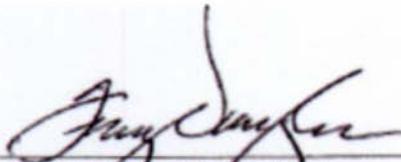


Hanford Site Beryllium Work Permit (BWP) and Hazard Assessment Procedure

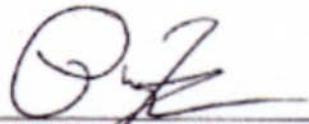
Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management



U.S. DEPARTMENT OF
ENERGY


Terry L. Vaughn, Vice President
CH2M HILL Plateau Remediation Company

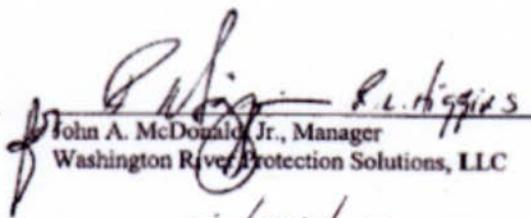
30 JAN 2013
Date


Paul W. Kruger, Vice President
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1/08/13
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Change Summary

Rev #	Date Changed	Change Details
1A	May 6, 2013	Minor editorial change: added instructions back for Step 20 of Section 5.3.2, inadvertently left out of Rev 1.
1	April 17, 2013	Changes to document content resulting from field use of BWP and Committee discussion.
0	June 12, 2012	Initial Issue of document.

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1.0 Purpose and Scope

This Hanford Site Wide Beryllium Work Permit (BWP) and Hazard Assessment Procedure, herein called the “Procedure,” establishes the process and methods to:

- Evaluate the potential for employee exposure to beryllium;
- Evaluate the potential for beryllium contamination spread;
- Determine the methods to document the requirements and controls necessary to conduct work safely and minimize exposures;
- Document the job specific hazard assessment process;
- Communicate the beryllium hazards associated with a specific work activity; and
- Implement and standardize controls for all work activities in beryllium-regulated areas and beryllium-controlled areas.

This Procedure establishes the methods for the completion, documentation, and use of the Beryllium Hazard Assessment (BHA) and BWP forms. Adherence to the processes described herein is mandatory to all Hanford contractors through reference in DOE-0342, *Hanford Site Chronic Beryllium Disease Prevention Program (CBDPP)*, herein called the “Program.” This Procedure, in conjunction with the Program, requires implementation of controls necessary to minimize the exposure to beryllium of employees working at Hanford. The Program implements employer requirements for Hanford found in Title 10, *Code of Federal Regulations* (CFR), Part 850, “Chronic Beryllium Disease Prevention Program” (10 CFR 850). This Program also provides consistent employer implementation practices for 10 CFR 850 requirements across the Hanford Site.

This Procedure applies to Hanford contractors who are responsible for facilities where beryllium activities may have previously been conducted and to any current activities that involve actual or potential exposures to beryllium. This Program has limited application to current or future laboratory or laboratory-scale operations (as defined by the Occupational Safety and Health Administration [OSHA]) involving beryllium that are subject to the requirements of 29 CFR 1910.1450, “Occupational Exposure to Hazardous Chemicals in Laboratories.” However, present laboratory use of beryllium will be documented on facility fact sheets. The Program covers Hanford workers who have previously been exposed or currently have the potential for exposure to beryllium while working at Department of Energy (DOE) sites.

2.0 Roles and Responsibilities

2.1 Project Industrial Hygienist (IH)/Certified Industrial Hygienist (CIH)

The Beryllium Hazard Assessment shall be conducted by a person with sufficient knowledge and experience to perform such activity (e.g., Project industrial hygienist [IH] or assigned certified industrial hygienist [CIH]). Work planners, supervisory staff, and employees familiar with the work shall be used as resources in completing the Beryllium Hazard Assessment Form.

2.2 Project Affiliated IH

A verification signature is required by a separate project affiliated IH for validation purposes of the hazard assessment.

2.3 Management

Management shall ensure that all employees have received an appropriate BWP briefing prior to the employee conducting any beryllium activities. Worker training and medical qualifications are required to be verified by management prior to the worker performing beryllium activities.

2.4 Eligible BWP Worker

Any employee may work under a BWP; however, only employees who have received and are current on "Beryllium Worker Training," (Course 004140) or equivalent (as content approved by the Site Wide CBDPP Committee) and medically cleared by the site occupational medical contractor (SOMC) to perform beryllium activities are qualified to work in a beryllium controlled area (BCA) or BRA.

