

# memorandum

DATE: October 30, 2007

REPLY TO  
ATTN OF: SE-31:MonroeSUBJECT: **OAK RIDGE OFFICE FISCAL YEAR 2007 INTEGRATED SAFETY MANAGEMENT SYSTEM DECLARATION SUBMITTAL**TO: Raymond L. Orbach, Under Secretary for Science, SC-4, FORS  
James A. Rispoli, Assistant Secretary for Environmental Management, EM-1, FORS  
Dennis R. Spurgeon, Assistant Secretary for Nuclear Energy, NE-1, FORS

In response to the memorandum from James A. Rispoli dated July 16, 2007, I am submitting this declaration of Integrated Safety Management System (ISMS) implementation for the Oak Ridge Office (ORO). ORO implements its ISMS through the *ORO Management System Description*; the *ORO Integrated Safety Management Program Description*; the *Manual of Safety Management Functions, Responsibilities, and Authorities, Level III, for the Oak Ridge Office*; and the ORO Quality Assurance Program, the ORO directives system, plus line organization procedures. These documents are reviewed and revised, as needed, to reflect changes in the programs and organizations.

For fiscal year (FY) 2007, I have confirmed that ORO and its contractors have defined and documented ISMSs in place, along with personnel qualified and trained to carry out these functions. ORO and its contractors will assert renewed emphasis on execution and implementation of these programs in order to achieve continued improvements. Separate attachments have been provided with the ISMS declarations for the ORO Office of Assistant Manager for Science (Attachment 1), the Office of Assistant Manager for the Environmental Management (Attachment 2), and the Office of Assistant Manager for Administration (Attachment 3). Overall, ORO's contractors have had good results in implementation of their environmental, safety, and health programs during FY 2007.

For total recordable cases (TRCs) and days away, restricted, and transferred (DART) cases, the Federal workforce has had two TRCs and one DART case for FY 07. The Federal support service contractors fared less well, with four TRCs and three DART cases. The trend lines for the TRC and DART case rates for the contractors continue to improve. Injury case rates have improved over FY 2006 levels as shown below (in cases per 100 full-time equivalents).

<u>Contractor</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Percent Change</u>
UT-Battelle TRC Rate	1.79	1.43	-20%
UT-Battelle DART Case Rate	0.29	0.24	-21%
BJC TRC Rate	1.89	1.19*	-37%
BJC DART Case Rate	0.80	0.12*	-85%

\* Rate is thru third quarter of FY 2007.

Our smaller contractors generally fared quite well on their TRC and DART case rates as well.

<u>Contractor</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Percent Change</u>
Oak Ridge Associated Universities TRC Rate	0.98	0.63	-36%
Oak Ridge Associated Universities DART Case Rate	0.00	0.00	0.0
Wackenhut Services, Inc., TRC Rate*	2.74	2.40	-11%
Wackenhut Services, Inc., DART Case Rate*	1.92	1.80	-5%
Foster Wheeler Environmental Corporation TRC Rate	0.00	0.00	0.0
Foster Wheeler Environmental Corporation DART Case Rate	0.00	0.00	0.0
Isotek Systems, LLC, TRC Rate	0.00**	0.00	0.0
Isotek Systems, LLC, DART Case Rate	0.00**	0.00	0.0

\*\* Isotek Systems, LLC, took over Building 3019 in February 2007.

During FY 2007, ORO had 70 environmental, safety, and health-related reviews and assessments performed by internal and external organizations on the Federal organizations and the contractors. This included two significant operational readiness reviews (ORRs)—one of the High Flux Isotope Reactor (HFIR) restart with the cold source and the other for restart of the Molten Salt Reactor Experiment (MSRE) Facility Fuel Salt Disposition Project. The HFIR ORR was successfully completed during the first attempt in April 2007. Despite initial problems with MSRE Facility readiness, the contractor took appropriate corrective measures and passed its ORR in September 2007. There were no accident investigations in FY 2007 for any of ORO's contractors.

In October 2006, the Institute for Nuclear Power Operations (INPO) completed a review of ORO's Oversight and Corrective Action Management Program, which resulted in no major findings and some recommended improvements that ORO has adopted. In addition to the INPO review, ORO placed heightened emphasis on contractor field operations. Special reviews were performed on work planning, work controls, feedback and improvement, and authorities having jurisdiction (AHJs) over electrical work. In support of daily operational awareness, approximately 1600 walkthroughs of contractor facilities/operations were performed by ORO Federal staff during FY 2007. These assessments, reviews, and walkthroughs determined that:

- ORO's contractor oversight programs are defined, documented, implemented, and staffed with personnel that have the necessary expertise to conduct oversight activities.
- Use of ORO's assessment and issues tracking system, ORION, and trending of information continues to improve.
- Contractor electrical AHJ programs require improvement in the defined roles and responsibilities.
- ORO's near miss performance has shown significant improvement during FY 2007.

ORO will continue to conduct self-assessments and assessments of its contractors to improve implementation of the ISM programs. Please contact me at (865) 576-4444 or Randy Smyth of my staff at (865) 576-1830 if you have any questions.

  
Gerald G. Boyd  
Manager

Addressees

-3-

October 30, 2007

Attachments

cc w/attachment:

G. J. Malosh, SC-3, FORS

I. R. Triay, EM-3, FORS

R. S. Johnson, NE-2, FORS

R. J. Brown, M-2, ORO

**Attachment 1**  
**Office of Assistant Manager for Science**

**U.S. Department of Energy Oak Ridge Office  
Office of Assistant Manager for Science  
Fiscal Year 2007 Integrated Safety Management System Declaration**

**Acronyms**

AMS	Office of Assistant Manager for Science
DOE	Department of Energy
ES&H	environment, safety, and health
FY	fiscal year
ISM	Integrated Safety Management
ORISE	Oak Ridge Institute for Science and Education
ORNL	Oak Ridge National Laboratory
ORO	Oak Ridge Office
SME	subject matter expert

**AMS**

During fiscal year (FY) Y 2007, the Office of Assistant Manger for Science (AMS) for the U.S. Department of Energy Oak Ridge Office (ORO) continued implementation of an effective Integrated Safety Management (ISM) Program with focused emphasis on continuing improvements that were initiated during FY 2006. The areas of specific ISM importance during FY 2007 were as follows:

- Continued emphasis on performing effective environment, safety, and health (ES&H) oversight of UT-Battelle, LLC, at the Oak Ridge National Laboratory (ORNL) and Oak Ridge Associated Universities at the Oak Ridge Institute for Science and Education (ORISE), as well as self-assessment of the AMS internal operations.
- Improved integration of Facility Representatives and ES&H subject matter experts (SMEs) in conducting walkthroughs.
- Enhanced planning for assessments.
- Revision of AMS procedures to reflect the current implementation status.
- Improvements in issues analysis and trending.
- Improved utilization of ORION, which is the ORO assessment and issues tracking system.

Each of these areas is discussed briefly below.

In FY 2007, AMS personnel performed over 500 walkthroughs and 16 formal assessments. The walkthroughs included Facility Representative, SME, and Program Manager participation. Walkthroughs occurred on a frequent basis and covered most of the ORNL and ORISE facilities. The Operational Awareness Program is particularly noteworthy, as it includes weekly walkthroughs using a multidisciplinary team (e.g., industrial safety, radiological protection, industrial hygiene, and environmental protection/waste management SMEs). Formal assessments included in-depth reviews of ES&H programs spanning multiple facilities and organizations. Key assessments performed during FY 2007 included the UT-Battelle, LLC, Unreviewed Safety Question Program, Energized Electrical Work Program, safety-related permit programs, Contractor Assurance Program, Lessons Learned/Operational Experience Program, and Emergency Management Program.

Previous assessments of the AMS Facility Representative Program noted that the Facility Representatives did not routinely include ES&H SMEs in performance of their facility walkthroughs. During FY 2007, SME participation in Facility Representative walkthroughs was increased, and the AMS organization will continue to emphasize SME participation in FY 2008. This improvement represents an enhancement of oversight effectiveness.

During late FY 2006, AMS personnel initiated the development of an assessment planning tool to facilitate effective, documented decisions related to assessment needs and schedules. This assessment planning and management tool was completed during early FY 2007 and was successfully utilized in development of the FY 2008 AMS *Integrated Assessment Schedule* and *Three-Year Assessment Plan*. The tool provides a framework for ensuring that assessments needed to ensure adequate ISM performance are identified and scheduled based on current priorities and risks. The tool ensures that a documented, technically sound basis is available for AMS assessments over a rolling three-year planning horizon.

To ensure that AMS personnel perform work and oversight activities in an effective, consistent manner, the AMS organization maintains numerous procedures and job aids. Many of these procedures, including the procedures for assessments and walkthroughs, were scheduled for review and update during FY 2007. This year's AMS self assessment focused on the organization's compliance with ORO directive requirements and will result in further improvements in the AMS procedures. The AMS organization continues to develop and refine office-level command media to support implementation of DOE Order 226.1A, *Implementation of Department of Energy Oversight Policy*.

The AMS organization continues to participate as a member of the ORO Trend Team established in 2006. During FY 2007, the Trend Team performed quality and completeness reviews of all ORION input to assure a reliable data population for trending. Refinements were also made to the trending capabilities in ORION to require addition of subfunctional ES&H trend codes for findings. These enhancements provide a more descriptive data population and allow ES&H trends to be more specific to the nature of the problem.

The AMS organization's utilization of ORION continued to improve during FY 2007. During FY 2006, self-assessment activities noted inconsistencies in the frequency and detail of walkthrough issue reporting in ORION. During FY 2007, substantial improvements were made in this area due to management emphasis. In addition, ORION enhancements have included mandatory ISM/ES&H functional area trending codes, thereby resulting in quality improvement for findings entry and improvements in the AMS organization's documentation of trending codes for findings.

In summary, the AMS organization continues to implement an effective ISM Program that meets its needs and mission. Program improvements were realized in several areas, including planning, walkthrough participation, ORION usage, and trending. The AMS organization will continue to look for ISM Program strengths and weaknesses and will implement any needed corrective actions to assure continuous improvement.

**Attachment 2**  
**Office of Assistant Manager for Environmental**  
**Management**

**U.S. Department of Energy Oak Ridge Office  
Office of Assistant Manager for Environmental Management  
Fiscal Year 2007 Integrated Safety Management System Declaration**

**Acronyms**

AHA	activity hazard analysis
AMEM	Office of Assistant Manager for Environmental Management
BJC	Bechtel Jacobs Company LLC
CY	calendar year
DART	days away, restricted, or transferred
DCD	design criteria document
DOE	Department of Energy
EMS	Environmental Management System
ES&H	environment, safety, and health
FDD	facility design description
FEOSH	Federal Employee Occupational Safety and Health
FY	fiscal year
ISM	Integrated Safety Management
ISMS	Integrated Safety Management System
Isotek	Isotek Systems, LLC
LCO	limiting condition for operation
MLLW	mixed low-level waste
mrem	millirem
MSRE	Molten Salt Reactor Experiment
NDA	nondestructive assay
ORO	Oak Ridge Office
ORPS	Occurrence Reporting and Processing System
OSHA	Occupational Safety and Health Administration
POMC	performance objective, measure and commitment
ppm	parts per million
QA	quality assurance
SR	surveillance requirement
SSC	system, structure, or component
TRC	total recordable case
TSR	technical safety requirements
TWPC	Transuranic Waste Processing Center
VPP	Voluntary Protection Program

**AMEM**

The U.S. Department of Energy (DOE) Oak Ridge Office (ORO) Office of Assistant Manager for Environmental Management (AMEM) Integrated Safety Management System (ISMS) is being effectively implemented. Processes are in place to identify issues and track corrective actions to completion. Federal oversight continues to improve through the use of a fully staffed Facility Representative Program, a mature Assessment Program, and the Safety System Oversight Program. In addition, the AMEM has established integrated project teams in which Federal Project Directors meet weekly with the Facility Representatives and Program Managers to establish oversight priorities.

The major areas of focus during fiscal year (FY) 2008 will continue to be work control, radiological protection, and waste management and transportation. Although improvements were made in these

functional areas during FY 2007, continued focus will be maintained to ensure the programs continue to mature and that field implementation is enhanced.

The AMEM organization's performance objectives will be established consistent with the DOE corporate safety performance metrics being established by the Office of Health, Safety and Security. The AMEM's primary goals are to (1) continue a positive safety metric performance trend and (2) continue progress toward zero accident/incident performance for all of the AMEM contractors and subcontractors.

Specific information is provided below that addresses the performance of the AMEM's contractors and the criteria requested in the July 16, 2007, memorandum.

### **Bechtel Jacobs Company LLC (BJC) FY 2007 ISMS Declaration**

- 1. How effectively are you maintaining your ISMS description, and what is your overall judgment as to the effectiveness of your ISMS implementation? If the judgment is that the ISMS is effectively implemented, provide justification/discussion for your decision based on how the ISMS has provided the worker with a safe work process. If you conclude the ISMS is not effective or requires strengthening, identify the actions planned by DOE and/or the contractor.**

The BJC ISMS description is updated and submitted to DOE on an annual basis, with the most recent revision being completed in February 2007. BJC's implementation of its ISMS includes development of work scope, identification of hazards, implementation of controls, and feedback and improvement at the following four levels:

1. The program or corporate level establishes controls for the company.
2. The project level defines controls based on the project scope.
3. The task or subproject level addresses controls at the level needed to assign work.
4. The activity or worker level ensures that controls are in place at the point where work is performed.

The ISMS description identifies the various programs/processes that are implemented to provide the worker with a safe work process. At the worker level, the work control process ensures that hazards are identified and analyzed and controls are in place to protect the worker. The workers are involved in the work control process.

The BJC ISMS is being effectively implemented. This is demonstrated by the fact that the days away, restricted, or transferred (DART) rate through August 2007 is lower than it has been at the end of any of the past five years. Several other performance metrics which demonstrate improved performance are provided below in the discussion of progress toward the FY 2007 performance objectives, measures and commitments (POMCs).

- 2. How effectively are the Environmental Management System (EMS), Quality Assurance (QA) Program, worker safety and health programs, and other management processes and systems being integrated into the ISMS?**

The objective of the BJC ISMS is to systematically integrate environmental management, worker safety and health, pollution prevention, waste minimization, and QA into management and work practices at all levels so that the workers, the public, and the environment are protected during the completion of BJC's mission. This integration is accomplished in many ways, but two key areas are BJC's matrix management approach and the work control process.

