

RADIOLOGICAL WORK PERMIT (RWP) INSTRUCTIONS

- NOTE:**
- RWPs are generated for CHPRC radiological work activities by either using Site Form [A-6004-602](#), or equivalent
 - It is not necessary to duplicate controls on the RWP, if they are clearly stated in the work plan/procedure or work package
 - Job Specific RWPs may be performed for all radiological work hazard levels
 - Access Classes establish a convenient method for tracking cumulative dose when multiple work documents are assigned to an RWP as identified on the RWP Work Document Log

APPROPRIATE TYPE OF RWP:

- **General RWPs** support well characterized areas with stable radiological conditions (*i.e., proposed work activities will not change radiological conditions*) to support surveillance, tours, routine or repetitive activities, inspections, minor maintenance, and low hazard radiological work. Low hazard radiological work, without work instructions, may be performed using a general RWP when radiological conditions are stable and not likely to change during the course of the work, and the scope does not include intrusive work. ^(6.1.1.i)
- **Job Specific RWPs** support infrequent or first-time activities, work in areas with, or may result in, changing radiological conditions, intrusive work, or work hazard screened as medium or high hazard. ^(6.1.1.l)

TECHNICAL DOCUMENT NUMBER:

Enter the specific identifying number, as appropriate for the Work Document (*e.g., work package(s), plan(s), or procedure(s)*) being used for the work. ^(6.1.1.g) If assigning multiple Work Documents with different hazard levels to a single RWP, ensure controls (*e.g., void limits or action levels*) are consistent with the screened Hazard Levels, to avoid performing work in hazard levels greater than the work that was screened.

When assigning multiple Work Documents, a clear statement should be made in the Special Instructions identifying which instructions apply to the individual Work Documents, unless all requirements apply to all work documents. When Work Documents are screened to different hazard levels, the RWP preparer is responsible for ensuring that work using that RWP is completed with RWP Void Limits and Action Levels commensurate for the identified hazard level.

The use of "Various" is allowed if a method of identifying multiple applicable Work Documents is maintained (*see Appendix E for an example*). This block may also be designated NA in General RWPs. The RWP Work Document Log or equivalent should be used to track Work Documents assigned to an RWP. An equivalent log should include the following information: current RWP number, the added Work Document (*procedure, work package, etc.*), the Job title and description, and the Radiological Work Planner (*printed name*).

NOTE: Additional Facility Codes may be generated by each Project/Activity as needed, and approved by the Technical Authority of [PRC-PRO-RP-40272](#), Documentation of Radiological Surveys Using Survey Simple, prior to use.

Location Code: Enter a facility specific code used for dose tracking by location.

RWP Number: Enter a unique identifying number for dose tracking. The following is an example of a numbering system that is in use at most project/activities. Each project/activity should determine whether this numbering system is adequate for dose tracking. For complex jobs, it may be necessary to either write a separate RWP for different phases of the job, or change the RWP numbering to better track dose.

NOTE: Use "Rev. 0" for first issue of RWP

Enter Facility Code letter(s), followed by a dash (-), followed by a unique number(s), then a space, then "Rev" (*i.e., 3 digit number, not for first use*). *Example: FC-111 Rev 006, or FC-111 Rev 0 (for first use)*

Start and End Dates:

- General RWPs are valid for 12 months ^(6.1.1.j)
- Job Specific RWPs should remain in effect only for the duration of the job, not to exceed 12 months ^(6.1.1.m)
- If a DRAFT RWP is being written, then leave blank or write "Draft" in the block

Responsible Organization: Enter the name of the responsible organization of the requested work/activity (*i.e., BOS Operations, D&D Maintenance, etc.*)

Job Location: Enter the specific location to accurately define the work area

Job Description and Type of Area: Briefly describe the scope of work to be performed, as specifically as possible, and the type of radiological area to be encountered while performing the radiological work. ^(6.1.1.g)

NOTE: When multiple areas with different radiological postings are authorized by a single RWP, the radiological controls appropriate to EACH area/task (*e.g., RA, HRA, CA, HCA, ARA, etc.*) should be clearly defined.

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Primary Isotope(s):

Indicate primary isotope(s) expected to be encountered.

- | | |
|---|--|
| <input type="checkbox"/> Mixed Fission Products (MFP) | <input type="checkbox"/> Mixed Activation Products (MAP) |
| <input type="checkbox"/> Cesium (Cs) | <input type="checkbox"/> Tritium (H-3) |
| <input type="checkbox"/> Uranium (U) | <input type="checkbox"/> Plutonium (Pu) |
| <input type="checkbox"/> Strontium (Sr) | <input type="checkbox"/> Other: _____ |

Radiation Emitted: Select the appropriate box(es)

Estimated/Identified Dose Rates:

- General Area: Enter the maximum whole body dose rate expected to be encountered in the work area, based upon survey data and work scope. (6.1.1.c, 6.1.1.d, 6.1.1.e, 6.1.1.f)
- Maximum Contact: Enter the highest contact dose rate expected to be encountered during the job. (6.1.1.c, 6.1.1.d, 6.1.1.e, 6.1.1.f)

Contamination Levels:

- Record the removable contamination level in the work area. (6.1.1.c)
- If the contamination level exceeds the capability of the count rate instrument, then use the Special Instruction (SI) where the levels in mrad/hr are stated in the SI section of the form.