3.0 Definitions

Initial Briefing

A review provided to all employees involved in the work activity of the BWP in its entirety prior to the employee performing work under the BWP. Initial briefings are required for both new BWPs and revised BWPs where the controls have been modified (Sections 8-12).

Interconnected Facilities

Separately identified, but physically adjoined, facilities that were designed with a common ventilation system and access/egress. Interconnected facilities are considered to have a common ventilation system regardless of whether the system is:

- Operational
- Shut down for any reason
- Dismantled and/or removed

Job Specific

For a BWP to be job specific:

- It shall be specific to a work activity; when a work activity includes sub-elements, all of the sub-elements must directly relate to the work activity.
- All activities covered by the BHA and BWP are performed within a single BCA/BRA
- It shall clearly identify and document the common hazard basis
- The BHA explicitly discusses the activities that will be performed

Separate Rooms/Areas

Separate rooms/areas may be adjoined or non-adjoined within the same facility. Separate rooms/areas are considered to have a common hazard basis if they have similar:

- Conditions
- Potential for exposure
- Required exposure controls

Single BCA/BRA

Specifically identified rooms/areas meeting the following requirements may be considered a single BCA/BRA for the purposes of the BHA/BWP process:

1. The single BCA/BRA with multiple rooms/areas shall be in the same facility or interconnected facilities.
2. The BHA/BWP for a single BCA/BRA with multiple separate rooms or areas shall clearly identify and document the common hazard basis shared by the rooms/areas included in the single BCA/BRA.
3. A Site Condition Walk Down of all areas shall verify the validity of the common hazards.
4. The specific rooms/areas to be combined under a single BCA/BRA shall be clearly defined in the BHA and BWP.

Subsequent Briefing/Review

A review of the BWP provided to all employees involved in the work activity where the sections of the BWP are reviewed, based on the reinforcement of the information necessary to conduct work safely and minimize employee exposure and spread of beryllium contamination.

4.0 Training Requirements

Employees performing the actions of this Procedure must be appropriately trained to fulfill the requirements of this Procedure. The level of an employee's knowledge of the requirements of this Procedure may vary.

An employee's level of training shall be adequate to comply with the requirements described within this Procedure and based on the employee's level of participation.

5.0 Procedure

This procedure is not a step by step procedure; however, the typical process for development and use of the BHA and BWP would be to follow the appropriate requirements of Sections 5.1, 5.2, and 5.3 in the order presented in this procedure.

5.1 Site Condition Walk Down

A site condition walk down of the specific area is required as part of the Hazard Assessment process. The walk down is performed to visually inspect the area for beryllium exposure hazards as well as additional hazards that may affect the safety of the workers during a specific work activity. The site condition walk down shall be performed per established Contractor work planning processes.

When performing the walk down during the planning of the work activity, consideration to the proper physical barriers (e.g., doors, gates, fencing, containments, other engineering controls) shall be given to establish an area to adequately control access/egress and the spread of contamination. The BCA/BRA may be expanded or reduced to accomplish proper controls.

If it is not feasible to conduct a site condition walk down due to As-Low-As-Reasonably-Achievable (ALARA) or other safety considerations, enter not applicable (N/A) in the Site Condition Walk Down Date space in the top section of the BHA, and document the reasons for not conducting the walk down in the Other Comments of Section 3.0 of the BHA form.

5.2 Hazard Assessment Process

The Chronic Beryllium Disease Prevention Program (CBDPP) requires contractors to use a risk-based and graded approach when assessing beryllium exposure hazards/risks.

The following is completed during the work control/planning process:

- Once a work activity is identified and will take place within a BCA/BRA, a site condition walk down is performed per Section 5.1, *Site Condition Walk Down*. Information from this walk down along with historical data and employee input is used to help develop the BHA. In addition, current data and a detailed work activity description aides in determining controls needed for the specific work activity.
- Upon completion of the site condition walk down, the BHA is used to document the results of the hazard assessment. Any supporting documentation (e.g., photos, maps, and additional data) shall be attached to the back of the form in support of the hazard assessment results and to aid in identifying specific areas of exposure/contamination concern.
- The BHA shall be incorporated into each of the specific work documents they support.

5.2.1 Preparing the BHA

Each main section of the BHA (A-6005-852) contains specific information required to adequately identify the level of hazards expected during a specific work activity. This information is required to develop and prepare the BWP to conduct specific work activities within the area specified on the BHA.