The BJC Functional Managers provide the policy, procedures, and programs within their areas of responsibility, and they provide support to the project teams by matrixing their professional resources to the projects. The BJC Functional Managers provide support at the programmatic level and perform programmatic oversight. The functional personnel deployed to the projects integrate the actions of the project teams from their discipline perspective, ensuring that work is conducted in accordance with the established requirements.

The BJC Safety Systems Integration organization provides direct support to program and project teams throughout the company to facilitate integration of environment, safety, and health (ES&H) and QA activities. The Safety Systems Integration organization includes groups that are responsible for radiation protection, industrial hygiene, occupational safety, environmental protection, nuclear facility safety, nuclear criticality safety, fire protection, and QA.

The BJC work control system is described in BJC-FS-1001, *Work Control Process*, and provides processes to convert the task-level scope of work into a working-level document that is easy for the workforce to understand and use. The fundamental framework of the BJC work control process is ISMS. The Integrated Safety Management (ISM) core functions and guiding principles, along with worker involvement, are incorporated into the work control process to ensure that workers are protected during all phases of the work being completed. The work control process utilizes a team approach that incorporates ES&H and QA personnel, as needed, into the overall process. This team approach ensures proper identification of hazards and integration of controls.

**3. What significant events and/or accidents (e.g., Occurrence Reporting and Processing System [ORPS] events) have occurred since the last declaration? Include investigation results and identification of programmatic or systemic implementation problems with the ISMS. Describe the corrective actions taken and their effectiveness.**

BJC issued 37 occurrence reports during the first 11 months of FY 2007. There were 9 Category 4 occurrences, 11 Category 3 occurrences, 16 Category 2 occurrences, and no operational emergency occurrences. All occurrence reports are tracked in the Issues/Corrective Action Tracking System. A causal analysis is performed for each occurrence above Category 4, and actions to prevent recurrence are identified and implemented. In accordance with the BJC issues management process, corrective actions are identified and implemented by the line organization, and verification and validation is performed by the QA organization.

As discussed below, BJC identified 1 recurring event and issued one recurring event ORPS report.

**4. What recurring events (e.g., those identified in ORPS) have been identified since the last declaration? These should include the ISMS programmatic or system implementation issues identified through required quarterly analysis (per DOE Manual 231.1-2, *Occurrence Reporting and Processing of Operations Information*), as well as the corrective actions taken and their effectiveness.**

The performance analysis process identified a recurring event relative to the number of occurrence reports on potentially inadequate safety analyses, and after further review, BJC filed a recurring event occurrence report. The report presented an analysis of seven positive unreviewed safety question events and one occurrence at the Molten Salt Reactor Experiment (MSRE) Facility from May 2006 through May 2007. The casual analysis from each of the events identified issues with engineering design as either the root or contributing cause. The details associated with each of the individual MSRE Facility events were evaluated collectively, a causal factors analysis was performed to identify both a primary causal factor and contributing causes, and corrective actions at the MSRE Facility were defined and implemented. The evaluation did not identify any other programmatic or systemic ISMS implementation problems.

A targeted safety system review was performed at the MSRE Facility to provide assurance that the credited systems/components and their intended safety functions are identified in the safety basis documents. This review concluded that the systems and components are adequately identified and are adequately controlled through the technical safety requirements (TSR) and the MSRE Facility *Configured Items List*. A second functionality review was performed of the MSRE Facility surveillance test processes to (a) verify that the testing is consistent with the TSR and adequately demonstrates that credited active safety systems and components perform their safety function as defined in the facility safety basis, (b) verify that the surveillance parameters (e.g., numerical) provided in the TSR are supported by a technical basis, and (c) correct deficiencies that potentially

affect safe operations of the facility. This review identified eight issues that were entered into the Issues/Corrective Action Tracking System and tracked to closure, including performance verification of revised surveillance procedures, before returning the affected safety systems and credited design features to service.

BJC issued a yellow/caution lessons learned (Y-2007-OR-BJCMSRE-0701) for dissemination throughout the DOE complex. The corrective actions identified for the occurrence are closed.

**5. What changes have been made to the ISMS since the last declaration and how effective were the changes?**

The BJC ISMS description is updated and submitted to DOE on an annual basis, with the most recent revision being completed in February 2007. The effectiveness of the changes is demonstrated by the fact that the DART rate through August 2007 is lower than it has been at the end of any of the past five years. Several other performance metrics which demonstrate improved performance are provided below in the discussion of progress toward the FY 2007 POMCs.

**6. What are the significant lessons learned identified through analysis of events and assessments (including lessons learned from relevant external events) since the last declaration, including the actions taken and their effectiveness in addressing the lessons learned?**

Lessons learned are identified and communicated, as appropriate, to all affected employees, subcontractors, and BJC organizations. The Lessons Learned Program, as described in procedure BJC-PQ-1240, *Lessons Learned Program*, is an integral part of the BJC ISMS. During FY 2007, BJC in Oak Ridge generated 58 lessons learned that were shared throughout the DOE complex via the DOE Lessons Learned Listserver. In addition, 243 lessons learned from other DOE facilities were distributed to BJC projects for applicability review.

Lessons learned are used by all BJC projects to facilitate the safe, effective performance of work activities. The BJC work control process requires the use of lessons learned during the work planning process.

**7. What is the progress toward the FY 2007 POMCs and its influence on establishing the FY 2008 POMCs, including a discussion of site and contractor performance against the FY 2007 POMCs?**

During FY 2006, BJC provided ISMS performance metric information to ORO. The information included metrics for the following areas: environmental protection, industrial safety and health, radiation protection, nuclear safety, fire protection, authorization basis, security, work control, and transportation management. This trend information is provided to DOE on a monthly basis.

A review of the August 2007 ISMS performance metrics report shows the following:

- The FY 2007 total recordable case (TRC) rate of 1.19 for BJC and subcontractors is lower than the BJC FY 2006 rate of 1.89.
- The FY 2007 lost workday case rate (DART) of 0.12 for BJC and subcontractors is lower than the FY 2006 rate of 0.80. This indicates that the severity of injuries during 2007 has been significantly less than the previous year. Also, the DART rate is lower than the year-end rates for the past five years.
- There has been 1 environmental notice of violation in CY 2007 as compared to 2 in calendar year (CY) 2006.
- There have been 3 personal radiological contamination cases during the first 8 months of CY 2007 as compared to 12 during CY 2006.

The BJC FY 2008 ISM POMCs are provided on the following two pages.

**Bechtel Jacobs Company LLC**  
**FY 2008 ISM PERFORMANCE MEASURES**

	<b>ELEMENT<sup>1</sup></b>	<b>DELIVERABLE</b>
ISM-A01	<p><b>INTEGRATED SAFETY MANAGEMENT PROGRAM</b></p> <p>Demonstrate continued improvement in Integrated Safety Management (ISM) programs and activities.</p>	<p>A01-1 On an annual basis, review and update, for DOE approval, the safety performance objectives, performance measures, and commitments (DEAR 970.5223-1(e) "Integration of environment, safety, and health into work planning and execution").</p>
ISM-A02	<p><b>MANAGE AND PERFORM WORK IN A SAFE AND COMPLIANT MANNER BASED ON THE BJC INTEGRATED SAFETY MANAGEMENT SYSTEM</b></p> <p>Demonstrate key work activities defined by DOE ORO EM Performance Based Measures are performed safely and in a manner that demonstrates protection for employees, the public, and the environment.</p>	<p>A02-1 Defined DOE-ORO EM Performance Based Measures shall demonstrate safe performance of work activities through safety indicators. Status of Integrated Safety Performance will be evaluated on a monthly basis using performance trends/analysis annunciator panel in the following emphasis areas</p> <ul style="list-style-type: none"> <li>➤ Safety</li> <li>➤ Radiation Safety</li> <li>➤ Environmental Protection</li> <li>➤ Nuclear and Criticality Safety</li> <li>➤ Security</li> <li>➤ Packaging &amp; Transportation Safety</li> <li>➤ Work Control</li> <li>➤ Event Notification</li> </ul> <p>Submit trend annunciator panel report to DOE-ORO EM by the 15<sup>th</sup> of each month.</p>
ISM-A03	<p><b>ES&amp;H PERFORMANCE METRICS</b></p> <p>Identify, analyze, and report performance for key ES&amp;H leading and lagging program metrics. Attain a favorable performance trend relative to applicable ES&amp;H benchmarks.</p>	<p>A03-1 Provide a report to DOE ORO EM by the 15<sup>th</sup> of each month on the following metrics:</p> <p><i>Lagging Indicators-</i></p> <ul style="list-style-type: none"> <li>• OSHA Total Recordable Case (TRC) Rate for BJC and subcontractors</li> <li>• Lost Workday Case (LWC) Rate for BJC and subcontractors</li> <li>• Reportable Occurrences of Releases to the Environment</li> <li>• NPDES Permit Nonconformances</li> <li>• Environmental Notices of Violation</li> <li>• Average Measurable Radiation Dose (TEDE)</li> <li>• Collective Radiation Dose (CEDE)</li> <li>• Number of Anomalous Condition Reports (ACRs) by Severity Level</li> <li>• Average Age of Open ACRs</li> <li>• As Found USQs</li> <li>• TSR Violations</li> <li>• Packaging &amp; Transportation Performance</li> <li>• Incidents of Security Concern</li> <li>• Summary of Event Notifications</li> </ul>

**Bechtel Jacobs Company LLC  
FY 2008 ISM PERFORMANCE MEASURES**

	ELEMENT <sup>1</sup>	DELIVERABLE
		<p><i>Leading Indicator</i></p> <ul style="list-style-type: none"> <li>• Near Miss Events</li> <li>• Personal Radiological Contamination Events</li> <li>• "I Care/We Care" Safety Issues</li> <li>• Safety Permit Violations</li> <li>• RWP violations</li> <li>• Environmental Noncompliances</li> <li>• Work Control Issues Self-Identified</li> </ul> <p>These metrics shall include both Bechtel Jacobs Company LLC and Subcontractor performance where appropriate and will generally be reported on a cumulative calendar year basis. Selected metrics will be reported on a fiscal year basis.</p>

<sup>1</sup>The performance indicators are DOE-ORO ISM Expectations for Bechtel Jacobs Company LLC. Although these are not intended to be applied with respect to invoking the Contract Conditional Payment of Fee clause, they represent elements of DOE-ORO's commitment to communicate focused areas for achieving excellence in contractor ISM performance and constitute a focused set of FY 2008 Objectives, Measures, and Commitments [DEAR 970.5223-1(e)] pertinent to BJC making continued improvements in integrated safety management.

**Bechtel Jacobs Company LLC  
FY 2008 ISM PERFORMANCE MEASURES**

	ELEMENT <sup>1</sup>	DELIVERABLE
		<p><i>Leading Indicator</i></p> <ul style="list-style-type: none"> <li>• Near Miss Events</li> <li>• Personal Radiological Contamination Events</li> <li>• "I Care/We Care" Safety Issues</li> <li>• Safety Permit Violations</li> <li>• RWP violations</li> <li>• Environmental Noncompliances</li> <li>• Work Control Issues Self-Identified</li> </ul> <p>These metrics shall include both Bechtel Jacobs Company LLC and Subcontractor performance where appropriate and will generally be reported on a cumulative calendar year basis. Selected metrics will be reported on a fiscal year basis.</p>

<sup>1</sup>The performance indicators are DOE-ORO ISM Expectations for Bechtel Jacobs Company LLC. Although these are not intended to be applied with respect to invoking the Contract Conditional Payment of Fee clause, they represent elements of DOE-ORO's commitment to communicate focused areas for achieving excellence in contractor ISM performance and constitute a focused set of FY 2008 Objectives, Measures, and Commitments [DEAR 970.5223-1(e)] pertinent to BJC making continued improvements in integrated safety management.

**Bechtel Jacobs Company LLC  
FY 2008 Performance Objectives**

Bechtel Jacobs Company is committed to a Zero Accident Philosophy. As a means of providing continuous focus on this goal, performance objectives for FY 2008 have been established as indicated below.

Performance Area	Performance objective
OSHA Total Recordable Case Rate (TRC)	10% below the CY 2007 year end rate
Days Away, Rescticted, or Transferred (DART) Rate	0.50
Average Age of I Care / We Care Issues	≤30 days
Safety Basis Violations	≤10
Average Age of Anomalous Condition Reports (ACRs)	≤30 days
Level 1 and 2 ACRs	Zero

**8. What is the effectiveness of DOE line management oversight of contractor and subcontractor activities? Are there any planned improvements?**

Federal oversight continues to improve through the use of a fully staffed Facility Representative Program, a mature Assessment Program, and the Safety System Oversight Program. In addition, the AMEM has established integrated project teams in which Federal Project Directors meet weekly with the Facility Representatives and Program Managers to establish oversight priorities.

**9. Identification of Federal Employee Occupational Safety and Health (FEOSH) activities, including annual audit results and improvement actions taken.**

See the cover memorandum.

**10. Describe implementation of the ISM core functions for new design/construction and major facility modification projects. Describe the contractor's process for assuring rigorous and timely implementation of the ISM core functions as applied to the new facility (or major modification) projects that are subject to DOE Guide 450.4-1B and consistent with Table 2 of DOE O 413.3A for the applicable stage of the project. How effectively has the contractor implemented their process and what is your DOE office's involvement in ensuring ISM is applied to these and for overseeing these new projects?**

All BJC activities are included in the scope of the BJC ISMS and are conducted in compliance with ISM requirements. All phases of work, from design to demolition, are included in the BJC ISMS.

New designs for or modifications to systems, structures, or components (SSCs) require the development of design criteria (BJC-DE-1016) to incorporate into one document all of the criteria of the interested stakeholders. Included in the source documents for the design criteria document (DCD) are the safety basis documents. If it is a new SSC, a preliminary hazard assessment will be developed, and from that assessment, the SSC category will be determined. If the design is for a Hazard Category 2 or 3 SSC, a preliminary documented safety analysis will be prepared and input to the DCD. If the design is a modification to an existing SSC, an unreviewed safety question determination or UCD will be prepared and may derive criteria that will be input to the DCD. Other input important to safety for the SSC DCD includes the client requirements (such as DOE Order 420.1B, *Facility Safety*); federal, state, and local codes and regulations; industry standards; design standards and guides; lessons learned, etc. Once approved, the DCD becomes the basis for the design output documents, such as engineering drawings and specifications. The design output documents then become input documents for the construction work package (BJC-FS-1001). The work package is prepared for the construction crews to provide them with the criteria and requirements to be met to safely and accurately install the new SSC or the modification.

