

**Puerto Rico Electric Power Authority
Radiation Protection Program Plan
for the Boiling Nuclear Superheat Reactor Facility
Rincón, Puerto Rico**

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CONTENTS

| | |
|--|-----|
| ACRONYMS AND ABBREVIATIONS | ii |
| APPROVALS | iii |
| 1. GENERAL INFORMATION | 1 |
| 1.1 PURPOSE | 1 |
| 1.2 SCOPE | 1 |
| 1.3 AS LOW AS REASONABLY ACHIEVABLE | 2 |
| 1.3.1 ALARA Statement | 2 |
| 1.3.2 ALARA Policy | 2 |
| 1.3.3 Training | 2 |
| 1.3.4 Design | 3 |
| 1.3.5 Procedures | 3 |
| 1.3.6 Planning | 3 |
| 1.3.7 Internal Audits | 4 |
| 1.3.8 Records | 4 |
| 1.4 PROGRAM DESCRIPTION | 4 |
| 1.5 FACILITY DESCRIPTION | 4 |
| 1.6 INCLUDED AND EXCLUDED ACTIVITIES | 5 |
| 1.7 HAZARDS IDENTIFICATION | 6 |
| 2. RPP IMPLEMENTATION | 7 |
| 3. ACTIVITIES, MILESTONES, AND SCHEDULES | 7 |
| APPENDIX A: RADIATION PROTECTION REQUIREMENTS MATRIX FOR THE PUERTO RICO ELECTRIC POWER AUTHORITY BOILING NUCLEAR SUPERHEAT REACTOR FACILITY RADIATION PROTECTION PROGRAM | A-1 |

ACRONYMS AND ABBREVIATIONS

| | |
|-------|--|
| ALARA | as low as reasonably achievable |
| BONUS | Boiling Nuclear Superheat |
| CFR | <i>Code of Federal Regulations</i> |
| Co | cobalt |
| Cs | cesium |
| DOE | U.S. Department of Energy |
| mrem | millirem |
| Ni | nickel |
| PREPA | Puerto Rico Electric Power Authority |
| RPP | Radiation Protection Program |
| RPRM | Radiation Protection Requirements Matrix |
| SOP | standard operating procedure |
| Sr | strontium |

1.0 GENERAL INFORMATION

This Puerto Rico Electric Power Authority (PREPA) Boiling Nuclear Superheat (BONUS) Reactor Facility Radiation Protection Program (RPP) addresses all requirements of 10 *Code of Federal Regulations* (CFR) 835, "Occupational Radiation Protection." The Radiation Protection Requirements Matrix (RPRM) of the RPP specifies the applicability of each 10 CFR 835 requirement to BONUS Reactor Facility activities and is included as Appendix A of this document. The RPP RPRM documents whether a 10 CFR 835 requirement is applicable or nonapplicable and why.

1.1 PURPOSE

PREPA has an agreement with U.S. Department of Energy (DOE) to manage activities involving residual radiation and radioactive material at the BONUS Reactor Facility. The primary activity at the BONUS Reactor Facility is the establishment and operation of a museum with controlled access as necessary for the protection of museum visitors. The purpose of the PREPA BONUS Reactor Facility RPP is to comply with the requirements of 10 CFR 835 that are applicable to the activities at the facility. The RPP has been designed with the objective of minimizing exposure of employees, the public, and the environment to ionizing radiation to levels as low as reasonably achievable (ALARA). The RPP incorporates an ALARA policy that will ensure achievement of this objective.

The RPP is a management tool that enhances the PREPA ability to carry out tasks in a manner that will protect the environment, public, and employee health and safety. All PREPA personnel and contractors shall be required to follow the PREPA BONUS Reactor Facility RPP.

1.2 SCOPE

The RPP scope applies to BONUS Reactor Facility museum operations, facility maintenance activities, and routine radiological control functions, and activities involving potential occupational radiation exposures. The RPP scope does not include further decommissioning activities or intrusive activities that increase or have the potential to result in an increase in radiological exposure hazard conditions.

The PREPA BONUS Reactor Facility RPP will remain in effect for the duration of radiological activities, even when operations are not conducted. Certain activities are constant such as record maintenance, training needs, and program assessment. The PREPA BONUS Reactor Facility RPP is not turned off and on at will, but functions on a graded approach considering current activities and a minimum base.

1.3 AS LOW AS REASONABLY ACHIEVABLE

1.3.1 ALARA Statement

PREPA is firmly committed to having a radiological control program of the highest quality. This program applies to activities that manage radiation and radioactive materials that may result in radiation exposure to workers, the public, and the environment. The fundamental principle underlying the PREPA BONUS Reactor Facility RPP is the following statement from the *Radiation Protection Guidance to the Federal Agencies for Occupational Exposure* (1987): "There should not be any occupational exposure of workers to ionizing radiation without the expectation of an overall benefit from the activity causing the exposure."

1.3.2 ALARA Policy

PREPA policy is to conduct its radiological operations in a manner that promotes the health and safety of all its employees, contractors, and the public. In achieving this objective, PREPA shall minimize the radiation exposure to employees and the public and the release of radioactivity to the environment. Deliberate efforts will be taken to further reduce exposures and releases in accordance with a process to make any such exposures or releases ALARA. The PREPA radiological control program consistently reflects this policy.

It is the policy of PREPA to use its best efforts to perform all activities and services in a radiologically safe manner which protects employees, the public and environment, as well as meeting or exceeding the applicable requirements of 10 CFR 835. In addition, PREPA is committed to the philosophy of maintaining individual and collective exposure ALARA.

1.3.3 Training

Standards will be used to promote the technical competency of the PREPA workforce, as appropriate, through implementation of radiological training and development programs. An appropriate level of technical competence gained through education, experience, and job-related technical and professional training is a critical component for achieving PREPA radiological control policy goals. Qualification requirements commensurate with this objective are established for technical and professional radiological control program positions and are, at a minimum, consistent with applicable industry standards and promote professional development and excellence in radiological performance. Additionally all employees subject to occupational exposure receive general employee training for radiation safety.

1.3.4 Design

The PREPA BONUS Reactor Facility contains the decommissioned BONUS Reactor and associated systems. Decommissioning during 1968–1970 included removal of reactor fuel, flushing of system piping, and concrete entombment of the pressure vessel and internal components within the biological shield. No additional facility design changes are anticipated that would result in significant changes to radiological exposure potentials. Because of this, the incorporation of dose reduction, contamination reduction, and waste minimization features into the design of a new facility to maintain radiation exposures ALARA is not applicable to the scope of the PREPA BONUS Reactor Facility RPP.

1.3.5 Procedures

The implementation of dose reduction, contamination reduction, and waste minimization measures during the course of radiological work is managed through plans and procedures. These plans and procedures are designed such that radiological measurements, analyses, and worker monitoring results are accurate and appropriately made. The capability to accurately measure and analyze radioactive materials and workplace conditions, and to determine the potential for personnel radiation exposure is fundamental to the safe conduct of radiological operations and maintenance of ALARA exposures.

1.3.6 Planning

Radiological operations and activities are preplanned to allow for effective implementation of dose and contamination reduction and control measures. Operations and activities are performed in accordance with a graded approach to DOE conduct of operations requirements and shall include reasonable controls directed toward reducing exposure, preventing the spread of radiological contamination, and minimizing the generation of contaminated wastes and the release of effluents.

The incorporation of exposure reduction, contamination reduction, and waste minimization features into PREPA tasks are implemented in the earliest planning stages whenever applicable or feasible. Wherever possible, these features are directed toward controlling contamination at the source, eliminating airborne radioactivity, maintaining personnel exposure below regulatory limits, and using a process that seeks ALARA exposure levels and releases. Radiological control criteria shall reflect appropriate consensus recommendations of national and international standards-setting groups.

1.3.7 Internal Audits

The responsibility for compliance with PREPA BONUS Reactor Facility radiological protection requirements and for maintaining ALARA personnel radiation exposure starts at the employee level and broadens as it progresses through the line organization. PREPA managers are fully responsible for radiological performance within their projects and the field activities and sites assigned to them. Managers take necessary actions to ensure ALARA requirements are implemented and performance is monitored and corrected as necessary.

1.3.8 Records

Documentation produced as a result of the PREPA BONUS Reactor Facility RPP implementation, and associated radiological policies, plans, and procedures, support the team's continued commitment to maintain exposures ALARA and are maintained by the PREPA BONUS Reactor Facility. Implementation guidance will be provided by the ALARA and/or records management procedures.

1.4 PROGRAM DESCRIPTION

Following is the scope of operations of the PREPA BONUS Reactor Facility:

- establish, operate, and maintain the BONUS Reactor museum;
- maintain controlled access to specific areas at the BONUS Reactor Facility, as necessary, to protect the health and safety of museum visitors; and
- conduct radiological control and surveillance activities to ensure that the potential for exposure of workers and museum visitors to radiation and radioactive material is ALARA.

1.5 FACILITY DESCRIPTION

PREPA does not manage or operate any facilities with a radiological component other than the BONUS Reactor Facility. The proposed use of the BONUS Facility is a museum with certain non-Radiological Areas (Radiological Areas as defined in 10 CFR 835) available to the public. The BONUS Reactor Facility site includes the domed reactor building containing the reactor/reactor systems and outside support facilities. The BONUS Reactor Facility was decommissioned in 1970. The decommissioning consisted of three major steps: 1) removal of all special nuclear material (fuel rods) and certain highly activated components such as control rods and shims, 2) entombment of the reactor pressure vessel and associated internal components within the biological shield, and 3) decontamination of the contaminated systems external to the entombment boundary so that they may be left in place. Subsequent to the decommissioning, periodic surveys and removal of additional residual contaminated material has been performed to allow the facility to be accessed by the public.

The area outside the reactor building has no Controlled Areas (Controlled Areas as defined in 10 CFR 835) and represents negligible potential for measurable radiation or radioactive material exposure to the general public. The reactor building has three general levels: basement, reactor floor or main level, and mezzanine. There are no Radiation Areas or Airborne Radioactivity Areas (Radiation Area and Airborne Radioactivity Area as defined by 10 CFR 835) associated with any of the three levels of the reactor building, nor are there any radiation levels that would approach occupational or public dose limits of 10 CFR 835, require individual monitoring of exposures to external or internal radiation, or require air monitoring. Contamination Areas (Contamination Area as defined in 10 CFR 835) only exist in the basement level due to localized areas with elevated removable surface contamination levels, which will be off-limits to and physically isolated from museum visitors. Contamination Areas will only be accessed by PREPA personnel to perform periodic radiological surveys. Areas of the main level and mezzanine are considered Controlled Areas due to the presence of residual fixed surface contamination. Contamination in the public access areas on the main level have been mitigated to the point that these areas are not considered Controlled Areas requiring management of access to protect individuals from exposure to radiation and/or radioactive material. Access to the Controlled Areas on the main level is blocked by metal and Plexiglas walls and other physical barriers.

1.6 INCLUDED AND EXCLUDED ACTIVITIES

Activities with the potential to result in occupational exposure to ionizing radiation are authorized under the provisions of this RPP. The following list delineates activities that are within the scope of the RPP:

1. preparing and operating the BONUS Reactor Facility museum;
2. managing access to BONUS Reactor Facility areas for the purpose of protecting workers and visitors from exposure to radiation and/or radioactive material;
3. conducting routine radiation exposure, contamination, and air-sampling surveys;
4. routine housekeeping work;
5. routine maintenance of the facility [e.g., mechanical and electrical systems]; and
6. Minor radiological activities that are not specifically excluded below.

The following activities are not authorized and are excluded from the provisions of this RPP:

1. high radiation or very high radiation areas;
2. breaching piping, tanks, or reactor systems containing radioactive contamination;
3. intrusive work in contamination and fixed contamination areas (e.g., scabbling concrete);

4. work involving the design of new facilities affecting radiation exposure potentials;
5. planned special exposure work;
6. entry into radiological buffer areas and contamination areas by visitors and workers without the appropriate radiological worker training;
7. activities with the potential to cause a total effective dose equivalent in excess of 50 mrem/year for the embryo/fetus of declared pregnant females, minors, and members of the public;
8. initiation of any task involving the potential for exposure to radiation or radioactive material not within the scope of an approved RPP.

1.7 HAZARDS IDENTIFICATION

The radiological hazards at the BONUS Reactor Facility are relatively low. The potential radiation exposure hazards are from direct radiation and contamination levels associated with residual radioactivity, primarily ^{137}Cs , followed by lower levels of ^{63}Ni , and trace amounts of ^{60}Co and ^{90}Sr . Radiological surveys and assessment of existing hazards show that no worker or member of the public would be expected to receive a total effective dose equivalent in excess of 50 mrem/year within the scope of activities authorized by this RPP.

Primary radiological hazards characteristic of BONUS Reactor Facility activities involve potential external and internal exposure from residual radioactive surface contamination of floors, reactor systems, and equipment.

Potential pathways of concern include inhalation of suspended particulates and ingestion of particulates during work in contamination areas. Minimization of exposure through these pathways of concern is achieved by engineering and administrative controls, and use of personal protective equipment.

