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Level 2 Administrative Procedure

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4	Minor Revision/Periodic Review. Updated procedure to current template and format. Added new Appendix A, <i>Regulatory Requirements Flow Down</i> , and associated reference step in the Purpose Section.	All

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1.0 PURPOSE

- 1.1** This procedure provides instructions on protecting employees by eliminating occupational exposures to confirmed and suspected chemical carcinogens.
- 1.2** This document implements applicable regulatory requirements. They are listed in Appendix A, *Regulatory Requirements Flow Down*.

2.0 SCOPE AND APPLICABILITY

- 2.1** This Level 2 procedure is applicable to all non-radioactive materials that contain at least one carcinogen in a concentration greater than or equal to 0.1% by weight or volume. This threshold concentration of 0.1% may be superseded by a different level when it is indicated by an applicable regulation (e.g., Occupational Safety and Health Administration (OSHA) substance-specific standard).
- 2.2** The chemical substances covered by this procedure as carcinogens are identified as follows:
- OSHA 29 Code of Federal Regulations (CFR) 1910 Subpart Z (Standards):
 - Carcinogens
 - American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs):
 - Group A1 - Confirmed Human Carcinogens
 - Group A2 - Suspected Human Carcinogens
 - International Agency for Research on Cancer (IARC) (Monographs):
 - Group 1 - Carcinogenic to Humans
 - Group 2A - Probably Carcinogenic to Humans
 - Group 2B - Possibly Carcinogenic to Humans (applicable only to those substances having at least limited evidence in humans when sufficient evidence in animals is lacking)
 - National Toxicology Program (NTP) (Annual Report on Carcinogens):
 - Group K - Known To Be A Human Carcinogen
 - Group R - Reasonably Anticipated To Be A Human Carcinogen
- 2.3** This procedure applies to Fluor-BWXT Portsmouth LLC (FBP) and contracted labor resource personnel at the Portsmouth Gaseous Diffusion Plant (PORTS).

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Exceptions:

- Control of waste material and samples of unknown composition are not included within the scope of this procedure.
- Control of asbestos-containing materials is addressed in FBP-IH-PRO-00036, *Asbestos Control*.
- Control of industrially-generated beryllium is addressed in FBP-IH-PDD-00005, *Chronic Beryllium Disease Prevention Program*.
- Control of lead-containing materials is addressed in FBP-IH-PDD-00002, *Lead Compliance Program Description*.
- Control of silica containing materials is addressed in FBP-IH-PDD-00009, *Silica Exposure Control*

3.0 GENERAL INFORMATION

Whenever substitution with non-carcinogenic materials is not feasible, exposures are maintained within ACGIH TLVs, OSHA substance-specific Action Levels (ALs), and OSHA Permissible Exposure Limits (PELs).

4.0 USE REFERENCES

- A. FBP-BS-PRO-00062, *Records Management Process*
- B. FBP-IH-PRO-00014, *Hazard Communication*

5.0 RESPONSIBILITIES

5.1 Occupational Safety and Health (OS&H) Manager

- 5.1.1 Provides adequate resources to maintain an effective carcinogen control program.
- 5.1.2 Provides for evaluation of potential improvements to processes which could result in reduced usage and inventory levels of carcinogens.

5.2 OS&H Professional

- 5.2.1 Classifies applicable chemicals used at PORTS as carcinogens according to this procedure.
- 5.2.2 Determines the need for FBP-IH-PRO-00051-F01, *Carcinogen Control Plan*.
- 5.2.3 Determines the type and frequency of periodic monitoring.

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- 5.2.4 Reports results to supervision.
- 5.2.5 Recommends exposure-control measures.
- 5.2.6 Assists Supervisors in the selection of appropriate control measures by completing Part II of FBP-IH-PRO-00051-F01.
- 5.2.7 Acts as consultant in matters related to storage, handling, spills, and disposal of carcinogens.
- 5.2.8 Assists Training in the development of appropriate educational and training materials.
- 5.2.9 Performs investigations of diagnosed or suspected occupational illnesses as necessary.