The BHA is used to document the requirements needed to conduct work for a specific activity within a specific BCA or BRA. It combines historical data and present conditions to establish the required information used to create a job specific BWP.

The BHA is valid until a revision is needed, but no longer than one year after the review date, and shall be completed using the following directions:

HANFORD BERYLLIUM HAZARD ASSESSMENT INSTRUCTIONS

Section	Title	Required Information
Header		Enter the Identification Number of the Beryllium Baseline Inventory Assessment that was performed on the specific location the Beryllium activity is to take place. Once a BWP is generated from the Hazard Assessment Form, enter the number of the BWP/Hazard Assessment.
Top Section		Enter the following information in the top section of the Hazard Assessment Form: <ul style="list-style-type: none"> • The specific area for which the assessment is intended • The name of the individual(s) who authored the assessment • The site condition walk down date and name of the IH who conducted the walk down (printed name and signature are required).
1.0	Work Activity Description	<p>Coordinate with the Engineer/Planner to obtain a specific job and equipment use description that will provide information regarding potential dust disturbing or particulate emission activities (e.g., cutting, unbolting, welding, dislodging, etc.). Include the work package/procedure number(s) the Hazard Assessment supports.</p> <p>While personal protective equipment (PPE) does not define a work activity, the same beryllium controls (PPE and respiratory protection) shall be identified on the BWP/BHA.</p> <p>NOTE: This does not apply to specific PPE implemented due to RadCon or Electrical Safety requirements.</p> <p>If a work activity has sub-elements, both the higher level job description (e.g., size reduction and removal of glove boxes and associated activities) and the associated sub-elements shall be listed (e.g., electrical work, including opening systems, cutting or terminating electrical wiring or conduit, servicing, removing and</p>

Section	Title	Required Information
		<p>air gapping electrical components). All sub-elements must directly relate to the higher level job description.</p> <p>Routine surveillance-type activities shall not be included on the same BWP/BHA as non-routine activities unless it is a specific job step in the work package for the non-routine activity.</p>
2.0	Location Description	Coordinate with Engineer/Planner/IH to obtain necessary information to complete Section 2.0. Include specific information pertaining to the status of the location the beryllium activity is to occur. Reference past documentation or monitoring data that was used to determine the location status (e.g., Job Hazard Analysis (JHA), work package #, IH survey #). Describe the specific area and/or equipment within a location. Identify if the area is above 8 ft.
3.0	Hazard Description	Describe known and suspected exposure sources, activities and conditions. Identify other hazards (e.g., confined space, falls and remote area) that need to be addressed and could have an impact on the worker's health and safety.
4.0	Historical Sampling Data	Enter any historical data from personal sampling/monitoring done in the area and/or during similar work in the area. Identify if data was collected from a location above 8 ft.
5.0	Controls	Coordinate with Engineer/Planner/IH to determine the specific controls that will be used while performing beryllium work and the technical basis for each control. If up-posting of an area is required, document the requirement in the <i>Posting Requirements</i> section.
6.0	Air & Surface Sampling Basis	Determine the proper sampling that needs to take place during the beryllium work activity. Reference the sampling plan or any similar document if available. Describe the technical basis for collecting bulk, wipe and/or air samples. Ensure that analysis of air monitoring data is performed to document the basis for decisions to downgrade PPE requirements following activities that may disturb beryllium contamination.
	Project IH Review	<p>Once the BHA is completed, a project affiliated IH, who shall be knowledgeable and familiar with the work activity/location being assessed, is required to perform a review for accuracy. The affiliated IH performing this review shall be a different individual than the one who authored the form. The affiliated IH is required to print/sign/date the form indicating that the form is accurate.</p> <p>Incorporate the completed BHA into the work document(s) that it supports.</p>

5.3 Hanford Job Specific Beryllium Work Permit

BWPs are used to document the controls identified in the BHA and shall be job specific.

The BHA and BWP shall be coordinated with other safety, health, and radiological control documents to ensure a consistent approach to work controls and the safety of workers.

The BWP shall be followed by all employees involved in the work activity. All employees are required to work under the BWP regardless of which contractor or sub-contractor prepared the BWP, or if the employee works for the prime contractor, a sub-contractor, or another prime contractor.