2.0 RPP IMPLEMENTATION

The baseline that establishes PREPA compliance with 10 CFR 835 is the PREPA BONUS Reactor Facility RPP, dated April 1998. Implementation of this RPP will be conducted by plans and procedures. When a plan provides detailed guidance on how to implement a requirement or perform a specific task, no implementing procedure is necessary. When a plan does not provide specific guidance, implementing standard operating procedures (SOPs) are proposed.

SOPs are generated to implement the PREPA BONUS Reactor Facility RPP in response to current task needs. The PREPA BONUS Reactor Facility assumes that DOE recognizes that SOPs are dynamic documents and must be revised, developed, and/or deleted as project needs dictate. SOPs are not intended to reflect future implementation requirements. The PREPA BONUS Reactor facility RPP and its implementing SOPs are subject to a document control program that provides reasonable assurance that commitments made by the PREPA BONUS Reactor Facility RPP and Implementation Plan are maintained in effect as long as the requirements on which they are based remain current and applicable.

3.0 ACTIVITIES, MILESTONES, AND SCHEDULES

Implementation of the PREPA BONUS Reactor Facility RPP is accomplished through plans and SOPs which exist or are being developed to meet current and anticipated future task needs. PREPA will achieve compliance with 10 CFR 835 before the start of any radiological work. Applying the continuous improvement philosophy to day-to-day tasks allows for identifying ways the PREPA BONUS Reactor Facility can enhance the ability to carry out work to protect the environment and public and employee health and safety.

PREPA commits to comply with applicable parts of Appendices A, C, D, and E that apply to the DOE activities performed within the scope of the Radiation Protection Program as printed in the December 4, 1998 version of 10 CFR 835.

PREPA BONUS Reactor Radiation Protection Program Matrix

| Requirement Number | Applicable | Document Evidence |
|--------------------|------------|--|
| 3(a) | Yes | SOP PBR-11.1, Section 6.7; and RCM, Article 114.3. |
| 3(b) | Yes | SOP PBR-11.1, Section 6.1. |
| 3(c) | No | |
| 3(d) | Yes | SOP PBR-11.1, Article 6.7; and RCM, Section 114.2. |
| 3(e) | Yes | SOP PBR-11.1, Section 6.7. |
| 4 | Yes | SOP PBR-11.7, Section 6.0; and RCM, Article 712.1. |
| 101(a) | Yes | SOP PBR-11.1, Section 6.1. |
| 101(b) | Yes | SOP PBR-11.1, Section 6.1. |
| 101(c).01 | Yes | SOP PBR-11.1, Section 6.2(a). |
| 101(c).02 | Yes | SOP PBR-11.1, Section 6.2(b). |
| 101(d).01 | Yes | SOP PBR-11.1, Section 5.0. |
| 101(d).02 | Yes | SOP PBR-11.1, Section 6.3. |
| 101(e) | Yes | SOP PBR-11.1, Section 6.2(c). |
| 101(f).01 | Yes | SOP PBR-11.1, Section 6.1. |
| 101(g) | No | |
| 101(g)(1) | Yes | SOP PBR-11.1, Section 6.4(a). |
| 101(g)(2) | Yes | SOP PBR-11.1, Section 6.4(b). |
| 101(g)(3) | Yes | SOP PBR-11.1, Section 6.4(c). |
| 101(h).01 | Yes | SOP PBR-11.1, Section 6.3. |
| 101(h).02 | Yes | SOP PBR-11.1, Section 6.3. |
| 101(I) | Yes | SOP PBR-11.1, Section 6.5. |
| 102.01 | Yes | SOP PBR-11.1, Section 6.6. |
| 103 | Yes | RCM, Chapter 6 |
| 104 | Yes | PREPA SOPs |
| 202(a)(1) | Yes | PREPA Sampling and Analysis Plan |
| 202(a)(2) | Yes | PREPA Sampling and Analysis Plan |
| 202(a)(3) | Yes | PREPA Sampling and Analysis Plan |

PREPA BONUS Reactor Radiation Protection Program Matrix

| Requirement Number | Applicable | Document Evidence |
|--------------------|------------|----------------------------------|
| 202(a)(4) | Yes | PREPA Sampling and Analysis Plan |
| 202(b) | No | |
| 202(c) | No | |
| 203(a) | No | |
| 203(b) | No | |
| 204(a)(1) | No | |
| 204(a)(2) | No | |
| 204(a)(3) | No | |
| 204(b) | No | |
| 204(c)(1) | No | |
| 204(c)(2) | No | |
| 204(d) | No | |
| 204(d)(1) | No | |
| 204(d)(2) | No | |
| 204(d)(3) | No | |
| 204(e) | No | |
| 204(f) | No | |
| 205(a) | No | |
| 205(b)(1) | No | |
| 205(b)(2) | No | |
| 205(b)(3) | No | |
| 206(a) | Yes | PREPA Sampling and Analysis Plan |
| 206(b) | Yes | PREPA Sampling and Analysis Plan |
| 206(c) | No | |
| 207 | Yes | PREPA Sampling and Analysis Plan |
| 208 | Yes | PREPA Sampling and Analysis Plan |
| 209(a) | Yes | PREPA Sampling and Analysis Plan |

PREPA BONUS Reactor Radiation Protection Program Matrix

| Requirement Number | Applicable | Document Evidence |
|--------------------|------------|--|
| 209(b) | Yes | PREPA Sampling and Analysis Plan |
| 401(a)(1) | Yes | SOP PBR-11.4.1, Section 1; SOP PBR-11.4.2, Section 1, SOP PBR-11.4.3, Section 1; and RCM, Articles 514.1, 521.1 and 551.1. |
| 401(a)(2) | Yes | SOP PRB-11.4.1, Section 1; SOP 11.4.2, Section 1; and RCM, Articles 514.1, 551.1 and 711. |
| 401(a)(3) | Yes | SOP PBR-11.4.1, Section 1; 11.4.2, Section 1; and RCM, Articles 514.3, 551.7 and 551.8 |
| 401(a)(4) | Yes | SOP PBR-11.4.1, Section 1; and 11.4.2, Section 1. |
| 401(a)(5) | Yes | SOP PBR-11.4.1, Section 1; and SOP PBR-11.4.2, Section 1; SOP PBR-11.4.3, Section 1; and RCM, Article 551.1. |
| 401(a)(6) | Yes | SOP PBR-11.4.1; SOP PBR-11.4.2; and RCM, Articles 514.1, 514.3, 551.1 and 552.2. |
| 401(b)(1) | Yes | SOP PBR-11.3, Section 6.1.6 and RCM, Articles 555.5 and 562.3. |
| 401(b)(2) | Yes | SOP PBR-11.3, Section 5.1; and RCM, Article 562.1. |
| 401(b)(3) | Yes | SOP PBR-11.3, Section 6.1.8; and RCM, Article 562.4. |
| 401(b)(4) | Yes | SOP PBR-11.3, Section 6.1.3; and RCM, Article 551.2 and 551.5. |
| 402(a)(1)(I) | No | |
| 402(a)(1)(ii) | No | |
| 402(a)(1)(iii) | No | |
| 402(a)(2) | No | |
| 402(a)(3) | No | |
| 402(a)(4) | No | |
| 402(a)(5) | No | |
| 402(b)(1) | No | |
| 402(b)(2) | No | |
| 402(c)(1) | No | |
| 402(c)(2) | No | |
| 402(c)(3) | No | |

PREPA BONUS Reactor Radiation Protection Program Matrix

| Requirement Number | Applicable | Document Evidence |
|--------------------|------------|--|
| 402(c)(4) | No | |
| 402(d) | No | |
| 403(a)(1).01 | No | |
| 403(a)(1).02 | No | |
| 403(b) | No | |
| 405(a) | No | |
| 405(a)(1) | No | |
| 405(a)(2) | No | |
| 405(b) | No | |
| 405(b)(1) | No | |
| 405(b)(2) | No | |
| 405(b)(3) | No | |
| 405(c)(1) | No | |
| 405(c)(2) | No | |
| 405(d) | No | |
| 501(a) | Yes | SOP PBR-11.1.4, Section 6. |
| 501(b) | Yes | SOP PBR-11.1.4, Section 6. |
| 501(c) | Yes | SOP PBR-11.1.4, Section 6.2. |
| 501(d) | Yes | SOP PBR-11.1.2. |
| 501(e) | Yes | SOP PBR-11.1.4, Section 6.2.4. |
| 502(a)(1) | No | |
| 502(a)(2) | No | |
| 502(b) | No | |
| 502(c) | No | |
| 502(d) | No | |
| 601(a) | Yes | RCM, Article 412.1. |
| 601(b) | Yes | RCM, Article 412.3; and SOP PBR-11.1.4, Section 6.2. |

PREPA BONUS Reactor Radiation Protection Program Matrix

| Requirement Number | Applicable | Document Evidence |
|--------------------|------------|---|
| 601(c) | No | |
| 602(a) | Yes | SOP PBR-11.1.4, Section 6.3. |
| 602(b) | Yes | SOP PBR-11.1.4, Section 6.2.3. |
| 603 | Yes | SOP PBR-11.1.4, Sections 6.2.3, 6.5.1 and 6.6.1. |
| 603(a) | No | |
| 603(b) | No | |
| 603(c) | No | |
| 603(d) | No | |
| 603(e) | Yes | SOP PBR-11.1.4, Section 6.6.1 and Attachments I and IV. |
| 603(f) | No | |
| 603(g) | Yes | SOP PBR-11.1.4, Section 6.8. |
| 604(a) | Yes | SOP PBR-11.1.4, Section 6.3. |
| 604(b)(1) | Yes | SOP PBR-11.1.4, Section 6.8. |
| 604(b)(2) | Yes | SOP PBR-11.1.4, Section 6.8 |
| 604(b)(3) | No | |
| 604(c) | No | |
| 605 | Yes | RCM Article 412; and SOP PBR-11.1.4, Section 6.8 |
| 606(a)(1) | Yes | RCM Article 412 |
| 606(a)(2) | Yes | RCM Article 412. |
| 606(a)(3) | Yes | RCM Article 412. |
| 606(a)(4) | Yes | RCM Article 412. |
| 606(a)(5) | Yes | RCM Article 412. |
| 606(a)(6) | No | |
| 606(b) | Yes | RCM Article 412. |
| 701(a) | Yes | RCM, Article 711; and SOP PBR-11.7, Section 1. |
| 701(b) | Yes | SOP PBR-11.7, Section 7. |
| 702(a) | No | |

PREPA BONUS Reactor Radiation Protection Program Matrix

| Requirement Number | Applicable | Document Evidence |
|--------------------|------------|---|
| 702(b) | No | |
| 702(c)(1) | Yes | RCM Articles 751 and 752 |
| 702(c)(2) | Yes | RCM Articles 751 and 752 |
| 702(c)(3)(I) | No | |
| 702(c)(3)(ii) | No | |
| 702(c)(3)iii) | No | |
| 702(c)(3)(iv) | No | |
| 702(c)(4)(I) | No | |
| 702(c)(4)(ii) | No | |
| 702(c)(4)(iii) | No | |
| 702(c)(5)(I) | No | |
| 702(c)(5)(ii) | No | |
| 702(c)(5)(iii) | No | |
| 702(c)(6) | No | |
| 702(d) | No | |
| 702(e) | No | |
| 702(f) | No | |
| 702(g) | No | |
| 702(h) | No | |
| 703(a) | Yes | SOP PBR-11.4.1, Section 7; and SOP PBR-11.4.2, Section 7.; and SOP PBR-11.4.3, Section 7. |
| 703(b) | No | |
| 703(c) | Yes | SOP PBR-11.4.1, Section 7. |
| 703(d) | Yes | SOP PBR-11.3, Section 7. |
| 704(a) | Yes | SOP PBR-11.7, Sections 6.3.1 and 6.3.2. |
| 704(b) | Yes | SOP PBR-11.1.1; and SOP PBR-11.7, Section 6.5. |
| 704(c) | Yes | SOP PBR-11.7, Section 6.5. |

PREPA BONUS Reactor Radiation Protection Program Matrix

| Requirement Number | Applicable | Document Evidence |
|--------------------|------------|--|
| 704(d) | Yes | SOP PBR-11.7, Section 6.5.17. |
| 704(e) | Yes | SOP PBR-11.7, Section 6.5.15. |
| 704(f) | Yes | SOP PBR-11.5 |
| 801(a) | No | |
| 801(b).01 | Yes | RCM, Article 781.2. |
| 801(b).02 | Yes | RCM, Article 781.2. |
| 801(c) | No | |
| 801(d) | Yes | RCM, Article 712.4. |
| 801(e).01 | Yes | RCM, Article 781.4. |
| 801(e).02 | Yes | RCM, Article 781.4. |
| 901(a)(1) | Yes | RCM, Article 621. |
| 901(a)(2) | Yes | RCM, Article 621. |
| 901(b)(1) | Yes | RCM, Article 621. |
| 901(b)(2) | Yes | RCM, Article 621. |
| 901(c)(1) | Yes | RCM, Article 632. |
| 901(c)(2) | Yes | RCM, Article 632. |
| 901(c)(3) | Yes | RCM, Article 632. |
| 901(c)(4) | Yes | RCM, Article 632. |
| 901(c)(5) | Yes | RCM, Article 632. |
| 901(c)(6) | Yes | RCM, Article 632. |
| 901(d)(1) | Yes | RCM, Article 632. |
| 901(d)(2) | Yes | RCM, Article 632. |
| 901(e) | Yes | RCM, Article 632. |
| 1001(a).01 | Yes | RCM, Articles 311 and 316; and SOP PBR-11.1.1. |
| 1001(a).02 | Yes | RCM, Articles 311 and 316; and SOP PBR-11.1.1. |
| 1001(a).03 | Yes | RCM, Articles 311 and 316; and SOP PBR-11.1.1. |
| 1001(b) | Yes | RCM, Article 311; and SOP PBR-11.1.1. |

