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JAN 2 7 2020

Ms. Myrna Redfield, Program Manager
Four Rivers Nuclear Partnership, LLC
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PPPO-02-10002753-20

Dear Ms. Redfield:

DE-EM0004895: APPROVAL OF DELIVERABLE NO. 98, RADIATION PROTECTION PROGRAM, CP2-RP-0001/FR1

Reference: Letter from M. Redfield to M. Fultz, "Four Rivers Nuclear Partnership, LLC, Deliverable No. 98—*Radiation Protection Program for the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*, CP2-RP-0001/FR1," (FRNP-20-3219), dated December 10, 2019

The U.S. Department of Energy approves the Four Rivers Nuclear Partnership, LLC, Deliverable No. 98, *Radiation Protection Program*, CP2-RP-0001/FR1, as submitted. If you have any questions or require additional information, please contact Gil Whitehurst at (740) 897-2948.

Sincerely,

Robert E. Edwards III

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CP2-RP-0001/FR1

Four Rivers Nuclear Partnership, LLC, Radiation Protection Program for the Paducah Gaseous Diffusion Plant, Paducah, Kentucky

This document is approved for public release per review by:

N/A _____ 12/09/19

FRNP Classification Support Date

CP2-RP-0001/FR1

Four Rivers Nuclear Partnership, LLC, Radiation Protection Program for the Paducah Gaseous Diffusion Plant, Paducah, Kentucky

Date Issued—December 2019

U.S. DEPARTMENT OF ENERGY
Office of Environmental Management

Prepared by
FOUR RIVERS NUCLEAR PARTNERSHIP, LLC,
managing the
Deactivation and Remediation Project at the
Paducah Gaseous Diffusion Plant
under Contract DE-EM0004895

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APPROVALS

Four Rivers Nuclear Partnership, LLC,
Radiation Protection Program
for the Paducah Gaseous Diffusion Plant,
Paducah, Kentucky

CP2-RP-0001/FR1

December 2019

Approved by:

Craig Nesshoefer
Radiation Protection Manager

12/4/19
Date

Approved by:

Bob Macfarlane
Health, Safety, Support, and Quality Director

12-4-2019
Date

DOE Approval Letter: PPPO - 02 - 10002753 - 20 Date: 1-27-2020

Effective Date: 2-3-2020

RMS 1-30-2020

Required Review Date: ~~2-3-2023~~ 12-4-2022

Nuclear Safety Documentation: N/A per CP3-NS-2001, Step 6.1.1, A

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REVISION LOG

REVISION NUMBER	DATE	DESCRIPTION OF CHANGES	PAGES AFFECTED
FR0	10/5/2017	Initial release by FRNP	All
FR0A	October 2018	Administrative change to update reference identified in CAPA CA-1265. Also to update other references and editorial changes throughout document.	Applies to entire document.
FR1	December 2019	Complete revision of the Four Rivers Nuclear Partnership *Radiation Protection Program*, (FRNP RPP). The FRNP RPP has been developed and revised to ensure compliance with the requirements of Title 10, *Code of Federal Regulations*, Part 835 (10 *CFR* § 835), "Occupational Radiation Protection."	Applies to entire document.

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ACRONYMS

DOE	U.S. Department of Energy
FRNP	Four Rivers Nuclear Partnership, LLC
GFS	government furnished service
ISSC	Infrastructure Support Services Contractor
NRC	Nuclear Regulatory Commission
PGDP	Paducah Gaseous Diffusion Plant
PWS	performance work statement
RCM	Radiological Control Manual
RPP	Radiation Protection Program

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1. SUMMARY

This document represents the Four Rivers Nuclear Partnership, LLC, (FRNP) Radiation Protection Program (RPP). The FRNP RPP has been developed to ensure compliance with the requirements of Title 10, *Code of Federal Regulations*, Part 835 (10 *CFR* § 835), *Occupational Radiation Protection*.

This RPP addresses requirements of 10 *CFR* § 835 issued November 4, 1998, effective December 4, 1998; revised June 8, 2007, effective July 9, 2007; corrected April 21, 2009; amended August 11, 2017 that are applicable to FRNP.

Appendix A of this RPP is a requirements matrix identifying FRNP's commitments to 10 *CFR* § 835 requirements. These commitments shall be considered approved 180 days after submission unless rejected by the U.S. Department of Energy (DOE) at an earlier date. In the interim, compliance will be maintained with the currently approved FRNP RPP (CP2-RP-0001/FR0A). This revision does not reduce program effectiveness from the currently approved RPP.

FRNP is in compliance with all applicable portions of 10 *CFR* § 835 and has programs in place to maintain compliance. There are elements of 10 *CFR* § 835 that are not applicable to FRNP because those elements are provided as a government furnished service (GFS) by the Infrastructure Support Service Contractor (ISSC). If a discrepancy is identified in a provided GFS, it is brought to the attention of the DOE for resolution.

There are no exemptions or exemption requests associated with this RPP and there are no new or revised implementation methodologies.

No additional funding is required to meet the commitments of this RPP.

2. GENERAL INFORMATION

2.1 PURPOSE

This document meets the requirements for an RPP, as specified in DOE's Final Rule for *Occupational Radiation Protection*, 10 *CFR* § 835. This revision does not reduce program effectiveness from the currently approved RPP (Rev. FR0A).

2.2 SCOPE

2.2.1 Contractual Relationship

FRNP is responsible for actions as defined by contract DE-EM0004895. These responsibilities include ongoing deactivation, surveillance, maintenance, environmental remediation activities, and sitewide utilities at the Paducah Gaseous Diffusion Plant (PGDP).

FRNP either performs or subcontracts the activities under contract DE-EM0004895. FRNP retains subcontractors with special technologies and capabilities on a project by project basis. FRNP also uses the ISSC to provide the following government furnished services: calibration, routine maintenance and repair of all field monitoring and surveying equipment as required by manufacturer's instructions, dosimetry,

bioassay analysis, an exposure database, and radiation safety training. The ISSC manages the program elements necessary to support the government furnished services that are provided to FRNP and are performed in accordance with an approved statement of work and the ISSC's DOE approved RPP. The statement of work will identify FRNP requirements that are applicable to the service being provided. Records associated with the ISSC supplied services shall be maintained in accordance with the ISSC's DOE approved RPP. Table 1 identifies those requirements where the ISSC provides a GFS to FRNP. In some instances, the identified requirement is fulfilled by the ISSC as a GFS and therefore not applicable to FRNP. In other instances, the identified requirement is applicable to both the ISSC and FRNP because of how the GFS provided by ISSC is applied per the contract. This is covered in the Applicability Discussion column in Table 1.

Table 1. Requirements Where the ISSC Provides a GFS

RPP #	10 *CFR* § 835 Requirement	Applicability Discussion
23	§ 835.102	§ 835.102 states "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." DOE-STD-1098-2017, *Radiological Control*, Article 134.2 states "The assessment program shall also include subcontracted services supporting the radiological control program [see 830.122]", however, certain portions of the functional elements in the assessment program are not assessed by FRNP and are therefore not applicable. Per FRNP contract DE-EM004895, the ISSC shall manage the program elements necessary to support Government Furnished Services that are provided to FRNP (e.g., radiological survey and monitoring equipment calibration and maintenance, dosimetry and bioassay analysis). Additionally, per DOE PPPO-02-51213814-18, DOE has the responsibility to provide oversight of the ISSC to ensure that the ISSC is meeting the requirements of the Contract and FRNP is not entitled to receive or participate in the ISSC assessments and/or surveillances. If FRNP has any particular questions or concerns, DOE will address them on a case-by-case basis.
36	§ 835.204(f)	The ISSC maintains an exposure database as a GFS for FRNP. Determination of dosimetry requirements and evaluation of dosimetry, bioassay and radiological data is not a GFS and is performed by FRNP.
38	§ 835.205(b)	The ISSC maintains an exposure database as a GFS for FRNP. Determination of dosimetry requirements and evaluation of dosimetry, bioassay and radiological data is not a GFS and is performed by FRNP.
47	§ 835.401(b)	The ISSC performs calibration, routine maintenance, and repair of all field monitoring and surveying equipment as required by manufacturer's instructions and FRNP's Measurement and Test Equipment program. FRNP performs daily calibration checks or daily/weekly routine maintenance. FRNP is also responsible for calibration and maintenance of laboratory, nonlaboratory, and Nondestructive Assay equipment that would be used to measure swipes or samples.
48	§ 835.402(a)	The ISSC provides dosimetry to FRNP as a GFS. Determination of dosimetry requirements and evaluation of dosimetry and radiological data is performed by FRNP.
49	§ 835.402(b)	The ISSC External Dosimetry program is provided to FRNP as a GFS.
50	§ 835.402(c)	The ISSC Internal Dosimetry program including bioassay analysis is provided to FRNP as a GFS. Determination of bioassay requirements and evaluation of bioassay data is performed by FRNP.
51	§ 835.402(d)	The ISSC Internal Dosimetry program is provided to FRNP as a GFS.
87	§ 835.701(a)	The ISSC maintains individual monitoring records, Internal and External Dosimetry programs, an exposure database, and records pertaining to calibration, routine maintenance, and repair of all field monitoring and surveying equipment for FRNP as a GFS and FRNP maintains the remaining records.
88	§ 835.701(b)	Since the ISSC maintains records for FRNP (see discussion for RPP #87 in this table) as a GFS and FRNP maintains the remaining records, both ISSC and FRNP are required to maintain their records until final disposition is authorized by DOE.
89	§ 835.702(a)	The ISSC maintains an exposure database as a GFS for FRNP. Determination of dosimetry requirements and evaluation of dosimetry, bioassay and radiological data is not a GFS and is performed by FRNP.