A BWP is not required for non-intrusive activities inside a Beryllium Suspect Area (BSA) or equipment/systems labeled as Internal or Potential Internal Beryllium Contamination. If intrusive work is planned to be performed within a BSA or on Internal or Potential Internal contaminated equipment/systems, a BCA or BRA shall be established requiring a BHA and BWP.

A record copy of the BWP shall be completed electronically; handwritten BWPs shall not be used as record copy.

5.3.1 Use of Work Document Log Sheets

Contractors may use log sheets to associate work documents to BWPs as long as the following conditions are met:

1. The log sheet captures the following information:
 - a. BWP Number and Revision.
 - b. The work document number for each work document associated with the BWP.
 - c. Work document title for each work document associated with the BWP.
 - d. Printed name and signature of the IH who evaluated the BWP to ensure that it is still valid when each work document was added.
 - e. Date that the evaluation was completed when each work document was added.
2. A copy of the current log sheet shall either be kept with the BHA/BWP in each of the affected work packages or a hard copy shall be maintained at the location(s) where the pre-job briefings are held. If the copy of the current log sheet is not maintained in the work package, the location of the current log sheet shall be discussed during the pre-job briefing.

NOTE: The intent of the below requirements is to ensure that all information required on the BHA/BWP is readily available to employees working under the BWP.

- If electronic copies of the BHA/BWP are posted, the corresponding log sheet shall also be posted along with the BHA/BWP.
- A record copy of the log sheet shall be stored according to the requirements for record copies of the BWPs, along with the corresponding BWP. At times when the work package closes and the BWP remains open, a copy of the log sheet, at the time the package closed, shall be maintained within the closed work package along with a copy of the BHA/BWP.

5.3.2 Preparing the Hanford Job Specific Beryllium Work Permit

The Beryllium Work Permit is completed using the information found in the BHA.

All sections of the BWP shall be acknowledged by either a check mark or an “X.” If a section is not required, then write N/A next to the section for which the N/A applies.

Donning/Doffing sequences or deviations to sequences are not to be documented on the BWP. Special instructions of Section 12 of the BWP may be used to identify the location of, or the document that contains, the sequences and any deviations.

The BWP shall be prepared using the following instructions:

HANFORD JOB SPECIFIC BERYLLIUM WORK PERMIT INSTRUCTIONS

<i>Section</i>	<i>Title</i>	<i>Required Information</i>
1	HANFORD JOB SPECIFIC BERYLLIUM WORK PERMIT (BWP) No.	<p>A unique contractor or sub-contractor number shall be in the following format:</p> <ul style="list-style-type: none"> • Originating contractor or sub-contractor initials/building or specific area/last two digits of year/three digit sequential number specific to the building/specific area. • If the Beryllium Area is not located in a building, then up to a four character description of area or group performing the work may be used in place of the building number or specific area. • If BWP is being revised, enter the next sequential number in the Rev. No. space. If it is a new BWP, then enter “0” in this space. • Once the BWP has been developed, the number of the BWP shall be recorded on the BHA (Header Section). The BWP and the BHA are considered one document and shall have the same number and be revised in conjunction with each other. • BWP number examples are as follows: Contractor example: WCH-324-10-001 Sub-Contractor example: BRN-327-10-001 No Building example: CHPRC-CONX-10-001

HANFORD JOB SPECIFIC BERYLLIUM WORK PERMIT INSTRUCTIONS

<i>Section</i>	<i>Title</i>	<i>Required Information</i>
2	WORK DOCUMENT	List all work documents and/or procedures that the BWP supports. If more than one work document and/or procedure applies to the BWP, ensure that they all pertain to the work activity being performed under the BWP. If there is inadequate space in the "Room" box on the BWP Form (A-6006-202), list all of the rooms associated with the BCA/BRA in Section 7 and note in the "Room" box to "See Section 7." If additional documents are needed once the BWP is in use, then an evaluation of the validity of the BWP must take place and a determination made if a new BWP or a revision to the existing BWP must be completed.
3	DATE EFFECTIVE	Enter the month, day and year that the BWP becomes effective. (e.g., xx/xx/xx)
4	DATE EXPIRES	Enter the month, day and year the BWP is no longer valid (e.g., xx/xx/xx). This date can be no longer than one year from the date entered in Section Number 3, <i>Date Effective</i> .
5a/b	PRIME CONTRACTOR/ SUB CONTRACTOR	5a) Enter the prime contractor responsible for the BWP. 5b) If a sub-contractor company is preparing the BWP and performing the work activity covered by this BWP, then enter the name of the sub-contractor in Section 5b.
6	BUILDING/AREA	Enter the specific Hanford Area number, building number, and room(s) identified in the work package(s)/procedure(s) listed on the BWP for the BCAs and/or BRAs covered by the BWP. If the BCA and/or BRA are located in an area not specific to a building and room, enter specific information which adequately identifies the location of the BCA and/or BRA in the "Other" block of this section. This information must match the location information recorded on the top section of the BHA.
7	WORK ACTIVITY DESCRIPTION	Explain the specific work activity to be performed. The description must match the activity identified in all documents/procedures identified in Section Number 2, <i>Work Document No.</i> of the BWP.

