



RADIATION PROTECTION PROGRAM
ENVIRONMENTAL RADIATION PROTECTION
PROGRAM

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Effective Date: _____

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REVISION SUMMARY

Rev. No.	Description of Change	Pages	Date
0	Initial Release – Paducah Infrastructure Support Services Contract DE-EM0003733.	All	12/01/15
1	Incorporated additional work scope and added roles and responsibilities for key Radiation Protection Program personnel. Revised to incorporate U.S. Department of Energy comments.	5-8, 6, 11, B-3, B-17, B-52, C-2, C-3, C-4, C-5, C-6	12/09/15 & 09/30/16
2	Removed statement regarding contractual relationship with Oak Ridge National Laboratory (ORNL). Added calibration and maintenance of radiological protection instrumentation to operational tasks. Made title change for the Radiological Protection Supervisor. Clarified responsibilities concerning nuclear accident dosimetry and work performed in non SST owned areas.	2, 5, 7-10, 13, B-52, C-2, C-3, C-5-C-7, C-9	9/06/17
3	General updates throughout. Formatted into new template, previous no. SSI.ESH-3002.	All	10/25/18

ACRONYM LIST

ALARA	as low as reasonably achievable
Bq	Becquerel
CED	committed effective dose
CFR	Code of Federal Regulations
CHP	Certified Health Physicist
Ci	curie
cm ²	square centimeter
CRD	contractor required documents
DAC	derived air concentrations
DOE	U.S. Department of Energy
DOELAP	Department of Energy Laboratory Accreditation Program
EM	Environmental Management
ERPP	Environmental Radiation Protection Program
ES&H	Environment, Safety, and Health
G	Guide
Gy	gray
ISMS	Integrated Safety Management System
MARSAME	Multi-Agency Radiation Survey and Assessment of Materials and Equipment Manual
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
mrem	millirem
NTP	Notice to Proceed
O	Order
ORNL	Oak Ridge National Laboratory
PGDP	Paducah Gaseous Diffusion Plant
PPE	Personal Protective Equipment
PPPO	Portsmouth/ Paducah Project Office
QA	Quality Assurance
RCT	Radiological Control Technician
rem	roentgen equivalent man
RP	Radiological Protection
RPP	Radiation Protection Program
RPS	Radiological Protection Supervisor
RWP	Radiological Work Permit
SI	International System of Units
SST	Swift & Staley Team
Sv	Sievert
§	section
TED	total effective dose
TRU	transuranic

1.0 RADIATION PROTECTION PROGRAM AND ENVIRONMENTAL RADIATION PROTECTION PROGRAM LAYOUT

This plan contains two required U.S. Department of Energy (DOE) submittals: 1) the Radiation Protection Program (RPP) required by 10 *Code of Federal Regulations* (CFR) 835, *Occupational Radiation Protection*, and 2) the Environmental Radiation Protection Program (ERPP) contractually required by DOE Order (O) 458.1, *Radiation Protection of the Public and the Environment*.

The Swift & Staley Inc. (hereinafter referred to as Swift & Staley Team [SST]) contractual scope of work is quite limited in terms of operations in radiological areas, operations involving the release of personal property, and is essentially non-existent with regard to the release of real property. Thus, SST has chosen to simply attach its ERPP to the RPP as Attachment C, rather than submit an additional plan for DOE approval.

Attachment C (the ERPP) is meant as a stand-alone plan except as it references the RPP and associated plans and procedures.

The RPP (the following sections along with Attachment A and B) is provided as the SST 10 CFR 835 compliance plan with little or no reference to Attachment C.

2.0 10 CODE OF FEDERAL REGULATIONS 835, IMPLEMENTATION PLAN SUMMARY

2.1 Purpose

The DOE Office of Environmental Management (EM) identifies 10 CFR 835, *Occupational Radiation Protection* (hereafter referred to as the Rule), as the driver for this RPP.

This RPP establishes radiation protection standards, limits, and program requirements for protecting individuals from occupational exposures to ionizing radiation resulting from work performed for DOE EM related to the SST Infrastructure Support Services Contract, DOE Contract Number DE-EM0003733 (the Contract).

This RPP incorporates the seven guiding principles and five core functions of the Integrated Safety Management System (ISMS) and 10 CFR 851, *Worker Safety and Health Program*. This RPP has been designed to ensure radiological control requirements, defined in 10 CFR 835, *Occupational Radiation Protection*, are incorporated into applicable facility design and conduct of radiological work at the Paducah Gaseous Diffusion Plant (PGDP) and surrounding DOE Reservation by SST.

The purpose of this RPP is to commit formally in policy and deed to the implementation of requirements of 10 CFR Part 835, *Occupational Radiation Protection*.

This RPP was prepared following the guidance provided in DOE Guide (G) 441.1-1C, *Radiation Protection Programs Guide for Use with Title 10 CFR Part 835, Occupational*

Radiation Protection, dated July 8, 2011, and associated standards and guidance. The following statements summarize this RPP:

1. There are no requests for exemptions in this RPP.
2. No additional funding is expected to be required to meet the requirements of this RPP.
3. There will be no significant or unanticipated impacts to other programs or activities not included in this RPP.
4. There are no anticipated constraints to implementing this RPP.
5. SST is in full compliance, as defined by this RPP, with all elements of the Rule, unless otherwise specified. Section 6, "Baseline Assessment," provides a summary of items that SST brings to the attention of DOE.

2.2 Background Information

SST has a prime contract with DOE to provide infrastructure support services at PGDP. This scope of work, along with the majority of plans, systems, and procedures, was originally transitioned from the previous DOE contractor in June of 2005. Since that time, SST formally has adopted, reformatted, updated, and implemented its radiological protection systems and procedures to be commensurate with the nature and scope of the work it performs. SST received Department of Energy Laboratory Accreditation Program (DOELAP) accreditation in internal and external dosimetry. Over the last few years SST, as part of its infrastructure support services contract, began providing instrumentation and dosimetry services to all site contractors at the direction of the DOE. In June of 2015, SST submitted a proposal and was awarded the present scope of work with a contract transition date of December 1, 2015.

SST recognizes that this RPP is a management tool that enhances the ability to carry out tasks in a manner that will protect employees, the public, and the environment. Subcontractors to SST are required contractually to comply with the SST RPP.

3.0 GENERAL INFORMATION

This RPP is submitted to meet the Price-Anderson Amendments Act requirements of 10 CFR 835, *Occupational Radiation Protection*. This is an update to the existing SST RPP Revision 2 submittal that was approved by DOE in September, 2017. Attachment C, *Environmental Radiation Protection Program*, was added in Revision 1 per contractual obligation.

3.1 Radiation Protection Program Plan Format

The format of this plan generally follows the guidance provided in the DOE G 441.1-1C, *Radiation Protection Programs Guide for Use with Title 10 CFR Part 835, Occupational Radiation Protection*, July 8, 2011. The general format is as follows:

- Title pages;
- Signature page;

- Table of contents;
- Sections 1–15 provide a compliance narrative and summary of articles/items that are of interest;
- As Low As Reasonably Achievable (ALARA) Policy Statement; and
- SST’s compliance statements.

3.2 Radiation Protection Program Plan Content

The content of this plan has been developed following DOE G 441.1-1C, Radiation Protection Programs Guide for Use with Title 10 CFR Part 835, *Occupational Radiation Protection*, July 8, 2011, and is current with and addresses the June 8, 2007, amendment of 10 CFR 835, *Occupational Radiation Protection* (referred to as the Rule). It is structured such that each requirement or article contained within the Rule has been addressed in Attachment B.

Attachment B contains word-for-word excerpts (referred to as elements or compliance elements) from the Rule. Each element is referenced by its location within the Rule (e.g., 10 CFR 835.202, *Occupational dose limits for general employees*, would be an element of the Rule); then each Rule element is followed by SST’s explicit commitment to comply with the element. This compliance statement is listed as one of the following:

Full Compliance – indicates that the requirement is documented as a commitment in policy and that implementing plans, protocols, and procedures will be in place and functioning as each activity governed by the Rule commences. These required implementing documents and work practices will be verifiable through inspection.

Not Applicable – indicates that SST will not engage in that particular activity governed by a particular portion of the Rule. When an element is determined to be “not applicable,” the reason for this determination will be provided under the “DESCRIPTION OF COMPLIANCE STATUS” section for that Rule provided in Attachment B.

Conditional Compliance – means that SST will provide a program in full compliance (as defined above) as modified and agreed to by DOE (i.e., full compliance is concurrent with DOE’s approval of this RPP).

As an example, Figure 1 shows SST’s compliance element for 10 CFR 835.101(e), *Radiation Protection Program*.

10 CFR 835: 101 (e)

REQUIREMENT STATEMENT:

The content of the RPP SHALL address, but SHALL not necessarily be limited to, each requirement in this part.

DESCRIPTION OF COMPLIANCE STATUS:

Full compliance.

Figure 1. Example of Swift & Staley Team Radiation Protection Program Compliance Element

Any element identified in Attachment B as being “conditionally compliant” or “not applicable” is called out and summarized in Table 1, under Section 6, “Baseline Assessment.”

4.0 SCOPE AND APPLICABILITY

4.1 Scope

The scope of this RPP covers DOE activities associated with the completion of the scope of work defined under the Contract and conducted on behalf of DOE by SST and all SST subcontractors and suppliers that have the potential to result in one or more of the following:

- Occupational exposures to ionizing radiation (as defined by the Rule);
- Exposure to minors (as defined in 10 CFR 835.207, *Occupational Dose Limits for Minors*);
- Exposure to members of the public (as defined in 10 CFR 835.208, *Limits for Members of the Public Entering a Controlled Area*);
- Emergency exposures (as defined in 10 CFR 835.1302, *Emergency Exposure Situations*); and
- Exposures to embryo/fetus of a declared pregnant worker (as defined in 10 CFR 835.2, *Limits for the Embryo/Fetus*).

The scope of the RPP applies to all SST Infrastructure Project operations at locations, facilities, and sites that are within the Contract scope of work. However, SST employees and subcontractors occasionally enter areas controlled by other DOE Prime Contractors to perform activities governed under SST’s scope of work. When entering these areas, activities will be governed by the RPP entry and work controls provided by other Prime Contractors; e.g., radiological work permit (RWP), personal protective equipment (PPE), training requirements, egress and monitoring requirements. SST will provide their own work controls if other Prime Contractors do not have work controls in

place to cover the SST scope of work, such as mowing in contamination areas. All DOE Prime Contractors use the same dosimeter when required by 10 CFR 835 and thus no adjustment is necessary in external dose monitoring. If additional supplemental dosimetry is required it would be provided following the requirements of the applicable RWP. Any internal dosimetry monitoring requirements are communicated to SST by the other Prime Contractors such that SST collects the required bioassay sample. Implementing guidance and requirements contained in this RPP are intended to help itemize and clarify radiation protection responsibilities and performance expectations.

4.2 Recognized Exclusions

Specific applicability of exclusions includes those listed in 10 CFR 835.1(b), *Exclusions*. No other exclusions are recognized or requested.

4.3 Operational Tasks

10 CFR 835.101, *Radiation Protection Programs* (d) states, "The RPP shall specify the existing and/or anticipated operational tasks that are intended to be within the scope of the RPP." These include the following:

- Site access and contamination control;
- Environmental, infrastructure, and site maintenance activities including road maintenance, landscaping and landscape maintenance, drainage and ditch control, fence and facility maintenance, clearing of land surfaces, and excavation of soils and materials, records management, training, fire services, safety and security;
- Waste management associated with materials (e.g., swipes, air samples, PPE) used to conduct routine monitoring activities;
- Assessment and release of equipment and materials from radiological areas;
- Calibration and maintenance of radiological protection instrumentation; and
- Maintenance of DOELAP accredited internal and external dosimetry programs.

4.4 Radiological Hazard Assessment

Radiological hazards found at PGDP are related to the generic categories of direct gamma and beta radiation exposure; inhalation of airborne radioactivity; ingestion of loose surface contamination, contaminated soil, and other contaminated environmental media; and direct transfer of radioactivity into the bloodstream by wounds. The level of hazard varies from site to site and is attributed to uranium (including enriched, natural, and depleted) and decay products; and, to a lesser degree, fission products, tritium and transuranic elements, notably plutonium, americium, and neptunium. The best available data indicates that the primary mode of exposure will be from the activities of individuals working in the vicinity of, or working with, residually-contaminated surfaces, and occasionally, bulk quantities of various uranium compounds and mixtures. Technetium-99 is found at various levels throughout the plant.

4.4.1 AIRBORNE RADIATION

Derived air concentrations (DAC) are expected to range from background to just above background, over short durations of time, a few weeks total per year.

4.4.2 EXTERNAL DOSE

Dose rates are likely to remain relatively low. The vast majority of annual dose assignments for SST radiation workers have been zero since June of 2005. No person has exceeded 100 millirem (mrem). Although no employee being monitored by SST exceeds 100 mrem, other DOE, and DOE contractors, perform work activities that have the potential to exceed the 100 mrem limit. SST maintains DOELAP accreditation in recognition of this potential. However, specific exposure control for individuals is the responsibility of each DOE Prime Contractor. SST is responsible for supplying DOELAP accredited dosimetry and notifying DOE Prime Contractors of positive exposure results.

