Revision Log

Pages Affected	Description of Revision
Global	For Administrative procedures (starting at Section 5.0), paragraph numbering is used for information reference points and does not represent a performance step order.
Global	Rollup of IPC-01.
Global	All non SRID flags in procedure were changed to hidden text.
2 & 16	Section 1.0 & 6.0. Added S/RID 2 flag and S/RID 2 reference.
3	Section 3.0, RADCON Action Step removed the following “The words “Action Step” and “Hold Point” are equivalent and interchangeable.”
4	Section 3.0, Radiological Work Permit Definition added “See Manual 5Q1.1, Procedure 504, Radiological Work Permit.”
4	IPC-01 Section 4.1 added “Indicating successful completion of the ALARA review by signing the RWP coversheet. The document corresponding to the completed ALARA review shall be numbered as the RWP number by an AR (ex. 12HBL-105AR).”
10	Section 5.3. Changed “Company President” to “Contract Senior Executive”

1.0 PURPOSE [S/RID 2]

To provide a method for performing systematic reviews of work to ensure that radiation exposure and contamination controls are appropriately incorporated as part of the work planning process and performance of work to ensure radiological safety and maintain exposures As Low As Reasonably Achievable (ALARA). During routine operations, the combination of physical design features and administrative controls shall provide that the anticipated occupational dose to general employees shall not exceed the limits established in Title 10, *Code of Federal Regulations* Part 835, *Occupational Radiation Protection*. [S/RID 1]

2.0 SCOPE

This procedure applies site-wide at the Savannah River Site (SRS) for personnel performing work and for entry within radiological areas [i.e., Radiation Areas (RA), High Radiation Areas (HRA), Very High Radiation Areas (VHRA), Contamination Areas (CAs), High Contamination Areas (HCA), Airborne Radioactivity Areas (ARA), and/or Hot Particle Areas], and any excavations within Soil Contamination Areas (SCA) and Underground Radioactive Material Areas (URMA) and handling materials or breaching systems where removable contamination exceed Manual 5Q, *Radiological Control*, Table 2-2 values. For digging in areas where the URMA is well defined and characterized, this requirement may be waived with the approval of the radiological control organization. In addition, this procedure will be used in conjunction with the Radiological Work Permit (RWP) procedure (Manual 5Q1.1, Procedure 504, *Radiological Work Permit*) or as an independent job review mechanism.

For medical and process emergency situations, Refer to SCD-7, *Savannah River Site Emergency Plan.*

An ALARA review is not required for x-ray, radiography, or operation of equipment or instruments containing sealed radioactive sources that are covered by approved written operating procedures.

This is an Administrative procedure. The user is not required to have this procedure present while performing the activity.

3.0 DEFINITIONS AND ABBREVIATIONS

Administrative Control Level (ACL) - Dose constraint established at a level below regulatory limits to administratively control and minimize individual and cumulative dose.

ALARA - An approach to radiation protection to manage and control exposures (both individual and collective) to the work force and to the general public to as low as is reasonable, taking into account social, technical, economic, practical, and public policy considerations. ALARA is not a dose limit, but a process which has the objective of attaining doses as far below the applicable limits as is reasonably achievable.

ALARA Radiation Exposure Worksheet - Estimated base routine and special work operation exposure. This worksheet is used to estimate the total exposure of anticipated work in the coming year. The information is then used to establish ALARA exposure goals for the Facility/Division/Site.

3.0 DEFINITIONS AND ABBREVIATIONS, (cont.)

ALARA Review - An administrative control that is required before/after certain radiological work is performed. It serves as a mechanism for maintaining employee exposure to radiation and radioactive materials as low as reasonably achievable. The three types of reviews are:

- **Pre-Job ALARA Review** - An administrative control required when certain radiological criteria are exceeded or when the uncertainty in the ability to maintain worker exposures ALARA exists (See Section 5.1). It provides a mechanism to ensure that adequate pre-job planning occurs with respect to ALARA,
- **In-Progress ALARA Review** - An administrative control which may be required during the performance of a job to document an anomaly which occurred and requires a scope change or the addition of stricter controls. (See Section 5.4),
- **Post-Job ALARA Review** - An administrative control required when certain radiological criteria are exceeded (See Section 5.5). It provides a summary of the completed job, documenting recommendations to be incorporated before conducting the same job or a similar job in the future.