ENTRY REQUIREMENTS

This states the basic requirements that need to be met to qualify an individual to work under the controls of the BWP, as well as the requirement for updating/revising the BWP.

BERYLLIUM CONTROL INFORMATION

Special Instructions (Sections 8-19) shall be completed to record any pertinent instructions relating to specific controls that are not covered by the control options identified in each section. The instructions shall be listed in the appropriate section for which they pertain. If no "special instructions" are needed, write N/A.

HANFORD JOB SPECIFIC BERYLLIUM WORK PERMIT INSTRUCTIONS

<i>Section</i>	<i>Title</i>	<i>Required Information</i>
8	AREA POSTING	Check the appropriate box(s) in Section 8 from the information contained in Section 5.0, <i>Posting Requirements</i> , of the BHA to identify the type of beryllium area where the work activity will be performed.
9	ACCESS CONTROL	Identify the type of access controls needed in Section 9 with info from the site condition walk down and based on information contained in Section 5.0, <i>Access Controls</i> , of the BHA. If work is to be conducted in a Beryllium Regulated Area (BRA), utilize the BRA Access Log per DOE-0342-003, <i>Hanford Site Postings and Labeling Procedure</i> .
10	ENGINEERING CONTROLS	Check the appropriate boxes in Section 10 identifying proper Engineering Controls from the information contained in Section 5.0, <i>Engineering Controls</i> of the BHA.
11	RESPIRATORY PROTECTION	Check the appropriate control boxes in Section 11 identifying proper Respiratory Protection from the information contained in Section 5.0, <i>Respiratory Protection</i> of the BHA. If full face air purifying respirator (FF-APR) or powered air purifying respirator (PAPR) only is selected then enter the type of cartridge to be used in the space provided.
12	PROTECTIVE CLOTHING	Check the appropriate control boxes in Section 12 identifying proper protective clothing from the information contained in Section 5.0, <i>Protective Clothing</i> of the BHA. If Work Gloves are selected then note the specific type of gloves to be worn in the space provided. If different personal protective equipment (PPE) requirements are needed for support personnel, list requirements in special instructions.
13	IH COVERAGE	<p>Check the appropriate boxes in Section 13 to identify the proper IH coverage needed to support the work activity being performed as identified in Section 1.0, <i>Work Activity</i> of the BHA and based on the following directions:</p> <ul style="list-style-type: none"> • For purpose of this section, the term IH refers to an employee of the Industrial Hygiene Department (or Safety and Health Department for contractors or subcontractors that do not have an IH Department) qualified to perform the activity identified. For specific requirements on conducting Pre-Job reviews see Section 5.3.5 of this document, <i>Briefing of BWPs to Employees</i>. • <u>Pre-Job Review</u>: IH coverage is required to perform BWP review as part of the Pre-Job/Evaluation but no further coverage is required during the performance of the work activity and no release/clearance surveys are needed from the BCA/BRA.