PREPA BONUS Reactor Radiation Protection Program Matrix

| Requirement Number | Applicable | Document Evidence |
|--------------------|------------|---|
| 1002(a) | Yes | RCM, Article 128.1.a. |
| 1002(b).01 | Yes | RCM, Article 128.1.a. |
| 1002(b).02 | Yes | RCM, Article 128.1.a. |
| 1002(b).03 | Yes | RCM, Article 128.1. |
| 1002(c).01 | Yes | RCM, Article 316.1. |
| 1002(c).02 | Yes | RCM, Article 316.1. |
| 1002(d) | Yes | RCM, Articles 128.1.d and 311. |
| 1003(a) | Yes | RCM, Article 211.2; SOP PBR-11.1.1. |
| 1003(b) | Yes | 1.RCM, Article 111; and SOP PBR-11.1.1. |
| 1101(a)(1) | Yes | SOP PBR-11.4.1, Sections 5.3 and 5.4. |
| 1101(a)(2) | Yes | SOP PBR-11.4.1, Sections 5.3 and 5.4. |
| 1101(b) | Yes | SOP PBR-11.4.1, Sections 5.3. |
| 1101(c)(1) | Yes | SOP PBR-11.4.1, Sections 5.3. |
| 1101(c)(2) | Yes | SOP PBR-11.4.1, Sections 5.3. |
| 1102(a) | Yes | SOP PBR-11.3, Section 6.1; and SOP PBR-11.4.1, Section 5.1. |
| 1102(b) | Yes | RCM, Article 337. |
| 1102(c)(1) | Yes | SOP PBR-11.1.4, Section 6.7; and RCM, Article 222. |
| 1102(c)(2) | Yes | |
| 1102(d) | Yes | SOP PBR-11.1.4, Section 11.2. |
| 1102(e) | Yes | RCM, Article 325.1.b; and SOP PBR-11.1.4, Section 6.10. |
| 1201 | Yes | SOP PBR-11.5 |
| 1202(a)(1) | No | |
| 1202(a)(2) | No | |
| 1202(a)(3) | No | |
| 1202(b) | No | |
| 1202(c) | No | |
| 1202(d) | No | |

PREPA BONUS Reactor Radiation Protection Program Matrix

| Requirement Number | Applicable | Document Evidence |
|--------------------|------------|-------------------|
| 1202(e) | No | |
| 1301(a)(1) | No | |
| 1301(a)(2) | No | |
| 1301(a)(3) | No | |
| 1301(b) | No | |
| 1301(c) | No | |
| 1301(d) | No | |
| 1302(a) | No | |
| 1302(b) | No | |
| 1302(c) | No | |
| 1302(d) | No | |
| 1304(a) | No | |
| 1304(b)(1) | No | |
| 1304(b)(2) | No | |
| 1304(b)(3) | No | |
| 1304(b)(4) | No | |

PREPA commits to comply with applicable parts of Appendices A, C, D, and E that apply to the DOE activities performed within the scope of the Radiation Protection Program as printed in the December 4, 1998 version of 10 CFR 835.

**PREPA BONUS Reactor Radiation
Protection Program Commitments
(Reference 10 CFR 835)**

| Requirement Statement | Description of Compliance Status |
|--|--|
| Section #: 3(a) No person or DOE personnel SHALL take or cause to be taken any action inconsistent with the requirements of: (1)This part; or (2)Any program, plan, schedule, or other process established by this part. | Applicable: Yes No PREPA personnel will take or cause to be taken any action inconsistent with the requirements of 10 Code of Federal Regulations (CFR) 835 or any program, plan, schedule, or other process established by 10 CFR 835. |
| Section #: 3(b) With respect to a particular DOE activity, contractor management SHALL be responsible for compliance with the requirements of this part. | Applicable: Yes With respect to a particular DOE activity, PREPA management will be responsible for compliance with the requirements of 10 CFR 835. |
| Section #: 3(c) Where there is no contractor for a DOE activity, DOE SHALL ensure implementation and compliance with the requirements of this part. | Applicable: No 10 CFR 835.3(c) applies to DOE and is not applicable to the PREPA BONUS Reactor RPP. |
| Section #: 3(d) Nothing in this part SHALL be construed as limiting actions that may be necessary to protect health and safety. | Applicable: Yes Nothing in 10 CFR 835 will be construed as limiting actions that may be necessary to protect health and safety. |
| Section #: 3(e) For those activities that are required by §§ 835.102; 835.901(e), 835.1202(a), and 835.1202(b), the time interval to conduct these activities may be extended by a period not to exceed 30 days to accommodate scheduling needs. | Applicable: Yes For those activities that are required by §§ 835.102; 835.901(e), 835.1202(a), and 835.1202(b), the time interval to conduct these activities may be extended by a period not to exceed 30 days to accommodate scheduling needs. |

Section #: 4**Applicable: Yes**

Unless otherwise specified, the quantities used in the records required by this part shall be clearly indicated in special units of curie, rad, roentgen, or rem, including multiples and subdivisions of these units. The SI units, becquerel (Bq), gray (Gy), and sievert (Sv), are only provided parenthetically in this part for reference with scientific standards.

The quantities used in the records required by 10 CFR 835 will be clearly indicated in special units of curie, rad or rem, including multiples and subdivisions of these units.

Section #: 101(a)**Applicable: Yes**

A DOE activity SHALL be conducted in compliance with a documented radiation protection program (RPP) as approved by the DOE.

All DOE activities will be conducted in compliance with the PREPA BONUS Reactor RPP as approved by DOE.

Section #: 101(b)**Applicable: Yes**

The DOE MAY direct or make modifications to a RPP.

The DOE MAY direct or make modifications to the PREPA Bonus Reactor RPP.

Section #: 101(c).01**Applicable: Yes**

The content of each RPP SHALL be commensurate with the nature of the activities performed and shall include formal plans and measures for applying the as low as reasonably achievable (ALARA) process to occupational exposure.

Sections 1.3.1 and 1.3.2 of the PREPA BONUS Reactor RPP is commensurate with the nature of the activities performed and will include formal plans and measures for applying the as low as reasonably achievable (ALARA) process to occupational exposure.

Section #: 101(c).02**Applicable: Yes**

The content of each RPP shall be commensurate with the nature of the activities performed and SHALL include formal plans and measures for applying the as low as reasonably achievable (ALARA) process to occupational exposure.

Sections 1.3.1 and 1.3.2 of the PREPA BONUS Reactor RPP is commensurate with the nature of the activities performed and will include formal plans and measures for applying the as low as reasonably achievable (ALARA) process to occupational exposure.

| | |
|--|---|
| <p>Section #: 101(d).01</p> <p>Applicable: Yes</p> <p>The RPP SHALL specify the existing and/or anticipated operational tasks that are intended to be within the scope of the RPP.</p> | <p>Sections 1.2 and 1.6 of the PREPA BONUS Reactor RPP specifies the existing and/or anticipated operational tasks that are intended to be within the scope of the PREPA BONUS Reactor RPP.</p> |
| <p>Section #: 101(d).02</p> <p>Applicable: Yes</p> <p>Except as provided in §835.101(I), any task outside the scope of a RPP SHALL not be initiated until an update of the RPP is approved by DOE.</p> | <p>Except as provided in 10 CFR 835.101(I), any task outside the scope of the PREPA BONUS Reactor RPP will not be initiated until an update of the RPP is approved by DOE.</p> |
| <p>Section #: 101(e)</p> <p>Applicable: Yes</p> <p>The content of the RPP SHALL address, but SHALL not necessarily be limited to, each requirement in this part.</p> | <p>The content of the PREPA BONUS Reactor RPP will address, but will not necessarily be limited to, each requirement in 10 CFR 835.</p> |
| <p>Section #: 101(f).01</p> <p>Applicable: Yes</p> <p>The RPP shall include plans, schedules, and other measures for achieving compliance with regulations of this part. Unless otherwise specified in this part, compliance with amendments to this part shall be achieved no later than 180 days following approval of the revised RPP by DOE. Compliance with the requirements of § 835.402(d) for radiobioassay program accreditation shall be achieved no later than January 1, 2002.</p> | <p>The PREPA BONUS Reactor RPP will include plans, schedules and other measures for achieving compliance with regulations of 10 CFR 835 within 180 days of DOE approval.</p> |
| <p>Section #: 101(g)</p> <p>Applicable: No</p> <p>The RPP for an existing activity SHALL be submitted to DOE no later than January 1, 1995.</p> | <p>PREPA will submit the PREPA BONUS Reactor RPP to DOE before any radiological operations occur.</p> |
| <p>Section #: 101(g)(1)</p> <p>Applicable: Yes</p> <p>An update of the RPP SHALL be submitted to DOE: Whenever a change or an addition to the RPP is made.</p> | <p>An update of the PREPA BONUS Reactor RPP will be submitted to DOE whenever a change or an addition to the PREPA BONUS Reactor RPP is made.</p> |

Section #: 101(g)(2)**Applicable:** Yes

An update of the RPP SHALL be submitted to DOE: Prior to the initiation of a task not within the scope of the RPP; or

An update of the PREPA BONUS Reactor RPP will be submitted to DOE prior to the initiation of a task not within the scope of the PREPA BONUS Reactor RPP.

Section #: 101(g)(3)**Applicable:** Yes

An update of the RPP SHALL be submitted to DOE: Within 180 days of the effective date of any modification to this part.

An update of the PREPA BONUS Reactor RPP will be submitted to DOE within 180 days of the effective date of any modification to 10 CFR 835.

Section #: 101(h).01**Applicable:** Yes

Changes, additions, or updates to the RPP MAY become effective without prior Department approval only if the changes do not decrease the effectiveness of the RPP and the RPP, as changed, continues to meet the requirements of this part.

PREPA will consider changes, additions, or updates to the PREPA BONUS Reactor RPP effective without prior Department approval only if the changes do not decrease the effectiveness of the RPP and the RPP, as changed, continues to meet the requirements of 10 CFR 835.

Section #: 101(h).02**Applicable:** Yes

Proposed changes that decrease the effectiveness of the RPP SHALL not be implemented without submittal to and approval by the Department.

Proposed changes that decrease the effectiveness of the PREPA BONUS Reactor RPP will not be implemented without submittal to and approval by the Department.

Section #: 101(I)**Applicable:** Yes

An initial RPP or an update SHALL be considered approved 180 days after its submission unless rejected by DOE at an earlier date.

The PREPA BONUS Reactor RPP or an update will be considered approved 180 days after its submission unless rejected by DOE at an earlier date.

Section #: 102.01

Applicable: Yes

Internal audits.

Internal audits of the radiation protection program, including examination of program content and implementation, shall be conducted through a process that ensures that all functional elements are reviewed no less frequently than every 36 months.

Internal audits of the radiation protection program, including examination of program content and implementation, will be conducted through a process that ensures that all functional elements are reviewed no less frequently than every 36 months.

Section #: 103

Education, Training and Skills.

Applicable: Yes

Individuals responsible for developing and implementing measures necessary for ensuring compliance with the requirements of this part shall have the appropriate education, training, and skills to discharge these responsibilities.

Individuals responsible for developing and implementing measures necessary for ensuring compliance with the requirements of this part will have the appropriate education, training, and skills to discharge these responsibilities.

Section #: 104

Written Procedures.

Applicable: Yes

Written procedures shall be developed and implemented as necessary to ensure compliance with this part, commensurate with the radiological hazards created by the activity and consistent with the education, training, and skills of the individuals exposed to those hazards.

Written procedures, including standard operating procedures and radiation work permits, will be developed and implemented as necessary to ensure compliance with this part, commensurate with the radiological hazards created by the activity and consistent with the education, training, and skills of the individuals exposed to those hazards.

Section #: 202(a)(1)

Applicable: Yes

Except for planned special exposures conducted consistent with § 835.204 and emergency exposures authorized in accordance with § 835.1302, the occupational dose received by general employees shall be controlled such that the following limits are not exceeded in a year:

A total effective dose equivalent of 5 rems (0.05 sievert).

While this part is applicable, there are no “radiation areas” associated with the BONUS Reactor. The most recent data generated by a DOE contractor (February 1998) indicates that the highest exposure rate at the BONUS Reactor is 50 $\mu\text{rem/hr}$ at waist level at an isolated spot. Measured exposure rates, nature of contamination, and conceivable exposure scenarios will not result in a dose that approaches this limit. Periodic surveys will be performed to ensure that exposure rates have not significantly increased.