4.4.3 PERSONNEL CONTAMINATION

Personnel contamination events are possible; however, any dose accumulation that might occur (through ingestion or via direct radiation) as a result of a skin contamination event is likely to be insignificant, but carries with it potential compliance consequences.

4.4.4 SPREAD OF CONTAMINATION

The inadvertent (uncontrolled) transport of small quantities (via residually-contaminated equipment) of radioactive materials outside of a controlled area is possible, but not likely, due to established controls. Such an event is not likely to have significant dose consequences, but has potential compliance consequences.

4.5 List of Applicable Standards

SST invokes its standard operating procedures and specifically ISSC-RAD-PR-008, *ALARA Program*, and ISSC-RAD-PR-007, *ALARA Reviews*, 10 CFR 851, and the Worker Safety and Health Program as recognized components of the RPP. Additionally, SST utilizes DOE-HDBK-1110-2008, *ALARA Training for Technical Support Personnel*, and DOE-STD-1215-2014, *Optimizing Radiation Protection of the Public and the Environment for use with DOE O 458.1, Radiation Protection of the Public and the Environment*.

5.0 ROLES AND RESPONSIBILITIES

5.1 Certified Health Physicist

SST utilizes the services of a Certified Health Physicist (CHP) for the following:

- Providing technical support for the SST Radiological Protection (RP) Organization;
- Reviewing and updating the SST RPP and Technical Basis Documents; and

- Providing internal and external dose assessments.

5.2 Environment, Safety, and Health Manager

The Environment, Safety, and Health (ES&H) Manager is responsible for the following:

- Ensuring programs are in place to maintain radiation exposures as low as reasonably achievable;
- Ensuring the topics and content of radiological safety training are sufficient for regulatory requirements and concerns at the Paducah site;
- Coordinating the activities of the Radiological Protection Supervisor (RPS) of Field Services and Dosimetry;
- Establishing a schedule of assessment of the RPP to ensure all elements of the program are reviewed on a three-year cycle;
- Reviewing audit and assessment results and ensuring that appropriate corrective actions are developed and implemented;
- Ensuring the development of RP procedures;
- Ensuring Position Assignment Forms for RP personnel include the necessary training;
- Ensuring that radiological records are adequately stored and maintained;
- Coordinating internal surveillances of RP programs; and
- Ensuring necessary resources for effective RP programs.

5.3 Quality Assurance Manager

The Quality Assurance (QA) Manager or designee is responsible for the following:

- Providing oversight of the DOELAP accreditation program;
- Conducting supplier audits of subcontractors providing critical services to the DOELAP program (e.g., dosimetry, laboratory analysis);
- Ensuring that audits or assessments are performed on a routine basis per SST QA assessment procedures;
- Completing and tracking enforcement reviews;
- Reviewing assessments and results; and
- Conducting issues tracking and verification.

5.4 Radiological Protection Supervisor of Field Services

The RPS of Field Services is responsible for the following:

- Ensuring that all training for Radiological Control Technicians (RCT) has been completed, documented, and is maintained by the training department;
- Maintaining and operating an effective radiological monitoring program;
- Ensuring radiological postings and labels are displayed properly and are appropriate as part of the routine workplace monitoring activities;
- Ensuring radiological surveys are performed to assess the radiological hazards of the area in accordance with applicable RP procedures;

- Managing the preparation, issuance, and closure of Radiological Work Permits RWP and providing guidance to the RCTs on RWP development;
- Reviewing and approving radiological records; and
- Providing backup for the ES&H Manager and RPS of Dosimetry when necessary.

5.5 Radiological Protection Supervisor of Dosimetry

The RPS of Dosimetry is responsible for the following:

- Implementing controls and programs to comply with 10 CFR 835;
- Maintaining adequate records of occupational radiation exposure;
- Maintaining the internal and external dosimetry programs;
- Ensuring the provisions and requirements associated with the dosimetry and DOELAP accreditation remain implemented and compliant;
- Reviewing and approving all acquisitions and uses of sealed and unsealed radioactive sources, and ensuring radiation and contamination surveys are performed in accordance with SST procedures;
- Ensuring the provisions and requirements associated with RP instrument calibration and maintenance remain implemented and compliant;
- Reviewing and approving radiological records;
- Conducting annual competency reviews of RP personnel; and
- Providing backup for the ES&H Manager and RPS of Field Services when necessary.

6.0 BASELINE ASSESSMENT

SST has been operating under its existing RPP, and subsequent approved revisions since its original approval in June of 2005. There have been no significant issues with the implementation of its RPP.

In 2011, SST obtained independent DOELAP accreditation and was issued Certificates of Accreditation for the External Dosimetry and Radiobioassay Programs. SST utilizes as guidance and maintains compliance with DOE-STD-1095-2011, *Department of Energy Laboratory Accreditation for External Dosimetry*, and DOE-STD-1121-2008, *Internal Dosimetry*. SST has established a database for External and Internal Dosimetry programs, which assists in maintaining these programs.

This revision has been prepared to comply with a contractual obligation (under the current contract) to submit an updated RPP to the DOE for approval annually. In addition, an updated RPP shall be submitted to DOE for review and approval at least 90 calendar days prior to when any significant changes or additions to the RPP are made. However, other than editing for clarification, no significant change has been made in this revision. This RPP has been developed to be fully compliant with all parts of the Rule, excluding those parts that are “not applicable” or listed as “conditional compliance.” Note that conditional compliant items become fully compliant upon DOE approval of this RPP. Table 1 summarizes “conditionally compliant” and “not applicable” items.

10 CFR 835 states that an update of the RPP shall be submitted to DOE:

- (1) Whenever a change or an addition to the RPP is made;
- (2) Prior to the initiation of a task not within the scope of the RPP; or
- (3) Within 180 days of the effective date of any modifications to the RPP as per 10 CFR 835.101.

Table 1. Not Applicable or Conditional Compliant Elements

Requirement	Changed in this Revision?	Status	Brief Description and Narrative
10 CFR 835.209, <i>Concentrations of Radioactive Material in Air</i>	No.	Conditional Compliance.	Appendix C, <i>Derived Air Concentration (DAC) for Workers From External Exposure During Immersion in a Cloud of Airborne Radioactive Material</i> , does not apply to the SST scope of work.
10 CFR 835.3, <i>General Rule (c)</i>	No.	Not Applicable.	Responsibility falls to DOE when there is no DOE contractor. SST is the DOE contractor; element does not apply.
10 CFR 835.101 <i>Radiation Protection Programs (a)</i>	No.	Conditional Compliance.	DOE activities conducted under an approved RPP. SST will continue to operate under the current RPP until such time as this revision to the RPP is approved by DOE. An initial RPP or an update shall be considered approved 180 days after its submission unless rejected by DOE at an earlier date.
10 CFR 835.1304 <i>Nuclear Accident Dosimetry (b)(1-4)</i>	No.	Conditional Compliance.	Placement of fixed nuclear accident dosimetry. The site criticality safety program (including fixed nuclear accident dosimetry) is currently not within SST's scope of activities; thus, while the requirement may be applicable, SST currently is not required to address this because it is being performed by another DOE prime contractor.
10 CFR Appendix C, <i>Derived Air Concentration (DAC) for Workers From External Exposure During Immersion in a Cloud of Airborne Radioactive Material</i>	No.	Not Applicable.	Immersion DACs. SST will not be working with radionuclides with immersion DACs.

CFR Code of Federal Regulations
DAC derived air concentration
DOE U.S. Department of Energy

RPP Radiation Protection Program
SST Swift & Staley Team

7.0 ADDITIONAL ACTIVITIES

No additional activities are required to be in full compliance with the Rule.

8.0 GRADED APPROACH

Development and implementation of plans, protocols, and procedures will be commensurate with the anticipated hazards, and be sufficient to comply with the Rule prior to initiating activities governed under the Rule.

9.0 RESOURCE ASSESSMENT

SST currently is funded sufficiently to continue to comply with the Rule.

10.0 PRIORITIZATION

SST recognizes the applicable elements of the Rule as being equal in importance to other safety-related elements.

11.0 ACTIVITIES, MILESTONES, AND SCHEDULES

SST is in full compliance with its existing RPP and will be in full compliance with this RPP upon approval by DOE.

11.1 Dosimetry Systems and Reports

SST is currently DOELAP-accredited in external and internal dosimetry.

11.2 Audits

Internal audits of the RPP, including examination of program content and implementation, is conducted through a process that ensures that all functional elements of the program are reviewed no less frequently than every 36 months.

The RPP audit schedule is based on the applicable functional elements outlined in DOE G 441.1 1C, Radiation Protection Programs Guide for Use with Title 10 CFR Part 835, *Occupational Radiation Protection*, May 19, 2008. These elements are presented in Table 2.

Table 2. 10 Code of Federal Regulations 835, *Functional Elements*

Functional Element	10 CFR 835, <i>Regulatory Provision</i>
1. Organization and Administration	Subpart B
2. As Low As Reasonably Achievable Program	101(c), Subpart K
3. External Dosimetry	401(a), 402(a) and (b)
4. Internal Dosimetry	401(a), 402(c) and (d)
5. Area Monitoring and Control	
a. Area Radiation Monitoring	401(a)
b. Airborne Radioactivity Monitoring	209, 401(a), 403
c. Contamination Monitoring and Control	401(a), Subpart L
d. Instrumentation Calibration and Maintenance	401(b)
6. Radiological Controls	
a. Radiological Work Planning	501(d), 1001(b), 1003
b. Entry and Exit Controls	Subpart F
c. Radiological Work controls	Subpart F, 1003
d. Posting and Labeling	Subpart G
e. Release of Materials and Equipment	1101
f. Sealed Radioactive Source Accountability and Control	Subpart M
7. Emergency Exposure Situations	1301, 1302
8. Nuclear Accident Dosimetry	1304
9. Records	Subpart H
10. Reports to Individuals	Subpart I
11. Radiation Safety Training	Subpart J
12. Limits for the Embryo/Fetus	Subpart C

CFR Code of Federal Regulations

12.0 EXEMPTIONS

SST does not anticipate seeking exemption under the provisions of 10 CFR 820, Subpart E, *Exemption Relief*.

13.0 COMPENSATORY ACTIONS

13.1 Nonsegregated Dose Recordkeeping System

SST does not plan to routinely segregate dose based upon where it is received/accumulated within the PGDP and supporting facilities (see compliance statement for details). SST activities are conducted throughout the entire site; therefore, SST's dosimetry devices obtain an accurate exposure record of all SST activities. This approach is both safe and practical for the work being conducted because of the following:

- All the dose is being accumulated at a DOE facility;
- Dose accumulation rates have been low historically on an individual basis, and this situation is expected to continue;
- Dose segregation can be difficult, costly, and very impractical;
- Dose segregation would be of very little or no value to the individual;
- Dose segregation, under most situations, would be of very little or no value to SST;

- Dose segregation, under most situations, would be of very little or no value to DOE; and
- The radiation types at PGDP are consistent for the whole site.

13.2 Operation Under the Current Radiation Protection Program

SST will continue to operate under the current RPP (SSI.ESH-3002, Revision 1) until DOE approval is obtained. An initial RPP or an update shall be considered approved 180 days after its submission unless rejected by DOE at an earlier date.

13.3 Department of Energy Laboratory Accreditation Program Accreditation and the Dosimetry Program

SST recognizes the value of this program and received DOELAP accreditation. During development of the SST program, SST sought vendors who have successfully participated in the DOELAP process in those categories/radionuclides of interest at the PGDP, as determined in SST dosimetry technical basis documents.

13.4 Fixed Nuclear Accident Dosimetry

SST currently does not provide fixed nuclear accident dosimeters for PGDP. The site FNAD program is not within the SST scope of work, this service is provided by the Deactivation and Remediation Contractor operating at the site.

13.5 Dosimetry Terminology

Several dosimetry references, models, vendor reports, and other documents/tools continue to use dosimetry terminology reflective of the pre-June 2007 revision of the Rule. SST has adopted all June 2007 dosimetry models (International Commission on Radiological Protection 60/68) in its dose assessment protocols and in its technical basis documents.

13.6 Control of Airborne Radioactive Materials to Levels as Low as Reasonably Achievable

In addition to confinement and ventilation, which is used where practical and appropriate, SST uses dust suppression and material handling techniques designed to keep airborne material to levels that are ALARA.

10 CFR 835.1002, *Facility Design and Modifications*, covers “facility design and modifications” and 10 CFR 835.1002, *Facility design and modifications (c)* states that when “Regarding the control of airborne radioactive material, the design objective shall be, under normal conditions, to avoid releases to the workplace atmosphere... confinement and ventilation shall normally be used.” SST, due to the nature of much of the work conducted (such as mowing, excavating clean or residually contaminated

soils/materials, moving containers in and out of radiological areas) does not strictly apply confinement and ventilation for several reasons:

- It would be impractical.
- Dose rates do not warrant confinement and ventilation.
- Other airborne suppression mechanisms, such as minimizing sod breaks, wetting, and limiting excavation areas, are more reasonable under many circumstances.