**11. Identify the trial or special safety improvement initiatives planned or underway intended to positively impact safety performance.**

Over the past year, the BJC Safety Leadership Council has explored a number of ways to understand safety-related issues across the projects, increase employee involvement, and move closer to the goal of zero injuries and illnesses. Participation in the DOE Voluntary Protection Program (VPP) was recommended as a means to enhance BJC's comprehensive management systems and increase employee participation in actively assessing, preventing, and controlling health and safety hazards. In April 2007, the Safety Leadership Council recommended that BJC begin the process of obtaining the VPP designation. Teams have been assembled and trained on the DOE VPP, and in November 2007, the Savannah River Site VPP Core Team will visit and perform a gap analysis against the VPP criteria. In 2008, BJC teams will visit VPP sites to benchmark them against BJC's current programs. After that, BJC will develop corrective action plans based on the gap analysis and the benchmarking efforts. BJC not only wants to assure that DOE's requirements are met but also to go beyond that to provide the best feasible health and safety protection.

**12. How effectively are the ISMS expectations being implemented into desired human behaviors?**

The overall objective of ISM is to “Do Work Safely,” and BJC’s goal is “Zero Accidents.” The results of the performance metrics discussed for the POMCs indicate that BJC is making progress on its journey of continuous improvement, and the overall ISM objective is being effectively implemented.

**13. Is the flowdown of requirements evident from DOE to the contractor, as well as to the subcontractors (especially QA and safety)? Describe the method of DOE and contractor oversight of the flowdown of requirements, how DOE and the contractor ensure proper implementation of these flowed-down requirements (including to the subcontractor), and present objective evidence.**

Under its contract, BJC manages the performance of a portion of its scope through competitively awarded subcontracts. These subcontractors function within the BJC ISMS structure while performing work in accordance with their specific subcontract scope, requirements, terms, and conditions. The BJC process for managing subcontracted work includes proforma management (standard terms and conditions), subcontract formation and selection, subcontract administration, and subcontract coordination.

Requirements flow down from the BJC prime contract to various types of BJC documents, such as policies, program documents, plans, procedures and instructions, subcontract proforma documents, and subcontracts. The process for managing changes to BJC’s set of subcontract proforma documents is governed by procedure BJC-PR-1002, *Processing Proforma Documents*. The objective of the procedure is to ensure the currency and accuracy of subcontract flowdown into the BJC set of subcontract proforma documents.

Configuration control is maintained through the Subcontract Proforma Document Reporting and Tracking Database in accordance with the *Users Guide*. This database was designed to provide an electronic, “real time” database to capture and track data in order to comply with BJC procurement procedure BJC-PR-1002. The Subcontract Proforma Document Reporting and Tracking Database is designed to:

- Record all subcontract proforma documents incorporated into a subcontract.
- Record actions by the Proforma Change Control Board to revise subcontract proforma documents.
- Track Proforma Change Control Board-approved revisions to proforma documents for incorporation into existing subcontracts.
- Track the progress of specific subcontract modifications to incorporate approved revisions against the established 90-day target in procedure BJC-PR-1002.

The Subcontract Formation Team develops a preliminary safety and health applicability matrix and an environmental compliance and protection applicability matrix for inclusion in each request for proposal that clearly specifies those requirements for the subcontract. These matrices are based on the BJC/OR-1745, *BJC Worker Safety and Health Program Description*, and BJC-OR-1747, *BJC Environmental Compliance and Protection Program Description*. The team also works with the Procurement organization to develop specific subcontract language applicable to the work scope. Procedure BJC-PR-1407, *Formation, Processing and Control of RFPs*, describes this process. Requirements flowdown is through the proforma documents listed below.

- “Subcontract Form of Agreement”
- Exhibit A – “General Conditions”
- Exhibit B – “Special Conditions”
- Exhibit C – “Quantities, Prices, Data”
- Exhibit D – “Scope of Work”

- Exhibit E – “Technical Specifications”
- Exhibit F – “Drawing List and Drawings”
- Exhibit G – “Environmental Compliance & Protection, Radiation Protection, Worker Safety & Health”
- Exhibit H – “Workforce Transition Requirements”
- Exhibit I – “Subcontractor Submittal Requirements Summary”
- Exhibit J – “Wage Determination”
- Exhibit K – “Quality Assurance Requirements”
- Exhibit L – “Mandatory Contractor Procedures”

The successful offeror is required to submit a detailed description of the subcontractor’s plans for conducting the work. These plans include the methods for performing the work in accordance with the applicable BJC prime contract ES&H requirements that are flowed down through the applicability matrix. The subcontractor also develops and submits an activity hazard analysis (AHA) that identifies the types of hazards which are known or could be present under the scope of work, including the hazards the subcontractor may create. The AHA includes details on how the subcontractor plans to mitigate or preclude the identified hazards. (See Exhibits G and I.)

In their AHAs, subcontractors must address the types of engineering controls, administrative controls, and personal protective equipment that will be used to mitigate or preclude the identified hazards. The subcontractors ensure that all aspects of the proposed controls are adequate to protect the workers, other site personnel, the public, and the environment from the consequences of normal operations, accidents, or releases to the environment. (See Exhibit G.)

The scope-specific work plan is developed through a concerted effort between BJC project personnel and subcontractor personnel. The activity sequences, prerequisites, and hold points related to ES&H must be documented in the work plan. Based on the identified hazards, BJC and the subcontractor define and agree on the appropriate engineering and administrative controls and the personal protective equipment that will be implemented. If the site conditions change, work is suspended or stopped, the hazards are reviewed, and if needed, the work plan, AHA, and existing ES&H controls are discontinued or modified to adapt to the changed site and hazardous conditions. Controls are also established in the facility safety basis or other work control documents. All aspects of the proposed controls must be adequate to protect the workers, other site personnel, the public, and the environment from the consequences of normal operations, accidents, or releases to the environment.

Exhibit E, “Technical Specifications,” of the subcontract establishes the subcontractor’s work control requirements when the work involves physical, manual, or field-related support activities. Before the initial performance of this type of work, the subcontractor is required to submit a document that defines its work control process, the documents that will be used to implement the work control requirements, and the revision control process for the work control implementing documents.

Personnel qualifications and competencies are derived from the identified scope of work and associated hazards. This requirement is communicated in Exhibit D, “Scope of Work,” and Exhibit B, “Special Conditions Clause for Key Personnel.” At the task level, additional requirements may be required based on the identification of controls.

Subcontractors are required to demonstrate compliance through written programs that BJC reviews prior to mobilization in accordance with the requirements in Exhibit I, “Subcontractor Submittal Requirements Summary (SSRS), Pre-Mobilization Submittal” and BJC’s Procurement Handbook entitled *Subcontract Administration Guide*, Section 2, Volume 2. The subcontractors is not allowed to mobilize until acceptable programs have been reviewed and approved by BJC in accordance with BJC-FS-1012, *Subcontract Coordinator Requirements*, and Exhibit I, “Subcontractor Submittal Requirements Summary.”

BJC Managers of Projects and Functional Managers plan and perform oversight of subcontractors. The types and frequency of subcontractor oversight assessment activities are selected using a graded approach that is based on the work complexity, the hazards, and the risks associated with each project's activities.

The assessment activities for subcontractors' work may include any or all of the following: readiness evaluations, SSC reviews, ES&H Representative assessments, Quality Engineer oversight of the QA Program implementation, management walkdowns, field oversight, surveillances, technical reviews, document reviews, observations, independent assessments, management assessments, subject matter expert assessments, and other subcontractor oversight assessment activities deemed to be appropriate.

**Foster Wheeler Environmental Corporation FY 2007 ISMS Declaration**

This annual ISMS declaration provides the Transuranic Waste Processing Center (TWPC) management with an opportunity to review, analyze, and evaluate the project's safety performance and is a means to identify opportunities for continuous improvement. This declaration addresses the 13 criteria from the DOE Headquarters Office of Environmental Management memorandum dated July 16, 2007. The discussion of each criterion is supported by objective evidence, such as safety performance metrics; trending data; results from assessments, surveillances, and event/accident investigations; and corrective action effectiveness review results. TWPC management's policy is to integrate safety into every aspect of the way personnel think, work, and interact because the health and wellbeing of each person, the community, and the environment are of utmost importance to everyone.

The TWPC ISMS and the DOE ORO ISMS are adequately defined and implemented. An appropriate safety culture and performance at TWPC have been evident, demonstrated, maintained, and both internally and externally evaluated during FY 2007.

Opportunities for ISMS improvement have been identified through internal and external assessments, and actions are in place to implement the improvements during FY 2008.

- 1. How effectively are you maintaining your ISMS description, and what is your overall judgment as to the effectiveness of your ISMS implementation? If the judgment is that ISMS is effectively implemented, provide justification/discussion of your decision based on how ISMS has provided the worker with a safe work process. If you conclude ISMS is not effective or requires strengthening, identify the actions planned.**

The TWPC ISMS is adequately defined and implemented. An appropriate safety culture and performance at the TWPC have been evident, demonstrated, maintained, and both internally and externally evaluated during FY 2007. The TWPC ISMS description has been revised to (1) reflect changes in the work processes since FY 2006, (2) add the four supplemental behavior-based, high-reliability principles, and (3) fully integrate all aspects of the EMS.

Since initiation of construction and throughout operations to date, only one lost work day incident has been experienced (April 2002). Through the end of August 2007, the TWPC has worked over one million hours since the last restricted duty case.

Metric	Hours	Days
Since Last Lost Time Case	1,180,614	1983
Since Last Restricted Duty Case	1,008,768	1783
Since Last OSHA Recordable Case	800,313	1582

Over the past five years, TWPC management has established a successful, proactive safety culture and attained an impressive performance record in conduct of operations and safety. Managers, supervisors, and workers are all visibly committed to performing the work safely. TWPC

management recognizes that approaching work with a questioning attitude must be an expected norm to ensure success.

TWPC management applies significant effort to understanding behaviors and conditions that could impact the safe accomplishment of work. The key to this success has been senior management's expectation for understanding the work and proactively reinforcing behaviors which demand that known problems be openly identified and aggressively solved by seeking input from all levels and elements of the TWPC team. TWPC management has also proactively applied lessons and methods from the Institute of Nuclear Power Operations human performance improvement methodology.

#### Strengths

- The TWPC workforce has demonstrated superior safety performance. The TWPC received numerous awards and recognition for demonstrating outstanding safety performance during FY 2007.
- The TWPC workforce is fully committed to attainment of DOE VPP Star Status in recognition of their superior efforts to work safely.
- TWPC management takes prompt and effective action to remedy safety problems identified by the workers and recognizes/rewards workers' participation in safety committee activities.
- The TWPC has a strong safety culture that is fully supported by the workforce.
- The TWPC demonstrates an experienced workforce and strong, visible management support.
- TWPC managers at all levels are fully engaged in promoting the safety programs and improving performance.
- The TWPC culture promotes direct day-to-day management involvement and feedback for postjob critiques.

#### Weaknesses

Maintaining visible continuous improvement in an environment that has no externally reportable accidents or injuries requires proactive analysis of the other available data. TWPC personnel performed a Collective Significance Analysis of Precursor Incidents based on a review of internally reportable incidents, performance, and work observations to identify opportunities for improvement. This analysis identified several improvement targets characterized as weaknesses. These included:

- Weaknesses in recognition of existing work hazards.
- Inadequate recognition and response to precursor behaviors and incidents.
- Inconsistent management oversight and assessment processes.
- Weaknesses in applying a questioning attitude.

The Performance Assurance organization evaluated the effectiveness of the TWPC safety culture and developed areas for improvement to enhance the TWPC "Safety Conscious Work Environment." In addition, ISMS implementation was reviewed as part the Independent Oversight ES&H Inspection of the Environmental Management Program during June 2006. This inspection identified ISMS strengths, including direct day-to-day management involvement and feedback for postjob critiques. The inspection also identified that improvements were needed in formal assessments, elements of Resource Conservation and Recovery Act training, the rigor of hazards analysis, and the industrial hygiene programs. The TWPC has one remaining open corrective action from this inspection. This open action pertains to timely completion of planned assessments. TWPC management estimates that it will take at least two more quarters to demonstrate that all of the corrective actions taken to remedy the identified weaknesses are adequately implemented.

TWPC management has also identified a weakness in implementation of the Lessons Learned Program related to documentation requirements. The program is not yet in full compliance with DOE

Order 210.2, *DOE Corporate Operating Experience Program*, issued June 12, 2006. An implementation plan has been prepared and approved, but it is not yet fully implemented.

**2. How effectively are the EMS, the QA Program, worker safety and health programs, and other management processes and systems being integrated into the ISMS?**

TWPC management completed a through evaluation of the QA, health, and safety programs in order to prepare a DOE VPP application for Star status. This evaluation concluded that the TWPC has effectively integrated its worker health and safety programs into the ISMS.

The TWPC recently revised its ISMS description to fully integrate all aspects of the EMS. It is expected that full implementation will be accomplished during the first quarter of FY 2008.

The *Collective Significance Analysis of Precursor Incidents Report* from the review conducted by TWPC management also challenged the organization to employ new methods and approaches to enable continued improvement in performance expectations and achievements. TWPC management has integrated many of the methodologies of ISM and human performance improvement into its management programs and processes. The need to identify and understand human performance error precursors and their causes is recognized as a means to lower the threshold for error identification. TWPC management also recognizes that in order to change workers' behaviors, significant emphasis must be placed on identification and analysis of the desirable and undesirable behaviors that impact performance. This includes improvements in workers' ability to quickly recognize situations and respond appropriately.