Section #: 202(a)(2)

Applicable: Yes

Except for planned special exposures conducted consistent with § 835.204 and emergency exposures authorized in accordance with § 835.1302, the occupational dose received by general employees shall be controlled such that the following limits are not exceeded in a year:

The sum of the deep dose equivalent for external exposures and the committed dose equivalent to any organ or tissue other than the lens of the eye of 50 rems (0.5 sievert).

While this part is applicable, there are no “radiation areas” associated with the BONUS Reactor. The most recent data generated by a DOE contractor (February 1998) indicates that the highest exposure rate at the BONUS Reactor is 50 $\mu\text{rem/hr}$ at waist level at an isolated spot. Measured exposure rates, nature of contamination, and conceivable exposure scenarios will not result in a dose that approaches this limit. Periodic surveys will be performed to ensure that exposure rates have not significantly increased.

Section #: 202(a)(3)

Applicable: Yes

Except for planned special exposures conducted consistent with § 835.204 and emergency exposures authorized in accordance with § 835.1302, the occupational dose received by general employees shall be controlled such that the following limits are not exceeded in a year:

A lens of the eye dose equivalent of 15 rems (0.15 sievert).

While this part is applicable, there are no “radiation areas” associated with the BONUS Reactor. The most recent data generated by a DOE contractor (February 1998) indicates that the highest exposure rate at the BONUS Reactor is 50 $\mu\text{rem/hr}$ at waist level at an isolated spot. Measured exposure rates, nature of contamination, and conceivable exposure scenarios will not result in a dose that approaches this limit. Periodic surveys will be performed to ensure that exposure rates have not significantly increased.

Section #: 202(a)(4)

Applicable: Yes

Except for planned special exposures conducted consistent with § 835.204 and emergency exposures authorized in accordance with § 835.1302, the occupational dose received by general employees shall be controlled such that the following limits are not exceeded in a year:

A shallow dose equivalent of 50 rems (0.5 sievert) to the skin or to any extremity.

While this part is applicable, there are no “radiation areas” associated with the BONUS Reactor. The most recent data generated by a DOE contractor (February 1998) indicates that the highest exposure rate at the BONUS Reactor is 50 μ rem/hr at waist level at an isolated spot. Measured exposure rates, nature of contamination, and conceivable exposure scenarios will not result in a dose that approaches this limit. Periodic surveys will be performed to ensure that exposure rates have not significantly increased.

Section #: 202(b)

Applicable: No

All occupational doses received during the current year, except doses resulting from planned special exposures conducted in compliance with § 835.204 and emergency exposures authorized in accordance with § 835.1302, shall be included when demonstrating compliance with §§ 835-202(a) and 835-207.

§§835-202(a) and 835-207 are not applicable to this program

Section #: 202(c)

Applicable: No

Doses from background, therapeutic and diagnostic medical radiation, and participation as a subject in medical research programs shall not be included in dose records or in the assessment of compliance with the occupational dose limits.

Dose records and assessment of compliance with occupational dose limits will not be required for this program.

Section #: 203(a)

Applicable: No

The total effective dose equivalent during a year shall be determined by summing the effective dose equivalent exposures and the committed effective dose equivalent from intakes during the year.

Dose equivalent values will not be calculated for this program due to the low exposure rates associated with the BONUS Reactor facility.

Section #: 203(b)

Applicable: No

Determinations of the effective dose equivalent SHALL be made using the weighting factor values provided in §835.2.

Dose equivalent values will not be calculated for this program due to the low exposure rates associated with the BONUS Reactor facility.

Section #: 204(a)(1)

Applicable: No

A planned special exposure MAY be authorized for a radiological worker to receive doses in addition to and accounted for separately from the doses received under the limits specified in §835.202(a), provided that each of the following conditions is satisfied:

PREPA will not have planned special exposure that could exceed limits specified in §835.202(a).

The planned special exposure is considered only in an exceptional situation when alternatives that might prevent a radiological worker from exceeding the limits in §835.202(a) are available or impractical;

Section #: 204(a)(2)

Applicable: No

A planned special exposure MAY be authorized for a radiological worker to receive doses in addition to and accounted for separately from the doses received under the limits specified in §835.202(a), provided that each of the following conditions is satisfied: The contractor management (and employer, if the employer is not the contractor) specifically requests the planned special exposure, in writing; and

PREPA will not have planned special exposure that could exceed limits specified in §835.202(a).

Section #: 204(a)(3)

Applicable: No

A planned special exposure MAY be authorized for a radiological worker to receive doses in addition to and accounted for separately from the doses received under the limits specified in §835.202(a), provided that each of the following conditions is satisfied:

PREPA will not have planned special exposure that could exceed limits specified in §835.202(a).

Joint written approval is received from the appropriate DOE Headquarters program office and the Secretarial Officer responsible for environment, safety and health matters.

Section #: 204(b)

Applicable: No

Prior to requesting an individual to participate in an authorized planned special exposure, the individual's dose from all previous planned special exposures and all doses in excess of the occupational dose limits SHALL be determined.

PREPA will not have planned special exposure that could exceed limits specified in §835.202(a).

Section #: 204(c)(1)

Applicable: No

An individual SHALL not receive a planned special exposure that, in addition to the doses determined in §835.204(b), would result in a dose exceeding the following:

PREPA will not have planned special exposure that could exceed limits specified in §835.202(a).

In a year, the numerical values of the dose limits established at §835.202(a); and

Section #: 204(c)(2)

Applicable: No

An individual SHALL not receive a planned special exposure that, in addition to the doses determined in §835.204(b) would result in a dose exceeding the following:

PREPA will not have planned special exposure that could exceed limits specified in §835.202(a).

Over the individual's lifetime, five times the numerical values of the dose limits established at §835.202(a).

Section #: 204(d)

Applicable: No

Prior to a planned special exposure, written consent SHALL be obtained from each individual involved.

PREPA will not have planned special exposure that could exceed limits specified in §835.202(a).

Section #: 204(d)(1)

Applicable: No

Prior to a planned special exposure, written consent shall be obtained from each individual involved. Each individual SHALL be: The purpose of the planned operations and procedures to be used;

PREPA will not have planned special exposure that could exceed limits specified in §835.202(a).

Section #: 204(d)(2)

Applicable: No

Prior to a planned special exposure, written consent shall be obtained from each individual involved. Each individual SHALL be: The estimated doses and associated potential risks and specific radiological conditions and other hazards which might be involved in performing the task; and

PREPA will not have planned special exposure that could exceed limits specified in §835.202(a).

Section #: 204(d)(3)

Applicable: No

Prior to a planned special exposure, written consent shall be obtained from each individual involved. Each individual SHALL be: Instructions on the measures to be taken to keep the dose ALARA considering other risks that may be present.

PREPA will not have planned special exposure that could exceed limits specified in §835.202(a).

Section #: 204(e)

Applicable: No

Records of the conduct of a planned special exposure SHALL be maintained and a written report submitted within 30 days after the planned special exposure to the approving organizations identified in §835.204(a)(3).

PREPA will not have planned special exposure that could exceed limits specified in §835.202(a).

Section #: 204(f)

Applicable: No

The dose from planned special exposures is not to be considered in controlling future occupational dose of the individual under §835.202(a), but IS TO BE INCLUDED in records and reports required under this part.

PREPA will not have planned special exposure that could exceed limits specified in §835.202(a).

Section #: 205(a)

Applicable: No

Non-uniform exposures of the skin from X-rays, beta radiation, and/or radioactive material on the skin ARE TO BE assessed as specified in this section.

Demonstrating compliance with §835.202(a)(4) will not be required for this program as previously discussed.

Section #: 205(b)(1)**Applicable: No**

For purposes of demonstrating compliance with §835.202(a)(4), assessments SHALL be conducted as follows: Area of skin irradiated is 100 cm² or more. The non-uniform dose equivalent received during the year SHALL be averaged over the 100 cm² of the skin receiving the maximum dose, added to any uniform dose equivalent also received by the skin, and recorded as the shallow dose equivalent to any extremity or skin for the year.

Demonstrating compliance with §835.202(a)(4) will not be required for this program as previously discussed.

Section #: 205(b)(2)**Applicable: No**

For purposes of demonstrating compliance with §835.202(a)(4), assessments SHALL be conducted as follows: Area of skin irradiated is 10 cm² or more, but less than 100 cm². The non-uniform dose equivalent (H) to the irradiated area received during the year SHALL be added to any uniform dose equivalent also received by the skin and recorded as the shallow dose equivalent to any extremity or skin for the year. H is the dose equivalent averaged over the 1 cm² of skin receiving the maximum absorbed dose, D, reduced by the fraction f, which is the irradiated area in cm² divided by 100 cm² (i.e., $H = fD$). In no case SHALL a value of f less than 0.1 be used.

Demonstrating compliance with §835.202(a)(4) will not be required for this program as previously discussed.

Section #: 205(b)(3)**Applicable: No**

For purposes of demonstrating compliance with §835.202(a)(4), assessments SHALL be conducted as follows: Area of skin irradiated is less than 10 cm². The non-uniform dose equivalent SHALL be averaged over the 1 cm² of skin receiving the maximum dose. This dose equivalent SHALL: (i) Be recorded in the individual's occupational exposure history as a special entry; and (ii) Not be added to any other shallow dose equivalent to any extremity or skin recorded as the dose equivalent for the year.

Demonstrating compliance with §835.202(a)(4) will not be required for this program as previously discussed.

Section #: 206(a)**Applicable: Yes**

The dose equivalent limit for the embryo/fetus from the period of conception to birth, as a result of occupational exposure of a declared pregnant worker, IS 0.5 rem (0.005 sievert).

While this part is applicable, there is no conceivable exposure scenario that would result in an occupational exposure to a pregnant worker of 0.5 rem.

Section #: 206(b)**Applicable: Yes**

Substantial variation above a uniform exposure rate that would satisfy the limits provided in §835.206(a) SHALL be avoided.

While this part is applicable, there is no conceivable exposure scenario that would result in an occupational exposure to a pregnant worker of 0.5 rem.

Section #: 206(c)**Applicable: No**

If the dose equivalent to the embryo/fetus is determined to have already exceeded 0.5 rem (0.005 sievert) by the time a worker declares her pregnancy, the declared pregnant worker SHALL not be assigned to tasks where additional occupational exposure is likely during the remaining gestation period.

There is no conceivable exposure scenario that would result in an occupational exposure to a pregnant worker of 0.5 rem.

Section #: 207**Applicable: Yes**

Occupational dose limits for minors.

The dose equivalent limits for minors occupationally exposed to radiation and/or radioactive materials at a DOE activity are 0.1 rem (0.001 sievert) total effective dose equivalent in a year and 10% of the occupational dose limits specified at §835.202(a)(3) and (a)(4).

While this part is applicable, minors will not be employed at the BONUS Reactor facility.

Section #: 208**Applicable: Yes**

The total effective dose equivalent limit for members of the public exposed to radiation and/or radioactive material during access to a controlled area is 0.1 rem (0.001 sievert) in a year.

While this part is applicable, there is no conceivable scenario that would approach a total effective dose equivalent of 0.1 rem to any member of the public.

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| <p>Section #: 209(a)</p> <p>The derived air concentration (DAC) values given in appendices A and C of this part SHALL be used in the control of occupational exposures to airborne radioactive material.</p> | <p>Applicable: Yes</p> | <p>While this part is applicable, there are no airborne radioactivity areas associated with the BONUS Reactor.</p> |
| <p>Section #: 209(b)</p> <p>The estimation of internal dose shall be based on bioassay data rather than air concentration values unless bioassay data are:</p> <p>(1) unavailable;</p> <p>(2) inadequate; or</p> <p>(3) internal dose estimates based on air concentration values are demonstrated to be as or more accurate.</p> | <p>Applicable: Yes</p> | <p>While this part is applicable, current conditions do not warrant bioassay program. There are no airborne radioactivity areas and access to the isolated contamination areas is restricted and not required by occupational workers.</p> |
| <p>Section #: 401(a)(1)</p> <p>Monitoring of individuals and areas shall be performed to: Demonstrate compliance with the regulations in this part;</p> | <p>Applicable: Yes</p> | <p>Monitoring of individuals and areas will be performed to demonstrate compliance with the regulations in 10 CFR 835.</p> |
| <p>Section #: 401(a)(2)</p> <p>Monitoring of individuals and areas shall be performed to: Document radiological conditions;</p> | <p>Applicable: Yes</p> | <p>Monitoring of individuals and areas will be performed to document radiological conditions in the workplace.</p> |
| <p>Section #: 401(a)(3)</p> <p>Monitoring of individuals and areas shall be performed to: Detect changes in radiological conditions;</p> | <p>Applicable: Yes</p> | <p>Monitoring of individuals will be performed to detect changes in radiological conditions.</p> |
| <p>Section #: 401(a)(4)</p> <p>Monitoring of individuals and areas shall be performed to: Detect the gradual buildup of radioactive material;</p> | <p>Applicable: Yes</p> | <p>Monitoring of individuals and areas will be performed to detect the gradual buildup of radioactive material in the workplace.</p> |

Section #: 401(a)(5)

Applicable: Yes

Monitoring of individuals and areas shall be performed to: Verify the effectiveness of engineering and process controls in containing radioactive material and reducing radiation exposure; and

Monitoring of individuals and areas will be performed to verify the effectiveness of engineering and process controls in containing radioactive material and reducing radiation exposure.