14.0 TRACKING

SST commits to reassessing and providing an update, as necessary, to DOE on any changes made to this RPP. Per 10 CFR 835.101, *Radiation Protection Programs*, (g)(3), SST will provide DOE with a revision of the RPP, within 180 days of the effective date of modifications to the Rule. If changes are made to a part of the Rule that is not applicable to SST, then SST will submit an explanatory letter to DOE.

15.0 ATTACHMENTS

Attachment A, Swift & Staley Team As Low As Reasonably Achievable Process and Policy

Attachment B, Radiation Protection Program Compliance Statements

Attachment C, Environmental Radiation Protection Program

ATTACHMENT A – SWIFT & STALEY TEAM AS LOW AS REASONABLY ACHIEVABLE PROCESS AND POLICY

AS LOW AS REASONABLY ACHIEVABLE COMMITMENT

Swift & Staley Inc. (hereinafter referred to as Swift & Staley Team [SST]) is committed firmly to having a radiological control program of the highest quality that is guided by a formalized as low as reasonably achievable (ALARA) program of plans and metrics. The ALARA program is designed to be commensurate with the nature of the SST work activities to be performed, and compliant with the regulations.

AS LOW AS REASONABLY ACHIEVABLE POLICY

SST policy is to conduct radiological operations in a manner that promotes the health and safety of all employees, subcontractors, and the general public. In achieving this objective, SST policy is to make every reasonable effort to maintain occupational, environmental, and public radiation exposure levels from U.S. Department of Energy activities ALARA. The ALARA philosophy is predicated upon the theory that any radiation exposure, however small, carries with it some risk that should be balanced by an offsetting benefit. The management of SST affirms the following:

- Personal radiation exposure shall be maintained ALARA.
- Radiation exposure of the work force and public shall be controlled using a graded approach such that radiation exposures are well below regulatory limits and that there is no radiation exposure without commensurate benefit.
- Each person involved in radiological work is expected to demonstrate responsibility and accountability through an informed, disciplined, and cautious attitude toward radiation and radioactivity.
- Excellent performance is evident when site missions are completed and radiation exposures are maintained well below regulatory limits, contamination is minimized, radioactivity is well controlled, and radiological spills or uncontrolled releases are prevented.
- Continuing improvement is essential to excellence in radiological control.
- It is the responsibility of SST management and the responsibility of all workers to comply with the SST Radiation Protection Program and use ALARA principles during all work activities.

ATTACHMENT A – SWIFT & STALEY TEAM AS LOW AS REASONABLY ACHIEVABLE PROCESS AND POLICY (continued)

FORMAL AS LOW AS REASONABLY ACHIEVABLE PLANS AND MEASURES

SST has formal ALARA plans and takes measures to address the following:

- Management commitment,
- Assignment of responsibilities and authorities,
- Administrative performance goals and measures,
- Radiological performance goals and measures,
- ALARA training,
- Plans and procedures,
- Internal audits and assessments,
- Optimization methodology,
- Radiological design review,
- Radiological work planning, and
- Records.

The SST ALARA Program detailing the plans and measures taken to apply the ALARA process to occupational exposures is administered through ISSC-RAD-PR-008, *ALARA Program*.

ATTACHMENT B – RADIATION PROTECTION PROGRAM COMPLIANCE STATEMENTS

10 CFR 835, *Occupational Radiation Protection* (current revision)

Swift & Staley Inc. (hereinafter referred to as Swift & Staley Team [SST]) commits to comply with all parts of 10 Code of Federal Regulations (CFR) 835, *Occupational Radiation Protection* (hereafter referred to as the Rule) as they apply to the U.S. Department of Energy (DOE) activities performed within the scope of this Radiation Protection Program (RPP) as provided in the June 8, 2007, version of the Rule, and subsequent updates.

10 CFR 835.1, *General* (a)

REQUIREMENT STATEMENT:

- (a) General. The rules in this part establish radiation protection standards, limits, and program requirements for protecting individuals from ionizing radiation resulting from the conduct of DOE activities.

DESCRIPTION OF COMPLIANCE STATUS:

Full compliance.

10 CFR 835.1, *Exclusion* (b)

REQUIREMENT STATEMENT:

- (b) Exclusion. Except as provided in paragraph (c) of this section, the requirements in this part do not apply to:
- (1) Activities that are regulated through a license by the Nuclear Regulatory Commission or a State under an Agreement with the Nuclear Regulatory Commission activities certified by the Nuclear Regulatory Commission under section 1701 of the Atomic Energy Act;
 - (2) Activities conducted under the authority of the Deputy Administrator for Naval Reactors, as described in Pub. L. 98-525 and 106-65;
 - (3) Activities conducted under the Nuclear Explosives and Weapons Surety Program relating to the prevention of accidental or unauthorized nuclear detonations;

ATTACHMENT B – RADIATION PROTECTION PROGRAM COMPLIANCE STATEMENTS (continued)

- (4) DOE activities conducted outside the United States on territory under the jurisdiction of a foreign government to the extent governed by occupational radiation protection requirements agreed to between the United States and the cognizant government;
- (5) Background radiation, radiation doses received as a patient for the purposes of medical diagnosis or therapy, or radiation doses received from participation as a subject in medical research programs;
- (6) Radioactive material on or within material, equipment, and real property which is approved for release when the radiological conditions of the material, equipment, and real property have been documented to comply with the criteria for release set forth in a DOE authorized limit which has been approved by a Secretarial Officer in consultation with the Chief Health, Safety, and Security Officer;
- (7) Radioactive material transportation not performed by DOE or a DOE contractor.

DESCRIPTION OF COMPLIANCE STATUS:

Full compliance.

10 CFR 835.1, Scope (c)

REQUIREMENT STATEMENT:

- (c) Occupational doses received as a result of excluded activities and radioactive material transportation, listed in paragraphs (b)(1) through (b)(4) and (b)(7) of this section, shall be included to the extent practicable when determining compliance with the occupational dose limits at §§ 835.202, *Occupational dose limits for general employees*, and 835.207, *Occupational dose limits for minors*, and with the limits for the embryo/fetus at § 835.206. Occupational doses resulting from authorized emergency exposures and planned special exposures shall not be considered when determining compliance with the dose limits at §§ 835.202, *Occupational dose limits for general employees*, and 835.207, *Occupational dose limits for minors*.

DESCRIPTION OF COMPLIANCE STATUS:

Conditional Compliance.

SST recognizes that there are multiple DOE based radiological control organizations on the Paducah Gaseous Diffusion Plant (PGDP) Site. From time to time, SST personnel may perform work for differing, non-SST, radiological organizations, and/or may be required to work in areas controlled by non-SST radiological organizations to perform

ATTACHMENT B – RADIATION PROTECTION PROGRAM COMPLIANCE STATEMENTS (continued)

SST work. Additionally, recognizing that the various radiological control organizations share common radionuclides of concern at the PGDP site, SST's approach to this element is to NOT attempt to segregate dose, based upon where it is accumulated at the facility unless the following applies:

- The anticipated dose is likely to exceed 500 mrem/year, or 200 mrem in one calendar quarter; or
- Exposure duration or task makes dose partitioning relatively simple; or
- Directed by DOE to do so. For personnel who spend the majority of their time on-site as a general employee of SST, SST will seek to record and report all the dose they accumulate while at the facility.

10 CFR 835.1, *Scope (d)*

REQUIREMENT STATEMENT:

(d) The requirements in subparts F, *Entry Control Program*, and G, *Posting and Labeling*, of this part do not apply to radioactive material transportation by DOE or a DOE contractor conducted: (1) Under the continuous observation and control of an individual who is knowledgeable of and implements required exposure control measures, or (2) in accordance with Department of Transportation regulations or DOE orders that govern such movements.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.2, *Definitions*

REQUIREMENT STATEMENT:

Entirety of definitions listed in 10 CFR 835.2, *Definitions* (not copied here).

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

10 CFR 835.3, *General Rule (a)*

REQUIREMENT STATEMENT:

(a) No person or DOE personnel shall take or cause to be taken any action inconsistent with the requirements of:

- (1) This part; or
- (2) Any program, plan, schedule, or other process established by this part.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.3, *General Rule (b)*

REQUIREMENT STATEMENT:

(b) With respect to a particular DOE activity, contractor management shall be responsible for compliance with the requirements of this part.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.3, *General Rule (c)*

REQUIREMENT STATEMENT:

(c) Where there is no contractor for a DOE activity, DOE shall ensure implementation of and compliance with the requirements of this part.

DESCRIPTION OF COMPLIANCE STATUS:

This requirement is not applicable to SST; it is directly applicable to DOE.

10 CFR 835.3, *General Rule (d)*

REQUIREMENT STATEMENT:

(d) Nothing in this part shall be construed as limiting actions that may be necessary to protect health and safety.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.3, *General Rule (e)*

REQUIREMENT STATEMENT:

(e) For those activities that are required by 10 CFR 835.102, *Internal audits*, 835.901, *Radiation safety training (b)*, 835.202, *Occupational dose limits for general employees (a)*; and 835.202 *Occupational dose limits for general employees (b)*, the time interval to conduct these activities may be extended by a period not to exceed 30 days to accommodate scheduling needs.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.4, *Radiological units*

REQUIREMENT STATEMENT:

Unless otherwise specified, the quantities used in the records required by this part shall be clearly indicated in special units of curie, rad, roentgen or roentgen equivalent man (rem), including multiples and subdivisions of these units. The International System of Units (SI) units, becquerel (Bq), gray (Gy), and sievert (Sv) are only provided parenthetically for reference with scientific standards.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.101, *Radiation protection programs (a)*

REQUIREMENT STATEMENT:

(a) A DOE activity shall be conducted in compliance with a documented radiation protection program (RPP) as approved by the DOE.

DESCRIPTION OF COMPLIANCE STATUS:

Conditional Compliance.

ATTACHMENT B – RADIATION PROTECTION PROGRAM COMPLIANCE STATEMENTS (continued)

SST will continue to operate and make modifications to its overall RPP until applicable revisions are approved. This is allowed under 10 CFR 835.101, *Radiation protection programs* (h). SST notes this as “Conditional Compliance” as means of seeking DOE’s agreement on this approach.

10 CFR 835.101, *Radiation protection programs* (b)

REQUIREMENT STATEMENT:

(b) The DOE may direct or make modifications to a RPP.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.101, *Radiation protection programs* (c)

REQUIREMENT STATEMENT:

(c) The content of each RPP shall be commensurate with the nature of the activities performed and shall include formal plans and measures for applying the as low as reasonably achievable (ALARA) process to occupational exposure.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.101, *Radiation protection programs* (d)

REQUIREMENT STATEMENT:

(d) The RPP shall specify the existing and/or anticipated operational tasks that are intended to be within the scope of the RPP. Except as provided in 10 CFR 835.101, *Radiation Protection Programs* (h), any task outside the scope of a RPP shall not be initiated until an update of the RPP is approved by DOE.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

10 CFR 835.101, *Radiation protection programs (e)*

REQUIREMENT STATEMENT:

- (e) The content of the RPP shall address, but shall not necessarily be limited to, each requirement in this part.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.101, *Radiation protection programs (f)*

REQUIREMENT STATEMENT:

- (f) The RPP shall include plans, schedules, and other measures for achieving compliance with regulations of this part. Unless otherwise specified in this part, compliance with the amendments to this part published on June 8, 2007 was achieved by July 8, 2010.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.101, *Radiation protection programs (g)*

REQUIREMENT STATEMENT:

- (g) An update of the RPP shall be submitted to DOE: (1) whenever a change or an addition to the RPP is made; (2) prior to the initiation of a task not within the scope of the RPP; or (3) within 180 days of the effective date of any modifications to this part.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.101, *Radiation protection programs (h)*

REQUIREMENT STATEMENT:

- (h) Changes, additions, or updates to the RPP may become effective without prior Department approval only if the changes do not decrease the effectiveness of the RPP and the RPP, as changed, continues to meet the requirements of this part.