HANFORD JOB SPECIFIC BERYLLIUM WORK PERMIT INSTRUCTIONS

<i>Section</i>	<i>Title</i>	<i>Required Information</i>
		<ul style="list-style-type: none"> • <u>Intermittent</u>: IH coverage is required on a periodic basis, as discussed in the Pre-Job/Evolution briefing, and when requested throughout the work activity (from the Pre-Job/Evolution briefing to the need for release/clearance surveys). • <u>Continuous</u>: IH coverage is required from the Pre-Job/Evolution throughout the entire work activity (including release/clearance surveys). Continuous coverage means an IH individual is physically present with the work crew through the entire work activity. • <u>Release/Clearance</u>: IH coverage is required for the Pre-Job/Evolution briefing and for release/clearance surveys only.
14	DECONTAMINATION ITEMS	Check the appropriate control boxes in Section 14 based on the method needed for proper contamination control. Use Section 3.0, <i>Hazard Description</i> of the BHA as a guideline in making these determinations.
15	DECONTAMINATION PERSONNEL	Check the appropriate control boxes in Section 15 based on methods for preventative controls needed to eliminate personnel contamination. Use Section 3.0, <i>Hazard Description</i> of the BHA—as a guideline in making these determinations.
16	WASTE LABELING/HANDLING	Check the appropriate boxes in Section 16 required for proper identification and disposition of waste generated from activities of the work activity. Use Section 5.0, <i>Waste Labeling/ Handling</i> of the BHA as a guideline in making these determinations. Label waste and equipment designated as waste with the appropriate Danger Label: <u>Contaminated with Beryllium</u> .
17	EQUIPMENT LABELING/HANDLING	Check the appropriate control boxes in Section 17 required for proper labeling and handling of equipment used during the beryllium activity. Use Section 5.0, <i>Equipment Labeling/ Handling</i> of the BHA as a guideline in making these determinations. Equipment not deemed waste with confirmed or potential for internal contamination, and deemed clean on the exterior, shall be labeled appropriately per DOE-0342-003, <i>Hanford Site Posting and Labeling Procedure</i> .
18	AIR SAMPLING	Check the appropriate control boxes in Section 18 to identify air sampling requirements based on information contained in Section 6.0, <i>Air & Surface Sampling</i> of the BHA.
19	SURFACE SAMPLING	Check the appropriate control boxes in Section 19 to identify surface sampling requirements based on information contained in Section 6.0, <i>Air & Surface Sampling</i> of the BHA.

HANFORD JOB SPECIFIC BERYLLIUM WORK PERMIT INSTRUCTIONS

<i>Section</i>	<i>Title</i>	<i>Required Information</i>
20	ADDITIONAL INFORMATION	<p>List any additional information that is, or may be pertinent to, the safety of the worker(s) while performing the work activity covered by the BWP. A statement identifying the centrally located area where personal sampling results are posted shall be recorded in this section as well as any post job requirements.</p> <p>This section is intended as information only. Any special instructions are to be listed within the appropriate section of the BWP for which they pertain.</p> <p style="text-align: center;"><u>APPROVALS</u></p>
21	PREPARED BY	<p>This identifies the individual who prepared the BWP. This person shall be knowledgeable of and experienced in the work to be performed. This individual shall be different than the individuals identified in Section 22, <i>Approving Operations Manager/Supervisor</i>, and Section 23, <i>Approving Project Industrial Hygienist</i>. Printed name, signature, date and time are required to be completed.</p>
22	APPROVING OPERATIONS MANAGER/SUPERVISOR	<p>List the management individual responsible for the work activity being performed. This individual must be different than individuals identified in Section 21, <i>Prepared By</i>, and Section 23, <i>Approving Project Industrial Hygienist</i>. This individual signs the approval after verifying the BWP and work activity match and controls are adequate. Printed name, signature, date and time are required to be completed.</p>
23	APPROVING PROJECT INDUSTRIAL HYGIENIST	<p>This individual must be an employee from the Industrial Hygiene Department with sufficient knowledge of and experience in the work to be performed. Individual must be different than the individual identified in Section 21, <i>Prepared By</i>, and Section 22, <i>Approving Operations Manager / Supervisor</i>. Individual signs the approval after verifying the validity of the BWP to the work activity described in all work packages/procedures listed on the BWP. Printed name, signature, date and time are required to be completed.</p>

5.3.3 Use of the Hanford Beryllium Work Permit Acknowledgement/Review Record

The BWP Acknowledgement/Review Record (Form A-6005-853) shall be signed by all employees involved in the work activity.

An employee signs the BWP Acknowledgement/Review Record only to confirm that he/she has read the BWP, not as an approval of the BWP.

The BWP Acknowledgement/Review Record is considered the final section of the BWP.

5.3.4 Incorporation of the BHA and BWP into the Work Package/Procedure

Incorporate the BHA and BWP into the Work Package/Procedure as one document. Include work document log sheets as required in Section 5.3.1 of this document, *Use of Work Document Log Sheets*.

5.3.5 Briefings to Employees

BWP Briefings – General Information

The intent of BWP briefings to contractor employees (and subcontractor employees working in the same area and/or involved in the same beryllium work activity) is to ensure that employees performing the beryllium work activity receive information of adequate quality prior to beginning the beryllium work activity.