Section #: 401(a)(6)

Applicable: Yes

Monitoring of individuals and areas shall be performed to: Identify and control potential source of individual exposure to radiation and/or radioactive material.

Monitoring of individuals and areas shall be performed to identify and control potential source of individual exposure to radiation and/or radioactive material.

Section #: 401(b)(1)

Applicable: Yes

Instruments and equipment used for monitoring shall be: Periodically maintained and calibrated on an established frequency;

Instruments used for monitoring will be periodically maintained and calibrated on an established frequency of at least once per year.

Section #: 401(b)(2)

Applicable: Yes

Instruments and equipment used for monitoring shall be: Appropriate for the type(s), levels, and energies of the radiation(s) encountered;

Instruments used for monitoring will be appropriate for the type(s), levels, and energies of the radiation(s) encountered.

Section #: 401(b)(3)

Applicable: Yes

Instruments and equipment used for monitoring shall be: Appropriate for existing environmental conditions; and

Instruments used for monitoring will be appropriate for existing environmental conditions.

Section #: 401(b)(4)

Applicable: Yes

Instruments and equipment used for monitoring shall be: Routinely tested for operability.

Instruments used for monitoring will be routinely tested for operability.

Section #: 402(a)(1)(I)

Applicable: No

(a) For the purpose of monitoring individual exposures to external radiation, personnel dosimeters shall be provided to and used by:
(1) Radiological workers who, under typical conditions, are likely to receive one or more of the following: (I) An effective dose equivalent to the whole body of 0.1 rem (0.001 sievert) or more in a year;

Radiological workers, under typical conditions, are not likely to receive a dose at this limit.

Section #: 402(a)(1)(ii)

Applicable: No

(a) For the purpose of monitoring individual exposures to external radiation, personnel dosimeters shall be provided to and used by: (1) Radiological workers who, under typical conditions, are likely to receive one or more of the following: (ii) A shallow dose equivalent to the skin or to any extremity of 5 rems (0.05 sievert) or more in a year;

Radiological workers, under typical conditions, are not likely to receive a dose at this limit.

Section #: 402(a)(1)(iii)

Applicable: No

(a) For the purpose of monitoring individual exposures to external radiation, personnel dosimeters shall be provided to and used by:
(1) Radiological workers who, under typical conditions, are likely to receive one or more of the following: (iii) A lens of the eye dose equivalent of 1.5 rems (0.015 sievert) or more in a year;

Radiological workers, under typical conditions, are not likely to receive a dose at this limit.

Section #: 402(a)(2)

Applicable: No

(a) For the purpose of monitoring individual exposures to external radiation, personnel dosimeters shall be provided to and used by: (2) Declared pregnant workers who are likely to receive from external sources a dose equivalent to the embryo/fetus in excess of 10 percent of the applicable limit at §835.206(a);

Declared pregnant workers will not likely receive a dose at this limit.

Section #: 402(a)(3)

Applicable: No

(a) For the purpose of monitoring individual exposures to external radiation, personnel dosimeters shall be provided to and used by: (3) Occupationally exposed minors likely to receive a dose in excess of 50 percent of the applicable limits at §835.207 in a year from external sources;

§835.207 is not applicable to this program.

Section #: 402(a)(4)

Applicable: No

(a) For the purpose of monitoring individual exposures to external radiation, personnel dosimeters shall be provided to and used by: (4) Members of the public entering a controlled area likely to receive a dose in excess of 50 percent of the limit at §835.208 in a year from external sources; and

Members of the public are not likely to receive a dose in excess of this limit.

Section #: 402(a)(5)

Applicable: No

(a) For the purpose of monitoring individual exposures to external radiation, personnel dosimeters shall be provided to and used by: (5) Individuals entering a high or very high radiation area.

There are no high or very high radiation areas at the BONUS Reactor.

Section #: 402(b)

Applicable: No

(b) External dose monitoring programs implemented to demonstrate compliance with §835.402(a) shall be adequate to demonstrate compliance with the dose limits established in subpart C of this part and shall be:

An external dose monitoring program will not be implemented.

- (1) Accredited, or excepted from accreditation, in accordance with the DOE Laboratory Accreditation Program for Personnel Dosimetry; or
 - (2) Determined by the Secretarial Officer responsible for environment, safety and health matters to have performance substantially equivalent to that of programs accredited under the DOE Laboratory Accreditation Program for Personnel Dosimetry.
-

Section #: 402(c)(1)

Applicable: No

(c) For the purposes of monitoring individual exposures to internal radiation, internal dosimetry programs (including routine bioassay programs) shall be conducted for: (1) Radiological workers who, under typical conditions, are likely to receive a committed effective dose equivalent of 0.1 rem (0.001 sievert) or more from all occupational radionuclide intakes in a year;

Radiological workers, under typical conditions, will not receive a dose at this limit.

Section #: 402(c)(2)

Applicable: No

(c) For the purposes of monitoring individual exposures to internal radiation, internal dosimetry programs (including routine bioassay programs) shall be conducted for: (2) Declared pregnant workers likely to receive an intake or intakes resulting in a dose equivalent to the embryo/fetus in excess of 10 percent of the limit stated at §835.206(a);

Declared pregnant workers will not likely receive a dose at this limit.

Section #: 402(c)(3)

Applicable: No

(c) For the purposes of monitoring individual exposures to internal radiation, internal dosimetry programs (including routine bioassay programs) shall be conducted for: (3) Occupationally exposed minors who are likely to receive a dose in excess of 50 percent of the applicable limit stated at §835.207 from all radionuclide intakes in a year; or

Minors will not likely receive a dose at this level.

Section #: 402(c)(4)

Applicable: No

(c) For the purpose of monitoring individual exposures to internal radiation, internal dosimetry programs (including routine bioassay programs) shall be conducted for: (4) Members of the public entering a controlled area likely to receive a dose in excess of 50 percent of the limit stated at §835.208 from all radionuclide intakes in a year.

Members of the public will not likely receive a dose at this level.

Section #: 402(d)

Applicable: No

Internal dose monitoring programs implemented to demonstrate compliance with §835.402(c) shall be adequate to demonstrate compliance with the dose limits established in subpart C of this part and shall be:

- (1) Accredited, or excepted from accreditation, in accordance with the DOE Laboratory Accreditation Program for Radiobioassay; or
- (2) Determined by the Secretarial Officer responsible for environment, safety and health matters to have performance substantially equivalent to that of programs accredited under the DOE Laboratory Accreditation Program for Radiobioassay.

An internal dose monitoring program will not be required for this program.

Section #: 403(a)(1).01

Applicable: No

(a) Monitoring of airborne radioactivity shall be performed: (1) Where an individual is likely to receive an exposure of 40 or more DAC-hours in a year; or

There are no airborne radioactivity areas at the BONUS Reactor. Removable contamination is associated only with ancillary equipment (not in foot traffic areas). The removable contamination is concentrated in two rooms which remain locked and do not require access by maintenance personnel. There is no air handling system associated with these rooms. No individual is likely to receive an exposure at this limit.

Section #: 403(a)(1).02

Applicable: No

(a) Monitoring of airborne radioactivity shall be performed: (2) As necessary to characterize the airborne radioactivity hazard where respiratory protective devices for protection against airborne radionuclides have been prescribed.

There are no areas at BONUS Reactor or planned activities that would require the use of respiratory protective devices.

Section #: 403(b)

Applicable: No

(b) Real-time air monitoring shall be performed as necessary to detect and provide warning of airborne radioactivity concentrations that warrant immediate action to terminate inhalation of airborne radioactive material.

Conditions at the BONUS Reactor do not require real-time air monitoring.

Section #: 405(a)

Applicable: No

(a) If packages containing quantities of radioactive material in excess of a Type A quantity (as defined at 10 CFR 71.4) are expected to be received from radioactive material transportation, arrangements shall be made to either:

Packages containing quantities of radioactive material in excess of a Type A quantity are not expected to be received from radioactive material transportation for this program.

Section #: 405(a)(1)

Applicable: No

Take possession of the package when the carrier offers it for delivery; or

Packages containing quantities of radioactive material in excess of a Type A quantity are not expected to be received from radioactive material transportation for this program.

Section #: 405(a)(2)

Applicable: No

Receive notification as soon as practicable after arrival of the package at the carrier's terminal and to take possession of the package expeditiously after receiving such notification.

Packages containing quantities of radioactive material in excess of a Type A quantity are not expected to be received from radioactive material transportation for this program.

Section #: 405(b)

Applicable: No

Upon receipt from radioactive material transportation, external surfaces of packages known to contain radioactive material shall be monitored if the package:

Receipt from radioactive material transportation will not occur under this program.

Section #: 405(b)(1)

Applicable: No

Is labeled with a Radioactive White I, Yellow II, or Yellow III label (as specified at 49 CFR 172.403 and 172.436-440); or

Receipt from radioactive material transportation will not occur under this program.

Section #: 405(b)(2)

Applicable: No

Has been transported as low specific activity material (as defined at 10 CFR 71.4) on an exclusive use vehicle(as defined at 10 CFR 71.4)

Receipt from radioactive material transportation will not occur under this program.

| | | |
|--|------------------------|--|
| Section #: 405(b)(3) | Applicable: No | |
| Has evidence of degradation, such as packages that are crushed, wet, or damaged. | | Receipt from radioactive material transportation will not occur under this program. |
| Section #: 405(c)(1) | Applicable: No | |
| The monitoring required by paragraph (b) of this section shall include: Measurement of removable contamination levels, unless the package contains only special form (as defined at 10 CFR 71.4) or gaseous radioactive material; and | | Receipt from radioactive material transportation will not occur under this program. |
| Section #: 405(c)(2) | Applicable: No | |
| Measurement of the radiation levels, unless the package contains less than a Type A quantity (as defined at 10 CFR 71.4) of radioactive material. | | Receipt from radioactive material transportation will not occur under this program. |
| Section #: 405(d) | Applicable: No | |
| The monitoring required by paragraph (b) of this section shall be completed as soon as practicable following receipt of the package, but not later than 8 hours after the beginning of the working day following receipt of the package. | | Receipt from radioactive material transportation will not occur under this program. |
| Section #: 501(a) | Applicable: Yes | |
| Personnel entry control SHALL be maintained for each radiological area. | | Personnel entry control will be maintained for each radiological area. |
| Section #: 501(b) | Applicable: Yes | |
| The degree of (personnel entry) control SHALL be commensurate with existing and potential radiological hazards within the area. | | The degree of (personnel entry) control will be commensurate with existing and potential radiological hazards within the area. |

Section #: 501(c)**Applicable: Yes**

One or more of the following methods SHALL be used to ensure (personnel entry) control: (1) Signs and barricades; (2) Control devices on entrances; (3) Conspicuous visual and/or audible alarms; (4) Locked entrance ways; or (5) Administrative controls.

One or more of the following methods will be used to ensure (personnel entry) control: (1) Signs and barricades; (2) Control devices on entrances; (3) Conspicuous visual and/or audible alarms; (4) Locked entrance ways; or (5) Administrative controls.

Section #: 501(d)**Applicable: Yes**

Written authorizations shall be required to control entry into and perform work within radiological areas. These authorizations shall specify radiation protection measures commensurate with the existing and potential hazards.

Written authorizations will be required to control entry into and perform work within radiological areas. These authorizations will specify radiation protection measures commensurate with the existing and potential hazards.

Section #: 501(e)**Applicable: Yes**

No control(s) SHALL be installed at any radiological area exit that would prevent rapid evacuation of personnel under emergency conditions.

No control(s) will be installed at any radiological area exit that would prevent rapid evacuation of personnel under emergency conditions.

Section #: 502(a)(1)**Applicable: No**

The following measures shall be implemented for each entry into a high radiation area: The area shall be monitored as necessary during access to determine the exposure rates to which the individuals are exposed; and

There are no high radiation areas associated with the BONUS Reactor.

Section #: 502(a)(2)**Applicable: No**

The following measures shall be implemented for each entry into a high radiation area: Each individual shall be monitored by a supplemental dosimetry device or other means capable of providing an immediate estimate of the individual's integrated deep dose equivalent during the entry.

There are no high radiation areas associated with the BONUS Reactor.

Section #: 502(b)

Applicable: No

Physical controls. One or more of the following features SHALL be used for each entrance or access point to a high radiation area where radiation levels exist such that an individual could exceed a deep dose equivalent to the whole body of 1 rem (0.01 sievert) in any one hour at 30 centimeters from the source or from any surface that the radiation penetrates: (1) A control device that prevents entry to the area when high radiation levels exist or upon entry causes the radiation level to be reduced below that level defining a high radiation area; (2) A device that functions automatically to prevent use or operation of the radiation source or field while individuals are in the area; (3) A control device that energizes a conspicuous visible or audible alarm signal so that the individual entering the high radiation area and the supervisor of the activity are made aware of the entry; (4) Entryways that are locked. During periods when access to the area is required, positive control over each entry is maintained. (5) Continuous direct or electronic surveillance that is capable of preventing unauthorized entry; (6) A control device that will automatically generate audible and visual alarm signals to alert personnel in the area before use or operation of the radiation source and in sufficient time to permit evacuation of the area or activation of a secondary control device that will prevent use or operation of the source.