Table 1. Requirements Where the ISSC Provides a GFS (Continued)

RPP #	10 *CFR* § 835 Requirement	Applicability Discussion
90	§ 835.702(b)	The ISSC maintains an exposure database as a GFS for FRNP. Determination of dosimetry requirements and evaluation of dosimetry, bioassay and radiological data is not a GFS and is performed by FRNP.
91	§ 835.702(c)	The ISSC maintains an exposure database as a GFS for FRNP. Determination of dosimetry requirements and evaluation of dosimetry, bioassay and radiological data is not a GFS and is performed by FRNP.
92	§ 835.702(d)	The ISSC maintains an exposure database as a GFS for FRNP. Determination of dosimetry requirements and evaluation of dosimetry, bioassay and radiological data is not a GFS and is performed by FRNP. If a dose is estimated, FRNP will forward the results to the ISSC.
93	§ 835.702(e)	The ISSC provides this to FRNP as a GFS.
94	§ 835.702(f)	The ISSC provides this to FRNP as a GFS.
95	§ 835.702(g)	The ISSC and FRNP will need to work together for future verification or reassessment of recorded doses.
96	§ 835.702(h)	The ISSC provides this to FRNP as a GFS.
100	§ 835.703(d)	The ISSC performs calibration, routine maintenance, and repair of all field monitoring and surveying equipment as required by manufacturer's instructions and FRNP's Measurement and Test Equipment program. FRNP performs daily calibration checks or daily/weekly routine maintenance. FRNP is also responsible for calibration and maintenance of laboratory, nonlaboratory, and Nondestructive Assay equipment that would be used to measure swipes or samples.
103	§ 835.704(c)	§ 835.102 states "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." DOE-STD-1098-2017, *Radiological Control*, Article 134.2 states "The assessment program shall also include subcontracted services supporting the radiological control program [830.122]", however, certain portions of the functional elements in the assessment program are not assessed by FRNP and are therefore not applicable. Per FRNP contract DE-EM004895, the ISSC shall manage the program elements necessary to support Government Furnished Services that are provided to FRNP, (e.g., radiological survey and monitoring equipment calibration and annual maintenance, dosimetry reading and bioassay analysis). Additionally, per DOE PPPO-02-51213814-18, DOE has the responsibility to provide oversight of the ISSC to ensure that the ISSC is meeting the requirements of the contract and FRNP is not entitled to receive or participate in the ISSC assessments and/or surveillances. If FRNP has any particular questions or concerns, DOE will address them on a case by case basis. FRNP will retain those records of quality assurance reviews and audits developed for radiological control functions to ensure that sufficient records are specified, prepared, reviewed, approved, and maintained to accurately reflect completed work that are not part of the ISSC GFS.
104	§ 835.704(d)	The ISSC maintains declarations for FRNP as a GFS.
107	§ 835.801(a)	The ISSC provides this to FRNP as a GFS.
108	§ 835.801(b)	The ISSC provides this to FRNP as a GFS. FRNP will provide ISSC additional information as required to generate a dose estimate.
109	§ 835.801(c)	The ISSC provides this to FRNP as a GFS.
110	§ 835.801(d)	The ISSC provides this to FRNP as a GFS.
111	§ 835.801(e)	The ISSC provides this to FRNP as a GFS. The ISSC will provide the affected individual a report of their exposure associated with the reportable occurrence after it is reviewed by the FRNP RPM.
116	§ 835.901(e)	The ISSC provides this to FRNP as a GFS.
140	§ 835.1301(b)	The ISSC provides this to FRNP as a GFS.

Except as noted above, FRNP subcontractors and service providers are required to comply with the requirements of this RPP. Subcontractors and service providers who possess a DOE approved RPP may use that program in support of FRNP activities only after it has been evaluated and approved by the FRNP Radiation Protection Manager (RPM). The RPP will be submitted to DOE for approval. Subcontractor and service provider RPPs must contain scope-specific requirements equivalent to those in the FRNP RPP. To avoid interface conflicts, the respective RPMs will concur on delegation of program roles, responsibilities, accountabilities, and authorities prior to start of work.

2.2.2 Included Activities

The scope of applicability of this RPP includes all radiological work activities carried out in accordance with contract DE-EM0004895 on behalf of DOE by FRNP and/or its subcontractors and suppliers unless previously excepted. The contract scope of work requires FRNP to plan, execute, and integrate this contract scope at the Paducah Gaseous Diffusion Plant.

Except as allowed by 10 *CFR* § 835.101(h) FRNP will not initiate any task outside the scope of this RPP until DOE approves an update to the RPP or revision to the contract that incorporates the scope change.

FRNP is responsible for managing over 650 structures, properties, or buildings (contract Section J, Attachment J-18) with approximately 7,500,00 ft^2 of floor space. The scope of work includes, but is not limited to, the following:

- Perform necessary surveillance and maintenance of these facilities and prepare the facilities for future demolition;
- Provide utilities for FRNP and other site tenants as detailed in contract Section J, Attachment J-12 Government Furnished Services and Items;
- Deactivation and decommissioning in accordance with the performance work statement (PWS);
- Assist in transfers/assignments of structures, property or buildings to new tenants for purposes of reuse or reindustrialization, as appropriate; and
- All site and facility environmental remediation and waste management as outlined in the PWS.

2.2.3 Excluded Activities

Specific applicable exclusions include those listed in 10 *CFR* § 835.1(b). Except as discussed in § 835.1(c), specific applicability exclusions include those listed below:

- Activities that are regulated through a license by the Nuclear Regulatory Commission (NRC) or a State under an Agreement with the NRC, including activities certified by the NRC under section 1701 of the Atomic Energy Act;
- Activities conducted under the authority of the Deputy Administrator for Naval Reactors, as described in Pub. L. 98-525 and 106-65;
- Activities conducted under the Nuclear Explosives and Weapons Surety Program relating to the prevention of accidental or unauthorized nuclear detonations;

- DOE activities conducted outside the United States on territory under the jurisdiction of a foreign government to the extent governed by occupational radiation protection requirements agreed to between the United States and the cognizant government;

- Background radiation, radiation doses received as a patient for the purposes of medical diagnosis or therapy, or radiation doses received from participation as a subject in medical research programs;

- Radioactive material on or within material, equipment, and real property which is approved for release when the radiological conditions of the material, equipment, and real property have been documented to comply with the criteria for release set forth in a DOE authorized limit which has been approved by a Secretarial Officer in consultation with the Associate Under Secretary for Environment, Health, Safety and Security; or

- Radioactive material transportation not performed by DOE or a DOE contractor.

Additionally, this RPP does not govern independent activities performed by other site prime contractors who have their own 10 *CFR* § 835 compliant RPP activities (i.e., Swift &Staley Inc. and Mid-American Conversion Services). If other site prime contractors perform radiological work as a subcontractor to FRNP, the FRNP RPM may allow the work to be performed in accordance with the prime contractor's RPP after a thorough review has been performed to ensure the other prime contractor's RPP provides an equivalent level of protectiveness for the scope or work being performed. The RPP will be submitted to DOE for approval. To avoid interface conflicts, the respective RPMs will concur on delegation of program roles, responsibilities, accountabilities, and authorities prior to work start. Facilities managed and operated by other PGDP contractors are also excluded from the scope of this RPP.

2.3 SUBMITTAL FORMAT AND CONTENT

The FRNP RPP is based on the regulatory requirements of 10 *CFR* § 835 and is formatted, in part, to the guidance contained in DOE G 441.1-1C, *DOE Radiation Protection Programs Guide*, Chapter 3.0, Appendix 3.A (DOE 2008).

Appendix A of this RPP is a requirements matrix identifying FRNP's commitments to 10 *CFR* § 835 requirements. These commitments shall be considered approved 180 days after submission unless rejected by DOE at an earlier date. In the interim, compliance will be maintained with the currently approved FRNP RPP (Rev. FR0A). This revision does not reduce program effectiveness from the currently approved RPP (Rev. FR0A).

3. APPLICABILITY OF RULE REQUIREMENTS

The scope of applicability of this RPP and the FRNP Radiological Control Manual (RCM), CP2-RP-0002, includes all radiological work activities carried out in accordance with contract DE-EM0004895 on behalf of DOE by FRNP and/or its subcontractors and suppliers at any location, on and off the Paducah DOE Reservation. DOE approval is required for any radiological activities performed beyond the DOE Reservation. The DOE Reservation includes property owned by DOE and DOE-owned property licensed to the Commonwealth of Kentucky, which makes up portions of the West Kentucky Wildlife Management Area.

Section 7 of this RPP identifies sections of 10 *CFR* § 835 where the graded approach and terminology clarifications will be applied.