ATTACHMENT B – RADIATION PROTECTION PROGRAM COMPLIANCE STATEMENTS (continued)

Proposed changes that decrease the effectiveness of the RPP shall not be implemented without submittal to and approval by the Department.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.101, *Radiation protection programs (i)*

REQUIREMENT STATEMENT:

- (i) An initial RPP or an update shall be considered approved 180 days after its submission unless rejected by DOE at an earlier date.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.102, *Internal audits*

REQUIREMENT STATEMENT:

Internal audits of the radiation protection program, including examination of program content and implementation, shall be conducted through a process that ensures that all functional elements are reviewed no less frequently than every 36 months.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.103, *Education, training and skills*

REQUIREMENT STATEMENT:

Individuals responsible for developing and implementing measures necessary for ensuring compliance with the requirements of this part shall have the appropriate education, training, and skills to discharge these responsibilities.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

ATTACHMENT B – RADIATION PROTECTION PROGRAM COMPLIANCE STATEMENTS (continued)

10 CFR 835.104, *Written procedures*

REQUIREMENT STATEMENT:

Written procedures shall be developed and implemented as necessary to ensure compliance with this part, commensurate with the radiological hazards created by the activity and consistent with the education, training, and skills of the individuals exposed to those hazards.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.202, *Occupational dose limits for general employees (a)*

REQUIREMENT STATEMENT:

(a) Except for planned special exposures conducted consistent with § 835.204, *Planned special exposures*, and emergency exposures authorized in accordance with § 835.1302, *Emergency exposure situations*, the occupational dose received by general employees shall be controlled such that the following limits are not exceeded in a year:

- (1) A total effective dose (TED) of 5 rems (0.05 Sv);
- (2) The sum of the equivalent dose to the whole body for external exposures and the committed equivalent dose to any organ or tissue other than the skin or the lens of the eye of 50 rems (0.5 Sv);
- (3) An equivalent dose to the lens of the eye of 15 rems (0.15 Sv); and
- (4) The sum of the equivalent dose to the skin or to any extremity for external exposures and the committed equivalent dose to the skin or to any extremity of 50 rems (0.5 Sv).

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

10 CFR 835.202, *Occupational dose limits for general employees (b)*

REQUIREMENT STATEMENT:

- (b) All occupational doses received during the current year, except doses resulting from planned special exposures conducted in compliance with § 835.204, *Planned special exposures*, and emergency exposures authorized in accordance with § 835.1302, *Emergency exposure situations*, shall be included when demonstrating compliance with § 835.202, *Occupational exposure limits for general employees (a)* and 835.207, *Occupational dose limits for minors*.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.202, *Occupational dose limits for general employees (c)*

REQUIREMENT STATEMENT:

- (c) Doses from background, therapeutic and diagnostic medical radiation, and participation as a subject in medical research programs shall not be included in dose records or in the assessment of compliance with the occupational dose limits.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.203, *Combining internal and external equivalent doses (a)*

REQUIREMENT STATEMENT:

- (a) The TED during a year shall be determined by summing the effective dose from external exposures and the committed effective dose (CED) from intakes during the year.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

10 CFR 835.203, *Combining internal and external equivalent doses (b)*

REQUIREMENT STATEMENT:

- (b) Determinations of the effective dose shall be made using the radiation and tissue weighting factor values provided in § 835.2, *Definitions*.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.204, *Planned special exposures (a)*

REQUIREMENT STATEMENT:

- (a) A planned special exposure may be authorized for a radiological worker to receive doses in addition to and accounted for separately from the doses received under the limits specified in § 835.202 *Occupational dose limits for general employees*,(a), provided that each of the following conditions is satisfied:

- (1) The planned special exposure is considered only in an exceptional situation when alternatives that might prevent a radiological worker from exceeding the limits in § 835.202, *Occupational dose limits for general employees (a)* are unavailable or impractical;
- (2) The contractor management (and employer, if the employer is not the contractor) specifically requests the planned special exposure, in writing; and
- (3) Joint written approval is received from the appropriate DOE Headquarters program office and the Secretarial Officer responsible for environment, safety and health matters.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.204, *Planned special exposures (b)*

REQUIREMENT STATEMENT:

- (b) Prior to requesting an individual to participate in an authorized planned special exposure, the individual's dose from all previous planned special exposures and all doses in excess of the occupational dose limits shall be determined.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.204, *Planned special exposures (c)*

REQUIREMENT STATEMENT:

- (c) An individual shall not receive a planned special exposure that, in addition to the doses determined in § 835.204, *Planned special exposures (b)*, would result in a dose exceeding the following:
- (1) In a year, the numerical values of the dose limits established at § 835.202, *Occupational dose limits for general employees (a)*; and
 - (2) Over the individual's lifetime, five times the numerical values of the dose limits established at § 835.202, *Occupational dose limits for general employees (a)*.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.204, *Planned special exposures (d)*

REQUIREMENT STATEMENT:

- (d) Prior to a planned special exposure, written consent shall be obtained from each individual involved. Each such written consent shall include:
- (1) The purpose of the planned operations and procedures to be used;
 - (2) The estimated doses and associated potential risks and specific radiological conditions and other hazards which might be involved in performing the task; and
 - (3) Instructions on the measures to be taken to keep the dose ALARA considering other risks that may be present.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

10 CFR 835.204, *Planned special exposures (e)*

REQUIREMENT STATEMENT:

- (e) Records of the conduct of a planned special exposure shall be maintained and a written report submitted within 30 days after the planned special exposure to the approving organizations identified in § 835.204, *Planned special exposures (a)(3)*.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.204, *Planned special exposures (f)*

REQUIREMENT STATEMENT:

- (f) The dose from planned special exposures is not to be considered in controlling future occupational dose of the individual under 10 CFR 835.202, *Occupational dose limits for general employees (a)*, but is to be included in records and reports required under this part.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.205, *Determination of compliance for non-uniform exposure of the skin (a)*

REQUIREMENT STATEMENT:

- (a) Non-uniform exposures of the skin from X-rays, beta radiation, and/or radioactive material on the skin are to be assessed as specified in this section.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

ATTACHMENT B – RADIATION PROTECTION PROGRAM COMPLIANCE STATEMENTS (continued)

10 CFR 835.205, *Determination of compliance for non-uniform exposure of the skin* (b)

REQUIREMENT STATEMENT:

(b) For purposes of demonstrating compliance with 10 CFR 835.202, *Occupational exposure limits for general employees*, (a)(4), assessments shall be conducted as follows:

- (1) Area of skin irradiated is 100 square centimeters (cm²) or more. The non-uniform equivalent dose received during the year shall be averaged over the 100 cm² of the skin receiving the maximum dose, added to any uniform equivalent dose also received by the skin, and recorded as the equivalent dose to any extremity or skin for the year.
- (2) Area of skin irradiated is 10 cm² or more, but is less than 100 cm². The non-uniform equivalent dose (H) to the irradiated area received during the year shall be added to any uniform equivalent dose also received by the skin and recorded as the equivalent dose to any extremity or skin for the year. H is the equivalent dose averaged over the 1 cm² of skin receiving the maximum absorbed dose, D, reduced by the fraction f, which is the irradiated area in cm² divided by 100 cm² (i.e., $H = fD$). In no case shall a value of less than 0.1 be used.
- (3) Area of skin irradiated is less than 10 cm². The non-uniform equivalent dose shall be averaged over the 1 cm² of skin receiving the maximum dose. This equivalent dose shall:
 - (i) Be recorded in the individual's occupational exposure history as a special entry; and
 - (ii) Not be added to any other equivalent dose to any extremity or skin for the year.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

10 CFR 835.206, *Limits for the embryo/fetus (a)*

REQUIREMENT STATEMENT:

- (a) The equivalent dose limit for the embryo/fetus from the period of conception to birth, as a result of occupational exposure of a declared pregnant worker, is 0.5 rem (0.005 Sv).

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.206, *Limits for the embryo/fetus (b)*

REQUIREMENT STATEMENT:

- (b) Substantial variation above a uniform exposure rate that would satisfy the limits provided in 10 CFR 835.206, *Limits for the embryo/fetus (a)* shall be avoided.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.206, *Limits for the embryo/fetus (c)*

REQUIREMENT STATEMENT:

- (c) If the equivalent dose to the embryo/fetus is determined to have already exceeded 0.5 rem (0.005 Sv) by the time a worker declares her pregnancy, the declared pregnant worker shall not be assigned to tasks where additional occupational exposure is likely during the remaining gestation period.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.207, *Occupational dose limits for minors*

REQUIREMENT STATEMENT:

The dose limits for minors occupationally exposed to radiation and/or radioactive materials at a DOE activity are 0.1 rem (0.001 Sv) TED in a year and 10 percent of the

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

occupational dose limits specified at § 835.202, *Occupational dose limits for general employees (a)(3) and (a)(4)*.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.208, *Limits for members of the public entering a controlled area*

REQUIREMENT STATEMENT:

The TED limit for members of the public exposed to radiation and/or radioactive material during access to a controlled area is 0.1 rem (0.001 Sv) in a year.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.209, *Concentrations of radioactive material in the air (a)*

REQUIREMENT STATEMENT:

The derived air concentration (DAC) values given in appendices A and C of this part shall be used in the control of occupational exposures to airborne radioactive material.

DESCRIPTION OF COMPLIANCE STATUS:

Conditional Compliance.

SST fully complies with Appendix A, *Derived Air Concentrations (DAC) for Controlling Radiation Exposure to Workers at DOE Facilities* and Appendix C, *Derived Air Concentrations (DAC) for Workers from External Exposure During Immersion in a Cloud of Airborne Radioactive Material*. While the requirement is applicable, the conditions to implement controls are not present.

10 CFR 835.209, *Concentrations of radioactive material in the air (b)*

REQUIREMENT STATEMENT:

(b) The estimation of internal dose shall be based on bioassay data rather than air concentration values unless bioassay data are:

(1) Unavailable;

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

- (2) Inadequate; or
- (3) Internal dose estimates based on air concentration values are demonstrated to be as, or more accurate.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.401, *General Requirements (a)*

REQUIREMENT STATEMENT:

- (a) Monitoring of individuals and areas shall be performed to:
 - (1) Demonstrate compliance with the regulations in this part;
 - (2) Document radiological conditions;
 - (3) Detect changes in radiological conditions;
 - (4) Detect the gradual buildup of radioactive material;
 - (5) Verify the effectiveness of engineering and process controls in containing radioactive material and reducing radiation exposure; and
 - (6) Identify and control potential sources of individual exposure to radiation and/or radioactive material.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.401, *General Requirements (b)*

REQUIREMENT STATEMENT:

- (b) Instruments and equipment used for monitoring shall be:
 - (1) Periodically maintained and calibrated on an established frequency;
 - (2) Appropriate for the type(s), levels, and energies of the radiation(s) encountered;
 - (3) Appropriate for existing environmental conditions; and
 - (4) Routinely tested for operability.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

ATTACHMENT B – RADIATION PROTECTION PROGRAM COMPLIANCE STATEMENTS (continued)

10 CFR 835.402, *Individual monitoring (a)*

REQUIREMENT STATEMENT:

- (a) For the purpose of monitoring individual exposures to external radiation, personnel dosimeters shall be provided to and used by:
- (1) Radiological workers who, under typical conditions, are likely to receive one or more of the following:
 - (i) An effective dose of 0.1 rem (0.001 Sv) or more in a year;
 - (ii) An equivalent dose to the skin or to any extremity of 5 rems (0.05 Sv) or more in a year;
 - (iii) An equivalent dose to the lens of the eye of 1.5 rems (0.015 Sv) or more in a year;
 - (2) Declared pregnant workers who are likely to receive from external sources an equivalent dose to the embryo/fetus in excess of 10 percent of the applicable limit at § 835.206, *Limits for the embryo/fetus (a)*;
 - (3) Occupationally exposed minors likely to receive a dose in excess of 50 percent of the applicable limits at § 835.207, *Occupational dose limits for minors* in a year from external sources;
 - (4) Members of the public entering a controlled area likely to receive a dose in excess of 50 percent of the limit at § 835.208, *Limits for members of the public entering a controlled area* in a year from external sources; and
 - (5) Individuals entering a high or very high radiation area.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.402, *Individual monitoring (b)*

REQUIREMENT STATEMENT:

- (b) External dose monitoring programs implemented to demonstrate compliance with 10 CFR 835.402, *Individual monitoring (a)* shall be adequate to demonstrate compliance with the dose limits established in subpart C of this part and shall be:
- (1) Accredited, in accordance with the DOE Laboratory Accreditation Program (DOELAP) for Personnel Dosimetry; or

ATTACHMENT B – RADIATION PROTECTION PROGRAM COMPLIANCE STATEMENTS (continued)

- (2) Determined by the Secretarial Officer responsible for environment, safety and health matters to have performance substantially equivalent to that of programs accredited under the DOE Laboratory Accreditation Program for Personnel Dosimetry.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.402, *Individual monitoring (c)*

REQUIREMENT STATEMENT:

- (c) For the purpose of monitoring individual exposures to internal radiation, internal dosimetry programs (including routine bioassay programs) shall be conducted for:
- (1) Radiological workers who, under typical conditions, are likely to receive a CED of 0.1 rem (0.001 Sv) or more from all occupational radionuclide intakes in a year;
 - (2) Declared pregnant workers likely to receive an intake or intakes resulting in an equivalent dose to the embryo/fetus in excess of 10 percent of the limit stated at § 835.206, *Limits for the embryo/fetus (a)*;
 - (3) Occupationally exposed minors who are likely to receive a dose in excess of 50 percent of the applicable limit stated at § 835.207, *Occupational dose limits for minors*, from all radionuclide intakes in a year; or
 - (4) Members of the public entering a controlled area likely to receive a dose in excess of 50 percent of the limit stated at § 835.208, *Limits for members of the public entering a controlled area*, from all radionuclide intakes in a year.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.402, *Individual monitoring (d)*

REQUIREMENT STATEMENT:

- (d) Internal dose monitoring programs implemented to demonstrate compliance with 10 CFR 835.402, *Individual monitoring (c)* shall be adequate to demonstrate compliance with the dose limits established in subpart C of this part and shall be:
- (1) Accredited in accordance with DOE Laboratory Accreditation Program for Radiobioassay; or

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

- (2) Determined by the Secretarial Officer responsible for environment, safety, and health matters to have performance substantially equivalent to that of programs accredited under the DOE Laboratory Accreditation Program for Radiobioassay.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.403, *Air monitoring (a)*

REQUIREMENT STATEMENT:

- (a) Monitoring of airborne radioactivity shall be performed:
- (1) Where an individual is likely to receive an exposure of 40 or more DAC-hours in a year; or
 - (2) As necessary to characterize the airborne radioactivity hazard where respiratory protective devices for protection against airborne radionuclides have been prescribed.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.403, *Air monitoring (b)*

REQUIREMENT STATEMENT:

- (b) Real-time air monitoring shall be performed as necessary to detect and provide warning of airborne radioactivity concentrations that warrant immediate action to terminate inhalation of airborne radioactive material.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

10 CFR 835.405, *Receipt of packages containing radioactive materials (a)*

REQUIREMENT STATEMENT:

- (a) If packages containing quantities of radioactive material in excess of a Type A quantity (as defined at 10 CFR 71.4, *Packaging and Transportation of Radioactive Material*) are expected to be received from radioactive material transportation, arrangements shall be made to either:
- (1) Take possession of the package when the carrier offers it for delivery; or
 - (2) Receive notification as soon as practicable after arrival of the package at the carrier's terminal and to take possession of the package expeditiously after receiving such notification.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.405, *Receipt of packages containing radioactive materials (b)*

REQUIREMENT STATEMENT:

- (b) Upon receipt from radioactive material transportation, external surfaces of packages known to contain radioactive material shall be monitored if the package:
- (1) Is labeled with a Radioactive White I, Yellow II, or Yellow III label (as specified at 49 CFR 172.403, *Class 7 (radioactive) material* and 172.436, *RADIOACTIVE WHITE-I label*); or
 - (2) Has been transported as low specific activity material (as defined at 10 CFR 71.4, *Packaging and Transportation of Radioactive Material*) on an exclusive use vehicle (as defined at 10 CFR 71.4, *Packaging and Transportation of Radioactive Material*); or
 - (3) Has evidence of degradation, such as packages that are crushed, wet, or damaged.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

10 CFR 835.405, *Receipt of packages containing radioactive materials (c)*

REQUIREMENT STATEMENT:

(c) The monitoring required by paragraph (b) of this section shall include:

- (1) Measurements of removable contamination levels, unless the package contains only special form (as defined at 10 CFR 71.4, *Packaging and Transportation of Radioactive Material*) or gaseous radioactive material; and
- (2) Measurements of the radiation levels, if the package contains a Type B quantity (as defined at 10 CFR 71.4, *Packaging and Transportation of Radioactive Material*) of radioactive material.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.405, *Receipt of packages containing radioactive materials (d)*

REQUIREMENT STATEMENT:

(d) The monitoring required by paragraph (b) of this section shall be completed as soon as practicable following receipt of the package, but not later than 8 hours after the beginning of the working day following receipt of the package.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.405, *Receipt of packages containing radioactive materials (e)*

REQUIREMENT STATEMENT:

(e) Monitoring pursuant to § 835.405, *Receipt of packages containing radioactive material* (b) is not required for packages transported on a DOE site which have remained under the continuous observation and control of a DOE employee or DOE contractor employee who is knowledgeable of and implements required exposure control measures.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

10 CFR 835.501, *Radiological areas (a)*

REQUIREMENT STATEMENT:

(a) Personnel entry control shall be maintained for each radiological area.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.501, *Radiological areas (b)*

REQUIREMENT STATEMENT:

(b) The degree of control shall be commensurate with existing and potential radiological hazards within the area.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.501, *Radiological areas (c)*

REQUIREMENT STATEMENT:

One or more of the following methods shall be used to ensure control:

- (1) Signs and barricades;
- (2) Control devices on entrances;
- (3) Conspicuous visual and/or audible alarms;
- (4) Locked entrance ways; or
- (5) Administrative controls.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.501, *Radiological areas (d)*

REQUIREMENT STATEMENT:

Written authorizations shall be required to control entry into and perform work within radiological areas. These authorizations shall specify radiation protection measures commensurate with the existing and potential hazards.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.501, *Radiological areas (e)*

REQUIREMENT STATEMENT:

No control(s) shall be installed at any radiological area exit that would prevent rapid evacuation of personnel under emergency conditions.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.502, *High and very high radiation areas (a)*

REQUIREMENT STATEMENT:

(a) The following measures shall be implemented for each entry into a high radiation area:

- (1) The area shall be monitored as necessary during access to determine the exposure rates to which the individuals are exposed.
- (2) Each individual shall be monitored by a supplemental dosimetry device or other means capable of providing an immediate estimate of the individual's integrated equivalent dose to the body during the entry.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.502, *High and very high radiation areas (b)*

REQUIREMENT STATEMENT:

(b) *Physical controls.* One or more of the following features shall be used for each entrance or access point to a high radiation area where radiation levels exist such that an individual could exceed an equivalent dose to the whole body of 1 rem (0.01 Sv) in any one hour at 30 centimeters from the source or from any surface that the radiation penetrates:

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

- (1) A control device that prevents entry to the area when high radiation levels exist or upon entry causes the radiation level to be reduced below that level defining a high radiation area;
- (2) A device that functions automatically to prevent use or operation of the radiation source or field while individuals are in the area;
- (3) A control device that energizes a conspicuous visible or audible alarm signal so that the individual entering the high radiation area and the supervisor of the activity are made aware of the entry;
- (4) Entryways that are locked. During periods when access to the area is required, positive control over each entry is maintained;
- (5) Continuous direct or electronic surveillance that is capable of preventing unauthorized entry;
- (6) A control device that will automatically generate audible and visual alarm signals to alert personnel in the area before use or operation of the radiation source and in sufficient time to permit evacuation of the area or activation of a secondary control device that will prevent use or operation of the source.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.502, *High and very high radiation areas (c)*

REQUIREMENT STATEMENT:

- (c) *Very high radiation areas.* In addition to the above requirements, additional measures shall be implemented to ensure individuals are not able to gain unauthorized or inadvertent access to very high radiation areas.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.502, *High and very high radiation areas (d)*

REQUIREMENT STATEMENT:

- (d) No control(s) shall be established in a high or very high radiation area that would prevent rapid evacuation of personnel.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.601, *General requirements (a)*

REQUIREMENT STATEMENT:

(a) Except as otherwise provided in this subpart, postings and labels required by this subpart shall include the standard radiation warning trefoil in black or magenta imposed upon a yellow background.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.601, *General requirements (b)*

REQUIREMENT STATEMENT:

(b) Signs required by this subpart shall be clearly and conspicuously posted and may include radiological protection instructions.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.601, *General requirements (c)*

REQUIREMENT STATEMENT:

The posting and labeling requirements in this subpart may be modified to reflect the special considerations of DOE activities conducted at private residences or businesses. Such modifications shall provide the same level of protection to individuals as the existing provisions in this subpart.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

10 CFR 835.602, *Controlled areas (a)*

REQUIREMENT STATEMENT:

- (a) Each access point to a controlled area (as defined in 10 CFR 835.2, *Definitions*) shall be posted whenever radiological areas or radioactive material areas exist in the area. Individuals who enter only controlled areas without entering radiological areas or radioactive materials areas are not expected to receive a TED of more than 0.1 rem (0.001 Sv) in a year.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.602, *Controlled areas (b)*

REQUIREMENT STATEMENT:

- (b) Signs used for this purpose may be selected by the contractor to avoid conflict with local security requirements

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.603, *Radiological areas and radioactive material areas*

REQUIREMENT STATEMENT:

Each access point to radiological areas and radioactive material areas (as defined in 10 CFR 835.2, *Definitions*) shall be posted with conspicuous signs bearing the wording provided in this section.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

10 CFR 835.603, *Radiological areas and radioactive material areas (a)*

REQUIREMENT STATEMENT:

(a) Radiation Area. The words “Caution, Radiation Area” shall be posted at each radiation area.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.603, *Radiological areas and radioactive material areas (b)*

REQUIREMENT STATEMENT:

(b) *High Radiation Area*. The words “Caution, High Radiation Area” or “Danger, High Radiation Area” shall be posted at each SST high radiation area.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.603, *Radiological areas and radioactive material areas (c)*

REQUIREMENT STATEMENT:

(c) *Very High Radiation Area*. The words “Grave Danger, Very High Radiation Area” shall be posted at each very high radiation area.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.603, *Radiological areas and radioactive material areas (d)*

REQUIREMENT STATEMENT:

(d) *Airborne Radioactivity Area*. The words “Caution, Airborne Radioactivity Area” or “Danger, Airborne Radioactivity Area” shall be posted at each airborne radioactivity area.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

10 CFR 835.603, *Radiological areas and radioactive material areas (e)*

REQUIREMENT STATEMENT:

(e) *Contamination Area*. The words “Caution, Contamination Area” shall be posted at each contamination area.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.603, *Radiological areas and radioactive material areas (f)*

REQUIREMENT STATEMENT:

(f) *High Contamination Area*. The words “Caution, High Contamination Area” or “Danger, High Contamination Area” shall be posted at each high contamination area.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.603, *Radiological areas and radioactive material areas (g)*

REQUIREMENT STATEMENT:

(g) *Radioactive Material Area*. The words “Caution, Radioactive Material(s)” shall be posted at each radioactive material area.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.604, *Exceptions to posting requirements (a)*

REQUIREMENT STATEMENT:

(a) Areas may be exempt from the posting requirements of 10 CFR 835.603, *Radiological areas and radioactive material areas* for periods of less than 8 continuous hours when placed under continuous observation and control of an individual knowledgeable of, and empowered to implement, required access and exposure control measures.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.604, *Exceptions to posting requirements (b)*

REQUIREMENT STATEMENT:

- (b) Areas may be excepted from the radioactive material area posting requirements of 10 CFR 835.603, *Radiological areas and radioactive material areas* when any of these occurs:
- (1) Posted in accordance with 10 CFR 835.603, *Radiological areas and radioactive material areas* (a) through (f); or
 - (2) Each item or container of radioactive material is labeled in accordance with this subpart such that individuals entering the area are made aware of the hazard; or
 - (3) The radioactive material of concern consists solely of structures or installed components which have been activated (i.e., such as by being exposed to neutron radiation or particles produced in an accelerator).

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.604, *Exceptions to posting requirements (c)*

REQUIREMENT STATEMENT:

- (c) Areas containing only packages received from radioactive material transportation labeled and in non-degraded condition need not be posted in accordance with 10 CFR 835.603, *Radiological areas and radioactive material areas* until the packages are monitored in accordance with 10 CFR 835.405, *Receipt of packages containing radioactive material*.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

ATTACHMENT B – RADIATION PROTECTION PROGRAM COMPLIANCE STATEMENTS (continued)

10 CFR 835.605, *Labeling Items and Containers*

REQUIREMENT STATEMENT:

Except as provided in 10 CFR 835.606, *Exceptions to labeling requirements*, each item or container of radioactive material shall bear a durable, clearly visible label bearing the standard radiation warning trefoil and the words “Caution, Radioactive Material” or “Danger, Radioactive Material.” The label shall also provide sufficient information to permit individuals handling, using, or working in the vicinity of the items or containers, to take precautions to avoid or control exposures.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.606, *Exceptions to labeling requirements (a)*

REQUIREMENT STATEMENT:

- (a) Items and containers may be excepted from the radioactive material labeling requirements of 10 CFR 835.605, *Labeling items and containers*, when:
- (1) Used, handled, or stored in areas posted and controlled in accordance with this subpart; and
 - (2) sufficient information is provided to permit individuals to take precautions to avoid or control exposures; or
 - (3) The quantity of radioactive material is less than one tenth of the values specified in Appendix E of this part and less than 0.1 Ci; or
 - (4) Packaged, labeled, and marked in accordance with the regulations of the Department of Transportation or DOE orders governing radioactive material transportation; or
 - (5) Inaccessible, or accessible only to individuals authorized to handle or use them, or to work in the vicinity; or
 - (6) Installed in manufacturing, process, or other equipment, such as reactor components, piping, and tanks; or
 - (7) The radioactive material consists solely of nuclear weapons or their components.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

10 CFR 835.701, *General provisions (a)*

REQUIREMENT STATEMENT:

- (a) Records shall be maintained to document compliance with this part and with radiation protection programs required by 10 CFR 835.101, *Radiation protection programs*.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.701, *General provisions (b)*

REQUIREMENT STATEMENT:

- (a) Unless otherwise specified in the subpart, records shall be retained until final disposition is authorized by DOE.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.702, *Individual monitoring records (a)*

REQUIREMENT STATEMENT:

- (a) Except as authorized by § 835.702, *Individual monitoring records (b)*, records shall be maintained to document doses received by all individuals for whom monitoring was conducted and to document doses received during planned special exposures, unplanned doses exceeding the monitoring thresholds of § 835.402, *Individual monitoring*, and authorized emergency exposures.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.702, *Individual monitoring records (b)*