Dose Terms - Radiation dose terms used in this procedure all refer to doses assigned at SRS using dose methodologies compliant with 10 CFR 835 requirements.

Integrated Safety Management System (ISMS) - System used by SRS to integrate safety systematically into management and work practices at all levels of the company (including subcontracted work) so that missions are accomplished while protecting the public, the workers, and the environment. The SRS ISMS integrates safety into all aspects of work planning and execution using the Guiding Principles and Core Functions as described in the SRS ISMS Description located in the introductory section of the SRS Standards/Requirements Identification Document (S/RID).

Non-routine/Complex Work Activities – Non-routine/Complex Work Activities are defined as activities that are outside normal work activities; performed by a comprehensive group of instructions consisting of elaborate or interrelated parts or ideas, or unusual or changing conditions, which includes jobs performed via special written procedures; work that needs special training (e.g., special containment devices, mockups); work that is determined to have a high risk due to the inability to predict radiological events or control physical factors (e.g., environmental release potential when breaking into a system with unknown or poorly understood radiological potential), work which could exceed a predetermined individual or collective dose limit, the activity is performed for the first time or infrequently (< than once per year), and major or minor repairs when performed in an area of changing/unstable radiological conditions. Non-routine work will normally be conducted under a Job-Specific Radiological Work Permit (JSRWP).

RADCON Action Step - Cautionary step in a Technical Work Document (TWD) requiring Radiological Protection (RP) to perform a specific survey and requiring the work group to take specific action dependent on the survey results. See Manual 5Q1.1, Procedure 530, *Radiological Control Action Steps*.

3.0 DEFINITIONS AND ABBREVIATIONS, (cont.)

Radiological Engineering Support - Comprised of Radiological Technology Group and Field Radiological Engineers.

Radiological Guide for Planners - The guide provides examples of integration of radiological controls into work planning and execution activities. It is intended to accomplish the following:

- Minimize personnel contamination,
- Prevent the spread of contamination,
- Minimize the required use of protective clothing and Personal Protective Equipment (PPE), and
- Provide consistency in application of radiological controls in work planning process.

Radiological Work Permit (RWP) - Applies to Standing Radiological Work Permit (SRWP) or Job Specific Radiological Work Permit (JSRWP) and serves as the primary administrative process for controlling radiological work. A document that identifies radiological conditions, protective measures, specifies entry requirements, establishes worker protection, and monitoring requirements. Authorizations shall be required to perform work in areas controlled by RWP. (See Manual 5Q1.1, Procedure 504).

Routine Operations - Routine operations are defined as activities that are regular, normal business performed by prescribed instructions or a series of steps of a more or less unvarying manner; or repetitive/recurring, customary, usual, or steady.

Technical Work Document - A term used to generically identify formally approved documents, such as procedures, work packages, job/research plans, or maintenance instructions that control hands-on work with radioactive material.

4.0 RESPONSIBILITIES

4.1 ALARA Coordinator (or designee)

ALARA Coordinator (or designee) is responsible for:

- Coordinating all ALARA activities including implementation of this procedure; participating in, reviewing, and approving all ALARA reviews within their respective facilities, coordinating ALARA activities relating to RWPs, and completion and maintenance of ALARA Radiation Exposure Worksheets comparing estimated/actual exposures by work operation
- Conveying ALARA requirements to the Facility Manager and assisting in the preparation of Pre-Job and Post-Job ALARA reviews
- Coordinating and documenting the Pre-Job, In Progress, and Post Job ALARA reviews under the cognizance, participation, and approval of the Lead Work Group Manager
- Indicating successful completion of the ALARA review by signing the RWP coversheet. The document corresponding to the completed ALARA review shall be numbered as the RWP number by an AR (ex. 12HBL-105AR)

4.1 ALARA Coordinator (or designee), (cont.)

- Ensuring that an explanation is provided in Section III of OSR 4-528, Pre-Job ALARA Review Checklist, on the implementation and/or disposition of each of the items selected in Sections I and II during the Pre-Job ALARA review process
- Evaluating all Pre-Job ALARA and In Progress reviews to determine if a Post Job ALARA review is required
- Performing an evaluation of lessons learned, feedback information, and improvement recommendations on information received from RP personnel and individuals associated with the work activity
- Summarizing radiological performance indicators of implemented work and generating related reports.