4. GUIDES AND TECHNICAL STANDARDS

FRNP did not use any entire guides or technical standards to document compliance. Selected portions of guides and technical standards were used in the development of the FRNP RCM, CP2-RP-0002. References utilized in the development of the FRNP RCM can be found in the references section of that document. When adopted as a means for meeting 10 *CFR* § 835 requirements the guide or standard is identified in the Policy and Commitment Basis column of Appendix A, Requirements Matrix.

5. EXEMPTIONS

FRNP has no exemptions from 10 *CFR* § 835 and does not anticipate applying for any exemptions at this time.

6. AUTHORIZED LIMITS AND RESIDUAL RADIOACTIVE MATERIAL

FRNP will continue to use the guidelines and limits previously derived from DOE O 458.1, *Radiation Protection of the Public and Environment*, and associated guidance (such as the surface activity guidelines) for the management of residual radioactive material until such guidelines and limits are replaced or revised by Authorized Limits approved by DOE or preapproved Authorized Limits issued by DOE.

FRNP does have DOE approved Authorized Limits related to FRNP activities, (for example, the C-746-U Landfill and DOE-owned property outside the Limited Area). Further discussion of these and any other DOE O 458.1 approved Authorized Limits can be found in CP2-ES-0103, *Environmental Radiation Protection Program*. This RPP is not applicable when conditions stated in a DOE approved Authorized Limit are met.

Free release of radiologically contaminated equipment and materials from Portsmouth/Paducah Project Office Facilities is discussed in CP2-RP-0002, *FRNP Radiological Control Manual*, Article 422.

7. GRADED APPROACH

The requirements of 10 *CFR* § 835 consist primarily of highly prescriptive worker safety requirements that constitute a comprehensive safety envelope for the conduct of radiological work activities. These very specific requirements are not subject to a graded approach. However, the rule also contains a small number of requirements that are either “performance based” (i.e., specify an end result without prescribing what is necessary to achieve it) or require clarification to establish the intent and scope of the requirement.

Upon evaluation, several of these requirements were determined to be subject to a graded approach. For the purposes of this RPP, a graded approach is achieved through the inclusion of narrative text that describes those FRNP commitments considered appropriate to meet performance based requirements.

These additions are incorporated, where appropriate, into the 10 *CFR* § 835 requirements matrix for FRNP (Appendix A).

Those requirements determined to be suitable for a graded approach through a performance based approach (Table 2) or through the use of terminology clarifications (Table 3) are listed in the following sections.

7.1 GRADED APPROACH (8 TOTAL REQUIREMENTS)

Table 2 contains non-prescriptive, performance based requirements that are subject to a graded approach through the incorporation of additional provisions including narrative text, references to controlling technical bases and program documents, or other technical standards deemed sufficient to establish the commitment bases mandated by the requirements. Appendix A (Requirements Matrix) contains these provisions. The graded approach is based on considerations of magnitude of the hazard, the complexity of the situation, and the length of time the situation will exist.

Table 2. Requirements Subject to a Graded Approach

RPP #	10 *CFR* § 835 Requirement	Discussion
23	§ 835.102	FRNP will apply the graded approach by identifying the functional elements to be assessed within the implementing procedure or assessment plan.
24	§ 835.103	FRNP will apply the graded approach in the identification of "individuals responsible for developing and implementing measures necessary for ensuring compliance."
25	§ 835.104	FRNP will apply the graded approach process described in DOE G 441.1-1C of May 2008, Section 3.2.0, Paragraph 1, 3rd bullet towards the implementation of FRNP radiation protection procedures for this functional area.
46–47	§ 835.401	The requirements of Section 835.401 are subject to the graded approach through criteria established by the FRNP RCM, radiation protection procedures and other radiation protection documentation.
114	§ 835.901(c)	FRNP will apply the graded approach process described in DOE G 441.1-1 C of May 2008, Section 14.2, towards the implementation of FRNP radiation protection procedures and training.
116	§ 835.901(e)	FRNP will apply the graded approach described in DOE G 441.1-1C of May 2008, Section 14.7 paragraphs 2, 3, and 4 towards the implementation of this requirement.
128	§ 835.1102(a)	FRNP will apply a graded approach to "appropriate controls" dependent upon the type and level of contamination present and the activities in and around the area.

7.2 TERMINOLOGY CLARIFICATIONS (11 TOTAL REQUIREMENTS)

Table 3 identifies those requirements determined to be suitable for a graded approach through the incorporation of terminology clarifications. Appendix A (Requirements Matrix) contains these clarifications as an integral part of establishing the FRNP commitment basis.

Table 3. Requirements Subject to Terminology Clarifications

RPP #	10 *CFR* § 835 Requirement	Terminology Clarification
16	§ 835.101(c)	"Commensurate with the nature of the activities performed" is the nature of those activities performed by FRNP, its subcontractors and suppliers at FRNP managed facilities and activities as specified in contract DE-EM0004895.
21	§ 835.101(h)	FRNP will apply the guidelines of DOE G 441.1-1C, Section 3.1, May 2008, when making determination of "Changes that decrease the effectiveness of the RPP."
40	§ 835.206(b)	FRNP will apply the guideline of DOE G 441.1-1C, Section 8.3 paragraph 2, May 2008, to determine "substantial variation" unless a separate technical basis is prepared and approved for the activity.
48	§ 835.402(a)(1) to (4)	"Likely to receive" recognizes that professional judgment and experience will be used in making decisions in specific circumstances. (DOE G 441.1-1C, Section 3.1, paragraph 5, May 2008)
50	§ 835.402(c)(1) to (4)	"Likely to receive" recognizes that professional judgment and experience will be used in making decisions in specific circumstances. (DOE G 441.1-1C, Section 3.1, paragraph 5, May 2008)
52	§ 835.403(a)(1)	"Likely to receive" recognizes that professional judgment and experience will be used in making decisions in specific circumstances. (DOE G 441.1-1C, Section 3.1, paragraph 5, May 2008)
57	§ 835.405(d)	A "working day" is considered the interval of time within each 24 hour period during which the building or area is routinely occupied or available for operations other than emergency activities.
59	§ 835.501(a)	FRNP considers entry control to include postings, barricades, control devices on entryways, visual and audible alarms, administrative procedures, locked entryways, access control systems, and training. FRNP entry controls are used to the degree commensurate with existing and potential radiological hazards within the area.
93	§ 835.702(e)	"Reasonable efforts shall be made", means at least three attempts to obtain exposure information as recommended by DOE G 441.1-1C, Section 13.2.0.3, paragraph 1, May 2008.
102	§ 835.704(b)	"Actions taken to maintain…" means the seven elements of an occupational ALARA program as specified in DOE G 441.1-1C, Section 4.2.0, May 2008.
143	§ 835.1302(a)	Note: "Risk…shall be minimized" means if alternative actions are available to meet emergency needs, then adopting the action with the lowest risk of significant personnel injury shall take precedence over property loss considerations.

8. RESOURCE ASSESSMENT

No resource assessment is required.

9. PRIORITIZATION

No prioritization is required.

10. MILESTONES AND SCHEDULES

There are no milestones and schedules associated with this RPP.

11. REQUIREMENTS MATRIX DISCUSSION

Appendix A of this RPP is a requirements matrix identifying FRNP's commitments to 10 *CFR* § 835 requirements. Appendix A of this RPP provides the following information.

- The RPP #, noting the numerical order of the 10 *CFR* § 835 requirement;
- The 10 *CFR* § 835 section, noting the 10 *CFR* § 835 number;
- A restatement of the 10 *CFR* § 835 requirement implemented by FRNP;
- FRNP policy and commitment basis, as implemented in CP2-RP-0002, *FRNP Radiological Control Manual*, to ensure compliance; and
- Compliance status relative to the 10 *CFR* § 835 requirement implemented by FRNP.
  - — The following compliance definition is used in the Appendix A Requirements Matrix. Compliant: Indicates the 10 *CFR* § 835 requirement is documented as a commitment and the relevant documents are implemented through actual practice at working levels that can be verified by inspection.
  - — Additionally, in this column some requirements have the following listed under the word Compliant; See Table 1 discussion about ISSC GFS. This indicates where the ISSC provides a GFS to FRNP.

The degree of detail provided for each requirement in the matrix is handled on a case-by-case basis. It should be noted that, in some instances, program/policy level document references are either supplemented or replaced by narrative text. The combination of specific document references and narrative text contained in this matrix defines FRNP's commitment to DOE regarding the requirements of 10 *CFR* § 835.