There are no high radiation areas at the BONUS Reactor.

Section #: 502(c)

Applicable: No

Very high radiation areas. In addition to the above requirements, additional measures shall be implemented to ensure individuals are not able to gain unauthorized or inadvertent access to very high radiation areas.

There are no very high radiation areas at the BONUS Reactor.

Section #: 502(d)

Applicable: No

No control(s) SHALL be established in a high or very high radiation area that would prevent rapid evacuation of personnel.

There are no high nor very high radiation areas at the BONUS Reactor.

Section #: 601(a)

Applicable: Yes

Except as otherwise provided in this subpart, postings and labels required by this subpart shall include the standard radiation warning trefoil in black or magenta imposed upon a yellow background.

Required signs and labels will have a yellow background. The radiation symbol will be black or magenta.

Section #: 601(b)

Applicable: Yes

Signs required by this subpart shall be clearly and conspicuously posted and may include radiological protection instructions.

Signs required by subpart G of 10 CFR 835 will be clearly and conspicuously posted and may include radiological protection instructions.

Section #: 601(c)

Applicable: No

The posting and labeling requirements in this subpart may be modified to reflect the special considerations of DOE activities conducted at private residences or businesses. Such modifications shall provide the same level of protection to individuals as the existing provisions in this subpart.

PREPA will not conduct DOE activities at private residences or businesses.

Section #: 602(a)

Applicable: Yes

Each access point to a controlled area (as defined in § 835.2) shall be posted whenever radiological areas or radioactive material areas exist in the area. Individuals who enter only controlled areas without entering radiological areas or radioactive material areas are not expected to receive a total effective dose equivalent of more than 0.1 rem (0.001 sievert) in a year.

Each access point to a controlled area (as defined in § 835.2) shall be posted whenever radiological areas or radioactive material areas exist in the area.

Section #: 602(b)

Applicable: Yes

Signs used for this purpose MAY be selected by the contractor to avoid conflict with local security requirements.

Signs used for this purpose may be selected by PREPA to avoid conflict with local security requirements.

Section #: 603

Applicable: Yes

Each access point to radiological areas and radioactive material areas (as defined at § 835.2) shall be posted with conspicuous signs bearing the wording provided in this section.

Each access point to radiological areas and radioactive material areas (as defined at § 835.2) will be posted with conspicuous signs bearing the wording provided in this section.

Section #: 603(a)

Applicable: No

Radiation Area. The words “Caution, Radiation Area” shall be posted at each radiation area.

There are no radiation areas at the BONUS Reactor.

Section #: 603(b)

Applicable: No

High Radiation Area.

There are no high radiation areas at the BONUS Reactor.

The words “Caution, High Radiation Area” or “Danger, High Radiation Area” shall be posted at each high radiation area.

Section #: 603(c)

Applicable: No

Very High Radiation Area.

There are no very high radiation areas at the BONUS Reactor.

The words “Grave Danger, Very High Radiation Area, shall be posted at each very high radiation area.

Section #: 603(d)

Applicable: No

Airborne Radioactivity Area.

There are no nor is there likely to be any airborne radioactivity areas at the BONUS Reactor.

The words “Caution, Airborne Radioactivity Area” or “Danger, Airborne Radioactivity Area” shall be posted at each airborne radioactivity area.

Section # 604(b)(2)**Applicable: Yes**

Each item or container of radioactive material is labeled in accordance with this subpart such that individuals entering the area are made aware of the hazard; or

Each item or container of radioactive material is labeled in accordance with this subpart such that individuals entering the area are made aware of the hazard; or

Section #: 604(b)(3)**Applicable: No**

The radioactive material of concern consists solely of structures or installed components which have been activated (i.e. such as by being exposed to neutron radiation or particles produced in an accelerator).

The radioactive material of concern does not consist solely of structures or installed components which have been activated (i.e. such as by being exposed to neutron radiation or particles produced in an accelerator).

Section # 604(c)**Applicable: No**

Areas containing only packages received from radioactive material transportation labeled and in non-degraded condition need not be posted in accordance with § 835.603 until the packages are monitored in accordance with § 835.405.

Receipt of radioactive material transportation will not occur under this program.

Section #: 605**Applicable: Yes**

Except as provided in § 835.606, each item or container of radioactive material shall bear a durable, clearly visible label bearing the standard radiation warning trefoil and the words "Caution, Radioactive Material" or "Danger, Radioactive Material." The label shall also provide sufficient information to permit individuals handling, using, or working in the vicinity of the items or containers, to take precautions to avoid or control exposures.

Except as provided in § 835.606, each item or container of radioactive material will bear a durable, clearly visible label bearing the standard radiation warning trefoil and the words "Caution, Radioactive Material" or "Danger, Radioactive Material." The label will also provide sufficient information to permit individuals handling, using, or working in the vicinity of the items or containers, to take precautions to avoid or control exposures.

Section #: 606(a)(1)

Applicable: Yes

Items and containers may be excepted from the radioactive material labeling requirements of § 835.605 when: Used, handled, or stored in areas posted and controlled in accordance with this subpart and sufficient information is provided to permit individuals to take precautions to avoid or control exposures; or

Items and containers may be excepted from the radioactive material labeling requirements of § 835.605 when: Used, handled, or stored in areas posted and controlled in accordance with this subpart and sufficient information is provided to permit individuals to take precautions to avoid or control exposures; or

Section #: 606(a)(2)

Applicable: Yes

Items and containers may be excepted from the radioactive material labeling requirements of § 835.605 when: The quantity of radioactive material is less than one tenth of the values specified in appendix E of this part; or

Items and containers may be excepted from the radioactive material labeling requirements of § 835.605 when: The quantity of radioactive material is less than one tenth of the values specified in appendix E of this part; or

Section #: 606(a)(3)

Applicable: Yes

Items and containers may be excepted from the radioactive material labeling requirements of § 835.605 when: Packaged, labeled, and marked in accordance with the regulations of the Department of Transportation or DOE Orders governing radioactive material transportation; or

Items and containers may be excepted from the radioactive material labeling requirements of § 835.605 when: Packaged, labeled, and marked in accordance with the regulations of the Department of Transportation or DOE Orders governing radioactive material transportation; or

Section #: 606(a)(4)

Applicable: Yes

Items and containers may be excepted from the radioactive material labeling requirements of § 835.605 when: Inaccessible, or accessible only to individuals authorized to handle or use them, or to work in the vicinity; or

Items and containers may be excepted from the radioactive material labeling requirements of § 835.605 when: Inaccessible, or accessible only to individuals authorized to handle or use them, or to work in the vicinity; or

Section #: 606(a)(5)

Applicable: Yes

Items and containers may be excepted from the radioactive material labeling requirements of § 835.605 when: Installed in manufacturing, process, or other equipment, such as reactor components, piping, and tanks.

Items and containers may be excepted from the radioactive material labeling requirements of § 835.605 when: Installed in manufacturing, process, or other equipment, such as reactor components, piping, and tanks.

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| Section #: 606(a)(6) | Applicable: No | |
| Items and containers may be excepted from the radioactive material labeling requirements of § 835.605 when: The radioactive material consists solely of nuclear weapons or their components. | | This situation does not exist at the BONUS Reactor. |
| Section #: 606(b) | Applicable: Yes | |
| Radioactive material labels applied to sealed radioactive sources may be excepted from the color specifications of § 835.601(a). | | Radioactive material labels applied to sealed radioactive sources may be excepted from the color specifications of § 835.601(a). |
| Section #: 701(a) | Applicable: Yes | |
| Records SHALL be maintained to document compliance with this part and with radiation protection programs required by §835.101. | | Records will be maintained to document compliance with 10 CFR 835 and with radiation protection programs required by §835.101. |
| Section #: 701(b) | Applicable: Yes | |
| Unless otherwise specified in this subpart, records SHALL be retained until final disposition is authorized by DOE. | | Unless otherwise specified in subpart H of 10 CFR 835, records will be retained until final disposition is authorized by DOE. |
| Section #: 702(a) | Applicable: No | |
| Records shall be maintained to document doses received by all individuals for whom monitoring was required pursuant to § 835.402 and to document doses received during planned special exposures, unplanned doses exceeding the monitoring thresholds of § 835.402, and authorized emergency exposures. | | Monitoring pursuant to §835.402 will not be required for this program. There are no credible scenarios at the BONUS Reactor where personnel could receive dose during planned special exposures, accidents or emergency conditions. |
| Section #: 702(b) | Applicable: No | |
| The results of individual external and internal dose monitoring that is performed, but not required by § 835.402, shall be recorded. Recording of the non-uniform shallow dose equivalent to the skin is not required if the dose is less than 2 percent of the limit specified for the skin at § 835.202(a)(4). | | Individual external and internal dose monitoring will not be performed. Area exposure rate measurements will be performed to demonstrate compliance. |

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| Section #: 702(c)(1) | Applicable: Yes | |
| The records required by this section shall: Be sufficient to evaluate compliance with subpart C of this part; | | Records generated for monitoring of individuals and areas (§ 401) shall be sufficient to evaluate compliance with Subpart C of this part. |
| Section #: 702(c)(2) | Applicable: Yes | |
| The records required by this section shall: Be sufficient to provide dose information necessary to complete reports required by subpart I of this part; | | Records generated for monitoring of individuals and areas (§ 401) shall be sufficient to provide dose information necessary to complete reports required by Subpart I of this part. |
| Section #: 702(c)(3)(I) | Applicable: No | |
| The records required by this section shall: Include the following quantities for external dose received during the year: The effective dose equivalent from external sources of radiation (deep dose equivalent may be used as effective dose equivalent for external exposure); | | Records required by this section are not applicable to this program. |
| Section #: 702(c)(3)(ii) | Applicable: No | |
| The records required by this section shall: Include the following quantities for external dose received during the year: The lens of the eye dose equivalent; | | Records required by this section are not applicable to this program. |
| Section #: 702(c)(3)(iii) | Applicable: No | |
| The records required by this section shall: Include the following quantities for external dose received during the year: The shallow dose equivalent to the skin; and | | Records required by this section are not applicable to this program. |
| Section #: 702(c)(3)(iv) | Applicable: No | |
| The records required by this section shall: Include the following quantities for external dose received during the year: The shallow dose equivalent to the extremities. | | Records required by this section are not applicable to this program. |

Section #: 702(c)(4)(I)

Applicable: No

The records required by this section shall: Include the following information for internal dose resulting from intakes received during the year: Committed effective dose equivalent.

Records required by this section are not applicable to this program.

Section #: 702(c)(4)(ii)

Applicable: No

The records required by this section shall: Include the following information for internal dose resulting from intakes received during the year: Committed dose equivalent to any organ of tissue of concern; and

Records required by this section are not applicable to this program.

Section #: 702(c)(4)(iii)

Applicable: No

The records required by this section shall: Include the following information for internal dose resulting from intakes received during the year.

Records required by this section are not applicable to this program.

Identity of radionuclides.

Section #: 702(c)(5)(I)

Applicable: No

The records required by this section shall: Include the following quantities for the summation of the external and internal dose: Total effective dose equivalent in a year;

Records required by this section are not applicable to this program.

Section #: 702(c)(5)(ii)

Applicable: No

The records required by this section shall: Include the following quantities for the summation of the external and internal dose: For any organ or tissue assigned an internal dose during the year, the sum of the deep dose equivalent from external exposures and the committed dose equivalent to that organ or tissue; and

Records required by this section are not applicable to this program.

Section #: 702(c)(5)(iii)

Applicable: No

The records required by this section shall: Include the following quantities for the summation of the external and internal dose: Cumulative total effective dose equivalent.

Records required by this section are not applicable to this program.

Section #: 702(c)(6)

Applicable: No

The records required by this section shall: Include the dose equivalent to the embryo/fetus of a declared pregnant worker.

Records required by this section are not applicable to this program.

Section #: 702(d)

Applicable: No

Documentation of all occupational doses received during the current year, except for doses resulting from planned special exposures conducted in compliance with § 835.204 and emergency exposures authorized in accordance with § 835.1302(d), shall be obtained to demonstrate compliance with § 835.202(a). If complete records documenting previous occupational dose during the year cannot be obtained, a written estimate signed by the individual may be accepted to demonstrate compliance.

Records required by this section are not applicable to this program.

Section #: 702(e)

Applicable: No

For radiological workers whose occupational dose is monitored in accordance with § 835.402, reasonable efforts shall be made to obtain complete records of prior years occupational internal and external doses.

Records required by this section are not applicable to this program.

Section #: 702(f)

Applicable: No

The records specified in this section that are identified with a specific individual SHALL be readily available to that individual.

Records required by this section are not applicable to this program.

Section #: 702(g)

Applicable: No

Data necessary to allow future verification or reassessment of the recorded doses SHALL be recorded.

Records required by this section are not applicable to this program.

Section #: 702(h)

Applicable: No

All records required by this section SHALL be transferred to the DOE upon cessation of activities at the site that could cause exposure to individuals.

Records required by this section are not applicable to this program.