5.3 Supervisor/Contract Technical Representative (CTR)

- 5.3.1 Contacts OS&H for identification, evaluation, and recommended control of materials that may be carcinogenic.
- 5.3.2 Replaces carcinogens with less hazardous, non-carcinogenic materials whenever feasible.
- 5.3.3 Initiates preparation of FBP-IH-PRO-00501-F01 for any operation involving the use of carcinogenic materials that is likely to exceed applicable ALs, PELs or TLVs as determined by OS&H.
- 5.3.4 Ensures applicable documents have been developed and completed.
- 5.3.5 Establishes and posts regulated areas where chemical carcinogens are used and controls access to these areas in accordance with FBP-IH-PRO-00501-F01.
- 5.3.6 Maintains record (FBP-IH-PRO-00051-F01) of personnel working in the regulated area.
- 5.3.7 Uses engineering controls and required safe work practices as the primary method to minimize exposure to carcinogens and to prevent the release of carcinogens into the working environment as directed by OS&H.
- 5.3.8 Ensures all containers are properly labeled identifying the presence of chemical carcinogens.
- 5.3.9 Ensures employees maintain good hygiene.
- 5.3.10 Performs chemical inventory in accord with FBP-IH-PRO-00014, *Hazard Communication*.

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5.4 Employee

- 5.4.1** Observes all safety and health rules.
- 5.4.2** Notifies Supervisor immediately of potential overexposure to carcinogens and when certain conditions or practices may cause illness/injury.

5.5 Occupational Physician

- 5.5.1** Consults with OS&H in the development of adequate methods to detect exposures to carcinogenic agents.
- 5.5.2** Alerts OS&H of diagnosed or suspected occupational illnesses for follow-up investigations.

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6.0 ACTIONS

6.1 Identification of Chemical Carcinogens

OS&H Manager

- 6.1.1 Classify PORTS carcinogens according to Section 2.0, *Scope and Applicability* of this procedure.

Supervisor

- 6.1.2 Contact OS&H for identification, evaluation, and recommended control of materials that may be carcinogenic.
- 6.1.3 Implement the Carcinogen Control program within your respective organization by requiring employee compliance and providing adequate resources for evaluation of potential process improvements.
- 6.1.4 Perform inventory, identifying the quantities of chemical carcinogens that are kept in your area of responsibility.
- 6.1.5 Submit hazardous material reports to the PORTS Hazardous Materials Specialist (HMS) in accordance with FBP-IH-PRO-00014.

Employee

- 6.1.6 Notify Supervisor immediately of potential overexposure to carcinogens and when certain conditions or practices may cause illness/injury.

Occupational Physician

- 6.1.7 Alert OS&H of any diagnosed or suspected occupational illness that may have resulted from exposure to a carcinogenic agent for follow-up investigation.

OS&H Professional

- 6.1.8 Perform investigations of diagnosed or suspected occupational illnesses as necessary.

6.2 Education of Employees

Supervisor/CTR

- 6.2.1 Ensure that personnel successfully complete hazard communication training and any required substance-specific training according to FBP-IH-PRO-00014 and applicable procedures/regulations.
- 6.2.2 Ensure that hazard communication is provided, according to FBP-IH-PRO-00051-F01 prior to work in an area or operation determined to require FBP-IH-PRO-00051-F01.

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OS&H Professional

- 6.2.3 Assist Training in the development of appropriate educational and training materials.

6.3 Protection from Chemical Carcinogen Exposure in the Workplace

Supervisor/CTR

- 6.3.1 Ensure that carcinogens are used only in those situations where no less hazardous, equivalent substitute is feasible and where the function they serve is essential.

IF a significant potential for occupational exposure is determined to exist **AND** more stringent controls than normal good work practices are required, **THEN** ensure safety plans, procedures, or experimental protocols describing the use of chemical carcinogens and the methods used to control exposures are developed.

OS&H Professional

NOTE

The following determination will be based on the quantity used, potential for exposure, types of controls, monitoring results, and the type of operation in which the material is used.

- 6.3.2 Determine an operation's potential for occupational exposure and the need FBP-IH-PRO-00051-F01.