12. REFERENCES

10 *CFR* § 835, *Occupational Radiation Protection*, as amended, U.S. Department of Energy

CP2-ES-0103**,** *Environmental Radiation Protection Program*

CP2-RP-0002, *Four Rivers Nuclear Partnership, LLC, Radiological Control Manual for the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*

DOE G 441.1-1C Admin Chg 1**,** (7/8/11) *Radiation Protection Programs Guide for Use with Title 10, Code of Federal Regulations, Part 835, Occupational Radiation*

DOE O 458.1 Admin Chg 3, (1/15/13) *Radiation Protection of the Public and the Environment*

APPENDIX A

REQUIREMENTS MATRIX

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RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
Subpart A—General Provisions				
§ 835.1 Scope.				
#1	**§ 835.1(a)**	*General.* The rules in this part establish radiation protection standards, limits, and program requirements for protecting individuals from ionizing radiation resulting from the conduct of DOE activities.	DOE Administrative—Not a requirement.	N/A
#2	**§ 835.1(b)**	*Exclusion.* Except as provided in paragraph (c) of this section, the requirements in this part do not apply to: (1) Activities that are regulated through a license by the Nuclear Regulatory Commission or a State under an Agreement with the Nuclear Regulatory commission, including activities certified by the Nuclear Regulatory Commission under section 1701 of the Atomic Energy Act; (2) Activities conducted under the authority of the Deputy Administrator for Naval Reactors, as described in Pub. L. 98-525 and 106-65; (3) Activities conducted under the Nuclear Explosives and Weapons Surety Program relating to the prevention of accidental or unauthorized nuclear detonations; (4) DOE activities conducted outside the United States on territory under the jurisdiction of a foreign government to the extent governed by occupational radiation protection requirements agreed to between the United States and the cognizant government; (5) Background radiation, radiation doses received as a patient for the purposes of medical diagnosis or therapy, or radiation doses received from participation as a subject in	**FRNP RCM Article 112.2** Except as discussed in Article 213.1, the requirements of this RCM shall not apply to: **[835.1(b)] [RPP#2]** a. Activities that are regulated through a license by the Nuclear Regulatory Commission (NRC) or a State under an Agreement with the NRC, including activities certified by the NRC under section 1701 of the Atomic Energy Act; **[835.1(b)(1)] [RPP #2]** b. Activities conducted under the authority of the Deputy Administrator for Naval Reactors, as described in Pub. L. 98-525 and 106-65; **[835.1(b)(2)] [RPP #2]** c. Activities conducted under the Nuclear Explosives and Weapons Surety Program relating to the prevention of accidental or unauthorized nuclear detonations; **[835.1(b)(3)] [RPP #2]** d. DOE activities conducted outside the United States on territory under the jurisdiction of a foreign government to the extent governed by occupational radiation protection requirements agreed to between the United States and the cognizant government; **[835.1(b)(4)] [RPP #2]** e. Background radiation, radiation doses received as a patient for the purposes of medical diagnosis or therapy, or radiation doses received from participation as a subject in medical research programs; or	Compliant

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		medical research programs; or (6) Radioactive material on or within material, equipment, and real property which is approved for release when the radiological conditions of the material, equipment, and real property have been documented to comply with the criteria for release set forth in a DOE authorized limit which has been approved by a Secretarial Officer in consultation with the Associate Under Secretary for Environment, Health, Safety and Security. (7) Radioactive material transportation not performed by DOE or a DOE contractor.	**[835.1(b)(5)][RPP #2]** f. Radioactive material on or within material, equipment, and real property which is approved for release when the radiological conditions of the material, equipment, and real property have been documented to comply with the criteria for release set forth in a DOE authorized limit which has been approved by a Secretarial Officer in consultation with the Chief Health, Safety and Security Officer. **[835.1(b)(6)] [RPP #2]** g. Radioactive material transportation not performed by DOE or a DOE contractor. **[835.1(b)(7)] [RPP #2]**	
#3	**§ 835.1(c)**	Occupational doses received as a result of excluded activities and radioactive material transportation listed in paragraphs (b)(1) through (b)(4) and (b)(7) of this section, shall be included to the extent practicable when determining compliance with the occupational dose limits at §§ 835.202 and 835.207, and with the limits for the embryo/fetus at § 835.206. Occupational doses resulting from authorized emergency exposures and planned special exposures shall not be considered when determining compliance with the dose limits at §§ 835.202 and 835.207.	**FRNP RCM Article 213.1.a** Occupational doses received as a result of excluded activities and radioactive material transportation as listed in Article 112.2 (a-d and g) of this RCM shall be included to the extent practicable when determining compliance with the occupational dose limits in Table 2-1 and Article 215. Occupational doses resulting from authorized emergency exposures and planned special exposures shall not be considered when determining compliance with dose limits of Table 2-1. **[835.1(c)] [RPP #3]**	Compliant
#4	**§ 835.1(d)**	The requirements in subparts F and G of this part do not apply to radioactive material transportation by DOE or a DOE contractor conducted: (1) Under the continuous observation and control of an individual who is knowledgeable of and implements required exposure control measures, or	**FRNP RCM Article 423.14** The requirements in subparts F and G of 10 *CFR* § 835 (Refer to RPP #s 59-86) do not apply to radioactive material transportation by DOE or a DOE contractor conducted: **[835.1(d)] [RPP #4]** 1. Under the continuous observation and control of an individual who is knowledgeable of and implements required exposure control measures, or	Compliant

