reactor operation, resulted in the reactor being shut down for corrective actions prior to reactor restart.

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NATIONAL NUCLEAR SECURITY ADMINISTRATION (NNSA)

<u>Location</u>	<u>Analysis FTE</u>	<u>Approved FTE</u>	<u>Actual Staff</u>	<u>% Staff *</u>	<u>Gains / Losses</u>	<u>% Core Qualified *</u>	<u>% Fully Qualified *</u>	<u>% Oversight Time **</u>
LASO	15	13	12	80	0	73	73	73
LSO ¹	9	9	8	89	±1	67	67	71
NSO	7	7	7	100	0	86	86	86
PXSO	10	9	9	90	0	90	90	83
SRSO	3	3	3	100	0	100	100	68
SSO	6	6	6	100	0	83	83	74
YSO	9	9	8	89	0	89	89	76
NNSA Totals	59	56	53	90	±1	84	84	76
DOE GOALS	—	—	—	100	—	—	>80	>65

Location Key:

LASO = Los Alamos Site Office
LSO = Livermore Site Office

NSO = Nevada Site Office
PXSO = Pantex Site Office

SRSO = Savannah River Site Office
SSO = Sandia Site Office

YSO = Y-12 Site Office

* % Staff and % Qualified:

The number on board divided by the Analysis FTE.

** % Oversight Time:

The number of hours spent in oversight activities divided by the number of available work hours in the quarter. The number of available work hours includes normal scheduled work and overtime, but not leave or special assignments greater than one week assigned.

Notes:

- 1 One LSO FR retired, and the FR Program Manager assumed FR duties.

NNSA Facility Representative (FR) Highlights:

- LASO: An FR identified software quality assurance issues with software used to develop the Weapons Engineering Tritium Facility.
- LASO: An FR identified multiple issues with on-site low level waste disposal.
- LASO: An FR identified a Technical Safety Requirement violation when a facility had fewer than the required staff working.
- LASO: Several FRs provided technical and radiological support during the Los Conches wild fire response.
- LASO: All FRs participated in reconstitution and restart activities after the lab was closed for a week due to the Los Conches wild fire, the largest fire in New Mexico history.
- LSO: An FR observed a waste technician performing tritium swipes and counting the swipes on a liquid scintillation counter (LSC). Further investigation by the FR revealed that the technician was not authorized by the work permit to perform the swipes and use the LSC, and had not completed the required training for performing these steps.
- LSO: An FR identified that one Firing Tank Operator was overdue on a number of training classes required by the contractor's integrated work sheet (IWS) and two other Firing Operators had not signed the IWS.
- LSO: While performing a high explosives inventory control assessment, an FR identified that the actual explosives inventory for two of the work rooms did not match the amount documented by the contractor.

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NNSA Facility Representative (FR) Highlights:

- LSO: While performing a walkthrough, an FR discovered a partially filled hazardous waste container bearing a hazardous waste label with a starting date of June 2004. The contractor waste management requirements do not allow hazardous waste to be stored in a Satellite Accumulation Area for more than nine months.
- LSO: FRs performing Conduct of Operations assessments identified a number of issues, including a required reading program not fully implemented, required lockout/tagout inspections not performed, methods for maintaining timely orders not established, various posting and labeling issues, and failure to perform eye wash/shower inspections.
- NSO: An FR participated as member of the Chief of Defense Nuclear Safety 2011 Biennial Review of the Livermore Site Office.
- NSO: An FR participated on the NSO Line Oversight / Contractor Assurance System (LOCAS) Affirmation Self-Assessment Team, a joint DOE-Contractor assessment in preparation for the upcoming NNSA HQ LOCAS Affirmation review.
- NSO: FRs validated closure of Pre-Start findings for the Joint Actinide Shock Physics Experimental Research (JASPER) facility startup.
- NSO: An FR performed Federal confirmation of the contractor's Independent Verification Review of the Device Assembly Facility Documented Safety Analysis revision and Technical Safety Requirements implementation.
- PXS0: FRs led two NNSA Readiness Assessments at the Pantex Plant.
- PXS0: An FR participated as member of the Chief of Defense Nuclear Safety 2011 Biennial Review of the Livermore Site Office.
- PXS0: An FR graduated from the Sandia National Labs Weapons Intern Program.
- SRSO: An FR identified a lockout/tagout issue and averted a violation.
- SRSO: The Senior Facility Representative is on detail as the Assistant Manager for Mission Assurance.
- SSO: The Sandia Pulsed Reactor Facility Critical Experiments FR provided oversight of the design, installation, functional testing, and Readiness Review for the Variable Moderator Height modification. The FR also reviewed the new operational procedures and observed the first approach to achieving Delayed Criticality.
- SSO: An FR developed and executed an oversight plan for the repackaging of five Hazard Category-3 drums in a less-than-Hazard-Category 3 facility that had a DOE/NNSA approved exemption to 10CFR830 Subpart B requirements. All the drums were safely repackaged per the exemption requirements.
- SSO: A new FR completed qualification on the Annular Core Research Reactor and assumed responsibilities for this facility on July 25, 2011.
- YSO: FRs identified long-standing issues with alarm response procedures.
- YSO: FRs identified issues with security plan compliance.
- YSO: FRs identified issues with subcontractor compliance with respiratory protection requirements.