Supervisor/CTR

- 6.3.3 Initiate preparation of FBP-IH-PRO-00051-F01 for any operation involving the use of carcinogenic materials that is likely to exceed applicable ALs, PELs, or TLVs as determined by OS&H.

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NOTE

Applicable documents may include:

- Work control packages
- Safety plans
- Standard operating procedures or experimental protocols associated with lab activities describing the use of chemical carcinogens and the methods used to control exposures
- Job Hazard Analysis (JHA)
- Documented pre-job briefing to inform employees of the health hazards and exposure control measures associated with the task

6.3.4 Ensure applicable documents have been developed and completed.

OS&H Professional

6.3.5 Determine the type and frequency of periodic monitoring.

6.3.6 Report results to supervision.

6.3.7 Recommend exposure control measures.

6.3.8 Assist Supervisor/CTR in the selection of appropriate control measures by completing Part II of FBP-IH-PRO-00051-F01.

6.3.9 Act as consultant in matters related to storage, handling, spills, and disposal of carcinogens.

Supervisor/CTR

NOTE

The regulated area will depend on the quantity and physical properties of the material being used and on the operations being performed.

6.3.10 Ensure that a regulated area is established and posted, and that access is controlled where exposure to a carcinogen above the applicable AL, PEL, or TLV is likely as determined by OS&H.

A. Ensure personnel working in the area are identified in the required FBP-IH-PRO-00051-F01.

B. Ensure visitors to the area are escorted by personnel authorized for entry under FBP-IH-PRO-00051-F01.

6.3.11 Ensure that placards, labels, or signs are used to identify regulated areas and containers of carcinogens in accordance with applicable procedures/regulations.

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- 6.3.12** Follow guidelines listed below when non-carcinogenic substitutes cannot be used:
- A.** Use engineering controls and safe work practices as the primary methods to minimize exposure to carcinogens and to prevent the release of carcinogens into the work environment.
 - B.** Use administrative controls and personal protective equipment (PPE) as secondary and tertiary measures, respectively, when needed to reduce exposure to carcinogens.
 - C.** Make provisions to ensure that contaminated air is not exhausted into work areas.
 - D.** Utilize approved methods to contain and dispose of liquid and solid wastes that may contain carcinogens.
- 6.3.13** Ensure that good hygiene is facilitated through use of protective clothing, availability of showers and change rooms, bans on eating, drinking, smoking, and chewing in regulated areas, use of nonpermeable work surfaces to the extent practical, and good housekeeping practices.

Occupational Physician

- 6.3.14** Provide for appropriate medical surveillance, testing, and evaluation of personnel who are potentially exposed to carcinogens above applicable limits when required by OSHA or Department of Energy (DOE) regulations.

7.0 RECORDS

7.1 Records Generated

FBP-IH-PRO-00051-F01, *Carcinogen Control Plan*

7.2 Requirements

Records generated or received as a result of performing this procedure shall be managed according to and FBP-BS-PRO-00062, *Records Management Process*.

8.0 DEFINITIONS/ACRONYMS

8.1 Definitions

- A. Carcinogen** – Any non-radioactive substance that can cause cancer in humans and/or animals (see Section 2.0).

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- B. Carcinogen Control Plan** – Form FBP-IH-PRO-00051-F01; a written plan which sets forth procedures, equipment, personal protective equipment, and work practices to protect employees in a particular workplace. This term encompasses the “safety plans and standard operating procedures” that describe the use of chemical carcinogens, the procedures used to control exposure, emergency actions, and waste disposal. This plan is to be used in conjunction with current hazard communication programs and programs developed for control of toxic chemicals in laboratories.