Section #: 703(a)

Applicable: Yes

The following information shall be documented and maintained:

Results of monitoring for radiation and radioactive material as required by subparts E and L of this part, except for monitoring required by § 835.1102(d);

Results of surveys for radiation and radioactive material, as required by subparts E and L of this part, except for monitoring required by § 835.1102(d), will be documented and maintained.

Section #: 703(b)

Applicable: No

The following information shall be documented and maintained:

Results of monitoring used to determine individual occupational dose from external and internal sources;

Individual occupational dose monitoring will not be required under this program.

Section #: 703(c)

Applicable: Yes

The following information shall be documented and maintained:

Results of monitoring for the release and control of material and equipment as required by § 835.1101; and

Results of monitoring for the release of material and equipment as required by §835.1101 will be documented and maintained.

Section #: 703(d)

Applicable: Yes

The following information shall be documented and maintained:

Results of maintenance and calibration performed on instruments and equipment as required by § 835.401(b).

Results of maintenance and calibration performed on instruments and equipment as required by §835.401(b), will be documented and maintained.

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|--------------------------|------------------------|--|---|
| Section #: 704(a) | Applicable: Yes | Training records SHALL be maintained, as necessary, to demonstrate compliance with §§835.901. | Training records SHALL be maintained, as necessary, to demonstrate compliance with §§835.901. |
| Section #: 704(b) | Applicable: Yes | Actions taken to maintain occupational exposures as low as reasonably achievable, including the actions required for this purpose by §835.101, as well as facility design and control actions required by §§835.1001, 835.1002, and 835.1003, SHALL be documented. | Actions taken to maintain occupational exposures as low as reasonably achievable, including the actions required for this purpose by §835.101, as well as facility design and control actions required by §§835.1001, 835.1002, and 835.1003, will be documented. |
| Section #: 704(c) | Applicable: Yes | Records SHALL be maintained to document the results of internal audits and other reviews of program content and implementation. | Records will be maintained to document the results of internal audits and other reviews of program content and implementation. |
| Section #: 704(d) | Applicable: Yes | Written declarations of pregnancy, including the estimated date of conception, and revocations of declarations of pregnancy shall be maintained. | Written declarations of pregnancy, including the estimated date of conception, and revocations of declarations of pregnancy will be maintained. |
| Section #: 704(e) | Applicable: Yes | Changes in equipment, techniques, and procedures used for monitoring SHALL be documented. | Changes in equipment, techniques, and procedures used for monitoring will be documented. |
| Section #: 704(f) | Applicable: Yes | Records shall be maintained as necessary to demonstrate compliance with the requirements of §§ 835.1201 and 835.1202 for sealed radioactive source control, inventory, and source leak tests. | Records will be maintained as necessary to demonstrate compliance with the requirements of §§ 835.1201 Accountable sealed radioactive sources (§ 835.1202) will not be utilized in this program. |

Section #: 801(a)**Applicable: No**

Radiation exposure data for individuals monitored in accordance with §835.402 SHALL be reported as specified in this section.

Radiation exposure data for individuals monitored in accordance with §835.402 will not be required for this program.

The information shall include the data required under § 835.702(c). Each notification and report shall be in writing and include: the DOE site or facility name, the name of the individual, and the individual's social security number, employee number, or other unique identification number.

Section #: 801(b).01**Applicable: Yes**

Upon the request from an individual terminating employment, records of exposure SHALL be provided to that individual as soon as the data are available, but not later than 90 days after termination.

Upon the request from an individual terminating employment, records of exposure will be provided to that individual as soon as the data are available, but not later than 90 days after termination.

Section #: 801(b).02**Applicable: Yes**

A written estimate of the radiation dose received by that employee based on available information SHALL be provided at the time of termination, if requested.

A written estimate of the radiation dose received by that employee based on available information will be provided at the time of termination, if requested.

Section #: 801(c)**Applicable: No**

Each DOE- or DOE-contractor-operated site or facility SHALL, on an annual basis, provide a radiation dose report to each individual monitored during the year at that site or facility in accordance with §835.402.

Individual monitoring pursuant to §835.402 will not be required under this program.

Section #: 801(d)**Applicable: Yes**

Detailed information concerning any individual's exposure SHALL be made available to the individual upon request of that individual, consistent with the provisions of the Privacy Act (5 U.S.C. 552a).

Detailed information concerning any individual's exposure will be made available to the individual upon request of that individual, consistent with the provisions of the Privacy Act (5 U.S.C. 552a).

Section #: 801(e).01

Applicable: Yes

When a DOE contractor is required to report to the Department, pursuant to Departmental requirements for occurrence reporting and processing, any exposure of an individual to radiation and/or radioactive material, or planned special exposure in accordance with §835.204(e), the contractor SHALL also provide that individual with a report on his or her exposure data included therein.

When PREPA is required to report to the Department, pursuant to Departmental requirements for occurrence reporting and processing, any exposure of an individual to radiation and/or radioactive material, PREPA will also provide that individual with a report on his or her exposure data included therein. There are no credible scenarios at the BONUS Reactor where personnel could receive dose during planned special exposures.

Section #: 801(e).02

Applicable: Yes

Such report (radiation exposure data report) SHALL be transmitted at a time not later than the transmittal to the Department.

Such report (radiation exposure data report) will be transmitted at a time not later than the transmittal to the Department.

Section #: 901(a)(1)

Applicable: Yes

Each individual shall complete radiation safety training on the topics established at § 835.901(c) commensurate with the hazards in the area and the required controls: Before being permitted unescorted access to controlled areas; and

Each individual will complete radiation safety training on the topics established at § 835.901(c) commensurate with the hazards in the area and the required controls: Before being permitted unescorted access to controlled areas.

Section #: 901(a)(2)

Applicable: Yes

Before receiving occupational dose during access to controlled areas at a DOE site or facility.

Before receiving occupational dose during access to controlled areas at a DOE site or facility.

Section #: 901(b)(1)

Applicable: Yes

Each individual shall demonstrate knowledge of the radiation safety training topics established in § 835.901(c), commensurate with the hazards in the area and the required controls: Before being permitted unescorted access to controlled areas; and

Each individual will demonstrate knowledge of the radiation safety training topics established in § 835.901(c), commensurate with the hazards in the area and the required controls: Before being permitted unescorted access to controlled areas.

Section #: 901(b)(2)

Applicable: Yes

Before performing unescorted assignments as a radiological worker.

Before performing unescorted assignments as a radiological worker.

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| Section #: 901(c)(1) | Applicable: Yes | |
| Radiation safety training shall include the following topics, to the extent appropriate to each individual's prior training, work assignments, and degree of exposure to potential radiological hazards: Risks of exposure to radiation and radioactive materials, including prenatal radiation exposure; | | Radiation safety training will include the following topics, to the extent appropriate to each individual's prior training, work assignments, and degree of exposure to potential radiological hazards: Risks of exposure to radiation and radioactive materials, including prenatal radiation exposure. |
| Section #: 901(c)(2) | Applicable: Yes | |
| Basic radiological fundamentals and radiation protection concepts; | | Basic radiological fundamentals and radiation protection concepts. |
| Section #: 901(c)(3) | Applicable: Yes | |
| Physical design features, administrative controls, limits, policies, procedures, alarms, and other measures implemented at the facility to manage doses and maintain doses ALARA, including both routine and emergency actions; | | Physical design features, administrative controls, limits, policies, procedures, alarms, and other measures implemented at the facility to manage doses and maintain doses ALARA, including both routine and emergency actions. |
| Section #: 901(c)(4) | Applicable: Yes | |
| Individual rights and responsibilities as related to implementation of the facility radiation protection program; | | Individual rights and responsibilities as related to implementation of the facility radiation protection program. |
| Section #: 901(c)(5) | Applicable: Yes | |
| Individual responsibilities for implementing ALARA measures required by § 835.101; and | | Individual responsibilities for implementing ALARA measures required by § 835.101. |
| Section #: 901(c)(6) | Applicable: Yes | |
| Individual exposure reports that may be requested in accordance with §835.801. | | Individual exposure reports that may be requested in accordance with §835.801. |

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| <p>Section #: 901(d)(1)</p> <p>Applicable: Yes</p> <p>When an escort is used in lieu of training in accordance with paragraph (a) or (b) of this section, the escort shall: Have completed radiation safety training, examinations, and performance demonstrations required for entry to the area and performance of the work; and</p> | <p>Applicable: Yes</p> <p>When an escort is used in lieu of training in accordance with paragraph (a) or (b) of this section, the escort will: Have completed radiation safety training, examinations, and performance demonstrations required for entry to the area and performance of the work</p> |
| <p>Section #: 901(d)(2)</p> <p>Applicable: Yes</p> <p>Ensure that all escorted individuals comply with the documented radiation protection program.</p> | <p>Applicable: Yes</p> <p>Ensure that all escorted individuals comply with the documented radiation protection program.</p> |
| <p>Section #: 901(e)</p> <p>Applicable: Yes</p> <p>Radiation safety training shall be provided to individuals when there is a significant change to radiation protection policies and procedures that may affect the individual and at intervals not to exceed 20 months. Such training provided for individuals subject to the requirements of § 835.901(b)(1) and (b)(2) shall include successful completion of an examination.</p> | <p>Applicable: Yes</p> <p>Radiation safety training will be provided to individuals when there is a significant change to radiation protection policies and procedures that may affect the individual and at intervals not to exceed 20 months. Such training provided for individuals subject to the requirements of § 835.901(b)(1) and (b)(2) will include successful completion of an examination.</p> |
| <p>Section #: 1001(a).01</p> <p>Applicable: Yes</p> <p>Measures shall be taken to maintain radiation exposure in controlled areas ALARA through physical design features and administrative control.</p> | <p>Applicable: Yes</p> <p>Measures will be taken to maintain radiation exposure in controlled areas ALARA through physical design features and administrative control.</p> |
| <p>Section #: 1001(a).02</p> <p>Applicable: Yes</p> <p>Measures shall be taken to maintain radiation exposure in controlled areas ALARA through physical design features and administrative control. The primary methods used SHALL be physical design features (e.g., confinement, ventilation, remote handling, and shielding).</p> | <p>Applicable: Yes</p> <p>Measures will be taken to maintain radiation exposure in controlled areas ALARA through physical design features and administrative control. The primary methods used SHALL be physical design features (e.g., confinement, ventilation, remote handling, and shielding).</p> |

Section #: 1001(a).03**Applicable: Yes**

Measures shall be taken to maintain radiation exposure in controlled areas ALARA through physical design features and administrative control. Administrative controls shall be employed only as supplemental methods to control radiation exposure.

Measures will be taken to maintain radiation exposure in controlled areas ALARA through physical design features and administrative control. Administrative controls will be employed only as supplemental methods to control radiation exposure.

Section #: 1001(b)**Applicable: Yes**

For specific activities where use of physical design features is demonstrated to be impractical, administrative controls shall be used to maintain radiation exposures ALARA.

For specific activities where use of physical design features is demonstrated to be impractical, administrative controls will be used to maintain radiation exposures ALARA.

Section #: 1002(a)**Applicable: Yes**

During the design of new facilities or modification of existing facilities, the following objectives shall be adopted: Optimization methods SHALL be used to assure that occupational exposure is maintained ALARA in developing and justifying facility design and physical controls.

During modifications of the BONUS Reactor, optimization methods will be used to assure that occupational exposure is maintained ALARA in developing and justifying facility design and physical controls. PREPA is not involved in the design or construction of new DOE facilities.

Section #: 1002(b).01**Applicable: Yes**

During the design of new facilities or modification of old facilities, the following objectives shall be adopted: The design objective for controlling personnel exposure from external sources of radiation in areas of continuous occupational occupancy (2000 hours per year) SHALL be to maintain exposure levels below an average of 0.5 mrem (5 microsieverts) per hour and as far below this average as is reasonably achievable.

During modifications of the BONUS Reactor, the design objective for controlling personnel exposure from external sources of radiation in areas of continuous occupational occupancy (2000 hours per year) will be to maintain exposure levels below an average of 0.5 mrem (5 microsieverts) per hour and as far below this average as is reasonably achievable. PREPA is not involved in the design or construction of new DOE facilities.

Section #: 1002(b).02**Applicable: Yes**

During the design of new facilities or modification of old facilities, the following objectives shall be adopted: The design objectives for exposure rates for potential exposure to a radiological worker where occupancy differs from the above SHALL be ALARA and shall not exceed 20 percent of the applicable standards in §835.202.

During modifications of the BONUS Reactor, the design objective for exposure rates for potential exposure to a radiological worker where occupancy differs from the above will be ALARA and will not exceed 20 percent of the applicable standards in §835.202. PREPA is not involved in the design or construction of new DOE facilities.

Section #: 1002(b).03**Applicable: Yes**

During the design of new facilities or modification of old facilities, the following objectives shall be adopted: The design objectives for exposure rates for potential exposure to a radiological worker where occupancy differs from the above shall be ALARA and SHALL not exceed 20 percent of the applicable standards in §835.202.

During modifications of the BONUS Reactor, the design objective for exposure rates for potential exposure to a radiological worker where occupancy differs from the above will be ALARA and will not exceed 20 percent of the applicable standards in §835.202. PREPA is not involved in the design or construction of new DOE facilities.