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OFFICE OF SCIENCE (SC)

<u>Location</u>	<u>Analysis FTE</u>	<u>Approved FTE</u>	<u>Actual Staff</u>	<u>% Staff *</u>	<u>Gains / Losses</u>	<u>% Core Qualified *</u>	<u>% Fully Qualified *</u>	<u>% Oversight Time **</u>
AMES	1	1	1	100	0	100	100	75
ASO	7	5	5	71	0	71	71	80
BHSO	4	4	4	100	0	100	100	78
FSO	2	2	2	100	0	50	50	81
NBL	1	1	1	100	0	100	100	74
OR (SC)	5	5	5	100	0	100	100	80
PNSO	3	3	3	100	0	100	100	73
SC Totals	23	21	21	91	0	89	89	77
DOE GOALS	—	—	—	100	—	—	>80	>65

Location Key

AMES=AMES Site Office BHSO = Brookhaven Site Office NBL = New Brunswick Laboratory PNSO = Pacific Northwest Site Office
 ASO = Argonne Site Office FSO = Fermi Site Office OR = Oak Ridge Office

* % Staff and % Qualified:
 The number on board divided by the Analysis FTE.

** % Oversight Time:
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SC Facility Representative (FR) Highlights:

- ASO: Two FRs participated on Readiness Assessments.
- ASO: An FR coordinated a review of the Argonne National Laboratory Nuclear Criticality Safety Program, a Safety Management Program credited in the Documented Safety Analyses for several nuclear facilities.
- ASO: An FR identified discrepancies in the contractor's Fire Protection Program Description and worked with the contractor to identify a path forward to correct any deficiencies.
- ASO: An FR at the Advanced Photon Source (APS) reviewed the past three years' Unreviewed Safety Issue (USI) screenings and confirmed that no DOE approvals have been triggered.
- ASO: An APS FR, with another accelerator FR, developed USI guidance for Argonne to cover as-found conditions that require USI screening.
- BHSO: Two FRs performed an accelerator safety assessment of all BNL accelerators, focusing on the contractor's USI process. Several findings were identified.
- BHSO: All FRs were involved with the preparations for Hurricane Irene, which impacted Long Island. FRs manned the BNL Emergency Operations Center (EOC) for 36 continuous hours during the passage of the storm and followed the contractor response to storm damage.
- BHSO: An FR performed a chemical safety assessment of BNL. Several findings were identified.
- BHSO: An FR participated in the contractor review of a refrigerant compressor hydraulic oil leak. About 100 gallons spilled when a piece of steel tubing ruptured due to vibration.

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SC Facility Representative (FR) Highlights:

- BHSO: An FR participated in the annual Accelerator Safety Workshop held at ANL.
- NBL: The FR observed hydrostatic testing of the Plutonium Wing automatic sprinkler system installation.
- NBL: The FR walked down completed construction work involving fire wall penetration repairs, ventilation improvements, and automatic sprinkler upgrade projects.
- NBL: The FR participated in an investigation of alleged conditions at NBL raised through a formal employee safety concern.
- OR (SC): FRs conducted 86 walkthroughs, including 15 joint walkthroughs with Environment, Safety and Health Subject Matter Experts.
- OR (SC): FRs conducted a Conduct of Operations assessment of ORNL nuclear facilities and the Spallation Neutron Source, and prepared an overall assessment report.
- PNSO: An FR reviewed the 2011 Annual Update to the Hanford 325 Building Documented Safety Analysis and Technical Safety Requirements, and identified issues associated with a system description.
- PNSO: Following emergency drills, FRs identified significant facility notification/communication issues for Laboratory-occupied facilities on the Hanford Site, and issues with isolation of building ventilation systems under emergency conditions.
- PNSO: An FR recognized a Technical Safety Requirement violation that the contractor had not reported, regarding fire system operability at the Hanford 325 Building. FR involvement resulted in appropriate classification and better follow-up by the contractor.

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