8.2 Acronyms

- A. **ACGIH** – American Conference of Governmental Industrial Hygienists
- B. **AL** – Action Level
- C. **NTP** – National Toxicology Program
- D. **PEL** – Permissible Exposure Limit
- E. **TLV** – Threshold Limit Value

9.0 SOURCE REFERENCES

- A. ACGIH, *Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, 2016*
- B. FBP-ER-PL-00002, *Portsmouth Laboratories Chemical Hygiene Plan*
- C. International Agency for Research on Cancer, *Monographs*, latest edition
- D. National Toxicology Program, *Annual Report on Carcinogens*, latest edition
- E. OSHA 29 CFR 1910.1200, *Hazard Communication*
- F. OSHA 29 CFR Subpart Z, *Occupational Safety and Health Standards*

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Appendix A
REGULATORY REQUIREMENTS FLOW DOWN

1. 10 CFR 851, *Worker Safety and Health Program*
2. OSHA 29 CFR 1910.1200, *Hazard Communication*
3. OSHA 29 CFR Subpart Z, *Occupational Safety and Health Standards*
4. OSHA29 CFR 1910.1003, *13 Carcinogens*

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CARCINOGEN CONTROL PLAN

INTRODUCTION					
Part I is to be completed by the Supervisor. Occupational Safety and Health (OS&H) will complete Part II and return a copy of the approved plan to the appropriate organization or individual. The approved Carcinogen Control Plan is to be available to all concerned employees, at all times, until completion of the project or use of the carcinogen. Employees are to be trained prior to involvement with the chemical/project. Assistance in preparing this Control Plan can be obtained from OS&H.					
PART I					
<i>To be completed by FLM</i>					
Check item or fill in appropriate blank, as needed. If more space is required for an answer, please indicate and complete the discussion on a separate sheet and attach.					
Supervisor:		Phone:		Building:	
Operation Project (optional):		Title:			
Job Building:		Job Room Number:			
Additional Description of Job Location <i>(if needed)</i> :					
Inventory of Carcinogens					
Carcinogen Used:					
Quantity of Substance Used:					
OSHA Chemical Specific Standard:					
Standard Number <i>(if applicable)</i> :					
Storage Location Building:		Storage Location Room No.			
Procurement of Carcinogens					
Date Chemical Ordered:		Expected Date of Arrival:			
Quantity:		Period of Use:		from	

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CARCINOGEN CONTROL PLAN

Mode of Potential Personnel Exposure			
Please check when the following sections of the Safety Plan have been presented to each employee as a part of training:			
<input type="checkbox"/> Employee has completed General Employee Training (GET). <input type="checkbox"/> Employee has completed chemical category (carcinogen) or chemical specific (carcinogen) training. <input type="checkbox"/> Personal Protective Equipment usage (such as gloves, respirator, face shield, suit, etc.) has been discussed. <input type="checkbox"/> Entry Restrictions discussed. <input type="checkbox"/> Cleanup and disposal requirements explained. <input type="checkbox"/> Use of Engineering Controls explained. <input type="checkbox"/> Emergency Procedures explained. <input type="checkbox"/> Applicable information in OSHA Chemical Specific Standard explained. (See attached)			
Personal Protective Equipment Available As Needed			
<input type="checkbox"/> Respirator, Full-Face <input type="checkbox"/> Respirator, Half-Face <input type="checkbox"/> Respirator, Air Supplied <input type="checkbox"/> Gloves <input type="checkbox"/> Combination Cartridges/Canister <input type="checkbox"/> HEPA Cartridges/Canister <input type="checkbox"/> Coveralls, Suits <input type="checkbox"/> Hoods <input type="checkbox"/> Face Shields <input type="checkbox"/> Other:			
Engineering Controls			
<input type="checkbox"/> Exhaust Hood <input type="checkbox"/> Vented System <input type="checkbox"/> HEPA Filtered Exhaust <input type="checkbox"/> Suitable Substitute Investigated <input type="checkbox"/> Other			
Entry Restrictions			
<input type="checkbox"/> Record maintained of all personnel working in regulated area. <input type="checkbox"/> Visitor registration (Logbook). <input type="checkbox"/> Regulated areas defined. <input type="checkbox"/> Appropriate carcinogen warning signs posted. <input type="checkbox"/> Off-shift access controlled. <input type="checkbox"/> None			
Personnel Authorized/Carcinogen Trained			
Name:		Badge Number:	
Name:		Badge Number:	
Name:		Badge Number:	
Name:		Badge Number:	
Additional Comments			

