

**Resolution Form**  
**DOE-0342 Chronic Beryllium Disease Prevention Program**

**ID Number:** 0342-28    **Title/Subject:** Revised - Edits to DOE-0342 Section 6.11

**Initiated by:** Scott Seydel    **Company:** CHPRC BeCAP    **Date:** 10/11/12    **Phone #:** 373-4860

**Affected Document Number / Revision:**  
DOE-0342, Rev. 1

**Issue / Concern / Affected Step(s):**

Incorporating the language developed in support of the following BeCAP products:

- Exposure Monitoring (WBS 1.3.2)
- Periodic Surface Sampling (WBS 1.3.3)

These changes will be incorporated into DOE-0342 rev. 2.

**Discussion:**

This resolution form addresses the CBDPP changes necessary for implementation of the requirements identified in the Exposure Monitoring and Periodic Surface Sampling products. The resolution contains the following revisions from the form that was approved by the CBDPP Committee on 8/30/11:

- Section 6.11.7 was added back into the resolution form. It was inadvertently left off of the original resolution form
- Periodic surface sampling requirements are now explicitly listed in Section 6.11.5. Previously the section referenced the verification sampling requirements in DOE-0342-002, *Assessment and Characterization/Verification of Buildings*. With the revision of DOE-0342-002, however, those references are no longer appropriate
- Added reference to the new procedure for wipe sampling using Whatman® filters is included
- Updated DOE-0342-002 section references

**Resolution:**

Add the following definitions to Section 3.0:

**Investigative Level (Affected Workers):** The airborne concentration that requires additional investigation per Section 6.14 resulting from the sampling of the affected workers (including representative sampling and/or area sampling of an affected worker's work location). This investigative level is 0.02  $\mu\text{g}/\text{m}^3$ , calculated as an 8 hour time weighted average (TWA) exposure.

**Investigative Level (Area Monitoring):** The airborne concentration that requires additional investigation per Section 6.11.4.5 resulting from boundary area sampling. This investigative level is 0.02  $\mu\text{g}/\text{m}^3$ , calculated as a measured concentration.

Replace Sections 6.11.4 and 6.11.5 with the following language:

**6.11.4 Periodic Personal/Area Air Monitoring**

Once initial monitoring is completed, periodic air monitoring will be performed to ensure work practices and controls are adequate to prevent airborne exposures at or above the Action Level. Requirements for periodic personal air monitoring will be summarized on the beryllium hazard assessment form in accordance with DOE-0342-001, *Hanford Site Wide Beryllium Work Permit (BWP) and Hazard Assessment Procedure*.

If work is in an area where exposure levels are at or above the Action Level, periodic monitoring must be repeated at least every 3 months. Additional sampling may be requested by employees.

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**6.11.4.1 Preparation For Air Monitoring**

The following applies to air monitoring conducted in accordance with Sections 6.11.4.2, 6.11.4.3, and 6.11.4.4. In preparation for sampling the IH/IHT shall discuss the expected work duration with the work team. The type of sampling pumps used shall have a sufficient flow rate to ensure that collected air volume is adequate to provide a reporting detection limit of less than 0.02  $\mu\text{g}/\text{m}^3$  given the expected duration of the work activity.

During placement of the sampling pumps, consideration will be given to the prevailing wind flow or air flow path. At least one pump shall be placed such that it is located downstream from the work location.

**6.11.4.2 Air Monitoring of Demolition Sites**

Area samples will be collected on a daily basis during the demolition and load out of Beryllium Controlled Facilities. A minimum of one sample will be collected on each side of the perimeter of the controlled area (for areas equal to or greater than 100  $\text{ft}^2$ ). For controlled areas less than 100  $\text{ft}^2$ , a total of two samples shall be collected. The area sampling requirements shall be documented in Section 6.0 of the Beryllium Hazard Assessment form (A-6005-852) for the work being conducted.

While it is preferred to capture sufficient air volume during the work activity, sampling pumps may be allowed to run after the completion of short duration work activities if additional run time is needed to collect the appropriate air volume. In such cases the actual length of demolition activities shall be documented on the air survey form.

**6.11.4.3 Air Monitoring of BCA/BRA's With Rope Boundaries**

Area samples will be collected on a daily basis during intrusive activities for BCA/BRA's that have rope boundaries. For areas equal to or greater than 100  $\text{ft}^2$ , a minimum of one sample will be collected on each clean side of the rope boundary. A maximum of four samples would be required if the entire perimeter has a rope boundary. If one of the sides with rope boundaries also has a step-off pad, only one sample is required on that side. For areas less than 100  $\text{ft}^2$ , one sample is required. The area sampling requirements shall be documented in Section 6.0 of the Beryllium Hazard Assessment form (A-6005-852) for the work being conducted.

While it is preferred to capture sufficient air volume during the work activity, sampling pumps may be allowed to run after the completion of short duration work activities if additional run time is needed to collect the appropriate air volume. In such cases the actual length of intrusive activities shall be documented on the air survey form.