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		(2) In accordance with Department of Transportation regulations or DOE orders that govern such movements.	**[835.1(d)(1)] [RPP #4]** 2. In accordance with Department of Transportation regulations or DOE orders that govern such movements. **[835.1(d)(2)] [RPP #4]**	
§ 835.2 Definitions.				
#5	**§ 835.2(a)**	As used in this part: *Accountable sealed radioactive source* means a sealed radioactive source having a half-life equal to or greater than 30 days and an isotopic activity equal to or greater than the corresponding value provided in appendix E of this part.	**As reflected in the FRNP RCM, Glossary:** Accountable Sealed Radioactive Source—A sealed radioactive source having a half-life equal to or greater than 30 days and an isotopic activity equal to or greater than the corresponding value provided in Appendix 4A of this RCM. **[835.2(a)] [RPP #5]**	Compliant
		Activity Median Aerodynamic Diameter (AMAD) means a particle size in an aerosol where fifty percent of the activity in the aerosol is associated with particles of aerodynamic diameter greater than the AMAD.	Activity Median Aerodynamic Diameter (AMAD)—A particle size in an aerosol where fifty percent of the activity in the aerosol is associated with particles of aerodynamic diameter greater than the AMAD. **[835.2(a)] [RPP #5]**	Compliant
		Airborne radioactive material or airborne radioactivity means radioactive material dispersed in the air in the form of dusts, fumes, particulates, mists, vapors, or gases.	Airborne Radioactive Material or Airborne Radioactivity—Radioactive material dispersed in the air in the form of dusts, fumes, particulates, mists, vapors, or gases. **[835.2(a)] [RPP #5]**	Compliant
		Airborne radioactivity area means any area, accessible to individuals, where: (1) The concentration of airborne radioactivity, above natural background, exceeds or is likely to exceed the derived air concentration (DAC) values listed in appendix A or appendix C of this part; or (2) An individual present in the area without respiratory protection could receive an intake exceeding 12 DAC-hours in a week.	Airborne Radioactivity Area (ARA)—Any area, accessible to individuals, where: **[835.2(a)] [RPP #5]** (1) The concentration of airborne radioactivity, above natural background, exceeds or is likely to exceed the derived air concentration (DAC) values listed in Appendix A or Appendix C of 10 *CFR* § 835; or (2) An individual present in the area without respiratory protection could receive an intake exceeding 12 DAC-hours in a week.	Compliant
		ALARA means "As Low As is Reasonably Achievable," which is the approach to radiation protection to manage and control exposures (both individual and collective) to the work force and to the general public to as low	ALARA or As Low as Reasonably Achievable—The approach to radiation protection to manage and control exposures (both individual and collective) to the work force and to the general public to as low as is	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		as is reasonable, taking into account social, technical, economic, practical, and public policy considerations. As used in this part, ALARA is not a dose limit but a process which has the objective of attaining doses as far below the applicable limits of this part as is reasonably achievable.	reasonable, taking into account social, technical, economic, practical, and public policy considerations. As used in 10 *CFR* § 835, ALARA is not a dose limit, but a process that has the objective of attaining doses as far below the applicable limits of 10 *CFR* § 835 as is reasonably achievable. **[835.2(a)] [RPP #5]**	
		Annual limit on intake (ALI) means the derived limit for the amount of radioactive material taken into the body of an adult worker by inhalation or ingestion in a year. ALI is the smaller value of intake of a given radionuclide in a year by the reference man (ICRP Publication 23) that would result in a committed effective dose of 5 rems (0.05 sieverts (Sv)) (1 rem = 0.01 Sv) or a committed equivalent dose of 50 rems (0.5 Sv) to any individual organ or tissue. ALI values for intake by ingestion and inhalation of selected radionuclides are based on International Commission on Radiological Protection Publication 68, *Dose Coefficients for Intakes of Radionuclides by Workers*, published July, 1994 (ISBN 0 08 042651 4). This document is available from Elsevier Science Inc., Tarrytown, NY.	Annual Limit on Intake (ALI)—The derived limit for the amount of radioactive material taken into the body of an adult worker by inhalation or ingestion in a year. ALI is the smaller value of intake of a given radionuclide in a year by reference man (ICRP Publication 23) that would result in a committed effective dose of 5 rems (0.05 sieverts (Sv)) (1 rem = 0.01 Sv) or a committed equivalent dose of 50 rems (0.5 Sv) to any individual organ or tissue. ALI values for intake by ingestion and inhalation of selected radionuclides are based on International Commission on Radiological Protection Publication 68, *Dose Coefficients for Intakes of Radionuclides by Workers*, published July, 1994 (ISBN 0 08 042651 4). This document is available from Elsevier Science Inc., Tarrytown, NY. **[835.2(a)] [RPP #5]**	Compliant
		Authorized limit means a limit on the concentration of residual radioactive material on the surfaces or within the property that has been derived consistent with DOE directives including the as low as is reasonably achievable (ALARA) process requirements, given the anticipated use of the property and has been authorized by DOE to permit the release of the property from DOE radiological control.	Authorized Limit—means a limit on the concentration of residual radioactive material on the surfaces or within the property that has been derived consistent with DOE directives including the as low as is reasonably achievable (ALARA) process requirements, given the anticipated use of the property and has been authorized by DOE to permit the release of the property from DOE radiological control. **[835.2(a)] [RPP #5]**	Compliant
		Background means radiation from: (1) Naturally occurring radioactive materials which have not been technologically enhanced; (2) Cosmic sources; (3) Global fallout as it exists in the environment (such as from the testing	Background Radiation—means radiation from: **[835.2(a)] [RPP #5]** (1) Naturally occurring radioactive materials which have not been technology enhanced; (2) Cosmic sources; (3) Global fallout as it exists in the environment (such as from the	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		of nuclear explosive devices); (4) Radon and its progeny in concentrations or levels existing in buildings or the environment which have not been elevated as a result of current or prior activities; and (5) Consumer products containing nominal amounts of radioactive material or producing nominal amounts of radiation.	testing of nuclear explosive devices); (4) Radon and its progeny in concentrations or levels existing in buildings or the environment which have not been elevated as a result of current or prior activities; and (5) Consumer products containing nominal amounts of radioactive material or producing nominal amounts of radiation.	
		Bioassay means the determination of kinds, quantities, or concentrations, and, in some cases, locations of radioactive material in the human body, whether by direct measurement or by analysis and evaluation of radioactive materials excreted or removed from the human body.	Bioassay—The determination of kinds, quantities, or concentrations, and, in some cases, locations of radioactive material in the human body, whether by direct measurement or by analysis and evaluation of radioactive materials excreted or removed from the human body. **[835.2(a)] [RPP #5]**	Compliant
		Calibration means to adjust and/or determine either: (1) The response or reading of an instrument relative to a standard (e.g., primary, secondary, or tertiary) or to a series of conventionally true values; or (2) The strength of a radiation source relative to a standard (e.g., primary, secondary, or tertiary) or conventionally true value.	Calibration—To adjust and/or determine either: **[835.2(a)] [RPP #5]** (1) The response or reading of an instrument relative to a standard (e.g., primary, secondary, or tertiary) or to a series of conventionally true values; or (2) The strength of a radiation source relative to a standard (e.g., primary, secondary, or tertiary) or conventionally true value.	Compliant
		Contamination area means any area, accessible to individuals, where removable surface contamination levels exceed or are likely to exceed the removable surface contamination values specified in appendix D of this part, but do not exceed 100 times those values.	Contamination Area (CA)—Any area, accessible to individuals, where removable surface contamination levels exceed or are likely to exceed the removable surface contamination values specified in Appendix D of 10 *CFR* § 835, but do not exceed 100 times those values. **[835.2(a)] [RPP #5]**	Compliant
		Controlled area means any area to which access is managed by or for DOE to protect individuals from exposure to radiation and/or radioactive material.	Controlled Area—Any area to which access is managed by or for DOE to protect individuals from exposure to radiation and/or radioactive material. **[835.2(a)] [RPP #5]** NOTE: For the Paducah Site, a controlled area by this definition is called a radiologically controlled area to more precisely identify the reason for which control is established.	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		Declared pregnant worker means a woman who has voluntarily declared to her employer, in writing, her pregnancy for the purpose of being subject to the occupational dose limits to the embryo/fetus as provided in § 835.206. This declaration may be revoked, in writing, at any time by the declared pregnant worker.	Declared Pregnant Worker—A woman who has voluntarily declared to her employer, in writing, her pregnancy for the purpose of being subject to the occupational dose limits to the embryo/fetus as provided in Article 215. This declaration may be revoked, in writing, at any time by the declared pregnant worker. **[835.2(a [RPP #5]**	Compliant
		Derived air concentration (DAC) means, for the radionuclides listed in appendix A of this part, the airborne concentration that equals the ALI divided by the volume of air breathed by an average worker for a working year of 2000 hours (assuming a breathing volume of 2400 m^3). For the radionuclides listed in appendix C of this part, the air immersion DACs were calculated for a continuous, non-shielded exposure via immersion in a semi-infinite cloud of radioactive material. Except as noted in the footnotes to appendix A of this part, the values are based on dose coefficients from International Commission on Radiological Protection Publication 68, *Dose Coefficients for Intakes of Radionuclides by Workers*, published July, 1994 (ISBN 0 08 042651 4) and the associated ICRP computer program, *The ICRP Database of Dose Coefficients: Workers and Members of the Public*, (ISBN 0 08 043 8768). These materials are available from Elsevier Science Inc., Tarrytown, NY.	Derived Air Concentration (DAC)—For the radionuclides listed in Appendix A of 10 *CFR* § 835, the airborne concentration that equals the ALI divided by the volume of air breathed by an average worker for a working year of 2000 hours (assuming a breathing volume of 2400 m^3). For the radionuclides listed in Appendix C of 10 *CFR* § 835, the air immersion DACs were calculated for a continuous, non-shielded exposure via immersion in a semi-infinite cloud of radioactive material. Except as noted in the footnotes to Appendix A of 10 *CFR* § 835, the values are based on dose coefficients from International Commission on Radiological Protection Publication 68, *Dose Coefficients for Intakes of Radionuclides by Workers*, published July, 1994 (ISBN 0 08 042651 4) and the associated ICRP computer program, *The ICRP Database of Dose Coefficients: Workers and Members of the Public*, (ISBN 0 08 043 8768). These materials are available from Elsevier Science Inc., Tarrytown, NY. **[835.2(a)] [RPP #5]**	Compliant
		Derived air concentration-hour (DAC-hour) means the product of the concentration of radioactive material in air (expressed as a fraction or multiple of the DAC for each radionuclide) and the time of exposure to that radionuclide, in hours.	Derived Air Concentration Hours (DAC-hour)—The product of the concentration of radioactive material in air, (expressed as a fraction or multiple of the DAC for each radionuclide), and the time of exposure to that radionuclide, in hours. **[835.2(a)] [RPP #5]**	Compliant
		Deterministic effects means effects due to radiation exposure for which the severity varies with the dose and for which a threshold normally exists (e.g., radiation-induced opacities within the lens of the eye).	Deterministic Effects—Effects due to radiation exposure for which the severity varies with the dose and for which a threshold normally exists (e.g., radiation-induced opacities within the lens of the eye). **[835.2(a)] [RPP #5]**	Compliant
		DOE means the United States	DOE—means the United States	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		Department of Energy.	Department of Energy. **[835.2(a)] [RPP #5]**	
		DOE activity means an activity taken for or by DOE in a DOE operation or facility that has the potential to result in the occupational exposure of an individual to radiation or radioactive material. The activity may be, but is not limited to, design, construction, operation, or decommissioning. To the extent appropriate, the activity may involve a single DOE facility or operation or a combination of facilities and operations, possibly including an entire site or multiple DOE sites.	DOE Activity—An activity taken for or by DOE in a DOE operation or facility that has the potential to result in the occupational exposure of an individual to radiation or radioactive material. The activity may be, but is not limited to, design, construction, operation, or decommissioning. To the extent appropriate, the activity may involve a single DOE facility or operation or a combination of facilities and operations, possibly including an entire site or multiple DOE sites. **[835.2(a)] [RPP #5]**	Compliant
		Entrance or access point means any location through which an individual could gain access to areas controlled for the purpose of radiation protection. This includes entry or exit portals of sufficient size to permit human entry, irrespective of their intended use.	Entrance or Access Point—Any location through which an individual could gain access to areas controlled for the purposes of radiation protection. This includes entry or exit portals of sufficient size to permit human entry, irrespective of their intended use. **[835.2(a)] [RPP #5]**	Compliant
		General employee means an individual who is either a DOE or DOE contractor employee; an employee of a subcontractor to a DOE contractor; or an individual who performs work for or in conjunction with DOE or utilizes DOE facilities.	General Employee—An individual who is either a DOE or DOE contractor employee; an employee of a subcontractor to a DOE contractor; or an individual who performs work for or in conjunction with DOE or utilizes DOE facilities. **[835.2(a)] [RPP #5]**	Compliant
		High contamination area means any area, accessible to individuals, where removable surface contamination levels exceed or are likely to exceed 100 times the removable surface contamination values specified in appendix D of this part.	High Contamination Area (HCA)—Any area accessible to individuals, where removable surface contamination levels exceed or are likely to exceed 100 times the removable surface contamination values specified in Appendix D of 10 *CFR* § 835. **[835.2(a)] [RPP #5]**	Compliant
		High radiation area means any area, accessible to individuals, in which radiation levels could result in an individual receiving an equivalent dose to the whole body in excess of 0.1 rems (0.001 Sv) in 1 hour at 30 centimeters from the radiation source or from any surface that the radiation penetrates.	High Radiation Area (HRA)—Any area, accessible to individuals, in which radiation levels could result in an individual receiving an equivalent dose to the whole body in excess of 0.1 rems (0.001 Sv) in 1 hour at 30 centimeters from the radiation source or from any surface that the radiation penetrates. **[835.2(a)] [RPP #5]**	Compliant
		Individual means any human being.	Individual—means any human being. **[835.2(a)] [RPP #5]**	Compliant
		Member of the public means an individual who is not a general employee. An individual is not a	Member of the Public—An individual who is not a general employee. An individual is not a "member of the	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		"member of the public" during any period in which the individual receives an occupational dose.	public" during any period in which the individual receives an occupational dose. **[835.2(a)] [RPP #5]**	
		Minor means an individual less than 18 years of age.	Minor—An individual less than 18 years of age. **[835.2(a)] [RPP #5]**	Compliant