REQUIREMENT STATEMENT:

- (b) Recording of the nonuniform equivalent dose to the skin is not required if the dose is less than 2 percent of the limit specified for the skin at § 835.202, *Occupational dose*

ATTACHMENT B – RADIATION PROTECTION PROGRAM COMPLIANCE STATEMENTS (continued)

limits for general employees (a)(4). Recording of internal dose (CED or committed equivalent dose) is not required for any monitoring result estimated to correspond to an individual receiving less than 0.01 rem (0.1 mSv) CED. The bioassay or air monitoring result used to make the estimate shall be maintained in accordance with § 835.703, *Other monitoring records (b)* and the unrecorded internal dose estimated for any individual in a year shall not exceed the applicable monitoring threshold at § 835.402, *Individual monitoring (c)*.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.702, *Individual monitoring records (c)*

REQUIREMENT STATEMENT:

- (c) The records required by this section shall:
- (1) Be sufficient to evaluate compliance with subpart C of this part;
 - (2) Be sufficient to provide dose information necessary to complete reports required by subpart I, *Reports to individuals* of this part;
 - (3) Include the results of monitoring used to assess the following quantities for external dose received during the year:
 - (i) The effective dose from external sources of radiation (equivalent dose to the whole body may be used as effective dose for external exposure);
 - (ii) The equivalent dose to the lens of the eye;
 - (iii) The equivalent dose to the skin; and
 - (iv) The equivalent dose to the extremities.
 - (4) Include the following information for internal dose resulting from intakes received during the year:
 - (i) CED;
 - (ii) Committed equivalent dose to any organ or tissue of concern; and
 - (iii) Identity of radionuclides.
 - (5) Include the following quantities for the summation of the external and internal dose:
 - (i) TED in a year;
 - (ii) For any organ or tissue assigned an internal dose during the year, the sum of the equivalent dose to the whole body from external exposures and the committed equivalent dose to that organ or tissue; and
 - (iii) Cumulative TED.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

(6) Include the equivalent dose to the embryo/fetus of a declared pregnant worker.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.702, *Individual monitoring records (d)*

REQUIREMENT STATEMENT:

(d) Documentation of all occupational doses received during the current year, except for doses resulting from planned special exposures conducted in compliance with § 835.204, *Planned special exposures* and emergency exposures authorized in accordance with § 835.1302, *Emergency exposure situations (d)*, shall be obtained to demonstrate compliance with § 835.202, *Occupational dose limits for general employees (a)*. If complete records documenting previous occupational dose during the year cannot be obtained, a written estimate signed by the individual may be accepted to demonstrate compliance.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.702, *Individual monitoring records (e)*

REQUIREMENT STATEMENT:

(e) For radiological workers whose occupational dose is monitored in accordance with § 835.402, *Individual monitoring*, reasonable efforts shall be made to obtain complete records of prior years occupational internal and external doses.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.702, *Individual monitoring records (f)*

REQUIREMENT STATEMENT:

(f) The records specified in this section that are identified with a specific individual shall be readily available to that individual.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.702, *Individual monitoring records (g)*

REQUIREMENT STATEMENT:

(g) Data necessary to allow future verification or reassessment of the recorded doses shall be recorded.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.702, *Individual monitoring records (h)*

REQUIREMENT STATEMENT:

(h) All records required by this section shall be transferred to the DOE upon cessation of activities at the site that could cause exposure to individuals.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.703, *Other monitoring records*

REQUIREMENT STATEMENT:

The following information shall be documented and maintained:

- (a) Results of monitoring for radiation and radioactive material as required by subpart E, *Monitoring of Individuals and Areas* and subpart L, *Radioactive Contamination Control* of this part except for monitoring required by 10 CFR 835.1102, *Control of areas (d)*;
- (b) Results of monitoring used to determine individual occupational dose from external and internal sources;
- (c) Results of monitoring for the release and control of material and equipment as required by 10 CFR 835.1101, *Control of material and equipment; and*

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

- (d) Results of maintenance and calibration performed on instruments and equipment as required by 10 CFR 835.401, *General requirements* (b).

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.704, *Administrative records* (a)

REQUIREMENT STATEMENT:

- (a) Training records shall be maintained, as necessary, to demonstrate compliance with 10 CFR 835.901, *Radiation safety training*.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.704, *Administrative records* (b)

REQUIREMENT STATEMENT:

- (b) Actions taken to maintain occupational exposures ALARA, including the actions required for this purpose by 10 CFR 835.101, *Radiation protection programs*, as well as facility design and control actions required by 10 CFR 835.1001, *Design and control*, 835.1002, *Facility design and modifications*, and 835.1003, *Workplace controls*, shall be documented.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.704, *Administrative records* (c)

REQUIREMENT STATEMENT:

- (c) Records shall be maintained to document the results of internal audits and other reviews of program content and implementation.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

10 CFR 835.704, *Administrative records (d)*

REQUIREMENT STATEMENT:

- (d) Written declarations of pregnancy, including the estimated date of conception, and revocations of declarations of pregnancy shall be maintained.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.704, *Administrative records (e)*

REQUIREMENT STATEMENT:

- (e) Changes in equipment, techniques, and procedures used for monitoring shall be documented.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.704, *Administrative records (f)*

REQUIREMENT STATEMENT:

- (f) Records shall be maintained as necessary to demonstrate compliance with the requirements of 10 CFR 835.1201, *Sealed radioactive source control*, and 835.1202, *Accountable sealed radioactive sources* for sealed radioactive source control, inventory, and source leak tests.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.801, *Report to individuals (a)*

REQUIREMENT STATEMENT:

- (a) Radiation exposure data for individuals monitored in accordance with § 835.402, *Individual monitoring* shall be reported as specified in this section. The information shall include the data required under § 835.702, *Individual monitoring records (c)*. Each notification and report shall be in writing and include: the DOE site or facility

ATTACHMENT B – RADIATION PROTECTION PROGRAM COMPLIANCE STATEMENTS (continued)

name, the name of the individual, and the individual's social security number, employee number, or other unique identification number.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.801, *Administrative records (b)*

REQUIREMENT STATEMENT:

(b) Upon the request from an individual terminating employment, records of exposure shall be provided to that individual as soon as the data are available, but not later than 90 days after termination. A written estimate of the radiation dose received by that employee based on available information shall be provided at the time of termination, if requested.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.801, *Administrative records (c)*

REQUIREMENT STATEMENT:

(c) Each DOE- or DOE-contractor-operated site or facility shall, on an annual basis, provide a radiation dose report to each individual monitored during the year at that site or facility in accordance with 10 CFR 835.402, *Individual monitoring*.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.801, *Administrative records (d)*

REQUIREMENT STATEMENT:

(d) Detailed information concerning any individual's exposure shall be made available to the individual upon request of that individual, consistent with the provisions of the Privacy Act (5 U.S.C. 552a).

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.801, *Administrative records (e)*

REQUIREMENT STATEMENT:

(e) When a DOE contractor is required to report to the Department, pursuant to Departmental requirements for occurrence reporting and processing, any exposure of an individual to radiation and/or radioactive material, or planned special exposure in accordance with § 835.204, *Planned special exposures (e)*, the contractor shall also provide that individual with a report on his or her exposure data included therein. Such report shall be transmitted at a time not later than the transmittal to the Department.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.901, *Radiation safety training (a)*

REQUIREMENT STATEMENT:

(a) Each individual shall complete radiation safety training on the topics established at § 835.901, *Radiation safety training (c)* commensurate with the hazards in the area and the required controls:

- (1) Before being permitted unescorted access to controlled areas; and
- (2) Before receiving occupational dose during access to controlled areas at a DOE site or facility.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance

10 CFR 835.901, *Radiation safety training (b)*

REQUIREMENT STATEMENT:

(b) Each individual shall demonstrate knowledge of the radiation safety training topics established in § 835.901, *Radiation safety training (c)*, commensurate with the

ATTACHMENT B – RADIATION PROTECTION PROGRAM COMPLIANCE STATEMENTS (continued)

hazards in the area and required controls, by successful completion of an examination and performance demonstrations:

- (1) Before being permitted unescorted access to radiological areas; and
- (2) Before performing unescorted assignments as a radiological worker.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.901, *Radiation safety training (c)*

REQUIREMENT STATEMENT:

- (c) Radiation safety training shall include the following topics, to the extent appropriate to each individual's prior training, work assignments, and degree of exposure to potential radiological hazards:
- (1) Risks of exposure to radiation and radioactive materials, including prenatal radiation exposure;
 - (2) Basic radiological fundamentals and radiation protection concepts;
 - (3) Physical design features, administrative controls, limits, policies, procedures, alarms, and other measures implemented at the facility to manage doses and maintain doses ALARA, including both routine and emergency actions;
 - (4) Individual rights and responsibilities as related to implementation of the facility radiation protection program;
 - (5) Individual responsibilities for implementing ALARA measures required by § 835.101, *Radiation protection programs*; and
 - (6) Individual exposure reports that may be requested in accordance with § 835.801, *Reports to individuals*.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

10 CFR 835.901, *Radiation safety training (d)*

REQUIREMENT STATEMENT:

(d) When an escort is used in lieu of training in accordance with paragraph (a) or (b) of this section, the escort shall:

- (1) Have completed radiation safety training, examinations, and performance demonstrations required for entry to the area and performance of the work; and
- (2) Ensure that all escorted individuals comply with the documented radiation protection program.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.901, *Radiation safety training (e)*

REQUIREMENT STATEMENT:

(e) Radiation safety training shall be provided to individuals when there is a significant change to radiation protection policies and procedures that may affect the individual and at intervals not to exceed 24 months. Such training provided for individuals subject to the requirements of § 835.901, *Radiation safety training (b)(1)* and *(b)(2)* shall include successful completion of an examination.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1001, *Design and control (a)*

REQUIREMENT STATEMENT:

(a) Measures shall be taken to maintain radiation exposure in controlled areas ALARA through engineered and administrative controls. The primary methods used shall be engineered controls (e.g., confinement, ventilation, remote handling, and shielding). Administrative controls shall be employed only as supplemental methods to control radiation exposure.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

10 CFR 835.1001, *Design and control (b)*

REQUIREMENT STATEMENT:

- (b) For specific activities where use of engineered controls is demonstrated to be impractical, administrative controls shall be used to maintain radiation exposures ALARA.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1002, *Facility design and modifications (a)*

REQUIREMENT STATEMENT:

During the design of new facilities or modification of existing facilities, the following objectives shall be adopted:

- (a) Optimization methods shall be used to assure that occupational exposure is maintained ALARA in developing and justifying facility design and physical controls.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1002, *Facility design and modifications (b)*

REQUIREMENT STATEMENT:

During the design of new facilities or modification of existing facilities, the following objectives shall be adopted:

- (b) The design objective for controlling personnel exposure from external sources of radiation in areas of continuous occupational occupancy (2000 hours per year) shall be to maintain exposure levels below an average of 0.5 mrem (5 μ Sv) per hour and as far below this average as is reasonably achievable. The design objectives for exposure rates for potential exposure to a radiological worker where occupancy differs from the above shall be ALARA and shall not exceed 20 percent of the applicable standards in § 835.202, *Occupational dose limits for general employees*.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1002, *Facility design and modifications (c)*

REQUIREMENT STATEMENT:

During the design of new facilities or modification of existing facilities, the following objectives shall be adopted:

- (c) Regarding the control of airborne radioactive material, the design objective shall be, under normal conditions, to avoid releases to the workplace atmosphere and in any situation, to control the inhalation of such material by workers to levels that are ALARA; confinement and ventilation shall normally be used.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1002, *Facility design and modifications (d)*

REQUIREMENT STATEMENT:

During the design of new facilities or modification of existing facilities, the following objectives shall be adopted:

- (d) The design or modification of a facility and the selection of materials shall include features that facilitate operations, maintenance, decontamination, and decommissioning.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1003, *Workplace controls (a)*

REQUIREMENT STATEMENT:

During routine operations, the combination of engineered and administrative controls shall provide that:

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

- (a) The anticipated occupational dose to general employees shall not exceed the limits established at 10 CFR 835.202, *Occupational dose limits for general employee*.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1003, *Workplace controls (b)*

REQUIREMENT STATEMENT:

During routine operations, the combination of engineered and administrative controls shall provide that:

- (b) The ALARA process is utilized for personnel exposures to ionizing radiation.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1101, *Control of material and equipment (a)*

REQUIREMENT STATEMENT:

- (a) Except as provided in paragraphs (b) and (c) of this section, material and equipment in contamination areas, high contamination areas, and airborne radioactivity areas shall not be released to a controlled area if:

- (1) Removable surface contamination levels on accessible surfaces exceed the removable surface contamination values specified in Appendix D, *Surface Contamination Values*, of this part; or
- (2) Prior use suggests that the removable surface contamination levels on inaccessible surfaces are likely to exceed the removable surface contamination values specified in Appendix D, *Surface Contamination Values*, of this part.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