Achieving recognizable performance improvement in an already highly successful safety culture requires application of recognized technologies and tools. The *Collective Significance Analysis of Precursor Incidents Report* identifies some of the actions that TWPC management is taking to raise the standard of expected performance to a new level. The available technologies include ISM, human performance improvement methodology, and the tools contained in *The Phoenix Handbook*. TWPC management's commitment to achieving the next level of safety performance requires a commitment to identify and address latent organizational weaknesses, human performance error precursors, and flawed defenses associated with undesirable behaviors and conditions at levels not previously tracked or analyzed. At the time this analysis report was issued, the TWPC had operated for over five years without a lost time injury and for over four years without a recordable accident. This performance is believed to result from an experienced workforce, an effective safety culture, and strong, visible management support.

**3. What significant events and/or accidents (e.g., ORPS events) have occurred since the last declaration? Did the event(s) investigation identify programmatic or systemic implementation problems with the approved ISMS? Were appropriate corrective actions developed? Have the corrective actions been effectively implemented, verified, and validated?**

The TWPC had three ORPS-reportable incidents in FY 2007. These incidents were not significant. The incidents are described below, along with the corrective actions taken.

EM-ORO-FWEC-TRUWPFAC-2007-0001, 7-23-2007

TWPC personnel incorrectly characterized the radiological activity of two waste disposal packages (macroencapsulation boxes) shipped to the Nevada Test Site on April 16, 2007, and May 18, 2007. The incorrect characterization of radiological activity resulted from application of the incorrect isotopic distribution data supporting the nondestructive assay (NDA). A preliminary recalculation of the radiological activity using the correct isotopic distribution data confirmed that the two waste disposal packages remain classified as mixed low-level waste (MLLW) and meet the Department of Transportation and Nevada Test Site waste acceptance criteria.

On July 19, 2007, TWPC personnel's data validation and certification of the transuranic waste drums derived from the parent waste box (X10C9311139) identified an error associated with the waste stream designation. This error resulted in use of an incorrect isotopic distribution during evaluation

of the NDA data associated with the daughter containers derived from the waste box. The identification of this error prompted a review of all MLLW containers derived from this box. Segregation of MLLW from previously managed transuranic waste is a routine process described in Section B-3 of the Nevada Test Site MLLW profile FWOR-CHMLLW103. The review of the MLLW containers derived from the parent box identified that TWPC personnel incorrectly characterized the radiological activity of two Nevada Test Site waste disposal packages shipped on April 16, 2007, and May 18, 2007. The disposal packages were configured as bulk macroencapsulation boxes. The first box (X10C0501770) contained six inner drums. The second box (X10C0501868) contained a glovebox and two inner drums. The incorrect characterization associated with each box was caused by incorrect radiological characterization of one drum within each respective box. The characterization errors associated with each drum were due to application of incorrect waste stream isotopic distribution data used to evaluate the NDA data obtained to characterize the drums. The NDA data associated with each drum has been re-evaluated using the correct waste stream isotopic distribution data. An assessment of the disposal containers indicated that the concentration of radioactivity contained in each box supported characterization of the boxes as MLLW. However, assessment of the two drums in question indicated that one drum (X10C0501536) packaged in box X10C0501770 exceeded the transuranic concentration of 100 nanocuries/gram defined in DOE Manual 435.1-1, *Radioactive Waste Management Manual*. The TWPC's characterization/certification process prohibits bulk loading a drum that exceeds the transuranic concentration into a MLLW bulk container for macroencapsulation. The TWPC issued a Waste Nonconformance Report to address this process issue.

TWPC personnel performed an extent-of-condition review of all prior MLLW shipments to the Nevada Test Site and determined that this characterization issue was isolated to the two referenced containers. In addition, TWPC management conducted a critique, including an event timeline and event process flowchart analysis, to document the event. Based on this documentation, a causal analysis was performed using the TapRoot methodology. Seven corrective actions were developed.

EM-ORO--FWEC-TRUWPFAC-2007-0002, 9-12-2007

At approximately 1630 on September 12, 2007, an operator working in the contact-handled storage area observed a radiation hazard tag attached to a 55-gallon waste container (X10C9311716) with the following information:

- Description of Contents: Boxes "Gas" and "Fine Power" were checked
- Chemical Form: H<sub>2</sub>O
- Radioisotope Content: Exploding Stuff from WWII
- Shipper: ME, Location: Las Alamos
- Receiver: YOU, Location: Oak Ridge

The operator notified the Inventory Coordinator, who in turned notified the Operations Manager. Based on the information on the radiological hazard tag, the drum was segregated from other containers, roped off, and treated as a noncompliant container. The contact-handled storage area was unmanned at approximately 1700 as part of normal operations, and it was not manned again until 0900 the next day.

At 0730 on September 13, 2007, senior TWPC management was made aware of the specific wording on the radiation hazard tag. TWPC personnel assessed the potential implications, and the contact-handled storage area and surrounding area were taped off until an investigation of contents of the drum was completed. TWPC management informed the Laboratory Shift Superintendent and Wackenhut Security of the specific wording on the radiation hazard tag. Simultaneous with informing the Laboratory Shift Superintendent and Wackenhut Security, a TWPC employee informed management that he had entered the information on the radiation hazard tag as a joke and had discarded the tag on the floor of the waste conveyance. TWPC management decided to continue the

response of both the Laboratory Shift Superintendent and Wackenhut Security, who responded to the contact-handled storage area with an explosive-detecting dog. The contents of the drum waste traveler were reviewed, and the explosive-detecting dog searched the contact-handled storage area and the particular waste drum. No indications of explosives were found. Following this inspection, the barriers to the contact-handled storage area were removed, and work recommenced at approximately 0900 on September 13, 2007. Four corrective actions were developed.

EM-ORO—FWEC-TRUWPFAC-2007-0003, 9-20-07

On September 13, 2007, TWPC personnel performed the surveillance for limiting condition for operation (LCO) 3.1.1 surveillance requirement (SR) 4.1.6 calibration of the exhaust flow rate measurement as generated by the FIT-011. The FIT-011 failed the calibration check of CM-P-MT-506, *Main Building Ventilation System Preventive Maintenance*, Section 6.2. This requires that the calibration be completed using the vendor manual (T-CM-78-M-IC-001 I.O&M, *Mass Flow Meter*). The FIT-011 failed the calibration. The Maintenance Instrument Calibration Lead informed the on-duty Waste Operations Lead of the failure of the surveillance LCO 3.1.1 SR 4.1.6 calibration of the exhaust flow rate measurement as generated by the FIT-011.

The Waste Operations Lead correctly identified LCO 3.1.1, Condition F, as the appropriate TSR condition. Both the Waste Operations Lead and the Maintenance Instrument Calibration Lead erroneously interpreted application of the extended frequency allowed for surveillances. They believed that the extended frequency allowed an additional 90 days to successfully complete the calibration before the required actions of LCO 3.1.1, Condition F, had to be completed. Consequently, the required actions of Condition F were not completed within the allotted time.

On September 19, 2007, the Director of Facility Management became aware of the erroneous application of the extended frequency for surveillances and directed (1) the MBV-011 exhaust ventilation train associated with the FIT-011 to be secured (LCO 3.1.1, Condition F, action F.1.1), (2) trains MBV-012 and MBV-013 to be brought on line, and (3) establishment of 55,000 standard cubic feet per minute (LCO 3.1.1, Condition F, action F.1.2). This completed the required actions of LCO 3.1.1, Condition F, and allowed the Process Building to enter the operations mode. The following immediate actions were taken:

1. Verified MBV-011 to be out of service.
2. Verified that the Main Building ventilation was equal to or greater than 55,000 standard cubic feet per minute.
3. Verified that LCO 3.0.3 allowed continued operations.
4. Made appropriate notifications.

Further corrective actions will be taken once they are identified.

**4. What recurring ORPS events that have been identified since the last declaration? Do the recurring events identify programmatic or system implementation problems with the approved ISMS? What were these? Were appropriate corrective actions developed? Have the corrective actions been effectively implemented, verified, and validated?**

During FY 2007, the TWPC had three ORPS-reportable incidents. These were neither significant nor recurring.

The review report entitled *Collective Significance Analysis of Precursor Incidents Report* (CM-R-QA-001) contains an analysis of less significant events and concludes that none of the incidents reviewed exceeded the reporting threshold criteria for ORPS or the Price-Anderson Amendments Act. However, based on a review of internally reportable incidents, performance, and work observations, TWPC management determined that seemingly repetitive weaknesses in recognition of work hazards exist at the TWPC. The TWPC Analysis Team inquired into the circumstances surrounding this perception of weakness, determined the facts, and developed a report to be used for corrective action

and organizational learning. The Analysis Team concluded that the incidents described in the TWPC incident investigation reports reveal weaknesses in recognition of work hazards. The team also concluded that the identified behaviors exist in work activities across the TWPC. Failure to correct these behaviors will result in an increased risk of precursor incidents impacting continuous improvement and continued safe performance of work. They could also lead to externally reportable incidents.

The Analysis Team also noted that the manner in which precursor incidents and behaviors are revealed does not meet TWPC management's expectations in that undesired behaviors are not consistently being self-identified at the worker level, by supervisor observation, or through the management assessment processes. In high-hazard industry work, self-identification of unwanted behaviors and identification of precursor conditions are critical components of the desired safety culture. The fundamental behaviors found to be primarily indicative of weaknesses in recognition of work hazards are as follows:

- Inadequate recognition and response to precursor behaviors and incidents.
- Inconsistent management oversight and assessment processes.
- Weaknesses in applying a questioning attitude.

TWPC management has initiated a corrective action plan to review and remedy these weaknesses.

**5. What changes have been made to the ISMS since its approval or the last declaration? Have these changes been effectively implemented, verified, and validated? Provide objective evidence (e.g., summary of results from an assessment).**

The TWPC is undergoing significant changes. The workforce has grown, and in a period of approximately 18 months, it will have doubled in size. The TWPC has been converted from a privately-owned/operated facility under a fixed-price contract to a DOE-owned/contractor-operated facility. This change has required revision of many programs and processes and formal implementation of over 70 additional DOE Orders. In addition, there is a tremendous desire across the DOE complex to make progress in disposing of legacy waste. This desire is inevitably exhibited in the form of production pressure, however subtle, on the TWPC workers. TWPC management recognizes that all of these elements produce added risks that must be understood and managed.

Since the TWPC has superior safety performance, management must be vigilant and responsive to precursor indicators. The TWPC's workforce has increased their level of awareness for the expected behaviors and applicable human performance improvement indicators associated with workplace hazards. There is an expectation that much can be learned and applied to improve the TWPC's performance.

Part of the strategy to manage these changes was to revise and improve the TWPC ISM Program and ISMS description. This includes integration of the TWPC EMS aspects into every ISM core function. These changes will be implemented during the first quarter of FY 2008. (See CM-A-AD-001, *ISMS Description*.) To further TWPC management's commitment to continuous improvement, four supplemental high-reliability principles have been added to the ISMS description. The effectiveness of implementing these principles and associated behaviors will be assessed during FY 2008. These principles are described below.

Four Supplemental High-Reliability Principles

In addition to the original seven ISM principles, DOE has established four supplemental high-reliability principles to help develop the appropriate environment for ISM. The four supplemental principles are as follows:

### Supplemental 1: Individual Attitude and Responsibility for Safety

Each TWPC worker accepts personal responsibility and accountability for safe operations. Individuals should demonstrate a questioning attitude by challenging assumptions and finding the facts for themselves. Attributes of this principle include the following:

- Individuals understand safety expectations and demonstrate responsibility for safety on each job.
- Workers are actively involved in planning and identifying potential hazards.
- People promptly report errors, accidents, and incidents without fear of retaliation.

### Supplemental 2: Operational Excellence

The TWPC achieves sustained, high-level operational performance in safety, productivity, quality, and environment. High reliability is achieved through open communication, deference to expertise, and a systematic approach to eliminating accidents and errors. Attributes of this principle include the following:

- Managers are in close contact with front-line workers.
- Operational anomalies receive prompt attention and evaluation.
- Candid dialogue, debate, and healthy skepticism exist and are encouraged; the messenger is not penalized for bringing forth an issue.

### Supplemental 3: Oversight of Performance Assurance

Competent, independent oversight is an essential source of feedback to management. The feedback verifies that expectations are being met and identifies opportunities for improvement. Attributes of this principle include the following:

- Performance assurance programs are guided by plans that ensure a base level of relevant areas are reviewed.
- Efficient redundancy in monitoring is valued.
- Organizational feedback is actively sought and valued.

### Supplemental 4: Organizational Learning for Performance Improvement

The TWPC demonstrates excellence in performance monitoring, problem analysis, and solution implementation. Management encourages continuous learning. Attributes of this principle include the following:

- Performance is monitored through a variety of indicators, including, management walkarounds, performance trends, benchmarking, and self-assessments.
- People are comfortable raising and discussing questions or concerns; management is not defensive when issues are raised.
- Expertise in causal analysis is effectively applied to events.

## **6. What significant lessons learned that have been identified through analysis of events and assessments (including lessons learned from relevant external events) since the last declaration, including the actions taken and their effectiveness in addressing lessons learned?**

TWPC management has developed a Lessons Learned Program that communicates internal and external experiences to the workforce. Lessons learned potentially reduce risk, improve efficiency, and enhance quality, safety, and cost effectiveness. The Lessons Learned Program facilitates sharing of information in a consistent, timely manner throughout the TWPC and, when appropriate, the DOE complex. Lessons learned are developed so that experience-based information can be shared and used. This process promotes the recurrence of desirable activities and helps preclude the recurrence of undesirable activities. The TWPC's ISM Program requires that feedback processes be established,

and the TWPC's QA Program requires that quality improvement be incorporated into the TWPC's processes. One effective method of meeting these requirements is to develop and maintain the Lessons Learned Program. Through this program, information can be shared, successful practices can be adopted, and mistakes can be avoided.

In 2007, the TWPC had three ORPS events and ten lesser incidents. None of these incidents were significant. Most of the lessons learned shared with the workforce came from external sources within the DOE complex. The TWPC Lessons Learned Program distributes approximately four lessons learned per month. These lessons are shared with the workforce during safety meetings, daily plan-of-the-day meetings, safety committee meetings, and by electronic mail.

TWPC management has identified a weakness in implementation of the Lessons Learned Program related to the documentation requirements. The program is not yet in full compliance with DOE Order 210.2, *DOE Corporate Operating Experience Program*, issued June 12, 2006. An implementation plan has been prepared and approved, but it is not yet fully implemented.