For employees involved in initial pre-job/evolution briefings with the work crew, the employees shall be given the time and opportunity to read/review the BWP in addition to receiving the appropriate briefing.

It is preferred that the BWP Briefing be conducted during the Pre-Job/Evolution Briefing, with each employee attending and signing both the BWP Acknowledgement Form and Pre-Job Evolution Form prior to performing assigned beryllium activities. However, if due to the progress of work, it is necessary to perform the BWP Briefing separate from the Pre-Job/Evolution Briefing, employees shall be given the BWP to review while attending the Pre-Job/Evolution Briefing. The BWP Acknowledgement Form and Pre-Job Evolution Form may be signed separately by the employee in this instance.

Employees who were unable to attend the initial combination BWP Briefing and Pre-Job/Evolution Briefing, including employees newly assigned to the work crew, shall be given a combination BWP and Pre-Job/Evolution Briefing meeting of the same quality as the initial combination briefing.

Any revisions to the BWP shall be communicated to all employees involved in the work activity prior to resuming work under the BWP. Revisions requiring an initial briefing of the BWP shall be communicated during a pre-job/evolution briefing.

Initial BWP Briefings

An IH/Industrial Hygiene Technician (IHT) shall conduct the initial briefing of each new BWP to each work crew required to work to that BWP. The initial briefing shall include a thorough discussion of each section of the BWP. An IH/IHT shall also conduct an initial briefing for each work crew when an existing BWP was revised in Sections 8 through 12 of the BWP.

Subsequent BWP Briefings

Those workers who have already received the initial BWP briefing shall receive a subsequent BWP briefing, which shall be conducted daily, at a minimum. The subsequent BWP briefing is not required to be as thorough as the initial BWP briefing, but shall cover topics in sufficient detail that permits the workers to work safely and minimizes the potential for spread of beryllium contamination.

An IH/IHT shall normally present the subsequent BWP briefings. If an IH/IHT is not available to conduct subsequent briefings of BWPs or BWPs revised in Sections other than 8 through 12, the briefings may be conducted by another qualified individual from the contractor's non-IH/IHT Occupational Safety and Health (OSH) staff or by the Field Work Supervisor (FWS)/First Line Manager.

For non-IH/IHT OSH staff to be considered "qualified," they shall have received and be current in the following training courses:

- Beryllium Worker Training (HAMMER Course 004140) or Beryllium Worker Refresher (HAMMER course 004150)
- Either:
 - Beryllium Training for Planners/PICs/Supervisors/Managers (PPSM) (HAMMER Course 004107), or
 - Beryllium Work Permit Preparation (HAMMER Course 004113)

For the FWS/First Line Manager to be considered "qualified", they shall have received and be current in both of the following training courses:

- Beryllium Worker Training (HAMMER Course 004140) or Beryllium Worker Refresher (HAMMER course 004150)
- Beryllium Training for Planners/PICs/Supervisors/Managers (PPSM) (HAMMER Course 004107)

If a question is raised during the subsequent BWP briefing that the qualified individual is unable to answer, no entry into the BCA/BRA may occur until an IH/IHT has been contacted and an adequate answer provided. In this context, adequate means "As much as is needed by the employee(s) raising the question(s) to conduct the work in a safe manner."

Briefing Requirements for Weekend/Backshift Routines/Surveillances

All employees who work without IH/IHT coverage and on-site supervision during weekends and/or backshifts shall receive an initial BWP briefing for beryllium work activities that they conduct during their shifts. In this circumstance, once the initial BWP briefing is conducted, the employee may individually read the BWP and sign the acknowledgement form for each shift in lieu of receiving a subsequent briefing and documented pre-job. Initial or subsequent BWP briefings shall be conducted when BWPs are revised and in accordance with the requirements below.

Briefings for Revision of BWPs

Additional requirements for entry into BCAs/BRAs in these situations are:

- The BWP is included in the operational procedure/work package.
- An adequate shift turnover is conducted that clearly defines conditions in areas where a BWP is required.
- All aspects of the existing BWP shall be followed.

NOTE: This section does not apply to scheduled shifts, overtime crews, or any other work activity on weekends/backshifts where employees have on-site IH/IHT and/or supervisor coverage and a documented pre-job can be conducted.