		Monitoring means the measurement of radiation levels, airborne radioactivity concentrations, radioactive contamination levels, quantities of radioactive material, or individual doses and the use of the results of these measurements to evaluate radiological hazards or potential and actual doses resulting from exposures to ionizing radiation.	Monitoring—The measurement of radiation levels, airborne radioactivity concentrations, radioactive contamination levels, quantities of radioactive material, or individual doses and the use of the results of these measurements to evaluate radiological hazards or potential and actual doses resulting from exposures to ionizing radiation. **[835.2(a)] [RPP #5]**	Compliant
		Occupational dose means an individual's ionizing radiation dose (external and internal) as a result of that individual's work assignment. Occupational dose does not include doses received as a medical patient or doses resulting from background radiation or participation as a subject in medical research programs.	Occupational Dose—An individual's ionizing radiation dose (external and internal) as a result of that individual's work assignment. Occupational dose does not include doses received as a medical patient, or doses resulting from background radiation, or participation as a subject in medical research programs.**[835.2(a)] [RPP #5]**	Compliant
		Person means any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency, any State or political subdivision of, or any political entity within a State, any foreign government or nation or other entity, and any legal successor, representative, agent or agency of the foregoing; provided that person does not include DOE or the United States Nuclear Regulatory Commission.	Person—Any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency, any State or political subdivision of, or any political entity within a State, any foreign government or nation or other entity, and any legal successor, representative, agent or agency of the foregoing; provided that person does not include DOE or the United States Nuclear Regulatory Commission. **[835.2(a)] [RPP #5]**	Compliant
		Radiation means ionizing radiation: alpha particles, beta particles, gamma rays, X-rays, neutrons, high-speed electrons, high-speed protons, and other particles capable of producing ions. Radiation, as used in this part, does not include non-ionizing radiation, such as radio waves or microwaves, or visible, infrared, or ultraviolet light.	Radiation—means ionizing radiation: alpha particles, beta particles, gamma rays, X-rays, neutrons, high-speed electrons, high-speed protons, and other particles capable of producing ions. Radiation, as used in this manual, does not include non-ionizing radiation, such as radio waves or microwaves, or visible, infrared, or ultraviolet light. **[835.2(a)] [RPP #5]**	Compliant
		Radiation area means any area, accessible to individuals, in which radiation levels could result in an individual receiving an equivalent dose to the whole body in excess of	Radiation Area (RA)—Any area, accessible to individuals, in which radiation levels could result in an individual receiving an equivalent dose in excess of 0.005 rem (0.05 mSv) in 1	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		0.005 rem (0.05 mSv) in 1 hour at 30 centimeters from the source or from any surface that the radiation penetrates.	hour at 30 centimeters from the source or from any surface that the radiation penetrates. **[835.2(a)] [RPP #5]**	
		Radioactive material area means any area within a controlled area, accessible to individuals, in which items or containers of radioactive material exist and the total activity of radioactive material exceeds the applicable values provided in appendix E of this part.	Radioactive Material Area (RMA)—Any area within a controlled area, accessible to individuals, in which items or containers of radioactive material exist and the total activity of radioactive material exceeds the applicable values provided in Appendix 4A of this RCM. **[835.2(a)] [RPP #5]**	Compliant
		Radioactive material transportation means the movement of radioactive material by aircraft, rail, vessel, or highway vehicle. Radioactive material transportation does not include preparation of material or packagings for transportation, storage of material awaiting transportation, or application of markings and labels required for transportation.	Radioactive Material Transportation—The movement of radioactive material by aircraft, rail, vessel, or highway vehicle. Radioactive material transportation does not include preparation of material or packagings for transportation, storage of material awaiting transportation, or application of markings and labels required for transportation. **[835.2(a)] [RPP #5]**	Compliant
		Radiological area means any area within a controlled area defined in this section as a "radiation area," "high radiation area," "very high radiation area," "contamination area," "high contamination area," or "airborne radioactivity area."	Radiological area—Any area within a controlled area defined in this manual as a "radiation area," "high radiation area," "very high radiation area," "contamination area," "high contamination area," or "airborne radioactivity area." **[835.2(a)] [RPP #5]**	Compliant
		Radiological worker means a general employee whose job assignment involves operation of radiation producing devices or working with radioactive materials, or who is likely to be routinely occupationally exposed above 0.1 rem (0.001 Sv) per year total effective dose.	Radiological Worker—A general employee whose job assignment involves operation of radiation producing devices or working with radioactive materials, or who is likely to be routinely occupationally exposed above 0.1 rem (0.001 Sv) per year total effective dose. **[835.2(a)] [RPP #5]**	Compliant
		Real property means land and anything permanently affixed to the land such as buildings, fences and those things attached to the buildings, such as light fixtures, plumbing and heating fixtures.	Real Property—Land and anything permanently affixed to the land such as buildings, fences and those things attached to the buildings, such as light fixtures, plumbing and heating fixtures. **[835.2(a)] [RPP #5]**	Compliant
		Real-time air monitoring means measurement of the concentrations or quantities of airborne radioactive materials on a continuous basis.	Real-Time Air Monitoring—Measurement of the concentrations or quantities of airborne radioactive materials on a continuous basis. **[835.2(a)] [RPP #5]**	Compliant
		Respiratory protective device means an apparatus, such as a respirator, worn by an individual for the purpose of reducing the individual's intake of	Respiratory Protective Device—An apparatus, such as a respirator, worn by an individual for the purpose of reducing the individual's intake of	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		airborne radioactive materials.	airborne radioactive materials. **[835.2(a)] [RPP #5]**	
		Sealed radioactive source means a radioactive source manufactured, obtained, or retained for the purpose of utilizing the emitted radiation. The sealed radioactive source consists of a known or estimated quantity of radioactive material contained within a sealed capsule, sealed between layer(s) of non-radioactive material, or firmly fixed to a non-radioactive surface by electroplating or other means intended to prevent leakage or escape of the radioactive material. Sealed radioactive sources do not include reactor fuel elements, nuclear explosive devices, and radioisotope thermoelectric generators.	Sealed Radioactive Source—A radioactive source manufactured, obtained, or retained for the purpose of utilizing the emitted radiation. The sealed radioactive source consists of a known or estimated quantity of radioactive material contained within a sealed capsule, sealed between layer(s) of non-radioactive material, or firmly fixed to a non-radioactive surface by electroplating or other means intended to prevent leakage or escape of the radioactive material. Sealed radioactive sources do not include reactor fuel elements, nuclear explosive devices, and radioisotope thermoelectric generators. **[835.2(a)] [RPP #5]**	Compliant
		Source leak test means a test to determine if a sealed radioactive source is leaking radioactive material.	Source Leak Test—A test to determine if a sealed radioactive source is leaking radioactive material. **[835.2(a)] [RPP #5]**	Compliant
		Special tritium compound (STC*)* means any compound, except for H_2O, that contains tritium, either intentionally (e.g., by synthesis) or inadvertently (e.g., by contamination mechanisms).	Special Tritium Compound (STC)—Any compound, except for H_2O, that contains tritium, either intentionally (e.g., by synthesis) or inadvertently (e.g., by contamination mechanisms). **[835.2(a)] [RPP #5]**	Compliant
		Stochastic effects means malignant and hereditary diseases for which the probability of an effect occurring, rather than its severity, is regarded as a function of dose without a threshold, for radiation protection purposes.	Stochastic Effects—Malignant and hereditary diseases for which the probability of an effect occurring, rather than its severity, is regarded as a function of dose without a threshold, for radiation protection purposes. **[835.2(a)] [RPP #5]**	Compliant
		Very high radiation area means any area, accessible to individuals, in which radiation levels could result in an individual receiving an absorbed dose in excess of 500 rads (5 grays) in one hour at 1 meter from a radiation source or from any surface that the radiation penetrates.	Very High Radiation Area (VHRA)—Any area accessible to individuals, in which radiation levels could result in an individual receiving an absorbed dose in excess of 500 rads (5 grays) in one hour at 1 meter from a radiation source or from any surface that the radiation penetrates. **[835.2(a)] [RPP #5]**	Compliant
		Week means a period of seven consecutive days.	Week— A period of seven consecutive days. **[835.2(a)] [RPP #5]**	Compliant
		Year means the period of time beginning on or near January 1 and ending on or near December 31 of that same year used to determine compliance with the provisions of this	Year—The period of time beginning on or near January 1 and ending on or near December 31 of that same year used to determine compliance with the provisions of 10 *CFR* § 835. The	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		part. The starting and ending date of the year used to determine compliance may be changed, provided that the change is made at the beginning of the year and that no day is omitted or duplicated in consecutive years.	starting and ending date of the year used to determine compliance may be changed, provided that the change is made at the beginning of the year and that no day is omitted or duplicated in consecutive years. **[835.2(a)] [RPP #5]**	
#6	**§ 835.2(b)**	As used in this part to describe various aspects of radiation dose: *Absorbed dose* (D) means the average energy imparted by ionizing radiation to the matter in a volume element per unit mass of irradiated material. The absorbed dose is expressed in units of rad (or gray) (1 rad = 0.01 gray).	**As reflected in the FRNP RCM, Glossary to describe various aspects of radiation dose:** Absorbed Dose (D)—The average energy imparted by ionizing radiation to the matter in a volume element per unit mass of irradiated material. The absorbed dose is expressed in units of rad (or gray) (1 rad = 0.01 gray). **[835.2(b)] [RPP #6]**	Compliant
		Committed effective dose (E_{50}) means the sum of the committed equivalent doses to various tissues or organs in the body ($H_{T,50}$), each multiplied by the appropriate tissue weighting factor (W_T)—that is, $E_{50} = \Sigma W_T H_{T,50} + w_{Remainder} H_{Remainder,50}$. Where $W_{Remainder}$ is the tissue weighting factor assigned to the remainder organs and tissues and $H_{Remainder,50}$ is the committed equivalent dose to the remainder organs and tissues. Committed effective dose is expressed in units of rem (or Sv).	Committed Effective Dose (E_{50})—The sum of the committed equivalent doses to various tissues or organs in the body ($H_{T,50}$), each multiplied by the appropriate tissue weighting factor (W_T)—that is, $E_{50} = \Sigma W_T H_{T,50} + W_{Remainder} H_{Remainder,50}$. Where $W_{Remainder}$ is the tissue weighting factor assigned to the remainder organs and tissues and $H_{Remainder,50}$ is the committed equivalent dose to the remainder organs and tissues. Committed effective dose is expressed in units of rem (or Sv). **[835.2(b)] [RPP #6]**	Compliant
		Committed equivalent dose ($H_{T,50}$) means the equivalent dose calculated to be received by a tissue or organ over a 50-year period after the intake of a radionuclide into the body. It does not include contributions from radiation sources external to the body. Committed equivalent dose is expressed in units of rem (or Sv).	Committed Equivalent Dose ($H_{T,50}$)—The equivalent dose calculated to be received by a tissue or organ over a 50-year period after the intake of a radionuclide into the body. It does not include contributions from radiation sources external to the body. Committed equivalent dose is expressed in units of rem (or Sv). **[835.2(b)] [RPP #6]**	Compliant
		Cumulative total effective dose means the sum of all total effective dose values recorded for an individual plus, for occupational exposures received before the implementation date of this amendment, the cumulative total effective dose equivalent (as defined in the November 4, 1998 amendment to this rule) values recorded for an individual, where available, for each year occupational dose was received, beginning January 1, 1989.	Cumulative Total Effective Dose—The sum of all total effective dose values recorded for an individual plus, for occupational exposures received before the implementation date of this amendment, the cumulative total effective dose equivalent (as defined in the November 4, 1998 amendment to this rule) values recorded for an individual, where available, for each year occupational dose was received, beginning January 1, 1989. **[835.2(b)] [RPP #6]**	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		Dose is a general term for absorbed dose, equivalent dose, effective dose, committed equivalent dose, committed effective dose, or total effective dose as defined in this part.	Dose—A general term for absorbed dose, equivalent dose, effective equivalent dose, committed equivalent dose, committed effective dose, or total effective dose as defined in 10 *CFR* § 835. **[835.2(b)] [RPP #6]**	Compliant
		Effective dose (E) means the summation of the products of the equivalent dose received by specified tissues or organs of the body (H_T) and the appropriate tissue weighting factor (W_T)—that is, $E = \Sigma W_T H_T$. It includes the dose from radiation sources internal and/or external to the body. For purposes of compliance with this part, equivalent dose to the whole body may be used as effective dose for external exposures. The effective dose is expressed in units of rem (or Sv).	Effective Dose (E)—The summation of the products of the equivalent dose received by specified tissues or organs of the body (H_T) and the appropriate tissue weighting factor (W_T) – that is ($E = \sum W_T H_T$). It includes the dose from radiation sources internal and/or external to the body. For purposes of compliance with 10 *CFR* § 835, equivalent dose to the whole body may be used as effective dose for external exposures. The effective dose is expressed in units or rem (or Sv). **[835.2(b)] [RPP #6]**	Compliant
		Equivalent dose (H_T) means the product of average absorbed dose ($D_{T,R}$) in rad (or gray) in a tissue or organ (T) and a radiation (R) weighting factor (W_R). For external dose, the equivalent dose to the whole body is assessed at a depth of 1 cm in tissue; the equivalent dose to the lens of the eye is assessed at a depth of 0.3 cm in tissue, and the equivalent dose to the extremity and skin is assessed at a depth of 0.007 cm in tissue. Equivalent dose is expressed in units of rem (or Sv).	Equivalent Dose (H_T)—The product of the average absorbed dose ($D_{T,R}$) in rad (or gray) in tissue or organ (T), and a radiation (R) weighting factor (W_R). For external dose, the equivalent dose to the whole body is assessed at a depth of 1 cm in tissue; the equivalent dose to the lens of the eye is assessed at a depth of 0.3 cm in tissue, and the equivalent dose to the extremity and skin is assessed at a depth of 0.007 cm in tissue. Equivalent dose is expressed in units of rem (or Sv). **[835.2(b)] [RPP #6]**	Compliant
		External dose or exposure means that portion of the equivalent dose received from radiation sources outside the body (i.e., "external sources").	External Dose or Exposure—That portion of the equivalent dose received from radiation sources outside the body (i.e., "external sources"). **[835.2(b)] [RPP #6]**	Compliant
		Extremity means hands and arms below the elbow or feet and legs below the knee.	Extremity—Hands and arms below the elbow or feet and legs below the knee. **[835.2(b)] [RPP #6]**	Compliant
		Internal dose or exposure means that portion of the equivalent dose received from radioactive material taken into the body (i.e., "internal sources").	Internal Dose or Exposure—That portion of the equivalent dose received from radioactive material taken into the body (i.e., "internal sources"). **[835.2(b)] [RPP #6]**	Compliant
		Radiation weighting factor (w_R) means the modifying factor used to calculate the equivalent dose from the average tissue or organ absorbed dose; the absorbed dose (expressed in rad or gray) is multiplied by the appropriate	Radiation Weighting Factor (W_R) — The modifying factor used to calculate the equivalent dose from the average tissue or organ absorbed dose; the absorbed dose (expressed in rad or gray) is multiplied by the appropriate	Compliant