**7. What is the progress toward the FY 2007 POMCs and its influence on establishing the FY 2008 POMCs, including discussion of site and contractor performance against FY 2007 POMCs?**

TWPC management monitors, reviews, and reports safety performance to the workforce during Executive Work Safe Council meetings, during all hands monthly safety meetings, and in a monthly report to ORO. The TWPC has met and exceeded all FY 2007 safety goals, worked 1,180,614 person-hours without a lost time accident, and worked 800,313 person-hours without a recordable injury. (Note: During August 2007, the TWPC passed 1 million hours since the last restricted duty case.)

Metric	Hours	Days
Since Last Lost Time Case	1,180,614	1983
Since Last Restricted Duty Case	1,008,768	1783
Since Last OSHA Recordable Case	800,313	1582

The following table lists the current work-related injury or illness cases that are reportable under the Occupational Safety and Health Administration (OSHA) standards.

Safety Metric	1/07	2/07	3/07	4/07	5/07	06/07	7/07	8/07
DART Cases	0	0	0	0	0	0	0	0
TRC Cases	0	0	0	0	0	0	0	0
DART Case Rate	0	0	0	0	0	0	0	0
TRC Case Rate	0	0	0	0	0	0	0	0
Issues with Safety Impact	0	0	0	2 <sup>a</sup>	1 <sup>b</sup>	2 <sup>c</sup>	0	1 <sup>d</sup>
<p>a. An employee bumped an elbow against a cubical wall, and deviations were observed concerning labeling on an electrical panel.</p> <p>b. A management item entered to track actions resulting from a management assessment</p> <p>c. An empty macro box slipped from a forklift and fell two feet to the ground, and improper work processes were observed in the glovebox.</p> <p>d. An operator bumped a truck while backing a forklift truck.</p>								

The FY 2008 safety performance goals were developed with workforce input and communicated to the workforce and ORO. The TWPC's FY 2007 safety performance ranks first in the DOE

Environmental Management complex. In addition, the TWPC has received numerous awards for superior safety performance in the last year.

The FY 2008 performance expectations for the TWPC are provided below.

#### **Safety Goals and Performance Measures**

- **DART Cases – Goal: < 1/year**  
DART cases based on ORO DART rate objective (0.6) for 172 full-time equivalent workers a year.  $\text{DART cases} < (344,000/200,000) \times 0.6$
- **TRC Cases – Goal: < 2/year**  
TRC based on ORO TRC rate objective (1.3) for 172 full-time equivalent workers a year.  $\text{TRC cases} < (344,000/200,000) \times 1.3$
- **DART Case Rate - Goal: < 0.6**  
DART rate is based on the ORO objective of < 0.6  
 $\text{DART Rate} = \text{Cases} \times (200,000/\text{hrs worked})$
- **TRC Case Rate – Goal: < 1.3**  
TRC rate is based on the ORO objective of < 1.3
- **Issues with Safety Impact – Goal: < 2 /mo**
- **Health and Safety Monitoring Results – Goal: Results < 50% of OEL**  
Exposure assessments are tracked and results reported
- **Health and Safety Inspections – Goal: Nonconformances closed < 30 days**

#### **ALARA and Radiological Goals and Performance Measures**

- **Collective Dose – Goal: <2200 millrem (mrem)**  
This is based on the current dose trend, along with an increased operations, radiation protection, and maintenance workforce population, and it includes both gamma and neutron total effective dose equivalent.
- **Highest Individual Dose – Goal: <200 mrem (10% of the ACL)**  
This is based on the current dose trend of the highest individual.
- **Average Individual Dose – Goal: <32 mrem for persons with 1 mrem or higher**  
This is based on an estimated 70 persons having received a dose of 1 mrem or higher.
- **Personnel Clothing Contamination Events – Goal: <4**  
Clothing (except anticontamination clothing) contaminated with detectable long-lived radioactivity.
- **Personnel Skin Contamination Events – Goal: 0 persons**  
Skin contaminated with detectable long-lived radioactivity. Personnel contaminations may indicate a breakdown of controls intended to prevent the spread of contamination.
- **Unplanned Uptakes >40 DAC-Hours in a Seven-Day Period – Goal: 0 persons**  
Management should focus attention on any failure of controls that results in unplanned uptakes resulting in 40 DAC-hours to an individual in a seven-day period.
- **Contamination Area Size – 3100 Square Feet – Goal: No increase from current**  
Expanding the size of contamination areas or creation through unplanned events or nonessential activities is undesirable and may result in more radioactive waste, potentially more personnel contaminations, or reduced productivity.

### **Nuclear Safety Goals and Performance Measures**

- TSR Violations – Goal: Zero
- Positive Unreviewed Safety Questions – Goal: Zero
- Anomalous Conditions Reports (Level 1–4) – Goal: Zero
- Anomalous Conditions Reports (Level 5) – Goal: < 4
- Anomalous Conditions Reports Days Open – Goal: <30
- Issues with Nuclear Safety Impact – Goal: < 2/month

### **Quality Goals and Performance Measures**

- Noncompliance Reports: No Goal, Performance Measure Only
- CARs: No Goal, Performance Measure Only
- Security Issues – Goal: Zero
- Repackaged Drums Reworked – Goal: Zero
- Audit and Assessment Findings – Goal: Closure < 30 Days
- Issues Related to Operations – Goal: < 2/month
- Human Performance Factors from Causal Analysis: No Goal, Performance Measure Only

### **Environmental Goals and Performance Measures**

- Reportable Releases to the Environment – Goal: Zero
- Notices of Violation – Goal: Zero
- Issues with Environmental Impact – Goal: < 2/month

#### **8. How effective is DOE line management oversight of contractor and subcontractor activities? Are there any planned improvements?**

The AMEM organization's Federal oversight continues to improve through the use of a fully staffed Facility Representative Program, a mature Assessment Program, and the Safety System Oversight Program. In addition, the AMEM has established integrated project teams in which Federal Project Directors meet weekly with the Facility Representatives and Program Managers to establish oversight priorities.

#### **9. Identification of FEOSH activities, including annual audit results and improvement actions taken.**

See the cover memorandum.

#### **10. Describe implementation of the ISM core functions for new design/construction and major facility modification projects. Describe the contractor's process for assuring rigorous and timely implementation of the ISM core functions are applied to the new facility (or major modification) projects that are subject to DOE Guide 450.4-1B and consistent with Table 2 of DOE O 413.3A for the applicable stage of the project. How effectively has the contractor implemented their process and what is your DOE office's involvement in ensuring ISM is applied to these and for overseeing these new projects?**

Implementation of the ISM core functions into new facility design/construction and major facility modifications is conducted according to a number of TWPC procedures and assisted by some tools designed by TWPC management to assure that Project Managers, Designers and other key personnel are aware of the necessary processes and documentation for each facility's lifecycle. Close

coordination of all aspects of project management, design, construction, operation, engineering standards, hazards analysis, safety documentation, quality, etc., combined with use of TWPC's policies, manuals, and procedures has enabled the TWPC to successfully obtain startup authorization for many facilities and modifications.

New projects or modifications are performed within the current organization. No changes have been made or are anticipated, with the exception of a potential BJC scope change to the TWPC's activities. In this case, all parties involved are currently performing work under an approved ISMS.

The implementation status of DOE Order 413.3A, *Program and Project Management for the Acquisition of Capital Assets*, as of the end of August 2007 is as follows: The TWPC delivered Revision 1 of the *Performance Management Baseline*, including detailed work packages, for submittal to the Office of Engineering and Construction Management's External Independent Review Team on August 27, 2007. The baseline submittal also included the TWPC's *Project Management Plan, Risk Management Plan, Risk Register Report*, and the *Risk Analysis and Management Reserve Summary*.

#### **11. Identify the trial or special safety improvement initiatives planned or underway intended to positively impact safety performance**

##### Safety Program Improvements

TWPC management reviewed the report entitled *Collective Significance Analysis of Precursor Incidents Report* related to work control issues that have been identified through internal reporting processes since January 2006. This effort is employing the Phoenix method, and TWPC management contracted Dr. William Corcoran of Nuclear Safety Review Concepts. The analysis effort was completed the first week in September 2007, and TWPC management is evaluating the recommended corrective actions.

##### Safety Conscious Work Environment Initiatives

The TWPC Performance Assurance organization evaluated the effectiveness of these principles in the TWPC safety culture and developed areas for improvement to enhance the TWPC Safety Conscious Work Environment. These improvements include the following:

- Conduct a Safety Conscious Work Environment/safety behavior-based workforce survey.
- Conduct a seminar on consultive group problem solving.
- Conduct additional communication, conflict resolution, and participative decision-making training.

##### Safety Committees

The TWPC has implemented a safety and health committee structure that encourages employee involvement in all aspects of its operations. The top tier of this structure is the Executive Work Safe Council, which provides senior management access and oversight of ongoing safety committee functions. Three safety committees are organized to ensure the breadth and scope of the TWPC's activities are fully represented: (1) Operations and Maintenance Committee, (2) the Office/Administration Committee, and (3) the VPP Steering Committee. Focused working groups are activated to support each of these committees, as needed. Management monitors the membership of these committees to ensure that every TWPC organizational element is represented. In addition to these formal committees, a monthly all hands employee safety luncheon is held to review improvement and performance initiatives and to provide an opportunity for employee feedback in order to encourage participation of all employees in formal safety-focused activities.

##### Peer Safety Observer Program

TWPC management is developing and implementing a Peer Safety Observer Program. Initial training has been completed. The primary purposes of the program are to (1) conduct behavior observations

resulting in immediate feedback to help identify and extinguish at-risk work practices, thereby preventing injuries, (2) support the continual improvement, progress, and institutionalization of the integrated ES&H management system (ISMS), and (3) allow the opportunity to document positive ISM-related behaviors in a consistent manner. This observation program will be proactive and provide positive reinforcement of good ISM behaviors and practices. The goals of this observation program are to:

- Prevent future accidents/injuries by reinforcing good safety behaviors among the workforce.
- Help identify potential precursors to negative safety trends.
- Reduce the number of accidents/injuries incurred.
- Reinforce the implementation of a healthy, active safety culture.
- Improve productivity through better implementation of the ISMS.

#### Voluntary Protection Program

TWPC management has an extremely strong commitment to the safe performance of all work activities, supported by a well-established safety culture and exemplary safety record. The TWPC joined the VPP Participants Association on July 10, 2007. Two chairpersons from the TWPC safety committees attended the National VPP Participants Association conference in Washington, D.C., during August 2007. Over 50 TWPC managers and workers have participated in the VPP application process as authors, reviewers, and subject matter experts. With help from the Oak Ridge Associated Universities mentors, it is anticipated that the TWPC VPP application will be submitted to DOE in September 2007.

#### **12. How effectively are the ISM expectations being implemented into desired behaviors?**

TWPC management recognizes the importance and significance of behavior-based safety and has incorporated these principals into the recently revised TWPC ISMS description, which added the four supplemental high-reliability principles. The Performance Assurance organization evaluated the effectiveness of these principles in the TWPC safety culture and developed areas for improvement to enhance the TWPC Safety Conscious Work Environment. These improvements include the following:

- Conduct a Safety Conscious Work Environment/safety behavior-based workforce survey.
- Conduct a seminar for managers and workers on consultive group problem solving.
- Conduct additional communication, conflict resolution, and participative decision-making training for managers and workers.

In addition, TWPC management conducted a Collective Significance Analysis of Precursor Incidents. The analysis was performed under the general guidance of *The Phoenix Handbook*. The team used a behavioral analysis approach to identify the actual behaviors, desired behaviors, consequences, and corrective actions for a number of TWPC incidents, which were primarily potential precursors and subjected to internal investigation and resolution.

The team reviewed the results of the incident investigations. This allowed each team member to develop familiarity with all the incidents and ensured that the team remained consistent in its approach. By reviewing the vulnerabilities and missed opportunities, the team was able to develop a set of behavioral categories. Each behavioral category describes a set of behaviors that need to take place for the TWPC to function safely and efficiently. The set of behavioral categories includes the set of undesired behaviors derived from the incidents included in the analysis.

Based on this review of internally reportable incidents, performance, and work observations, TWPC management determined that seemingly repetitive weaknesses in recognition of work hazards exist at the TWPC. The Analysis Team inquired into the circumstances surrounding the perception of weakness, determined the facts, and developed a report to be used for corrective action and

organizational learning. The Analysis Team concluded that the incidents described in TWPC incident investigation reports reveal behaviors involving weaknesses in the recognition of work hazards. The team also concluded that the identified behaviors exist in work activities across the TWPC. Failure to correct these behaviors will result in an increased risk of precursor incidents, which could impact continuous improvement and continued safe performance of work. They could also lead to externally reportable incidents. The Analysis Team also noted that the manner in which precursor incidents and behaviors are revealed does not meet management's expectations in that the undesired behaviors are not consistently being self-identified at the worker level, by supervisor observation, or through the management assessment processes. In high-hazard industry work, self-identification of unwanted behaviors and identification of precursor conditions is a critical component of the desired safety culture. The fundamental behaviors found to be primarily indicative of weaknesses in the recognition of work hazards are as follows:

- Inadequate recognition and response to precursor behaviors and incidents.
- Inconsistent management oversight and assessment processes.
- Weaknesses in applying a questioning attitude.

The TWPC continues to enjoy the success of exceptional safety performance. However, this analysis suggested that improvements are needed to provide confidence in continuing this success into the future. Any improvements implemented will make the TWPC safety culture more robust and will enhance its ability to accept future challenges. The Analysis Team recommends the following combination of corrective actions on work hazard recognition:

- Review and improve the programs, processes, and procedures related to worker self-assessment, management assessment, and work observation processes to improve early problem identification.
- Perform a global review of work planning and hazard analysis, including the identification of expected behaviors and other opportunities for improvement.
- Review the workload and current expectations placed on first-line supervision and second-tier management to ensure adequate time is allocated to be at active work sites observing, coaching, and recording.