4.2 Facility Manager

Facility Manager is responsible for:

- Ensuring ALARA review requirements and recommendations are completed before, during, and after the job, and
- Ensuring that a cognizant individual has been appointed as the Facility ALARA Coordinator.

4.3 Lead Work Group (LWG) Manager (or designee)

Lead Work Group (LWG) Manager (or designee) is responsible for:

- Ensuring ALARA reviews for Pre-Job, Post-Job, and infrequent or first time activities are performed and documented as required,
- Conducting or participates in Pre-Job, In-Progress and Post-Job ALARA reviews to ensure that radiological hazards are addressed and included in the work planning, execution, and review process, and
- Ensuring identified ALARA requirements in Section III of OSR 4-528 are implemented or dispositioned to the maximum extent practical and for conducting pre-job briefings.

4.4 Line Manager

Line Manager if responsible for:

- Holding workers and their supervision accountable for radiological work performance in accordance with the RWP requirements,
- Ensuring adequate planning and control of work activities,
- Reviewing maintenance and modification plans and procedures to identify and incorporate radiological protection requirements, such as engineering controls and dose and contamination reduction considerations. This review is performed with support and concurrence of RP, and

4.4 Line Manager, (cont.)

- Periodically monitoring work areas to observe personnel at work and to identify radiological deficiencies and concerns.

4.5 Planner

Planner is responsible for:

- Participating in Pre-Job, In-Progress, & Post Job ALARA reviews,
- Ensuring that the pre-job walk down is conducted in the upfront planning of the job when a TWD is required for the planning of the work, and
- Verifying completeness of Pre-Job, In-Progress, & Post Job ALARA review checklists.

NOTE

If an RWP supports a pre-approved procedure, the planner does not have to approve the ALARA review.

4.6 RPD Facility Manager

RP Facility Manager is responsible for:

- Designating appropriate RP personnel to support the Facility ALARA Coordinator and LWG Manager in preparing and conducting the ALARA review through such actions as conducting detailed radiological surveys of the job site, and
- Ensuring monitoring results are made available to line management and used to support pre-job, in-progress, and post-job evaluations, ALARA preplanning, contamination control, and management of radiological control operations.

4.7 RPD FLM/RPD Technical Support Specialist (or designee)

NOTE

The duties and functions of the RP Technical Support Specialist position are identical to that of an RP FLM for implementation of this procedure.

RP FLM/ RP Technical Support Specialist (or designee) is responsible for:

- Initially determining the need for and participation in ALARA reviews,
- Coordinating radiological survey support activities, and
- Collating exposure received by workers from the RWP.

4.8 Requester

Individual from Lead Work Group responsible for:

- Initiating an RWP request, and
- (Requester or designee) initiating the JSRWP and advising RP when the job is complete so the RWP can be terminated. The RWP is not terminated until such time that the Post-Job ALARA review (as required) has been performed.

5.0 PROCEDURE

5.1 Circumstances of Pre-Job ALARA Reviews

5.1.1 Routine Work Activities

1. For routine work activities, the radiological review and documentation of identified radiological requirements are normally conducted as a part of the RWP generation process. The performance of an ALARA Review is not mandatory for work considered routine. Manual 5Q, Appendix 3A, *Checklist for Reducing Occupational Radiation Exposure*, should be used to identify radiological requirements for considerations. The Radiological Guide for Planners should be used as additional guidance for planning radiological work.

2. The following are some considerations to be made when determining if an activity is routine:

    - Is it performed frequently (semi-annually or more often, by the same individuals)?
    - Is the activity unvarying from one evolution to the next with respect to the radiological hazards and the protective measures specified?
    - Do procedures exist which cover preparations for, and strict guidance of the work?
    - Are radiological conditions capable of being monitored and evaluated to determine if they are consistent with previous performances?
    - In and of itself, does the generation of the RWP satisfactorily review and document the radiological requirements?