<table>
<tr><th>RPP #</th><th>10 CFR § 835 Section</th><th>Restatement of the Requirement</th><th>FRNP Policy and Commitment Basis</th><th>Compliance Status</th></tr>
<tr>
<td></td>
<td></td>
<td>radiation weighting factor. The radiation weighting factors to be used for determining equivalent dose in rem are as follows:

Radiation Weighting Factors[1], W_R
<table>
<tr><th>Type and energy range</th><th>Radiation weighting factor</th></tr>
<tr><td>Photons, electrons and muons, all energies</td><td>1</td></tr>
<tr><td>Neutrons, energy <10 keV[2 3]</td><td>5</td></tr>
<tr><td>Neutrons, energy 10 keV to 100 keV[2 3]</td><td>10</td></tr>
<tr><td>Neutrons, energy >100 keV to 2 MeV[2 3]</td><td>20</td></tr>
<tr><td>Neutrons, energy >2 MeV to 20 MeV[2 3]</td><td>10</td></tr>
<tr><td>Neutrons, energy >20 MeV[2 3]</td><td>5</td></tr>
<tr><td>Protons, other than recoil protons, energy >2 MeV</td><td>5</td></tr>
<tr><td>Alpha particles, fission fragments, heavy nuclei</td><td>20</td></tr>
</table>
[1]All values relate to the radiation incident on the body or, for internal sources, emitted from the source.

[2]When spectral data are insufficient to identify the energy of the neutrons, a radiation weighting factor of 20 shall be used.