**13. Describe the evidence of flowdown of requirements from DOE to the contractor to the subcontractors (QA and safety). Describe the method of DOE and contractor oversight of the flowdown of requirements and how DOE and the contractor ensure proper implementation of these flowed down requirements (including to the subcontractor). Present objective evidence.**

The TWPC has fully implemented flowdown of requirements into all work performed by the TWPC workforce and into the work and materials obtained through subcontracts and vendors. As detailed in the ISMS description, the primary mechanism for flowdown of DOE ES&H-related requirements is the TWPC Standards/Requirements Identification Document, which feeds the requirements functional areas (safety, health, environmental management, and QA). These requirements flow down into TWPC's system of company-level policies and procedures used in the performance of work. This process is governed by the TWPC company-level procedures.

The TWPC controls procurement to ensure incorporation of the appropriate technical, facility safety, worker health and safety, regulatory, and quality verification requirements. TWPC personnel assess subcontractor qualifications and acceptability commensurate with the QA categorization (i.e., grading) of the scope of work. TWPC management monitors each subcontractor's performance with a formality commensurate with the graded assurance category of the subcontracted scope of work.

TWPC management approves subcontractors for work through a formal subcontracting prequalification evaluation process. During the evaluation process, Health and Safety organization personnel review the subcontractor-supplied information. This information describes the

subcontractor's past performance and health and safety programs, including the employee accident experience for the last three years. The information reviewed includes the OSHA-recordable case rate, lost and restricted workday rate, vehicle accident rate, number of fatalities with a description of each, and the worker compensation interstate experience modification rate.

The subcontractor's AHA must be submitted and approved by the TWPC Health and Safety organization prior to the subcontractor mobilizing to the site. In addition, TWPC management requires the subcontractor to submit its substance abuse policy for approval by the TWPC Health and Safety organization or submit a letter stating that it will abide by TWPC's policy. The Health and Safety organization reviews and approves the subcontractor's profile information (safety record, OSHA reporting, etc.) prior to subcontract award. The QA organization reviews the subcontractor's quality plans and submits a supplier quality evaluation to the Procurement organization prior to award. The Environmental organization reviews the activities and process plans prior to approval.

All TWPC subcontractors and their workers are responsible for understanding and complying with all applicable TWPC site requirements, including all injury and illness reporting requirements. The flowdown of safety and health requirements to subcontractors is accomplished by including appropriate statements and specifications in the subcontract documents.

Subcontractors performing work at the TWPC site are required to comply with the applicable requirements of the Worker Safety and Health Program and its subsidiary plans, procedures, and work instructions. In addition, subcontractors are required to attend a TWPC ES&H briefing and training when they arrive on site. Acknowledgement of this briefing, including the training, serves as confirmation of their commitment to comply with the TWPC site requirements.

Subcontractors working in radiological areas are required to have appropriate radiological worker training, are issued thermoluminescent dosimeters by the Dosimetry organization, and must participate in the Bioassay Monitoring Program.

Subcontractor workers are required to actively participate in hazard assessments and provide feedback to continually improve work practices. Subcontractor workers also participate in field/job walkdowns, critique meetings, and debriefings (as applicable to their work scope).

Subcontractors who do not implement or enforce the safety and health rules are dismissed from the TWPC site. Cooperation and compliance are expected.

TWPC management empowers all TWPC workers and subcontractors to refuse to perform work that they reasonably believe poses an imminent risk of death, serious physical harm, or other serious hazard, even if directed to do so by supervisors, customers, or other contractors on the site. Work that is suspected or proven to place the workers, the public, or the environment at risk is stopped until it can be demonstrated that the risk has been reduced to acceptable levels and it is safe to proceed with the work. Personnel that stop or suspend work notify other affected personnel and their Functional Manager.

#### **Isotek Systems, LLC (Isotek) FY 2007 ISMS Declaration**

Isotek assumed management and operating responsibility for the Building 3019 complex at the Oak Ridge National Laboratory on March 1, 2007. Since the transition of responsibility, Isotek has expanded implementation of its ISMS described in ISO-ESH-002, *Integrated Environment, Safety, and Health Management System Description*, from those aspects associated with a design engineering activity to a comprehensive management and operating activity. Concurrently, DOE approved ISO-ESH-003, *Worker Safety and Health Program*, which addresses Isotek's management system for ensuring compliance with 10 CFR 851.

Isotek management believes that a project's success hinges on addressing safety, health, environmental, and quality issues early in the project's lifecycle and ensuring full integration of sound work practices into

all project activities. Line management has responsibility for the safety and health of the public and the workforce, protection of the environment, and attainment of quality objectives. Furthermore, an ISMS is most effective when developed early and implemented throughout all project phases. The Isotek ISMS is designed to ensure that the safety basis, environmental protection, and worker and public safety are appropriately addressed in the planning and performance of any task, including design of the processing systems, modifications to the Building 3019 complex, and other support operations for the U-233 Project.

- 1. How effectively you are maintaining your ISMS description, and what is your overall judgment as to the effectiveness of your ISMS implementation? If your judgment is that the ISMS is effectively implemented, provide justification/discussion for your decision based on how the ISMS has provided the worker with a safe work process. If you conclude the ISMS is not effective or requires strengthening, identify the actions planned by DOE and/or the contractor.**

Isotek is currently drafting its ISMS description for submittal to DOE. This submittal is scheduled for October 2007.

Isotek's ISMS and the underlying implementing procedures have proven effective since the transition to management and operating activities. As a result of the transition, Isotek's work activities have expanded from administrative tasks, such as those associated with design engineering, to include hands-on work that is planned by Isotek and performed by both Isotek and subcontractor resources. While the experienced gained since the transition has resulted in improvements in the procedures that Isotek relies on to implement its ISMS, the framework of the ISMS has remained sound. No changes have been made to Isotek's ISMS since the last declaration.

- 2. How effectively are the EMS, QA Program, worker safety and health programs, and other management processes and systems being integrated into the ISMS?**

The Isotek ISMS includes the Quality Management System, the EMS, and the Worker Safety and Health Program. These systems integrate safety, health, environmental protection, pollution prevention, waste minimization, and QA. The Isotek ISMS fully integrates the elements of its EMS as described in ISO-ENV-004, *Environmental Management System Plan*, and includes pollution prevention, environmental regulatory compliance, and chemical management. Isotek's EMS is incorporated with the ISMS to ensure that a continuing cycle of planning, implementing, evaluating, and improving processes and actions undertaken to achieve environmental goals is established.

The Isotek QA Program requirements share a management systems approach with ISM in achieving the established objectives. As such, there are opportunities to use a single document to describe how Isotek intends to implement the requirements. Isotek management has included ISM in the grading process for quality and includes safety as one of the determining factors for determining the quality level for an activity, item, or service.

As a part of the ISMS, Isotek's Worker Safety and Health Program is described in ISO-ESH-003, and it includes Isotek's management approach to ensuring compliance with 10 CFR 851.

Further evidence of the effectiveness of Isotek's ISMS is the active participation in the work planning processes described in ISO-MNT-201, *Work Control*. Procedures ISO-MNT-201 and ISO-OSH-226, *Job Hazard Evaluation*, are intricately woven together to ensure that hazards are comprehensively analyzed, effective controls are developed to ensure worker protection, and the controls are captured in work instructions and procedures developed to perform the work. The dynamic integration between work control and job hazard evaluation has resulted in continuous improvement to the job hazard evaluations prepared by Isotek.

- 3. What significant events and/or accidents (e.g., ORPS events) have occurred since the last declaration? Include investigation results and identification of programmatic or systemic implementation problems with the ISMS. Describe the corrective actions taken and their effectiveness.**

Evidence of the effectiveness of Isotek's ISMS lies in the end result that has been achieved to date (i.e., zero days away, restricted, or requiring job transfer due to worker injury or illness).

In support of preparation of a bid package to remove equipment from laboratories in Building 3019A, Isotek personnel sampled the laboratory hoods to assess the presence of perchlorate salt contamination. The sampling was performed because historical information suggested the use of perchloric acid during laboratory activities conducted in Room 108 during the 1980s. Samples were taken from two locations in each hood due to the likelihood for deposit buildup in the hood system behind the baffle and in the duct leading to the laboratory off-gas header.

Samples from nine of the laboratory hoods were below the action limit of <10 parts per million (ppm) for perchlorates. Samples for two of the hoods showed measurable amounts of perchlorate contamination. The two samples collected at Laboratory Hood IE8651 in Room 108 showed 160 ppm behind the baffle and 75 ppm in the duct. The two samples collected at Laboratory Hood IE8649 in Room 108 showed 340 ppm behind the baffle and 690 ppm in the duct. An initial ORPS report (EM-ORO-ISOT-3019A-2007-0001) was submitted on September 13, 2007, following discovery of the condition, with a revision to the report submitted after the unreviewed safety question determination. The corrective actions are being developed and implemented. The ORPS report has not yet been finalized.

- 4. What recurring events (e.g., those identified in ORPS) have been identified since the last declaration? These should include the ISMS programmatic or system implementation issues identified through required quarterly analysis (per DOE Manual 231.1-2, *Occurrence Reporting and Processing of Operations Information*), as well as the corrective actions taken and their effectiveness.**

The condition described above for item 3 represents the only ORPS reporting that has been necessary since Isotek's transition to management and operating activities. No recurring events have been identified since the last declaration.

- 5. What changes have been made to the ISMS since the last declaration and how effective were the changes?**

Isotek is currently drafting its ISMS description for submittal to DOE. This submittal is scheduled for October 2007.

Isotek's ISMS and the underlying implementing procedures have proven effective since the transition to management and operating activities. As a result of the transition, Isotek's work activities have expanded from administrative tasks, such as those associated with design engineering, to include hands-on work that is planned by Isotek and performed by both Isotek and subcontractor resources. While the experienced gained since the transition has resulted in improvements in the procedures that Isotek relies on to implement its ISMS, the framework of the ISMS has remained sound. No changes have been made to Isotek's ISMS since the last declaration.

- 6. What are the significant lessons learned identified through analysis of events and assessments (including lessons learned from relevant external events) since the last declaration, including the actions taken and their effectiveness in addressing the lessons learned?**

Isotek conducted an evaluation of DOE Order 210.2, *Corporate Operating Experience Program*, against the approved Isotek procedures and submitted an implementation plan to DOE in November 2006. As a result, Revision 2 of ISO-QAC-205, *Lessons Learned*, was issued, and Isotek management designated a Lessons Learned Coordinator in October 2006. The Lessons Learned Coordinator serves as Isotek's point of contact for the DOE Corporate Operating Experience Program and screens notifications regarding DOE Corporate Operating Experience Documents; ES&H Alerts, Advisories, and Bulletins; Just-In-Time Reports; Operating Experience Summaries; and Special Operations Reports. The Lessons Learned Coordinator also screens external organization operating experience documents from the United States and foreign government agencies, industry, professional

societies, trade associations, national academies, and universities for applicability and distributes them, as appropriate. The Lessons Learned Coordinator performs research for relevant lessons learned to assist in the development of procedures and work packages. In addition, the Lessons Learned Coordinator monitors Isotek's activities (i.e., noncompliance reports, ORPS reports, etc.) to determine if a lesson learned should be generated.

Isotek has conducted the following lessons learned efforts since October 2006:

External

- 399 - Total screened
- 350 - Distributed to applicable personnel for information only
- 45 - Not applicable to Isotek's activities
- 4 - Required reading

Internal

- 2 - Isotek lessons learned have been generated
- 1 - Internal required reading (2007-ISO-LL-001)
- 1 - In development as a result of a Category 3 Occurrence (2007-ISO-LL-002)

Other

- 11 - Search requests completed for facility personnel

**7. What is the progress toward the FY 2007 POMCs and their influence on establishing the FY 2008 POMCs, including a discussion of site and contractor performance against the FY 2007 POMCs?**

Isotek is committed to a zero accident philosophy. As a means of providing continuous focus on this goal, Isotek established the FY 2007 POMC of zero recordable injuries. Isotek has achieved that goal with a TRC rate of zero and a DART case rate of zero. Isotek will build on this performance and develop effective FY 2008 POMCs that enable management to focus on managing risk using leading indicators instead of relying solely on consequence assessment using trailing indicators. A table with Isotek's goals and performance metrics is provided below.

**Isotek Performance Goals and Metrics**

Goal	DOE Metric	Function	Frequency
Goal 1 - No Recordable Injuries	Total Case Incidence Rate*	OSH	Monthly
	Days Away, Restricted, Or Transfer Case Incident Rate*	OSH	Monthly
Goal 2 - No TSR Violation	Monthly Safe Work Document Violations*	OSH	Monthly
	Safety Basis and Control Violations per Month	SAF	Monthly
	Occurrence Reporting	QA	Monthly
	Packaging and Transportation Performance at Building 3019	WM	Monthly
Goal 3 - Reduce operating and maintenance costs by 5%			
Goal 4 - Complete required commitments on schedule for 90% of the item entered into ACTS	Average Age of Open Condition Reports	QA	Monthly
	Percent of Completed ACTS Items	QA	Monthly
Goal 5 - No Nuclear Criticality Safety Approval violations	Nuclear Criticality Safety Performance*	NCS	Monthly

Goal	DOE Metric	Function	Frequency
Goal 6 - Convert all Blue-Sheeted Procedures and Documents within 11 months of assuming the Building 3019 Complex			
Goal 7 - No radiation exposures above the Isotek Administrative Control Level	Dose versus Administrative Control Level*	RAD	Quarterly
	Personal Radiological Contamination	RAD	Monthly
	Radiological Work Permit Violations	RAD	Monthly
Goal 8 - Complete all scheduled Management and Independent Assessments as scheduled			
Goal 9 - No Security Infractions or Incidents	Incidents of Security Concern at Building 3019	SEC	Monthly
Goal 10 - Gain DOE validation of Isotek's Integrated Safety Management System			
Goal 11 - Obtain ISO-14001 registration of Isotek's Environmental Management System	Reportable Occurrences of Releases to the Environment	ENV	Monthly
	Environmental Noncompliances	ENV	Monthly
An asterisk (*) denotes metrics that have been altered since memorandum Isotek-U233-05.08.19.3 was issued.			

**8. What is the effectiveness of DOE line management oversight of contractor and subcontractor activities and any planned improvements?**

The AMEM organization's Federal oversight continues to improve through the use of a fully staffed Facility Representative Program, a mature Assessment Program, and the Safety System Oversight Program. In addition, the AMEM has established integrated project teams in which Federal Project Directors meet weekly with the Facility Representatives and Program Managers to establish oversight priorities.