**NOTE:** *The definition of "rope boundary" includes plastic chains, caution tape and other methods to define a boundary that don't provide a physical barrier.*

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**6.11.4.4 Air Monitoring of Step Off Pads**

Area samples will be collected on a daily basis at the step off pad during intrusive activities in a BRA. The project IH shall determine if collecting area samples at the step off pad is appropriate during intrusive activities in a BCA. The area sampling requirements shall be documented in Section 6.0 of the Beryllium Hazard Assessment form (A-6005-852) for the work being conducted.

While it is preferred to capture sufficient air volume during the work activity, sampling pumps may be allowed to run after the completion of short duration work activities if additional run time is needed to collect the appropriate air volume. In such cases the actual length of intrusive activities shall be documented on the air survey form.

**6.11.4.5 Analysis of Area Sampling Data**

The following applies to sampling data collected in accordance with Sections 6.11.4.2, 6.11.4.3, and 6.11.4.4.

Once the area sampling results are available, determine which of the following three cases apply:

Case 1- All samples are below the investigative level of  $0.02 \mu\text{g}/\text{m}^3$ :

a) No further action required

Case 2 – One or more samples are at or above the investigative level of  $0.02 \mu\text{g}/\text{m}^3$  but all samples are below the action level:

- a) Notify the applicable DOE field office of the results within one working day of receiving the final lab report via phone call or email
- b) Investigate the potential causes for this result and determine the appropriate actions. These actions shall include, but are not limited to the following:
- Identify any workers who were potentially exposed. Provide written notification to all workers of their potential exposure
  - Temporarily relocate any beryllium affected workers away from the potential beryllium exposure
  - Contact the analytical lab to determine whether reanalysis of the sample is possible
  - Review the work planning documents to ensure that work was performed as planned
  - Review the hazard assessment to verify potential exposure sources were identified
- c) Document any identified issues and process in accordance with the contractor's issue management system.

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Case 3 – One or more samples are at or above the action level:

- a) Immediately ensure that the work site is in a safe condition and stop any work activities occurring in the area where the sample(s) were taken
- b) Notify the applicable DOE field office of the results within one working day of receiving the final lab report via phone call or email
- c) Make any other required notifications in a timely manner
- d) Make any required changes to the area postings and boundaries
- e) Investigate the potential causes for this result and determine the appropriate actions. These actions shall include, but are not limited to the following:
  - Identify any workers who were potentially exposed. Provide written notification to all workers of their potential exposure
  - Temporarily relocate any beryllium affected workers away from the potential beryllium exposure
  - Contact the analytical lab to determine whether reanalysis of the sample is possible
  - Review the work planning documents to ensure that work was performed as planned
  - Review the hazard assessment to verify potential exposure sources were identified
- f) Determine the steps necessary to safely restart work
- g) Document any identified issues and process in accordance with the contractor's issue management system.

**6.11.5 Periodic Surface Sampling**

**6.11.5.1 Monthly Surface Sampling**

Surface sampling is required at least monthly in the following areas if they are used by beryllium workers working in a BCA or BRA or support beryllium work:

- Lunchrooms
- Change rooms
- Step off pads and equipment laydown table/area
- Respirator issuance/maintenance rooms
- Radiological Count Rooms/Counting Areas. The areas that require sampling are directly adjacent to counting equipment and are usually controlled for radiological contamination.

**NOTE:** *Monthly surface sampling of the above areas is only required when they are supporting BCA/BRA's where entries have been made in the past month.*

A minimum of one sample for every 100 sq. feet of floor area shall be collected. Collect samples using the methods in [Appendices B, C, D, E, F](#) and G of DOE-0342-002.

Sample results shall be analyzed in accordance with Section 4.7.2 of DOE-0342-002. While a characterization sample report isn't required, a summary of the results shall be made available to employees.



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All samples shall be analyzed by a laboratory accredited for metals by the American Industrial Hygiene Association (AIHA) or a laboratory that demonstrates quality assurance for metals analysis that is equivalent to AIHA accreditation. Methods of monitoring and analysis shall meet accuracy criteria established in 10 CFR 850.24(e).

**Resolution Type:**

Clarification:  Document Change:

**Resolution Completion Plan / Summary:**

Incorporate language into DOE-0342, Revision 2. The changes contained in this resolution form will take effect upon implementation of Revision 2.

**Web Site Posting Instructions:**

Post as a pending change upon approval of the resolution form.

**Removal from Web Site Instructions:**

Move to the Archived resolution folder upon incorporation into Revision 2.

**Configuration Control:**

Major:  Minor:  Initials: Committee Chair: SAS

Significant:  Not Significant:  Initials: DOE RL: PG DOE-ORP mm

**Signatures:**

Accepted	Committee Chair	<u>Scott Sydel</u>	Date	<u>10/11/12</u>
Concurrence/Approved	DOE-RL	<u>Pete J. Garcia Jr.</u>	Date	<u>10/16/2012</u>
Concurrence/Approved	DOE-ORP	<u>[Signature]</u>	Date	<u>15 Oct 12</u>