3. Routine work includes work activities within RAs, HRAs, CAs, HCAs, SCAs, URMAs, Hot Particle Areas, or ARAs with the exception of VHRAs. Routine work includes but is not limited to: routine Radiological Protection Department surveillance activities, low potential system line breaks, valving in areas posted as "Overhead Contamination Areas", and digging within URMAs. While routine work will normally be conducted under a SRWP, a JSRWP may be substituted at the discretion of the RP Line Management.

5.1.2 Non-Routine or Complex Work Activities

NOTE

Trigger levels are applicable to non-routine or complex work activities and are not applicable to routine work activities.

1. For non-routine or complex work activities, the following established trigger levels require a formal ALARA review. If any of these situations exist or are anticipated to be exceeded, the Pre-Job ALARA review process as described in Section 5.3 of this procedure must be implemented.

   - The estimated cumulative dose for the duration of the job is greater than or equal to 1.0 man-rem,
   - The estimated dose for an individual worker for the duration of the job is greater than or equal to 50% of the site ACL,
   - Entry into areas where dose rate exceeds 1 rem/hour at 30 centimeters. Under this circumstance, determination of the worker's current exposure, based on primary and supplemental dosimeter readings shall be performed and documented,
   - Estimated skin and extremity exposure rates measured at the job site are greater than or equal to 10 rem/hr and the skin/extremity dose is the limiting radiological concern,
   - Predicted airborne radioactivity concentrations in excess of 500 times the DAC values in the Tritium facilities,
   - Predicted airborne radioactivity concentrations in excess of 200 DAC-hr,
     - Reaching this trigger level is more likely for alpha contamination that is predominantly high specific activity, such as Pu 238 or Cm 244, and
     - In cases where the actual or anticipated work in areas of radioactivity are in excess of 10,000 DAC-hr, See Section 5.1.3 of this procedure.
   - Entries into areas where radiological conditions cannot be accurately characterized or can change significantly during the conduct of the work activity,
   - Potential radioactive releases to the environment, or
   - Removable Contamination Levels greater than 100,000 dpm/100cm^2 alpha for transuranics, 250,000 dpm/100cm^2 alpha for uranium, and/or greater than10 mrad beta-gamma.

2. Non-routine and complex work may include entry into RAs, HRAs, Very High Radiation Areas (VHRAs), CAs, HCAs, SCAs, URMAs, or ARAs.

5.1.2 Non-Routine or Complex Work Activities, (cont.)

3. In addition to the Pre-Job ALARA review, further input may be combined with Facility Operations Safety Committees (FOSC's) and/or Facility Radiological Assessment Team's (FRAT's). The purpose of the FOSC and FRAT is to review the overall safety (radiological, industrial, operational, nuclear, etc.) in the facility by assuring that all hazards are identified, controls are established to mitigate or eliminate hazards, and work can be performed within established controls.

5.1.3 Airborne Radioactivity

ALARA reviews are performed for all jobs that involve actual or anticipated work in areas of airborne radioactivity in excess of 10,000 DAC-hr to ensure all appropriate engineering and administrative measures have been taken to mitigate the generation of airborne radioactivity at the jobsite [ESH-OSH-94-0133, *WSRC Position on Use of Plastic Suit Airline Respirators in Work Areas Exceeding 10,000 DAC*]. An air sampling plan documented in accordance with Manual 5Q1.2, Procedure 132, *Job Specific Air Sampling and Monitoring*, shall be completed for any work where the airborne exposure is expected to exceed 10,000 DAC-hrs. The plan will include, at a minimum, the following:

- Locations of portable retrospective air samplers for the task,
- Consideration for the use of Constant Air Monitors for boundary samples,
- Requirement for the use of Personal Air Samplers for all workers wearing plastic suits,
- Bioassay requirements, and
- Emergency actions needed to remove personnel from the area quickly.

5.1.4 Infrequent or First-Time Activities

1. For facilities with infrequent or first time activities, special management attention should be directed to radiological activities that exceed a trigger level in Section 5.1.2 of this procedure and include any one of the following working conditions:
    - Expected (estimated) working area whole body dose rates greater than 1.0 rem/hr,
    - Tasks that are conducted less frequently than semi-annually,
    - Any first time operation, or
    - Work activities that exceed or are likely to exceed 10,000 DAC-hr.
2. Planning for such activities should include the following:
    - Formal review in accordance with Section 5.3 of this procedure,
    - Senior management review directed toward anticipation of concerns and emphasis and specification of protective measures,

5.1.4 Infrequent or First-Time Activities, (cont.)

Step 2, (cont.)