**9. Identify the FEOSH activities, including the annual audit results and improvement actions taken.**

See the cover memorandum.

**10. Describe implementation of the ISM core functions for new design/construction and major facility modification projects. Describe the contractor's process for assuring rigorous and timely implementation of the ISM core functions as applied to the new facility (or major modification) projects that are subject to DOE Guide 450.4-1B and consistent with Table 2 of DOE O 413.3A for the applicable stage of the project. How effectively has the contractor implemented their process and what is your DOE office's involvement in ensuring ISM is applied to these and for overseeing these new projects?**

Isotek has prepared and maintains an ES&H design expectations document that flows down the ISM requirements to design. As the design emerges and reviews are completed, Isotek modifies the facility design description (FDD) to include these ES&H design expectations into the final facility design. The FDD identifies the requirements associated with the SSCs, explains why those requirements exist, and describes the features of the system design provided to meet those requirements. The FDD then becomes a central coordinating link among the engineering design documents, the facility authorization basis, and the implementing procedures. Isotek will use the FDD to control changes as the design evolves from a concept through the preliminary design to the final design. Thus, this ES&H design expectations document will eventually be replaced by the FDD.

Isotek implements the ISM core functions for new design and construction and major facility modification projects in accordance with ISO-PLN-01, *Project Execution Plan*. Identification of design requirements reflecting the ISM core functions and implementation of the associated requirements is ensured through ISO-ENG-002, *Design Change Control*, and ISO-ENG-015, *Integrated Review of Final Design*. Procedure ISO-PLN-004, *EPC Project Plan*, describes Isotek's administrative control functions for performing design. Isotek implements the applicable requirements of DOE Order 413.3A, *Program and Project Management for the Acquisition of Capital Assets*, through ISO-ENG-001, *Value Engineering/Management*; ISO-ENG-017, *General Engineering Processing*; ISO-PRS-001, *Pre-Installation Plan*; and Isotek-U233-07 04 16 01, *Implementation Plan for DOE Order 420.1B, Chapter System Engineering*.

**11. Identify trial or special safety improvement initiatives planned or underway intended to positively impact safety performance.**

Isotek has no trial or special safety initiatives planned or underway.

**12. How effectively are ISMS expectations being implemented into desired human behaviors?**

Isotek continues to manage implementation of its ISMS in order to achieve the expectations to influence desired human behaviors. Those desirable human behaviors include a questioning attitude, participation in work planning, and performing work in accordance with the applicable work plan.

As an example of desirable human behavior, participants in MSRE Facility trap operations at the Building 3019 complex actively engaged in the hazard review process during which the job hazard evaluation for the scope of work was developed. In addition, participants in hoisting and rigging operations at the Building 3019 complex were fully integrated in the lift planning process. Another example of desirable human behavior is reflected by workers providing alternative work practices that further mitigate the risk associated with work performance. This behavior has been exhibited during hazard review team meetings when workers performing work on elevated working platforms suggested alternative work practices to minimize work platform loading. In addition, desirable human behavior is evident when workers provide recommendations to improve Isotek's implementing procedures. Workers' recommendations have resulted in improvements to Isotek's procedures for electrical safety and control of hazardous energy.

**13. Is the flowdown of requirements evident from DOE to the contractor, as well as to subcontractors (especially QA and safety)? Describe the method of DOE and contractor oversight of the flowdown of requirements, how DOE and the contractor ensure proper implementation of these flowed-down requirements (including to the subcontractor), and present objective evidence.**

Isotek has prepared a standard template for flowdown of ES&H requirements to subcontractors (ISO-ESH-2005-001, *Exhibit U: Subcontractor Environment, Safety and Health Requirements*). Isotek's ES&H discipline leads for the subsections of Exhibit U review the scope of work to be performed by the selected subcontractor. Based on their review, the discipline leads determine which subsections of Exhibit U apply to the scope of work. Applicable subsections of Exhibit U become an exhibit in Isotek's subcontract with the selected subcontractor. Exhibit U is included in Isotek's request for proposal to prospective bidders in order to provide them with the information they need to prepare a fair and accurate proposal. Exhibit U includes both the prejob documents that must be submitted by the selected subcontractor prior to mobilizing to the Building 3019 complex and the records and other documentation that must be retained in a readily available form for Isotek's inspection once the subcontractor has mobilized.

**Attachment 3**  
**Office of Assistant Manager for Administration**

**U.S. Department of Energy Oak Ridge Office  
Office of Assistant Manager for Administration  
Fiscal Year 2007 Integrated Safety Management System Declaration**

**Acronyms**

AMA	Office of Assistant Manager for Administration
AMESH	Office of Assistant Manager for Environment, Safety, and Health
CFR	Code of Federal Regulations
COR	Contracting Officer's Representative
DOE	Department of Energy
FEOSH	Federal Occupational Safety and Health
FMT	Facility Management Team
FY	fiscal year
ISM	Integrated Safety Management
ISMS	Integrated Safety Management System
ORO	Oak Ridge Office
ORPS	Occurrence Reporting and Processing System
POMC	performance objective, measure, and commitment
WSHP	worker safety and health program

**AMA**

Based on a review of work scopes during implementation of Title 10, Code of Federal Regulations (CFR), Part 851, the following five contractors supporting the U.S. Department of Energy (DOE) Oak Ridge Office (ORO) Office of Assistant Manager for Administration (AMA) functions were determined to require dedicated worker safety and health programs (WSHPs):

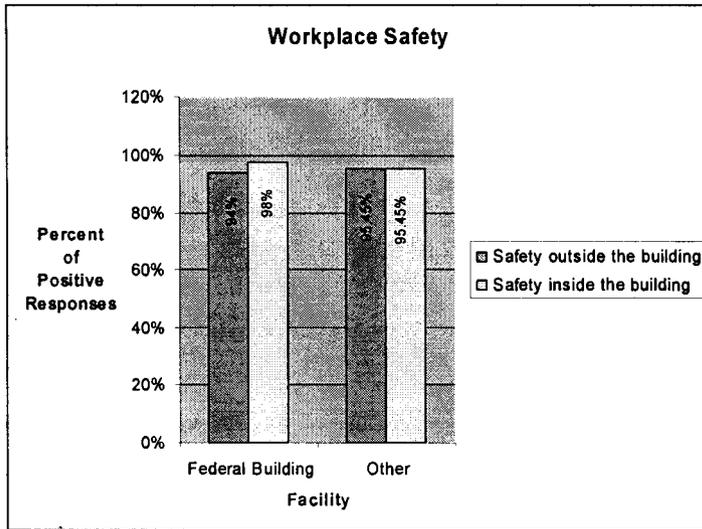
- HME (mowing, facility maintenance, and general Oak Ridge Reservation support)
- East Tennessee Mechanical Contractors, Inc. (roads and heavy equipment)
- Panther/ICF (term partition construction)
- Premiere Building Maintenance Corporation (janitorial)
- Security Consultants Group, Inc. (radio and alarm support)

Each of these contractors successfully submitted WSHPs that were approved by the ORO Manager based on recommendations from the Contracting Officer's Representative (COR) and the Occupational Health and Safety Specialist. All of the remaining AMA contractors' tasks are administrative in nature, and they elected to comply with the Federal Occupational Safety and Health (FEOSH) Program to implement 10 CFR 851.

- 1. How effectively are you maintaining your Integrated Safety Management System (ISMS) description, and what is your overall judgment as to the effectiveness of your ISMS implementation? If the judgment is that the ISMS is effectively implemented, provide justification/discussion for your decision based on how the ISMS has provided the worker with a safe work process. If you conclude the ISMS is not effective or requires strengthening, identify the actions planned by DOE and/or the contractor.**

The Information Resources Management Division maintains a Facility Management Team (FMT) Integrated Safety Management (ISM) Plan that each of the five AMA contractors requiring dedicated WSHPs has elected to follow. This plan has been updated 12 times in fiscal year (FY) 2007. These revisions added or improved the job hazard analyses, updated the organization/staffing assignments, and documented a formal review of the standard operating procedures. The AMA organization maintains a record of the change history and of the issuance of these changes to each person

maintaining a copy of the plan. The last revision was completed in April 2007. The ISMS description follows the five core functions and eight guiding principles of ISM, including the involvement of all workers and management.



The ISMS is being effectively implemented. This is demonstrated by the fact that workers are submitting revisions to the job hazard analyses, plans are being updated, and changes to organization charts and responsibilities are being continually incorporated. Effectiveness is also demonstrated by the latest survey of building occupants, which yielded a high percentage of positive responses on workplace safety within our major facilities. The results of the survey are shown in the figure to the left.

**2. How effectively are the Environmental Management System, quality assurance procedures, WSHPs, and other management processes and systems being integrated into the ISMS?**

The overall objective of the FMT ISMS is to perform the assigned mission activities safely and efficiently while ensuring protection of the workers, the public, and the environment. Due to the varying nature of the work scopes and control processes of the various contracts, the FMT ISMS serves as an umbrella document and is supplemented for each contractor by a dedicated 10 CFR 851 WHSP, Safety Plan, and Quality Assurance Program. The ISM Plan is effectively functioning as the core policy and safety procedure for the work processes within the Information Resources Management Division that are not administrative in nature. Contract Project Managers are responsible for providing programmatic oversight of ongoing projects. The Assistant Manager for Environment, Safety and Health (AMESH) organization provides support in planning and hazard mitigation, as requested.

**3. What significant events and/or accidents (e.g., Occurrence Reporting and Processing System [ORPS] events) have occurred since the last declaration? Are there any programmatic or systemic problems identified with implementation of the ISMS? Include investigation results and identification of programmatic or systemic implementation problems with the ISMS. Describe the corrective actions taken and their effectiveness.**

Occurrence reporting for these contractors is done through the FEDBLDGS account. There have been no ORPS events since the last declaration. No programmatic or systemic problems have been identified with implementation of the ISMS.

**4. What recurring events (e.g., those identified in ORPS) have been identified since the last declaration? These should include the ISMS programmatic or system implementation issues identified through required quarterly analysis (per DOE Manual 231.1-2, Occurrence Reporting and Processing of Operations Information), as well as the corrective actions taken and their effectiveness.**

No recurring events have been identified in ORPS since the last declaration.

**5. What changes have been made to the ISMS since the last declaration and how effective were the changes?**

The Information Resources Management Division maintains an FMT ISM Plan that each of the five AMA contractors requiring dedicated WSHPs has elected to follow. This plan has been updated 12 times in FY 2007. These revisions added or improved the job hazard analyses, updated the organization/staffing assignments, and documented a formal review of the standard operating procedures. The AMA organization maintains a record of the change history and of the issuance of these changes to each person maintaining a copy of the plan. The last revision was completed in April 2007.

The effectiveness of the changes to the ISM Plan is demonstrated by the fact that workers are submitting revisions to the job hazard analyses, plans are being updated, and changes to organization charts and responsibilities are being continually incorporated. Effectiveness is also demonstrated by the latest survey of building occupants, which yielded a high percentage of positive responses on workplace safety within our major facilities.

**6. What significant lessons learned were identified through analysis of events and assessments (including lessons learned from relevant external events) since the last declaration, including the actions taken and their effectiveness in addressing the lessons learned.**

Lessons learned are received from the following sources:

- ORION. ORION is an ORO system designed to support field oversight activities. ORION tracks assessments, assessment-related documentation, walkthroughs, findings, corrective actions, and lessons learned associated with assessments and other oversight activities.
- DOE Office of Health, Safety and Security Lessons Learned Database.
- *Lessons Learned Wednesday* electronic mail messages.
- Facility Manager Notifications.
- Publications/periodicals.
- Workers.

No significant lessons learned were identified through analysis since the last declaration. Lessons learned were utilized at safety meetings to remind workers of the importance of following correct processes in performing routine procedures and to make minor clarifications to existing procedures.

**7. What progress has been made towards the FY 2007 performance objectives, measures, and commitments (POMCs) and how has it influenced establishing the FY 2008 POMCs? Include a discussion of site and contractor performance against the FY 2007 POMCs.**

A primary FY 2007 ISMS performance indicator is the Contractor Accident and Illness Reporting System. Each contractor has a goal of zero lost or restricted work days due to accidents/illnesses. In calendar year 2007, there have been zero recordable cases for all five AMA nonadministrative contractors. Due to the work scopes for these contractors, the risk of and severity of injuries are potentially greater in the nonadministrative area. In calendar year 2007, administrative contractors had two cases: (1) one case was a fall down the stairs that occurred when the employee was returning to her desk at the beginning of the day with a banana and a bottle of water and (2) the other case was an employee who felt pain in her arm after reaching for a cup of water sitting on her desk. Another ISMS performance indicator is the Contractor Performance Rating System. ISMS failures may be reflected in contract ratings. In FY 2007 to date, no negative safety comments are anticipated for the current rating period. Random sampling during September 2007 of contractor 10 CFR 851 WHSP requirements reflected positively on the contractors' compliance with their approved programs.

While the AMA had a drop in vehicle accidents involving deer in FY 2006, the number is climbing again in FY 2007. Trending of vehicle accidents involving deer provides excellent indicators on the

effectiveness of deer population management on the Oak Ridge Reservation. The AMA will work with Environmental Safety personnel to ensure the rates do not continue to escalate.

**8. How effective is DOE line management oversight of contractor and subcontractor activities. Are there any planned improvements?**

Contract oversight includes scheduled facility safety walkthroughs, unscheduled FEOSH inspections performed by AMESH personnel, routine planning meetings, telephone contacts, invoice reviews, job completion and progress inspections, and daily interaction with facility occupants and contractor management personnel. Oversight of the work performed is the primary responsibility of the COR. The Supervisors in the Information Resources Management Division and the Facility Manager also perform oversight activities as part of their management activities for the tasks assigned to the AMA organization in the *ORO Management System Description*. The AMA organization's accomplishments for FY 2007, coupled with the contractors' safety records, support the contention that adequate oversight is being provided. Planned improvements for FY 2008 include reviewing the contract documents for improvement opportunities, formalizing lessons learned data incorporation to provide reportable metrics, and continuing oversight personnel training.

**9. Identify the FEOSH activities, including the annual audit results, and the improvement actions taken.**

The annual FEOSH training requirements have been completed by all contractor staff, as required. The annual audit took place September 21–28, 2007. The results will be entered in ORION, and improvement actions will be assigned once the report is received.