5.3.6 Revisions to BHA/BWP

Revisions of BHAs

A BHA shall be reviewed for accuracy and revised, as necessary, when:

- New reports, sampling results, or other information becomes available that could affect the validity of the BHA,
- New activities are identified and added to the work scope,
- Changes are made to work documents that could affect the validity of the BHA,
- Employees identify changed work conditions, (e.g., unexpected conditions, potential beryllium contamination/exposure sources) that could affect the validity of the BHA, or
- Employees identify inadequate beryllium controls, (e.g., inadequate dust control, inadequate decontamination practices).

The BHA review shall be documented within the work package and/or on the *Beryllium Hazard Assessment Review Record* (Form A-6006-117). If the review is documented within a work package, a note shall also be made summarizing the change that caused the review to occur.

Revisions of BWPs

A BWP shall be revised when its supporting BHA has been revised.

When employees identify changes in conditions or inadequate beryllium controls, work activities shall not recommence until:

- The review of the BHA/BWP has determined that a revision to the BHA/BWP is not necessary and the employees have been briefed on the results of the determination, or
- The BHA and BWP are revised and the employees have been briefed on the revisions.

Briefings for Revised BWPs

Revised BWPs shall be briefed to the workers as follows:

- Revisions to an existing BWP that affect BWP Sections 8 through 12 shall require an initial BWP briefing in a pre-job/evolution briefing.
- Revisions to an existing BWP that do not affect BWP Sections 8 through 12 require a subsequent BWP briefing, to include the specific revision(s) made, to employees involved in the work activity.

In either case, workers shall receive the briefing prior to resuming work under the BWP.

6.0 Control and Review of Documents

During the Maintenance Phase, the CBDPP Committee shall continue to provide long-term stewardship and operation of this procedure. Configuration control of this document shall be accomplished in accordance with the process defined in DOE-0342, Hanford Site Chronic Beryllium Disease Prevention Program (CBDPP).

7.0 Records

Record Description	Submittal Responsibility	Retention Responsibility
Beryllium Hazard Assessment Form (A-6005-852)	Safety and Health Organization	Stored electronically with a copy retained in Work Package
Beryllium Hazard Assessment Review Record (A-6006-117)	Cognizant Supervisor/Manager	Stored electronically with a copy retained in Work Package
Hanford Job Specific Beryllium Work Permit (A-6006-202)	Cognizant Supervisor/Manager	Stored electronically with a copy retained in Work Package
Hanford Job Specific Beryllium Work Permit Acknowledgement/Review Record (A-6005-853)	Cognizant Supervisor/Manager	Stored electronically with a copy retained in Work Package
BWP Work Document Log Sheet (A-6006-239)	Cognizant Supervisor/Manager	Stored electronically with a copy retained in Work Package

8.0 Sources

8.1 Requirements

1. 10 CFR 850, "Chronic Beryllium Disease Prevention Program," *Code of Federal Regulations*, as amended.
2. 10 CFR 851, "Worker Safety and Health Program," *Code of Federal Regulations*, as amended.
3. 29 CFR 1910, "Occupational Safety and Health Standards," *Code of Federal Regulations*, as amended.
4. DOE-0342, 2012, *Hanford Site Chronic Beryllium Disease Prevention Program (CBDPP)*

8.2 References

- Hanford Beryllium Hazard Assessment Form (A-6005-852)
- Hanford Beryllium Hazard Assessment Review Record (A-6006-117)
- Hanford Beryllium Work Permit (A-6006-202)
- Hanford Job Specific Beryllium Work Permit Acknowledgment Form (A-6005-853)
- BWP Work Document Log Sheet (A-6006-239)

APPENDIX A: ACRONYMS/ABBREVIATIONS

ALARA	As-Low-As-Reasonably-Achievable
BCA	Beryllium Controlled Area
BHA	Beryllium Hazard Assessment
BRA	Beryllium Regulated Area
BSA	Beryllium Suspect Area
BWP	Beryllium Work Permit
CBDPP	Chronic Beryllium Disease Prevention Program
CIH	Certified Industrial Hygienist
CFR	Code of Federal Regulations
DOE	Department of Energy
FWS	Field Work Supervisor
FF-APR	Full Face - Air Purifying Respirator
IH	Industrial Hygienist
IHT	Industrial Hygiene Technician
JHA	Job Hazard Analysis
N/A	Not applicable
OSH	Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PAPR	Powered Air Purifying Respirator
PIC	Person in charge
PPE	Personal Protective Equipment
PPSM	PICs, Planners, Supervisors, Managers
SOMC	Site Occupational Medical Contractor