Radiological Worker Training Requirements^(6.1.1.u) (**Table 3-4, CHPRC-00073**):

- Radiological Worker I training is required for entry/work without a qualified escort (6.1.1.u)
- In Radiation Areas
- Radiological Worker II training is required for entry/work without a qualified escort (6.1.1.u)
 - Contamination and High Contamination Areas
 - Airborne Radioactivity Areas
 - High and Very High Radiation Areas (*with additional training on the use of a survey meter or dose rate indicating device or constant HPT coverage*)

NOTE: Unescorted access into High and Very High Radiation Areas is permitted if the worker has completed Rad Worker I Training, High/Very High Radiation Area Training, and has been trained to operate a survey meter or a dose rate indicating device or constant HPT coverage is required.

- Soil Contamination Areas, when work will disturb soil

Internal Dosimetry Requirements:

- Review facility TEs when applicable or see [PRC-PRO-RP-380](#), Internal Dosimetry Program for bioassay requirements, including Appendix A for visitor/tours/inspections (*for accessing work areas for observation only activities, and for low hazard work activities*)
- Indicate type of excreta bioassay required based upon primary isotope(s) to be encountered
- Indicate in vivo bioassay(s) required based upon primary isotope(s) to be encountered
- If additional information is needed, then contact the Project Point of Contact (PPOC) for Internal Dosimetry or CHPRC Internal Dosimetry Company Technical Authority (CTA)

Radiological Protection Requirements: These instructions are applicable for all three RWP sections (*RCT Coverage, Dosimetry, and Protective Equipment*).

- Select block(s) to signify when the item is required and there are no specific contingencies
- Select block(s) with a "SI" (*may add appropriate number after SI, i.e., 1, 2, 3, etc.*) when the selected item has a contingency that will be noted in the "Special Instructions" section of the form

NOTE:

- The "See SI" block(s) should be used to indicate additional instructions when item blocks do not provide adequate space or there is no specific item block for the special instruction. Any of the "See SI" blocks may be used for this purpose
- If the RWP contains a large number of detailed instructions it may be confusing. Either add these instructions to the work document or write an additional RWP. For high hazard radiological work, the ALARA measures taken should be based on job histories and "worst case" scenarios. Action Levels or Void Limits of the RWP become critical in ensuring the job is stopped when unanticipated dose rates or contamination levels are encountered, and when additional protective clothing, equipment, engineered controls, and monitoring become necessary

Radiological Control Technician (RCT) Coverage:

- Select or indicate "SI" for the RCT coverage required (*continuous, intermittent, at the start, end of job, or none*)
 - Continuous: Coverage sufficient to immediately influence or stop work based on observed radiological conditions or work practices
 - Intermittent: Coverage at frequent enough intervals to exclude any reasonable potential for unmonitored change. For "Intermittent" RCT coverage, indicate the expected RCT coverage in the special instructions section when they are

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different than "Start of Job" and End of Job" (e.g., prior to opening waste packages, perform surveys at a minimum of every 15 minutes of continuous glovebox use, etc.)

- If no RCT coverage is required, then leave blank
- Indicated the type of personal contamination surveys required (i.e., self-survey, RCT Survey, or use of "Auto Survey Device"). The "Auto Survey Device" must be selected if appropriate Personal Survey Devices (PSDs) are available in the project/activity

Dosimetry:

- Enter an "X" or the SI No." for the appropriate dosimetry required for the job ^(6.1.1.g)
- See [PRC-PRO-RP-379](#), External Dosimetry Program and review the facility TE for dosimetry requirements
- See facility TE or procedure for facility/project specific direction
- If additional information is needed, then contact the PPOC for External Dosimetry or CHPRC External Dosimetry CTA

Protective Equipment:

- Review RHSF, and AMW (if required) CHPRC-00073, Table 3-2, has guidelines for selecting protective clothing based on contamination levels and work activity. Place additional information in the referenced SI
- If assigning approved disposable PPE and:
- The work activity has been screened low with controls or higher, review section E of the RHSF or AMW (if required) for specified type and document in "SI" or
- If the work activity has been screened as low (i.e., not low with controls) select disposable PPE from approved list and document in "SI". Approved list is located on [CHPRC website](#) (click CH2M HILL Plateau Remediation Company/Department & Services/RADCON/Functional Areas/Contamination Control) (Reference PRC-1209-PIR-0017)
- Assign respiratory protection equipment for radiological purposes in accordance with radiological work planning documents
- Select (single item/pair) of the specific number of the items/pairs required for the job or the "SI"
- It is acceptable to upgrade/downgrade protective clothing requirements in the field without a formal revision, as long as the RWP specifically identifies the levels at when the upgrade/downgrade can occur, and identifies what protective clothing and respiratory protection are required at those levels
- When the job requires air sampling or the use of an Area Radiation Monitor (ARM), indicate which in the applicable boxes. Put further guidance into the work package/procedure, when applicable, or place pertinent instructions in the SI section
- The use of hard hats in Contamination Areas should be controlled by the RWP

Special Instructions: (include on the RWP Form, as applicable)^(6.1.1.g)

- NOTE:**
- This list below is not an all-inclusive list. ALARA Documentation should be reviewed and compared to list to ensure necessary special instructions are incorporated into RWP
 - General Area contamination applies to the immediate work area radiological conditions that will affect the workers in the completion of the planned or prescribed job scope/task. Use of "General Area" should be bounded with corresponding localized or component-specific conditions determined during the work planning process. This would include dose rates and contamination levels within travel paths to and from the work area. In the absence of "General Area" and localized control feature, Void Limits and Action Levels should be referred to in simplistic terms, such as removable contamination greater than X or whole body dose rates exceeding Y
 - When identifying RWP void limits, consider the limitations of the assigned PPE as a basis for establishing void limits. The purpose of setting void limits is to ensure that workers are protected from the hazards encountered
 - Radiological action levels and/or void limits, including those applicable to extremity dose limits conditions (when required)
 - Special dose or contamination reduction considerations
 - Special personnel survey considerations
 - Specific instructions on when finger rings are to be worn. When finger rings are worn, radiological limiting conditions applicable to extremities should be reviewed, and when indicated by Appendix G of the procedure and [PRC-PRO-RP-40109](#), Appendix C, included
 - Specific instructions on when supplemental dosimetry is to be worn ^(6.1.1.g)
 - Positive controls for contaminated soil during excavation
 - Use of alarming dosimeters or timekeeping instructions (e.g., in High and Very High Radiation Areas)
 - Special controls required to prevent worker access to Very High Radiation Areas when a radiation source or Radiation Generating Device (RGD) is exposed and very high radiation fields are present
 - A survey prior to entry, to confirm that an RGD source has been secured or shielded
 - Whether drinking water is to be allowed and controls for its use in contaminated areas
 - Job specific air sample requirements and Electronic Data Processing (EDP) Code for tracking
 - Posting a guard at the entry into areas where the whole body dose rate is > 1 rem/hr and locking the area is required after each use
 - Hot Particle special controls
 - Use of portable ARMS or Continuous Air Monitors (CAM)
 - Controls for use of radiologically controlled HEPA Vacuum or Units (e.g., survey exhaust bag when not in use, dose rate survey, etc.)

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- Controls, PPE, and survey requirements for partial body entries
- Hard-to-Detect (HTD) nuclides and associated survey instructions
- Approved PPE additions/alterations/removals and specific conditions in which they are approved
- Dose Tracking considerations/instructions (*e.g., Access Classes, Location Codes, etc.*)
- Air sampling requirements when: ^(6.1.1.x)
 - Using HEPA filtered vacuum or air moving equipment in HCAs
 - Verifying effectiveness of engineered and administrative controls to contain radioactive material and reducing exposures
 - Characterizing the airborne radioactivity hazard when respiratory protection is prescribed
 - Verifying radiological conditions/assumptions
 - Detecting changes in radiological conditions
- Lapel monitoring requirements
- Radiological posting instructions

Pre-Job Briefings: Indicate “Yes” or “No”, at minimum, a pre-job briefing should be held prior to the conduct of work that has an initial hazard determination (*i.e., exceeds criteria of Medium hazard work*).

RWP Prepared By: This is where the qualified RWP Preparer prints first and last name, and signs the RWP.

Line Management Approval: This is where the line manager sponsoring the work activity documents their agreement with the provisions of the RWP.

RC Management Approval: This is where the cognizant Radiological Control management representative (*RadCon Manager, RadCon Supervisor*) documents their agreement with the provisions of the RWP.

Other: This is for other organizations that have a vested interest (*e.g., fire protection, design authority, industrial hygiene, etc.*) with the provisions of the RWP.

Acknowledged By: The qualified Radiological Work Planner or designee, documents their agreement with the RWP regarding the radiological planning assumptions and recommendations for the Void Limits and Action Levels (*when applicable*). A Radiological Supervisor by training qualification is qualified as a Radiological Work Planner and may sign off in the section. In this situation the Radiological Supervisor has the same responsibilities as listed above.

RWP Change Approvals: Intended use of this section is to allow pen and ink revisions to an RWP to avoid extended work stoppage.