**10. Describe implementation of the ISM core functions for new design/construction and major facility modification projects. Describe the contractor's process for assuring rigorous and timely implementation of the ISM core functions as applied to the new facility (or major modification) projects that are subject to DOE Guide 450.4-1B and consistent with Table 2 of DOE O 413.3A for the applicable stage of the project. How effectively has the contractor implemented their process and what is your DOE office's involvement in ensuring ISM is applied to these and for overseeing these new projects?**

No new design/construction or major facility modification projects were performed in FY 2007. This type of work would be conducted in accordance with ISM requirements and would have dedicated safety planning during the preconstruction phase to ensure thorough implementation of the ISM core functions.

**11. Identify the trial or special safety improvement initiatives planned or underway that are intended to positively impact safety performance.**

No trial or special safety improvement initiatives are currently identified.

**12. How effectively are the ISMS expectations being implemented into desired human behaviors?**

The ISMS expectations are being effectively implemented into desired human behaviors. The workers are speaking up when the scope of a task seems unclear or the adequacy of the hazard controls is in question. Contractor management personnel and DOE oversight staff are requesting job hazard analyses at the work site. Continued training will be necessary through the established safety meetings and planning meetings to reinforce these behaviors and continued full implementation of the ISMS. Engineering and administrative controls are being followed, and personal protective equipment is being used appropriately. Subject matter experts are being consulted. Management personnel are performing walkdowns and other oversight activities.

**13. Is the flowdown of requirements evident from DOE to the contractor, as well as to the subcontractors (especially quality assurance and safety)? Describe the method of DOE and contractor oversight of the flowdown of requirements, how DOE and the contractor ensure**

**proper implementation of these flowed-down requirements (including to the subcontractor), and present objective evidence.**

The AMA organization utilizes the following contract safety clause for its nonconstruction contracts requiring dedicated 10 CFR 851 WHSPs:

**ORO H35 WORKER SAFETY AND HEALTH PROGRAM (JANUARY 2007)**

- (a) “The contractor shall comply with all applicable safety and health requirements set forth in 10 CFR 851, *Worker Safety and Health Program*. The contractor shall develop, implement, and maintain a written Worker Safety and Health Program (WSHP) which shall describe the contractor's method for complying with and implementing the applicable requirements of 10 CFR 851. The WSHP shall be submitted to and approved by DOE. The approved WSHP must be implemented prior to the start of work. In performance of the work, the contractor shall provide a safe and healthful workplace and must comply with its approved WSHP and all applicable federal and state environmental, health, and safety regulations. The contractor shall take all reasonable precautions to protect the environment, health, and safety of its employees, DOE personnel, and members of the public. When more than one contractor works in a shared workplace, the contractor shall coordinate with the other contractors to ensure roles, responsibilities, and worker safety and health provisions are clearly delineated. The contractor shall participate in all emergency response drills and exercises.
- (b) The contractor shall take all necessary and reasonable steps to minimize the impact of its work on DOE functions and employees, and immediately report all job-related injuries and/or illnesses which occur in any DOE facility to the Contracting Officer Representative (COR). Upon request, the contractor shall provide a copy of occupational safety and health self-assessments and/or inspections of work sites for job hazards for its DOE facilities to the COR.
- (c) The Contracting Officer may notify the contractor, in writing, of any noncompliance with the terms of this clause, plus the corrective action to be taken. After receipt of such notice, the contractor shall immediately take such corrective action.
- (d) In the event that the contractor fails to comply with the terms and conditions of this clause, the Contracting Officer may, without prejudice to any other legal or contractual rights, issue a stop work order halting all or any part of the work. Thereafter, a start order for resumption of the work may be issued at the discretion of the Contracting Officer. The contractor shall not be entitled to an equitable adjustment of the contract amount or extension of the performance schedule on any stop work order issued under this special contract requirement.”

Each of the approved contractor WHSPs specifies the flowdown of requirements to subcontractors for the safety program and quality assurance program. Subcontractor compliance with the requirements is monitored by the contractor as well as by the COR and AMA line management via project oversight.

# memorandum

OCT 31 2007

DATE:

REPLY TO

ATTN OF: SE-31:Monroe

SUBJECT:

**OAK RIDGE OFFICE FISCAL YEAR 2007 INTEGRATED SAFETY MANAGEMENT SYSTEM DECLARATION SUBMITTAL**

TO: Raymond L. Orbach, Under Secretary for Science, SC-4, FORS  
James A. Rispoli, Assistant Secretary for Environmental Management, EM-1, FORS  
Dennis R. Spurgeon, Assistant Secretary for Nuclear Energy, NE-1, FORS

In response to the memorandum from James A. Rispoli dated July 16, 2007, I am submitting this declaration of Integrated Safety Management System (ISMS) implementation for the Oak Ridge Office (ORO). ORO implements its ISMS through the *ORO Management System Description*; the *ORO Integrated Safety Management Program Description*; the *Manual of Safety Management Functions, Responsibilities, and Authorities, Level III, for the Oak Ridge Office*; and the ORO Quality Assurance Program, the ORO directives system, plus line organization procedures. These documents are reviewed and revised, as needed, to reflect changes in the programs and organizations.

For fiscal year (FY) 2007, I have confirmed that ORO and its contractors have defined and documented ISMSs in place, along with personnel qualified and trained to carry out these functions. ORO and its contractors will assert renewed emphasis on execution and implementation of these programs in order to achieve continued improvements. Separate attachments have been provided with the ISMS declarations for the ORO Office of Assistant Manager for Science (Attachment 1), the Office of Assistant Manager for the Environmental Management (Attachment 2), and the Office of Assistant Manager for Administration (Attachment 3). Overall, ORO's contractors have had good results in implementation of their environmental, safety, and health programs during FY 2007.

For total recordable cases (TRCs) and days away, restricted, and transferred (DART) cases through the third quarter of FY 2007, the Federal workforce has had two TRCs and one DART case. The Federal support service contractors fared less well, with four TRCs and three DART cases. The trend lines for the TRC and DART case rates for the two major contractors (Bechtel Jacobs Company LLC [BJC] and UT-Battelle, LLC [UT-Battelle]) continue to improve. Through the third quarter of FY 2007, injury case rates have improved over FY 2006 levels as shown below (in cases per 100 full-time equivalents).

<u>Contractor</u>	<u>FY 2006</u>	<u>YTD FY 2007</u>	<u>Percent Change</u>
UT-Battelle TRC Rate	1.79	1.43*	-20%
UT-Battelle DART Case Rate	0.29	0.24*	-21%
BJC TRC Rate	1.89	1.19	-37%
BJC DART Case Rate	0.80	0.12	-85%

\* Rate is for the whole of FY 2007.

Our smaller contractors generally fared quite well on their TRC and DART case rates as well.

<u>Contractor</u>	<u>FY 2006</u>	<u>YTD FY 2007</u>	<u>Percent Change</u>
Oak Ridge Associated Universities TRC Rate	0.98	0.63*	-36%
Oak Ridge Associated Universities DART Case Rate	0.00	0.00*	0.0
Wackenhut Services, Inc., TRC Rate	2.74	2.76	+0.7%
Wackenhut Services, Inc., DART Case Rate	1.92	2.01	+4.7% <i>5 0/0</i>
Foster Wheeler Environmental Corporation TRC Rate	0.00	0.00	0.0
Foster Wheeler Environmental Corporation DART Case Rate	0.00	0.00	0.0
Isotek Systems, LLC, TRC Rate	0.00**	0.00	0.0
Isotek Systems, LLC, DART Case Rate	0.00**	0.00	0.0

\* Rate is for the whole of FY 2007.

\*\* Isotek Systems, LLC, took over Building 3019 in February 2007.

During FY 2007, ORO had 70 environmental, safety, and health-related reviews and assessments performed by internal and external organizations on the Federal organizations and the contractors. This included two significant operational readiness reviews (ORRs)—one of the High Flux Isotope Reactor (HFIR) restart with the cold source and the other for restart of the Molten Salt Reactor Experiment (MSRE) Facility Fuel Salt Disposition Project. The HFIR ORR was successfully completed during the first attempt in April 2007. Despite initial problems with MSRE Facility readiness, the contractor took appropriate corrective measures and passed its ORR in September 2007. There were no accident investigations in FY 2007 for any of ORO's contractors.

In October 2006, the Institute for Nuclear Power Operations (INPO) completed a review of ORO's Oversight and Corrective Action Management Program, which resulted in no major findings and some recommended improvements that ORO has adopted. In addition to the INPO review, ORO placed heightened emphasis on contractor field operations. Special reviews were performed on work planning, work controls, feedback and improvement, and authorities having jurisdiction (AHJs) over electrical work. In support of daily operational awareness, approximately 1600 walkthroughs of contractor facilities/operations were performed by ORO Federal staff during FY 2007. These assessments, reviews, and walkthroughs determined that:

- ORO's contractor oversight programs are defined, documented, implemented, and staffed with personnel that have the necessary expertise to conduct oversight activities.
- Use of ORO's assessment and issues tracking system, ORION, and trending of information continues to improve.
- Contractor electrical AHJ programs require improvement in the defined roles and responsibilities.
- ORO's near miss performance has shown significant improvement during FY 2007.

ORO will continue to conduct self-assessments and assessments of its contractors to improve implementation of the ISM programs. Please contact me at (865) 576-4444 or Randy Smyth of my staff at (865) 576-1830 if you have any questions.

Signed by  
**Gerald G. Boyd**  
 Gerald G. Boyd  
 Manager

*cc's on page 3*

Addressees

-3-

OCT 31 2007

Attachments

cc w/attachment:

- G. J. Malosh, SC-3, FORS
- I. R. Triay, EM-1, FORS
- L. L. Gunter, NE-60, FORS
- R. J. Brown, M-2, ORO

Rtg.Symbol & Init/Sig. <b>SE-30</b> <i>Monroe</i>
Date <i>10/23/07</i>
Rtg.Symbol & Init/Sig. <b>SE-30</b> <i>Smyth</i>
Date <i>10/23/07</i>
Rtg.Symbol & Init/Sig. <b>NS-50</b> <i>Clark</i>
Date <i>10/23/07</i>
Rtg.Symbol & Init/Sig. <b>FM-70</b> <i>Perry</i>
Date <i>10/23/07</i>
Rtg.Symbol & Init/Sig. <b>OS-20</b> <i>Douglas</i>
Date <i>10/23/07</i>
Rtg.Symbol & Init/Sig. <b>AD-40</b> <i>Wilkey</i>
Date <i>10/24/07</i>
Rtg.Symbol & Init/Sig. <b>SC-10</b> <b>Moore</b>
Date <i>enclosed fax</i>
Rtg.Symbol & Init/Sig. <b>EM-90</b> <i>McCracken</i>
Date <i>10/29/07</i>
Rtg.Symbol & Init/Sig. <b>M-2</b> <b>Brown</b>
Date <i>10/21/07</i>
Rtg.Symbol & Init/Sig. <b>M-1</b> <b>Boyd</b>
Date <i>11/2/07</i>

SE-30:HMonroe:576-9439:crsharp:576-0830:10/31/07 File Code:  
 n/se30/TAT Stuff/ORO Reviews/2007 /ISMS Declaration/FY 2007 ISMS Declaration.do



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**Date: Thursday, October 25, 2007**

**To: Harold Monroe**

**Office/Location: AMESH**

**Facsimile: (865) 576-3725**

**Comments:**

We had one small comment I believe you have already incorporated.

This transmittal consists of 2 pages excluding cover sheet

Rtg.Symbol  
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**SE-31**  
**Monroe**  
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**Brown**  
Date

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**M-1**  
**Boyd**  
Date

**U.S. Department of Energy Oak Ridge Office  
Office of Assistant Manager for Science  
Fiscal Year 2007 Integrated Safety Management System Declaration**

**Acronyms**

AMS	Office of Assistant Manager for Science
DOE	Department of Energy
ES&H	environment, safety, and health
FY	fiscal year
ISM	Integrated Safety Management
ORISE	Oak Ridge Institute for Science and Education
ORNL	Oak Ridge National Laboratory
ORO	Oak Ridge Office
SME	subject matter expert

**AMS**

During fiscal year (FY) Y 2007, the Office of Assistant Manger for Science (AMS) for the U.S. Department of Energy Oak Ridge Office (ORO) continued implementation of an effective Integrated Safety Management (ISM) Program with focused emphasis on continuing improvements that were initiated during FY 2006. The areas of specific ISM importance during FY 2007 were as follows:

- Continued emphasis on performing effective environment, safety, and health (ES&H) oversight of UT-Battelle, LLC, at the Oak Ridge National Laboratory (ORNL) and Oak Ridge Associated Universities at the Oak Ridge Institute for Science and Education (ORISE), as well as self-assessment of the AMS internal operations.
- Improved integration of Facility Representatives and ES&H subject matter experts (SMEs) in conducting walkthroughs.
- Enhanced planning for assessments.
- Revision of AMS procedures to reflect the current implementation status.
- Improvements in issues analysis and trending.
- Improved utilization of ORION, which is the ORO assessment and issues tracking system.

Each of these areas is discussed briefly below. *(over 500)*

In FY 2007, AMS personnel performed ~~303~~ *over 500* walkthroughs and 16 formal assessments. The walkthroughs included Facility Representative, SME, and Program Manager participation. Walkthroughs occurred on a frequent basis and covered most of the ORNL and ORISE facilities. The Operational Awareness Program is particularly noteworthy, as it includes weekly walkthroughs using a multidisciplinary team (e.g., industrial safety, radiological protection, industrial hygiene, and environmental protection/waste management SMEs). Formal assessments included in-depth reviews of ES&H programs spanning multiple facilities and organizations. Key assessments performed during FY 2007 included the UT-Battelle, LLC, Unreviewed Safety Question Program, Energized Electrical Work Program, safety-related permit programs, Contractor Assurance Program, Lessons Learned/Operational Experience Program, and Emergency Management Program.

Previous assessments of the AMS Facility Representative Program noted that the Facility Representatives did not routinely include ES&H SMEs in performance of their facility walkthroughs. During FY 2007, SME participation in Facility Representative walkthroughs was increased, and the AMS organization will continue to emphasize SME participation in FY 2008. This improvement represents an enhancement of oversight effectiveness.