ATTACHMENT B – RADIATION PROTECTION PROGRAM COMPLIANCE STATEMENTS (continued)

10 CFR 835.1101, *Control of material and equipment (b)*

REQUIREMENT STATEMENT:

- (b) Material and equipment exceeding the removable surface contamination values specified in Appendix D, *Surface Contamination Values*, of this part may be conditionally released for movement on-site from one radiological area for immediate placement in another radiological area only if appropriate monitoring is performed and appropriate controls for the movement are established and exercised.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1101, *Control of material and equipment (c)*

REQUIREMENT STATEMENT:

- (c) Material and equipment with fixed contamination levels that exceed the total surface contamination values specified in Appendix D, *Surface Contamination Values*, of this part may be released for use in controlled areas outside of radiological areas only under the following conditions:
- (1) Removable surface contamination levels are below the removable surface contamination values specified in Appendix D, *Surface Contamination Values*, of this part; and
 - (2) The material or equipment is routinely monitored and clearly marked or labeled to alert personnel of the contaminated status.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1102, *Control of areas (a)*

REQUIREMENT STATEMENT:

- (a) Appropriate controls shall be maintained and verified which prevent the inadvertent transfer of removable contamination to locations outside of radiological areas under normal operating conditions.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1102, *Control of areas (b)*

REQUIREMENT STATEMENT:

(b) Any area in which contamination levels exceed the values specified in Appendix D, *Surface Contamination Values*, of this part shall be controlled in a manner commensurate with the physical and chemical characteristics of the contaminant, the radionuclides present, and the fixed and removable surface contamination levels.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1102, *Control of areas (c)*

REQUIREMENT STATEMENT:

(c) Areas accessible to individuals where the measured total surface contamination levels exceed, but the removable surface contamination levels are less than, corresponding surface contamination values specified in Appendix D, *Surface Contamination Values*, of this part, shall be controlled as follows when located outside of radiological areas:

- (1) The area shall be routinely monitored to ensure the removable surface contamination level remains below the removable surface contamination values specified in Appendix D, *Surface Contamination Values*, of this part; and
- (2) The area shall be conspicuously marked to warn individuals of the contaminated status.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

10 CFR 835.1102, *Control of areas (d)*

REQUIREMENT STATEMENT:

(d) Individuals exiting contamination, high contamination, or airborne radioactivity areas shall be monitored, as appropriate, for the presence of surface contamination.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1102, *Control of areas (e)*

REQUIREMENT STATEMENT:

(e) Protective clothing shall be required for entry to areas in which removable contamination exists at levels exceeding the removable surface contamination values specified in Appendix D, *Surface Contamination Values*, of this part.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1201, *Sealed radioactive source control*

REQUIREMENT STATEMENT:

Sealed radioactive sources shall be used, handled, and stored in a manner commensurate with the hazards associated with the operations involving the sources.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1202, *Accountable sealed radioactive sources (a)*

REQUIREMENT STATEMENT:

(a) Each accountable sealed radioactive source shall be inventoried at intervals not to exceed six months. This inventory shall:

- (1) Establish the physical location of each accountable sealed radioactive source;
- (2) Verify the presence and adequacy of associated postings and labels; and

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

(3) Establish the adequacy of storage locations, containers, and devices.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1202, *Accountable sealed radioactive sources (b)*

REQUIREMENT STATEMENT:

(b) Except for sealed radioactive sources consisting solely of gaseous radioactive material or tritium, each accountable sealed radioactive source shall be subject to a source leak test upon receipt, when damage is suspected, and at intervals not to exceed six months. Source leak tests shall be capable of detecting radioactive material leakage equal to or exceeding 0.005 μCi .

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1202, *Accountable sealed radioactive sources (c)*

REQUIREMENT STATEMENT:

(c) Notwithstanding the requirements of paragraph (b) of this section, an accountable sealed radioactive source is not subject to periodic source leak testing if that source has been removed from service. Such sources shall be stored in a controlled location, subject to periodic inventory as required by paragraph (a) of this section, and subject to source leak testing prior to being returned to service.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1202, *Accountable sealed radioactive sources (d)*

REQUIREMENT STATEMENT:

(d) Notwithstanding the requirements of paragraphs (a) and (b) of this section, an accountable sealed radioactive source is not subject to periodic inventory and source leak testing if that source is located in an area that is unsafe for human entry or otherwise inaccessible.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1202, *Accountable sealed radioactive sources (e)*

REQUIREMENT STATEMENT:

- (e) An accountable sealed radioactive source found to be leaking radioactive material shall be controlled in a manner that minimizes the spread of radioactive contamination.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1301, *General provisions (a)*

REQUIREMENT STATEMENT:

- (a) A general employee whose occupational dose has exceeded the numerical value of any of the limits specified in § 835.202, *Occupational dose limits for general employees*, as a result of an authorized emergency exposure may be permitted to return to work in radiological areas during the current year providing that all of the following conditions are met:
- (1) Approval is first obtained from the contractor management and the Head of the responsible DOE field organization;
 - (2) The individual receives counseling from radiological protection and medical personnel regarding the consequences of receiving additional occupational exposure during the year; and
 - (3) The affected employee agrees to return to radiological work.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

10 CFR 835.1301, *General provisions (b)*

REQUIREMENT STATEMENT:

- (b) All doses exceeding the limits specified in § 835.202, *Occupational dose limits for general employees*, shall be recorded in the affected individual's occupational dose record.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1301, *General provisions (c)*

REQUIREMENT STATEMENT:

- (c) When the conditions under which a dose was received in excess of the limits specified in § 835.202, *Occupational dose limits for general employees*, except those doses received in accordance with § 835.204, *Planned special exposures*, have been eliminated, operating management shall notify the Head of the responsible DOE field organization.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1301, *General provisions (d)*

REQUIREMENT STATEMENT:

- (d) Operations which have been suspended as a result of a dose in excess of the limits specified in § 835.202, *Occupational dose limits for general employees*, except those received in accordance with § 835.204, *Planned special exposures*, may be resumed only with the approval of DOE.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

10 CFR 835.1302, *Emergency exposure situations (a)*

REQUIREMENT STATEMENT:

- (a) The risk of injury to those individuals involved in rescue and recovery operations shall be minimized.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1302, *Emergency exposure situations (b)*

REQUIREMENT STATEMENT:

- (b) Operating management shall weigh actual and potential risks against the benefits to be gained.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1302, *Emergency exposure situations (c)*

REQUIREMENT STATEMENT:

- (c) No individual shall be required to perform rescue action that might involve substantial personal risk.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1302, *Emergency exposure situations (d)*

REQUIREMENT STATEMENT:

- (d) Each individual authorized to perform emergency actions likely to result in occupational doses exceeding the values of the limits provided at 10 CFR 835.202, *Occupational dose limits for general employees (a)* shall be trained in accordance with 10 CFR 835.901, *Radiation safety training (b)* and briefed beforehand on the known or anticipated hazards to which the individual will be subjected.

ATTACHMENT B – RADIATION PROTECTION PROGRAM COMPLIANCE STATEMENTS (continued)

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1304, *Nuclear accident dosimetry (a)*

REQUIREMENT STATEMENT:

- (a) Installations possessing sufficient quantities of fissile material to potentially constitute a critical mass, such that the excessive exposure of individuals to radiation from a nuclear accident is possible, shall provide nuclear accident dosimetry for those individuals.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835.1304, *Nuclear accident dosimetry (b)*

REQUIREMENT STATEMENT:

- (b) Nuclear accident dosimetry shall include the following:
- (1) A method to conduct initial screening of individuals involved in a nuclear accident to determine whether significant exposures to radiation occurred;
 - (2) Methods and equipment for analysis of biological materials;
 - (3) A system of fixed nuclear accident dosimeter units; and
 - (4) Personal nuclear accident dosimeters.

DESCRIPTION OF COMPLIANCE STATUS:

Conditional Compliance.

Fixed nuclear accident dosimetry currently is not within SST's scope of activities. Additionally, SST does not control areas or materials where a critical mass could be formed, thus the overall site criticality safety program is the responsibility of the Deactivation and Remediation Contractor. Under the current SST DOE Prime Contract, SST provides personal nuclear accident dosimeters for site personnel. These dosimeters, in combination with the Deactivation and Remediation Contractor's criticality response protocols, have served to meet the Rule requirements. However, specifications for dosimeter type, use, use-location, or accident response (i.e., the technical requirements) remain a function of the Deactivation and Remediation Contractor's criticality safety program which is not within the SST scope of work.

ATTACHMENT B – RADIATION PROTECTION PROGRAM COMPLIANCE STATEMENTS (continued)

Additionally, the Deactivation and Remediation Contractor, a DOE prime contractor, would provide the remaining services to comply with this requirement.

10 CFR 835 Appendix A, *Derived Air Concentrations (DAC) for Controlling Radiation Exposure to Workers at DOE Facilities*

REQUIREMENT STATEMENT:

Appendix provides DAC values for various radionuclides (not reproduced in it's entirely).

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835 Appendix C, *Derived Air Concentrations (DAC) for Workers From External Exposure During Immersion in a Cloud of Airborne Radioactive Material*

REQUIREMENT STATEMENT (Preamble, Appendix A, Second Paragraph):

Appendix C provides DAC values for various radionuclides applicable for immersion in a cloud of airborne radioactive material.

DESCRIPTION OF COMPLIANCE STATUS:

While Appendix C and its preamble and footnote are applicable to SST activities under the RPP, the conditions to implement controls are not present.

10 CFR 835 Appendix D, *Surface Contamination Values*

REQUIREMENT STATEMENT (footnote 1, Appendix D):

Where surface contamination by both alpha- and beta-gamma-emitting nuclides exists, the limits established for alpha- and beta-gamma-emitting nuclides apply independently.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835 Appendix D, *Surface Contamination Values*

REQUIREMENT STATEMENT (footnote 1, Appendix D):

The data presented in Appendix D, *Surface Contamination Values*, are to be used in identifying and posting contamination and high contamination areas in accordance with

**ATTACHMENT B – RADIATION PROTECTION PROGRAM
COMPLIANCE STATEMENTS (continued)**

§ 835.603, *Radiological areas and radioactive material areas* (e) and (f) and identifying the need for surface contamination monitoring and control in accordance with § 835.1101, *Control of material and equipment*, and 1102, *Control of areas*.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

10 CFR 835 Appendix E, *Values for Establishing Sealed Radioactive Source Accountability and Radioactive Material Posting and Labeling Requirements*

REQUIREMENT STATEMENT (footnote 1, Appendix D):

The data presented in Appendix E are to be used for identifying accountable sealed radioactive sources and radioactive material areas as those terms are defined at § 835.2, *Definitions* (a), establishing the need for radioactive material area posting in accordance with § 835.603, *Radiological areas and radioactive material areas* (g), and establishing the need for radioactive material labeling in accordance with § 835.605, *Labeling items and containers*.

DESCRIPTION OF COMPLIANCE STATUS:

Full Compliance.

ATTACHMENT C – ENVIRONMENTAL RADIATION PROTECTION PROGRAM

Summary Statement

U.S. Department of Energy (DOE) Order (O) 458.1, Radiation Protection of the Public and the Environment, has been incorporated into Swift & Staley Team's (SSTs) contract which was effective December 1, 2015. Generally speaking, SST's contract scope of work does not involve activities (maintenance and infrastructure) that would engage DOE Order 458.1 requirements. SST's primary mission requires the evaluation and survey of materials and equipment that have had minimal or no residual radiological material contact and thus there is minimal potential for contamination and undue risk to the public from radiological activities under the control of the DOE. Due to SST's limited scope in regards to the site ERPP, SST will maintain its ERPP as an attachment to the RPP as stated in section 1 of the RPP.

SST shares the site with other DOE contractors who perform mission oriented scopes of work (e.g., system deactivation, facility demolition, soils remediation, material accumulation and disposition, area clearance and release) which have direct DOE Order 458.1 compliance implications. Throughout this appendix this (these) contractor(s) are generically referred to as the Deactivation and Remediation Contractor(s). The Deactivation and Remediation Contractor has been contractually tasked with following the majority of DOE (O) 458.1 requirements as they relate to site activities. To the extent that SST activities invoke DOE Order 458.1 requirements, they are detailed in this attachment.

Swift & Staley Team Scope of Work

DOE has contracted with SST to provide Infrastructure activities at the Paducah Gaseous Diffusion Plant (PGDP) located in Paducah, Kentucky. Services include facility surveillance, maintenance of roads and grounds, mowing, janitorial services, records management, site security programs, site dosimetry, site radiological instrumentation maintenance/calibration, computing and telecommunications, and fleet management.

SST does not operate or manage any radiological process facilities or perform extensive work with radiological materials. SST generates only de minimus quantities of radiological waste such as personal protective equipment (PPE), smears, and air sample media utilized in the performance of contracted activities in posted radiological areas operated and managed by the Deactivation and Remediation Contractor. The Deactivation and Remediation Contractor is responsible for all effluent monitoring, assessment, and reporting for the facility.