- Review and approval by the cognizant ALARA Committee, such as a FRAT,
- Enhanced line and RP oversight during the initiation and conduct of work, and [5Q 313.3]
- The extent of the formal radiological review should be commensurate with the expected and potential hazards and required controls.

5.2 Signatory Approval Levels Required for Pre-Job ALARA Reviews

1. All Pre-Job ALARA reviews require the signature of the Lead Work Group Manager or designee, RP FLM or designee, Planner, and Facility ALARA Coordinator. If an RWP supports a pre-approved procedure the planner does not have to approve the ALARA review.

2. Additional management and/or DOE/NNSA approval/notification may be required if the cumulative exposure, individual exposure, or airborne radioactivity level exceed the following:

Cumulative Man-Rem Exposure	Approval Required
Greater than or equal to 5.0 man-rem	RP Facility Manager
	Facility Manager
Greater than or equal to 25.0 man-rem	RPD Director
	Site ALARA Committee Chair

3. Pre-Job ALARA reviews for jobs with estimated individual exposures require the following additional signatures:

Individual Exposure	Approval Required
Greater than or equal to Annual SRS ACL, but less than or equal to 2.0 rem	Contract Senior Executive
Greater than 2.0 rem	Appropriate DOE Secretarial Office/National Nuclear Security Administration or designee (See Manual 5Q1.1, Procedure 507, *Administrative Control Limits Adjustments and Departures*, for details).

5.2 Signatory Approval Levels Required for Pre-Job ALARA Reviews, (cont.)

4. Pre-Job ALARA reviews for jobs in actual or expected airborne radioactivity exceeding 10,000 DAC-hr require the following additional signatures:

Airborne Activity	Approval Required
Greater than or equal to 10,000 DAC-hr	RPD Director
	Area Project Manager

5. Notification to appropriate DOE-SR and/or NNSA-Savannah River Site Office (SRSO) is required prior to jobs in actual or expected airborne radioactivity exceeding 10,000 DAC-hr. Notification shall include a brief description of each planned evolution with an explanation of why engineering controls are not sufficient.

6. Additional signatory approvals may be mandated at the discretion of the RP Facility Manager.

5.3 Implementation of the Pre-Job ALARA Review (OSR 4-528) [S/RID 1]

1. Radiological requirements identified as part of the above radiological review should be documented in the job plans, procedures, or work packages.

2. The application of the ALARA process to radiological work is intended to minimize both individual and collective dose. The rotation of trained individuals across higher exposure work activities to minimize individual doses is an acceptable practice and typically will not increase collective doses. The rotation of untrained individuals into those higher exposure work activities can lead to higher collective dose because expertise and efficiency may be lessened. This type of rotation to minimize individual exposure while increasing collective exposure should be avoided. Mock-ups, work simulations, or additional training may be required to increase worker proficiency.

3. Primary methods to maintain exposures ALARA shall be physical design features (e.g., confinement, ventilation, remote handling, and shielding). Administrative controls shall be employed only as supplemental methods to control radiation exposure.' [S/RID 1]

4. For specific activities where use of physical design features is demonstrated to be impractical, administrative controls shall be used to maintain radiation exposures ALARA. [S/RID 1]

5. Optimization techniques, including cost-benefit analysis, represent a fundamental part of radiological design analysis and work review. For review of minor activities with low associated doses, a cost-benefit evaluation is an intrinsic part of the engineering review process and a detailed evaluation is not necessary. For review and planning or major tasks involving higher collective dose expenditures (greater than10 person rem), a detailed and documented evaluation shall be performed.

5.3 Implementation of the Pre-Job ALARA Review (OSR 4-528) [S/RID 1], (cont.)

6. Pre-Job ALARA reviews may also be performed at the discretion of the ALARA Coordinator, or at the request of cognizant individuals within RP involved in performing the work.

7. Workers, Radiological Engineering Support, and other support groups shall be involved, as appropriate, in the Pre-Job ALARA review process for RWPs. See Section 5.8 of this procedure.