Section #: 1002(c).01**Applicable: Yes**

During the design of new facilities or modification of old facilities, the following objectives shall be adopted: Regarding the control of airborne radioactive material, the design objective SHALL be, under normal condition, to avoid releases to the workplace atmosphere and in any situation, to control the inhalation of such material by workers to levels that are ALARA;

During modifications of the BONUS Reactor, regarding the control of airborne radioactive material, the design objective will be, under normal condition, to avoid releases to the workplace atmosphere and in any situation, to control the inhalation of such material by workers to levels that are ALARA. PREPA is not involved in the design or construction of new DOE facilities.

Section #: 1002(c).02**Applicable: Yes**

During the design of new facilities or modification of old facilities, the following objectives shall be adopted: Regarding the control of airborne radioactive material, the design objective shall be . . . confinement and ventilation SHALL normally be used.

During modifications of the BONUS Reactor, regarding the control of airborne radioactive material, the design objective will be . . . confinement and ventilation will normally be used. PREPA is not involved in the design or construction of new DOE facilities.

Section #: 1002(d)

Applicable: Yes

During the design of new facilities or modification of old facilities, the following objectives shall be adopted: The design or modification of a facility and the selection of materials SHALL include features that facilitate operation, maintenance, decontamination and decommissioning.

During modifications of the BONUS Reactor, the modification of the facility and the selection of materials will include features that facilitate operation, maintenance, decontamination and decommissioning. PREPA is not involved in the design or construction of new DOE facilities.

Section #: 1003(a)

Applicable: Yes

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 at § 835.202; and

During routine operations, the combination of physical design features and administrative controls will provide that: The anticipated occupational dose to general employees will not exceed the limits established at § 835.202.

Section #: 1003(b)

Applicable: Yes

The ALARA process is utilized for personnel exposures to ionizing radiation.

The ALARA process is utilized for personnel exposures to ionizing radiation.

Section #: 1101(a)(1)

Applicable: Yes

Except as provided in paragraph (b) and (c) of this section, material and equipment in contamination areas, high contamination areas, and airborne radioactivity areas shall not be released to a controlled area if: Removable surface contamination levels on accessible surfaces exceed the removable surface contamination values specified in appendix D of this part; or

Except as provided in paragraph (b) and (c) of this section, material and equipment in contamination areas, will not be released to a controlled area if: Removable surface contamination levels on accessible surfaces exceed the removable surface contamination values specified in appendix D of this part.

Section #: 1101(a)(2)

Applicable: Yes

Except as provided in paragraphs (b) and (c) of this section, material and equipment in contamination areas, high contamination areas, and airborne radioactivity areas shall not be released to a controlled area if: Prior use suggests that the removable surface contamination levels on inaccessible surfaces are likely to exceed the removable surface contamination values specified in appendix D of this part.

Except as provided in paragraphs (b) and (c) of this section, material and equipment in contamination areas will not be released to a controlled area if: Prior use suggests that the removable surface contamination levels on inaccessible surfaces are likely to exceed the removable surface contamination values specified in appendix D of this part.

Section #: 1101(b)

Applicable: Yes

Material and equipment exceeding the removable surface contamination values specified in appendix D of this part may be conditionally released from movement on-site from one radiological area for immediate placement in another radiological area only if appropriate monitoring is performed and appropriate controls for the movement are established and exercised.

Material and equipment exceeding the removable surface contamination values specified in appendix D of this part may be conditionally released from movement on-site from one radiological area for immediate placement in another radiological area only if appropriate monitoring is performed and appropriate controls for the movement are established and exercised.

Section #: 1101(c)(1)

Applicable: Yes

Material and equipment with fixed contamination levels that exceed the total surface contamination values specified in appendix D to this part MAY be released for use in controlled areas outside of the radiological areas only under the following conditions. Removable surface contamination levels are below the removable surface contamination values specified in appendix D of this part; and

Material and equipment with fixed contamination levels that exceed the total surface contamination values specified in appendix D to this part MAY be released for use in controlled areas outside of the radiological areas only under the following conditions. Removable surface contamination levels are below the removable surface contamination values specified in appendix D of this part.

Section #: 1101(c)(2)

Applicable: Yes

Material and equipment with fixed contamination levels that exceed the total surface contamination values specified in appendix D to this part MAY be released for use in controlled areas outside of the radiological areas only under the following conditions: The material or equipment is routinely monitored and clearly labeled to alert personnel of the contaminated status; or

Material and equipment with fixed contamination levels that exceed the total surface contamination values specified in appendix D to this part MAY be released for use in controlled areas outside of the radiological areas only under the following conditions: The material or equipment is routinely monitored and clearly labeled to alert personnel of the contaminated status.

Section #: 1102(a)**Applicable: Yes**

Appropriate controls shall be maintained and verified which prevent the inadvertent transfer of removable contamination to locations outside of radiological areas under normal operating conditions.

Appropriate controls will be maintained and verified which prevent the inadvertent transfer of removable contamination to locations outside of radiological areas under normal operating conditions.

Section #: 1102(b)**Applicable: Yes**

Any area in which contamination levels exceed the values specified in appendix D of this part shall be controlled in a manner commensurate with the physical and chemical characteristics of the containment, the radionuclides present, and the fixed and removable surface contamination levels.

Any area in which contamination levels exceed the values specified in appendix D of 10 CFR 835 will be controlled in a manner commensurate with the physical and chemical characteristics of the contaminant, the radionuclides present, and the fixed and removable contamination levels.

Section #: 1102(c)(1)**Applicable: Yes**

Areas accessible to individuals where the measured total surface contamination levels exceed, but the removable surface contamination levels are less than, corresponding surface contamination values specified in appendix D of this part, shall be controlled as follows when located outside of radiological areas: The area shall be routinely monitored to ensure the removable surface contamination level remains below the removable surface contamination values specified in appendix D of this part; and

There are no radiation areas associated with the BONUS Reactor and the only contamination areas identified are confined to two rooms in the basement. Remaining areas with total surface contamination levels above limits will be located outside of radiological areas and routinely monitored to ensure the removable surface contamination level remains below the removable surface contamination values specified in appendix D of this part.

Section #: 1102(c)(2)**Applicable: Yes**

Areas accessible to individuals where the measured total surface contamination levels exceed, but the removable surface contamination levels are less than, corresponding surface contamination values specified in appendix D of this part, shall be controlled as follows when located outside of radiological areas: The area shall be conspicuously marked to warn individuals of the contaminated status.

These areas will be marked to warn individuals of the contaminated status.

Section #: 1102(d)**Applicable: Yes**

Individuals exiting contamination, high contamination, or airborne radioactivity areas shall be monitored, as appropriate, for the presence of surface contamination.

Individuals exiting contamination areas will be monitored, as appropriate, for the presence of surface contamination.

Section #: 1102(e)**Applicable: Yes**

Protective clothing shall be required for entry to areas in which removable contamination exists at levels exceeding the removable surface contamination values specified in appendix D of this part.

Protective clothing will be required for entry to areas in which removable contamination exists at levels exceeding the removable surface contamination values specified in appendix D of this part.

Section #: 1201**Applicable: Yes**

Sealed radioactive sources shall be used, handled, and stored in a manner commensurate with the hazards associated with operations involving the sources.

Sealed radioactive sources will be used, handled, and stored in a manner commensurate with the hazards associated with operations involving the sources.

Section #: 1202(a)(1)**Applicable: No**

Each accountable sealed radioactive source shall be inventoried at intervals not to exceed six months. This inventory shall: Establish the physical location of each accountable sealed radioactive source;

Accountable sealed radioactive sources will not be utilized for this program.

Section #: 1202(a)(2)**Applicable: No**

Each accountable sealed radioactive source shall be inventoried at intervals not to exceed six months. This inventory shall: Verify the presence and adequacy of associated postings and labels; and

Accountable sealed radioactive sources will not be utilized for this program.

Section #: 1202(a)(3)**Applicable: No**

Each accountable sealed radioactive source shall be inventoried at intervals not to exceed six months. This inventory shall: Establish the adequacy of storage locations, containers, and devices.

Accountable sealed radioactive sources will not be utilized for this program.

Section #: 1202(b)

Applicable: No

Except for sealed radioactive sources consisting solely of gaseous radioactive material or tritium, each accountable sealed radioactive source shall be subject to a source leak test upon receipt, when damage is suspected, and at intervals not to exceed six months. Source leak tests shall be capable of detecting radioactive material leakage equal to or exceeding 0.005 microcurie.

Accountable sealed radioactive sources will not be utilized for this program.

Section #: 1202(c)

Applicable: No

Notwithstanding the requirements of paragraph (b) of this section, an accountable sealed radioactive source is not subject to periodic source leak testing if that source has been removed from service. Such sources shall be stored in a controlled location, subject to periodic inventory as required by paragraph (a) of this section, and subject to source leak testing prior to being returned to service.

Accountable sealed radioactive sources will not be utilized for this program.

Section #: 1202(d)

Applicable: No

Notwithstanding the requirement of paragraphs (a) and (b) of this section, an accountable sealed radioactive source is not subject to periodic inventory and source leak testing if that source is located in an area that is unsafe for human entry or otherwise inaccessible.

Accountable sealed radioactive sources will not be utilized for this program.

Section #: 1202(e)

Applicable: No

An unaccountable sealed radioactive source found to be leaking radioactive material shall be controlled in a manner that minimizes the spread of radioactive contamination.

Accountable sealed radioactive sources will not be utilized for this program.

Section #: 1301(a)(1)

Applicable: No

A general employee whose occupational dose has exceeded the numerical value of any of the limits specified in § 835.202 as a result of an authorized emergency exposure may be permitted to return to work in radiological areas during the current year providing that all of the following conditions are met: Approval is first obtained from the contractor management and the Head of the responsible DOE field organization;

There are no credible scenarios at the BONUS Reactor where personnel could receive dose exceeding limits of § 835.202 during accidents or emergency conditions.

Section #: 1301(a)(2)

Applicable: No

A general employee whose occupational exposure has exceeded any of the limits specified in §§835.202 or 835.205 MAY be permitted to return to work in radiological areas during the current year providing that all of the following conditions are met: The individual receives counseling from radiological protection and medical personnel regarding the consequences of receiving additional occupational exposure during the year; and

There are no credible scenarios at the BONUS Reactor where personnel could receive dose exceeding limits of § 835.202 during accidents or emergency conditions.

Section #: 1301(a)(3)

Applicable: No

A general employee whose occupational exposure has exceeded any of the limits specified in §§835.202 or 835.205 MAY be permitted to return to work in radiological areas during the current year providing that all of the following conditions are met: The affected employee agrees to return to radiological work.

There are no credible scenarios at the BONUS Reactor where personnel could receive dose exceeding limits of § 835.202 during accidents or emergency conditions.

Section #: 1301(b)

Applicable: No

All doses exceeding the limits specified in § 835.202 shall be recorded in the affective individual's occupational dose record.

There are no credible scenarios at the BONUS Reactor where personnel could receive dose exceeding limits of § 835.202 during accidents or emergency conditions.

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| <p>Section #: 1301(c)</p> <p>Applicable: No</p> <p>When the conditions under which a dose was received in excess of the limits specified in § 835.202, except those doses received in accordance with § 835.204, have been eliminated, operating management shall notify the Head of the responsible DOE field organization.</p> | <p>There are no credible scenarios at the BONUS Reactor where personnel could receive dose exceeding limits of § 835.202 during accidents or emergency conditions.</p> |
| <p>Section #: 1301(d)</p> <p>Applicable: No</p> <p>Operations after a dose was received in excess of the limits specified in § 835.202, except those received in accordance with § 835.204, may be resumed only with the approval of DOE.</p> | <p>There are no credible scenarios at the BONUS Reactor where personnel could receive dose exceeding limits of § 835.202 during accidents or emergency conditions.</p> |
| <p>Section #: 1301(e)</p> <p>Applicable: No</p> <p>Occurrence reports to DOE regarding emergencies and/or accidents SHALL be prepared and submitted in accordance with Departmental requirements for occurrence reporting and processing.</p> | <p>There are no credible scenarios at the BONUS Reactor where personnel could receive dose exceeding limits of § 835.202 during accidents or emergency conditions.</p> |
| <p>Section #: 1302(a)</p> <p>Applicable: No</p> <p>The risk of injury to those individuals involved in rescue and recovery operations SHALL be minimized.</p> | <p>There are no credible scenarios at the BONUS Reactor where personnel could receive dose exceeding limits of § 835.202 during accidents or emergency conditions.</p> |
| <p>Section #: 1302(b)</p> <p>Applicable: No</p> <p>Operating management shall weigh actual and potential risks against the benefits to be gained.</p> | <p>There are no credible scenarios at the BONUS Reactor where personnel could receive dose exceeding limits of § 835.202 during accidents or emergency conditions.</p> |
| <p>Section #: 1302(c)</p> <p>Applicable: No</p> <p>No individual shall be required to perform rescue action that might involve substantial personal risk</p> | <p>There are no credible scenarios at the BONUS Reactor where personnel could receive dose exceeding limits of § 835.202 during accidents or emergency conditions.</p> |