Swift & Staley Team Scope of Work Relevant to U.S. Department of Energy Order 458.1

During the development of this attachment, SST worked with DOE representatives to define likely activities that could potentially fall under the requirements of DOE Order (O) 458.1. These activities are limited to the off-site, “free release” of equipment (e.g., vehicles, mowers, heavy equipment, instrumentation) and materials (cotton coveralls, scrubs, modesty garments) that SST may have moved in and out of radiologically controlled areas (i.e., Contamination Areas, High Contamination Areas, and/or Airborne Radiation Areas).

These items are routinely controlled (e.g., held at a transition point, bagged/tagged) until released under standard operating procedures. During transition to the current contract, SST upgraded its plans, standard operating procedures, forms, and reporting to be compliant with any requirements specified in DOE (O) 458.1, Attachment 1, *Contractor Requirements Document* (CRD). Briefly these additional requirements include:

Designation and Approval of Authorized Limits CRD 2.k(6) – SST adopts the 10 CFR 835, Appendix D, surface release limits as Authorized Limits. Plans, forms, and reports will specify the limits used (e.g., “Transuranic [TRU] Limits,” “Uranium Limits”) along with the specific values to be applied. Plans, forms, and reports will clearly state the MARSSIM/MARSAME survey class applied to the item(s) free released off-site. Any deviation from these limits, or variations for mixtures by SST will be provided to DOE for approval prior to use.

Annual Summary of Cleared Property CRD 2.k(11) – SST will prepare and provide a summary of items cleared for release to the public on an annual basis. This report will be submitted to the DOE Portsmouth/ Paducah Project Office Manager. These items will typically be limited to items that are or may be “permanently” released from site control. The format of this summary may evolve based upon DOE desires and may be delivered as a stand-alone report or may be rolled into a summary section or table provided by the site Deactivation and Remediation Contractor.

Publicly Available Documentation of Approved Authorized Limits CRD 2.k(6)(g) – DOE maintains systems to provide documentation of approved authorized limits to the public. SST will refer any inquires along these lines to DOE.

U.S. Department of Energy Order 458.1 Attachment 1 Contractor Required Documents Section-by-Section Compliance Assessment

Contractor Required Documents 1. General Requirements

- a. **SST to establish and implement an Environmental Radiation Protection Program.** The program requirements are flowed down from DOE Order 458.1, through this document to SST plans, documents, and procedures. The overall program is protective of the public and environment against undue exposure to radiation associated with DOE radiological activities.

- b. **Schedule for full implementation of the specific requirements of the CRD.** SST is in full compliance with DOE (O) 458.1.
- c. **Development of documentation demonstrating that specific requirements of the CRD are being met.** SST will complete any needed modifications to plans, standard operating procedures, guides, forms, and reports per the schedule provided in “b.” above.
- d. **SST to obtain DOE line management approval of its CRD compliance documentation.** SST recognizes DOE’s approval of this plan along with DOE NTP as documentation of line management approval.

Contractor Required Documents 2. Specific Requirements

U.S. Department of Energy Order 458.1 Section (2.a) Environmental Radiological Protection Program

SST has developed and implemented a Radiological Protection Program (RPP) accepted by DOE that addresses the requirements of 10 CFR 835 *Occupational Radiation Protection* and the methods of compliance. Additionally, SST has revised and implemented these policies, plans, procedures, and work instructions to implement specific methods to perform the required relevant elements of the CRD under its present prime scope of work.

U.S. Department of Energy Order 458.1 Section (2.b) Public Dose Limit

SST adopts the surface limits provided in 10 CFR 835, Appendix D as authorized limits. These limits have historically been applied and accepted as meeting the limits of CRD 2.b. (1) and (2). Additionally, due to its limited scope of work SST does not conduct operations anticipated to release radioactive effluents, liquid discharges, or real property that could expose any members of the public to dose limits specified in 2.b.1.a (i.e., 100 mrem/year TED, 1,500 mrem/year lens of eyes/skin; 5,000 mrem/year extremities).

U.S. Department of Energy Order 458.1 Section (2.c) Temporary Dose Limits

Due to the limited scope of work, SST does not anticipate any special circumstances that might potentially expose any member of the public to dose limits exceeding TED of 100 mrem/year.

U.S. Department of Energy Order 458.1 Section (2.d) As Low As Reasonably Achievable

(1) SST conducts activities following work plans and procedures which limit, per its occupational As Low As Reasonably Achievable (ALARA) program, exposure to local (working) environments. By extension, this same protection is extended to the boundaries of controlled areas and any potential off-site effluents are extremely limited. Beyond this, any actual effluent monitoring and reporting is the contractual responsibility of the Deactivation and Remediation Contractor(s).

(2) SST conducts activities following work plans and procedures which limit, per its occupational (ALARA) program, exposure to local (working) environments. By extension, this same protection is extended to the boundaries of controlled areas and any potential off-site effluents are extremely limited. Beyond this, any actual effluent monitoring and reporting is the contractual responsibility of the Deactivation and Remediation Contractor(s).

SST is committed to maintaining all radiological exposures ALARA. SST has a documented ALARA Program; SST Administrative Procedure ISSC-RAD-PR-008, *ALARA Program*, SST.POL-010, *Annual ALARA Performance Goals*, and ISSC-RAD-PR-007, *ALARA Reviews*. The program implements the requirements of DOE O 458.1 and utilizes DOE-HDBK-1110-2008, *Training for Technical Support Personnel*, and DOE-HDBK-1215-2014, *Optimizing Radiation Protection of the Public and the Environment for use with 458.1*, to implement the ALARA Program.

(3) The approach applied by SST is graded and contractually compliant. It is further coordinated with the requirements of 10 CFR 835 and other DOE contractors on site.

U.S. Department of Energy Order 458.1 Section (2.e) Demonstrating Compliance with the Public Dose Limit

This requirement is contractually assigned to another contractor on site. To the extent SST activities are assessed against the public dose limit, SST supplies summary data to the DOE or to the designated DOE Deactivation and Remediation Contractor as directed by DOE and this plan.

Due to the limited scope of work, SST does not anticipate generating or releasing radioactive effluents, liquid discharges, or real property. SST monitors radiation exposure for members of the public that enter the site limited area in accordance with ISSC-RAD-PR-005, *Radiation Exposure Limits* and ISSC-RAD-PR-011, *External Dosimetry* and maintains survey and monitoring data records on any personal property (equipment and materials) that may be permanently released off-site.

U.S. Department of Energy Order 458.1 Section (2.f) Airborne Radioactive Effluents

This requirement is contractually assigned to another contractor on site. To the extent SST activities are assessed against the public dose limit, SST supplies summary data to DOE or to the designated DOE Deactivation and Remediation Contractor as directed by DOE and this plan.

Due to the limited scope of work, SST does not anticipate performing work that has the potential to release measurable radioactive airborne effluents.

U.S. Department of Energy Order 458.1 Section (2.g) Control and Management of Radionuclides from U.S. Department of Energy Activities in Liquid Discharges

This requirement is contractually assigned to another contractor on site. To the extent SST activities are assessed against the public dose limit, SST supplies summary data to the DOE or to the designated DOE Deactivation and Remediation Contractor as directed by DOE and this plan.

Due to the limited scope of work, SST does not anticipate performing work that has the potential to release a measurable radioactive liquid discharge.

U.S. Department of Energy Order 458.1 Section (2.h) Radioactive Waste and Spent Nuclear Fuel

This requirement is contractually assigned to another contractor on site. To the extent SST activities are assessed against the public dose limit, SST supplies summary data to DOE or to the designated DOE Deactivation and Remediation Contractor as directed by DOE and this plan.

SST does not operate or manage any radiological process facilities. SST generates small quantities of potentially low level residually contaminated waste in the form of used PPE, smears, and air sample media. This waste is packaged and transferred to the Deactivation and Remediation Contractor(s) for disposition.

U.S. Department of Energy Order 458.1 Section (2.i) Protection of Drinking Water and Ground Water

This requirement is contractually assigned to another contractor on site. To the extent SST activities are assessed against the public dose limit, SST supplies summary data to DOE or to the designated DOE Deactivation and Remediation Contractor as directed by DOE and this plan.

Due to SST's limited radiological scope of work, grounds maintenance and mowing in radiological areas would be the most probable threat of surface water run-off. SST utilizes erosion control when/if necessary to eliminate/minimize any potential radiological contamination due to surface water run-off.

U.S. Department of Energy Order 458.1 Section (2.j) Protection of Biota

This requirement is contractually assigned to another contractor on site. To the extent SST activities are assessed against the public dose limit and the protection of biota, SST supplies summary data to DOE or to the designated DOE Deactivation and Remediation Contractor as directed by DOE and this plan.

Due to the limited scope of work, SST does not perform work that has the potential for release of airborne emissions, liquid discharges, or material releases that have the potential to adversely impact the environment and populations of aquatic animals and territorial animals and plants.

U.S. Department of Energy Order 458.1 Section (2.k) Release and Clearance of Property

SST does not operate or manage any radiological process facilities or perform work with radiological materials that include radioactive waste treatments, storage, and disposal activities. SST's scope of work does not include the release and clearance of real property. SST's scope of work does include the occasional release of "personal" property which may include mowers, tools, equipment, and laundry that could conceivably be "free released" for permanent off-site use. SST has procedures and work instructions in place for the evaluation, survey, and compliant release of personal property from the site. The process utilizes a Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) and/or Multi-Agency Radiation Survey and Assessment of Materials and Equipment Manual (MARSAME) graded classification approach, historical and process knowledge, and radiological surveys (monitoring) to ensure there is no residual radioactive material in excess of SST's DOE authorized limits is released off-site. Where necessary, SST has upgraded its processes to be compliant with DOE O 458.1 to include:

- The adoption of 10 CFR 835, Appendix D, surface release limits and/or DOE approved modified release limits which are consistent with the dose constraint objectives of the order.
- The designation of the radionuclide (e.g., TRU, Uranium) category on release documentation.
- The incorporation of process and/or historical knowledge to determine MASSIM/MARSAME classification and radionuclide release category.
- The adoption of an ALARA process whereby residual contamination levels are reduced well below the authorized limits where practical (e.g., equipment exiting radiological areas will be routinely free of soils and debris prior to survey).
- Recognizing that property being removed from radiologically controlled areas will be done so under the requirements of 10 CFR 835 and property being removed from the DOE site will be done so under the requirements of DOE O 458.1; i.e., it will be in compliance with the authorized limits or it will be controlled in a manner protective of occupational workers, the public, and the environment.
- Applied survey processes consistent with MARSSIM/MARSAME guidance, meeting measurement data quality objectives, approved sample and analysis techniques, including an evaluation of non-uniformly distributed material, if applicable.
- Designation of radiological monitoring instrumentation and survey procedures capable of detecting and quantifying residual radioactive material consistent with the authorized limits.
- Periodically maintaining and calibrating instrumentation on an established frequency, appropriate to the types, levels, and energies of the radiation(s) encountered under the environmental conditions in which the measurements are to be made.
- Routinely testing radiological monitoring and survey equipment for operability.

CRD 2.k(11), Final Clearance Documentation,

SST will tailor documentation to the need, situation, and type of property being cleared. For ongoing, routine clearances, e.g., clearance of personal property from controlled areas, this documentation may be based upon general processes (procedures) rather than specific clearance plans. In general, SST will document the clearance process and property being cleared. The documentation will:

- Demonstrate requirements have been met;
- Show criteria used for clearance;
- List the authorized limits used;
- Identify the property's destination or disposition, as appropriate;
- Include a clearance declaration and/or rationale for clearance; and
- Provide a review and approval by a secondary clearance subject matter expert.

SST adopts the 10 CFR 835 surface limits as authorized limits. SST does not release volumetrically contaminated real or personal property. SST may occasionally confirm that items or materials are "non-impacted". Otherwise, any potentially "impacted" item or material which might be contaminated would be transferred to the Deactivation and Remediation Contractor for disposition.

Additionally, in accordance with DOE policy SST will not:

- Release, for unrestricted use, of any scrap metal from DOE radiological areas into commerce, in accordance with the Memorandum of Release of Surplus and Scrap Materials, from Energy Secretary Bill Richardson, dated July 13, 2000, suspending and prohibiting unrestricted release for recycling.
- Release for unrestricted use, of volumetrically-contaminated metal into commerce in accordance with the Press Release — "Energy Secretary Richardson Blocks Nickel Recycling at Oak Ridge", dated January 12, 2000, moratorium instituted by the Secretary Of Energy.

U.S. Department of Energy Order 458.1 Contractor Required Documents, 2.I Records, Retention, and Reporting Requirements

Many of the requirements associated with this section of the CRD are contractually assigned to other contractor(s) on site. To the extent SST activities are assessed against the public dose limit, SST supplies summary data to DOE or to the designated DOE Deactivation and Remediation Contractor as directed by DOE and this plan.

Records of cleared property are maintained by SST in an organized file system which allows records to be retrieved and made available for regulatory review as requested.

SST has established and approved procedures for records generation, retention, and reporting compliant with DOE and the National Archives and Records Administration. These procedures apply to all records; specifically survey data, dosimetry, public dose(s), special exposures, ALARA processes, discharges, effluents, releases, and waste management.