8. Anytime that a Pre-Job ALARA review is required based on trigger levels, a pre-job briefing as described in Manual 5Q1.1, Procedure 504 will be mandatory.

9. When the job is being performed under a Job-Specific RWP, the Pre-Job ALARA Review Checklist (OSR 4-528) becomes a part of the RWP package.

10. When the job is being performed under a Technical Work Document, the Pre-Job ALARA Review Form (OSR 4-528) shall be maintained with the Technical Work Document.

11. An explanation will be provided in Section III of OSR 4-528 on the implementation and/or disposition of each item selected in Sections I and II during the Pre-job ALARA review process.

5.4 In-Progress ALARA Review (OSR 49-71)

1. Contamination levels caused by ongoing work shall be monitored and maintained ALARA. Work should be curtailed and decontamination performed at pre-established levels, taking into account worker exposure.

2. During the performance of jobs for which a pre-job dose estimate was made, RP management, in cooperation with line management, shall periodically review/monitor collective dose accumulation and compare with pre-job dose estimates. Differences between the pre-job dose estimate and actual dose received shall be reviewed to identify the cause of the difference and assess the need for corrective action. The In-Progress Review is documented on OSR 49-71.

3. Additionally, In-Progress Reviews may be performed when work activities exceed the expected timeframe planned for the job, when unplanned events occur, or when a time out or stop work was made for radiological conditions.

   - When the job is being performed under a Job-Specific RWP, the In-Progress ALARA review (OSR 49-71) becomes a part of the RWP package, and
   - When the job is being performed under a Technical Work Document, the In-Progress ALARA review (OSR 49-71) shall be maintained with the Technical Work Document.

4. The RP FLM or designee, Lead Work Group Manager, Planner, and Facility ALARA Coordinator should sign as approvers. If an RWP supports a pre-approved procedure the planner does not have to approve the ALARA review.

5.5 Circumstances of Post-Job ALARA Reviews

1. The following are radiological circumstances requiring a Post-Job ALARA review. If any of these situations occurred during the course of the job or as part of the pre-job dose estimation process, the Post-Job ALARA review process described in Section 5.7 of this procedure must be implemented.

   - When the **estimated** cumulative dose for the duration of the job was less than 1.0 man-rem and the actual cumulative dose exceeded 1.0 man-rem, and was more than 25% above the estimate
   - When the **actual** cumulative dose was at least 0.5 man-rem and exceeds the pre-job estimated cumulative dose by greater than 25%, or
   - When an employee's tritium bioassay sample exceeds 5 uCi/L.

2. The following criteria may be considered as sufficient reason to perform a Post-Job ALARA Review whenever there is (for the same or similar jobs in the future) an opportunity to avoid a significant radiation exposure or contamination incident, or to document first-time or infrequent activities to maintain or improve ALARA performance:

   - An individual exposure is greater than 200 mrem,
   - Total job exposure is greater than 1 man-rem, or
   - Contamination was spread beyond established boundaries.

3. Post-Job ALARA reviews may be performed at the discretion of the ALARA Coordinator, the Radiological Protection Department, or the organization performing the work.

NOTE

When an ALARA approval signature is required to allow a new revision of the RWP (supersedes the current revision) and the RWP changes do not adversely affect the previous Pre-Job ALARA Review initiatives, a Post-Job ALARA Review will not be completed at this time but may be required when the RWP is terminated.

5.6 Signatory Approval Levels Required for Post-Job ALARA Reviews

1. All Post-Job ALARA reviews require the signature of the Lead Work Group Manager, RP FLM, Planner, and Facility ALARA Coordinator. If an RWP supports a pre-approved procedure the planner does not have to approve the ALARA review.

2. Post-Job ALARA reviews for jobs with cumulative doses of greater than or equal to 25.0 man-rem require the additional approval of an RPD Director and Site ALARA Committee Chair.

3. Additional signatory approvals may be requested at the discretion of the RP Facility Manager.

5.7 Implementation of the Post-Job ALARA Review (OSR 4-533)

1. Post-Job reviews should be conducted by the cognizant Lead Work Group Manager incorporating input from workers and managers directly participating in the job, cognizant RP personnel which includes RP Field Engineers, and representatives from involved support organizations (as appropriate). The ALARA Coordinator may coordinate and document the Post-Job ALARA review under the cognizance, participation, and approval of the Lead Work Group Manager. RP is responsible for filling out the top Section of the Post-Job ALARA Review Checklist before turning it over to the Lead Work Group Manager. The Post-Job ALARA Review should be conducted at the completion of the job, no later than one calendar quarter (3 months) after the work was completed.

2. The information collected is as follows:

   - Job performance issues while performing the job and solutions are documented,
   - Comments and recommendations, for additional details, Lessons Learned, and Time Outs for radiological concerns, and
   - RP, in conjunction with line management, should evaluate Lessons Learned; provide prompt distribution and incorporation in the radiological control program, radiological training program and related operations.

> **NOTE**
>
> Actual radiation exposure data needs to be provided in a format consistent with comparison against estimated exposure data (e.g., man-hours and man-rem by job task).

3. RP personnel will compile and provide to the cognizant ALARA Coordinator information on radiation exposure, contamination cases, potential assimilations, etc. associated with the job.

4. When the job is being performed under an RWP, the Post-Job ALARA review is documented and becomes a part of the RWP package. [S/RID 1]

5. When the job is being performed under a Technical Work Document, the Post-Job ALARA Review, OSR 4-533, shall be maintained with the Technical Work Document. [S/RID 1]

5.8 ALARA Radiation Exposure Worksheet Activity Review

1. The Radiation Exposure Worksheet, OSR 49-7, has been developed as a part of the ALARA goal setting process. The Facility ALARA Coordinator is responsible for completing this form during the goal-setting process and ensuring exposure estimates for base routine operations and special work operations have been established.

5.8 ALARA Radiation Exposure Worksheet Activity Review, (cont.)

2. The Facility ALARA Coordinator is responsible for comparing estimated exposures versus actual exposures for special work operations. This exposure is collated by Electronic Personal Dosimeter (EPD) results from the applicable RWP sign-in sheets by RP personnel and by TLD results provided from HPS.

3. To adequately document the work performed it is necessary for the cognizant Facility ALARA Coordinator to maintain knowledge or copies (or access to copies) of the following:

   - RWP,
   - Pre-Job ALARA Reviews,
   - In-Progress ALARA Reviews,
   - Post-Job ALARA Reviews,
   - Lessons Learned,
   - Personnel Contamination Case Occurrence Reports, and
   - Site Tracking Analysis, and Reporting System (STAR) process to identify deficiencies and resolve problems associated with SRS ALARA Program.

4. Completion of the Radiation Exposure worksheet should include the use of Post-Job ALARA reviews for trending and updates during routine operations as well as special work operations on a routine basis rather than a yearly frequency.

6.0 REFERENCES

1B, 3.31, *Records Management*

5Q, *Radiological Control*

5Q1.1, 504, *Radiological Work Permit*

5Q1.1, 507, *Administrative Control Limits Adjustments and Departures*

5Q1.1, 530, *Radiological Control Action Steps*

5Q1.2, 132, *Job Specific Air Sampling and Monitoring*

ESH-HPT-97-0205, *Kanne Hose Placement for Determining RWP Suspension Guide Compliance (U)*, L.T. Burckhalter, dated 09/03/97

ESH-OSH-94-0133, *WSRC Position on Use of Plastic Suit Airline Respirators in Work Areas Exceeding 10,000 DAC*, Rev. 1 (U)

SCD-7, *Savannah River Site Emergency Plan*

6.0 REFERENCES, (cont.)

[S/RID 1], Standards/Requirements Identification Document, 10 CFR 835, *Occupational Radiation Protection*

[S/RID 2], DOE Order 458.1, *Radiation Protection of the Public and the Environment*

WSRC-IM-99-00001, *Radiological Guide for Planners*

7.0 RECORDS

Records generated as a result of implementing this procedure are maintained in accordance with Manual 1B, Procedure 3.31, *Records Management*.

OSR 4-528, *Pre-Job ALARA Review Checklist*

OSR 4-533, *Post-Job ALARA Review*

OSR 49-7, *Radiation Exposure Worksheet*

OSR 49-71, *In-Progress ALARA Review*

8.0 ATTACHMENTS

None