[3]When spectral data are sufficient to identify the energy of the neutrons, the following equation may be used to determine a neutron radiation weighting factor value:

$w_R = 5 + 17 \exp\left[\frac{-(\ln(2E_n))^2}{6}\right]$ Where E_n is the neutron energy in MeV.</td>
<td>radiation weighting factor (W_R). The radiation weighting factors to be used for determining equivalent dose in rem are as follows: [835.2(b)] [RPP #6]

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<table>
<tr><th>Type and energy range</th><th>Radiation weighting factor</th></tr>
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<tr><td>Neutrons, energy >100 keV to 2 MeV[2 3]</td><td>20</td></tr>
<tr><td>Neutrons, energy >2 MeV to 20 MeV[2 3]</td><td>10</td></tr>
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$W_R = 5+17 \exp [-(\ln(2E_n))^2 \div 6]$ Where E_n is the neutron energy in MeV.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tissue weighting factor (W_T) means the fraction of the overall health risk, resulting from uniform, whole body irradiation, attributable to specific tissue (T). The equivalent dose to tissue, (H_T), is multiplied by the appropriate tissue weighting factor to obtain the effective dose (E) contribution from that tissue. The tissue weighting factors are as follows:</td>
<td>Tissue Weighting Factor (W_T)—The fraction of the overall health risk, resulting from uniform, whole body irradiation, attributable to specific tissue (T). The equivalent dose to tissue, H_T, is multiplied by the appropriate tissue weighting factor to obtain the effective dose (E) contribution from that tissue. The tissue weighting factors are as follows: [835.2(b)] [RPP #6]</td>
<td>Compliant</td>
</tr>
</table>

<table>
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<tr><td></td><td></td><td>Tissue Weighting Factors for Various Organs and Tissues
<table>
<tr><th>Organs or tissues, T</th><th>Tissue weighting factor, W_T</th></tr>
<tr><td>Gonads</td><td>0.20</td></tr>
<tr><td>Red bone marrow</td><td>0.12</td></tr>
<tr><td>Colon</td><td>0.12</td></tr>
<tr><td>Lungs</td><td>0.12</td></tr>
<tr><td>Stomach</td><td>0.12</td></tr>
<tr><td>Bladder</td><td>0.05</td></tr>
<tr><td>Breast</td><td>0.05</td></tr>
<tr><td>Liver</td><td>0.05</td></tr>
<tr><td>Esophagus</td><td>0.05</td></tr>
<tr><td>Thyroid</td><td>0.05</td></tr>
<tr><td>Skin</td><td>0.01</td></tr>
<tr><td>Bone surfaces</td><td>0.01</td></tr>
<tr><td>Remainder[1]</td><td>0.05</td></tr>
<tr><td>Whole body[2]</td><td>1.00</td></tr>
</table>
[1]“Remainder” means the following additional tissues and organs and their masses, in grams, following parenthetically: adrenals (14), brain (1400), extrathoracic airways (15), small intestine (640), kidneys (310), muscle (28,000), pancreas (100), spleen (180), thymus (20), and uterus (80). The equivalent dose to the remainder tissues ($H_{remainder}$), is normally calculated as the mass-weighted mean dose to the preceding ten organs and tissues. In those cases in which the most highly irradiated remainder tissue or organ receives the highest equivalent dose of all the organs, a weighting factor of 0.025 (half of remainder) is applied to that tissue or organ and 0.025 (half of remainder) to the mass-weighted equivalent dose in the rest of the remainder tissues and organs to give the remainder equivalent dose.

[2]For the case of uniform external irradiation of the whole body, a tissue weighting factor (W_T) equal to 1 may be used in determination of the effective dose.</td><td>Tissue Weighting Factors for Various Organs and Tissues
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<tr><td>Bladder</td><td>0.05</td></tr>
<tr><td>Breast</td><td>0.05</td></tr>
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<tr><td>Esophagus</td><td>0.05</td></tr>
<tr><td>Thyroid</td><td>0.05</td></tr>
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[2]For the case of uniform external irradiation of the whole body, a tissue weighting factor (W_T) equal to 1 may be used in determination of the effective dose.</td><td></td></tr>
<tr><td></td><td></td><td>Total effective dose (TED) means the sum of the effective dose (for external exposures) and the committed effective dose.</td><td>Total Effective Dose (TED)—The sum of the effective dose (for external exposures) and the committed effective dose. [835.2(b)] [RPP #6]</td><td>Compliant</td></tr>
<tr><td></td><td></td><td>Whole body means, for the purposes of external exposure, head, trunk (including male gonads), arms above and including the elbow, or legs above and including the knee.</td><td>Whole Body—For the purposes of external exposure, head, trunk (including male gonads), arms above and including the elbow, or legs above and including the knee.
[835.2(b)] [RPP #6]</td><td>Compliant</td></tr>
</table>

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
#7	**§ 835.2(c)**	Terms defined in the Atomic Energy Act of 1954 or in 10 *CFR* part 820 and not defined in this part are used consistent with their meanings given in the Atomic Energy Act of 1954 or in 10 *CFR* part 820.	**As reflected in the FRNP RCM, Glossary:** Terms defined in the Atomic Energy Act of 1954 or in 10 *CFR* § 820 and not defined in this Glossary are used consistent with their meanings given in the Atomic Energy Act of 1954 or in 10 *CFR* § 820. **[835.2(c)] [RPP #7]**	Compliant
§ 835.3 General rule.				
#8	**§ 835.3(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.	**FRNP RCM Article 113.1** No person or DOE personnel shall take or cause to be taken any action inconsistent with the requirements of: (1) 10 *CFR* § 835; or (2) Any program, plan, schedule, or other process established by 10 *CFR* § 835. **[835.3(a)] [RPP #8]**	Compliant
#9	**§ 835.3(b)**	With respect to a particular DOE activity, contractor management shall be responsible for compliance with the requirements of this part.	**FRNP RCM Article 113.1** With respect to a particular DOE activity, FRNP management shall be responsible for compliance with the requirements of 10 *CFR* § 835. **[835.3(b)] [RPP #9]**	Compliant
#10	**§ 835.3(c)**	Where there is no contractor for a DOE activity, DOE shall ensure implementation of and compliance with the requirements of this part.	The scope of this RPP is limited to contractor activities. Note: See Section 3, Applicability of Rule Requirements, of this RPP.	Compliant
#11	**§ 835.3(d)**	Nothing in this part shall be construed as limiting actions that may be necessary to protect health and safety.	**FRNP RCM Article 113.1** Nothing in this RCM shall be construed as limiting actions that may be necessary to protect health and safety. **[835.3(d)] [RPP #11]**	Compliant
#12	**§ 835.3(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.	**FRNP RCM Article 113.1** For those activities that are required by Articles 134.1, 431.3, 431.4 and 613.4, the time interval to conduct these activities may be extended by a period not to exceed 30 days to accommodate scheduling needs. **[835.3(e)] [RPP #12]**	Compliant
§ 835.4 Radiological units.				
#13	**§ 835.4**	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, or other conventional units, such as, dpm, dpm/100 cm^2 or mass units. The SI units, becquerel (Bq), gray (Gy), and sievert (Sv), may be provided	**FRNP RCM Article 713.5 excerpt** Unless otherwise specified, the quantities used in the records required by this RCM shall be clearly indicated in special units of curie, rad, roentgen, or rem, including multiples and subdivisions of these units, or other conventional units, such as, dpm, dpm/100 cm^2 or mass units. The SI units, becquerel (Bq), gray (Gy), and	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		parenthetically for reference with scientific standards.	sievert (Sv), may be provided parenthetically for reference with scientific standards **[835.4] [RPP #13].**	
Subpart B—Management and Administrative Requirements				
§ 835.101 Radiation protection programs.				
#14	**§ 835.101(a)**	A DOE activity shall be conducted in compliance with a documented radiation protection program (RPP) as approved by the DOE.	In accordance with Section 2, General Information, FRNP's RPP establishes the documentation to implement § 835.101(a). The FRNP RPP will be managed and controlled through the FRNP document control process.	Compliant
#15	**§ 835.101(b)**	The DOE may direct or make modifications to a RPP.	FRNP accepts provision § 835.101(b) as written.	Compliant
#16	**§ 835.101(c)**	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.	FRNP's approved RPP establishes the documentation to implement § 835.101(c) as written. Note: "Commensurate with the nature of the activities performed" is the nature of those activities performed by FRNP, its subcontractors and suppliers at FRNP managed facilities and activities as specified in contract DE-EM0004895. **FRNP RCM Article 117 excerpt** While most or all of the provisions of this RCM support the ALARA process, the provisions of Chapter 3 are specifically directed toward the planning and execution of work, physical design features and administrative controls, and efforts to implement work controls commensurate with the radiological hazards.	Compliant
#17	**§ 835.101(d)**	The RPP shall specify the existing and/or anticipated operational tasks that are intended to be within the scope of the RPP. Except as provided in § 835.101(h), any task outside the scope of a RPP shall not be initiated until an update of the RPP is approved by DOE.	See Section 3, Applicability of Rule Requirements, of this RPP. If any radiological activities are determined to be outside the scope of the RPP (as defined in Section 3), except as provided in § 835.101(h), FRNP shall obtain DOE approval of the revised RPP.	Compliant
#18	**§ 835.101(e)**	The content of the RPP shall address, but shall not necessarily be limited to, each requirement in this part.	Upon DOE approval, FRNP's RPP implements § 835.101(e) as written.	Compliant
#19	**§ 835.101(f)**	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 the amendments to this part published on June 8, 2007 shall be achieved no later than July 9, 2010.	Upon DOE approval, FRNP's RPP establishes documentation to implement § 835.101(f) as written. (See Section 10)	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
#20	**§ 835.101(g)**	An update of the RPP shall be submitted to DOE: (1) Whenever a change or an addition to the RPP is made; (2) Prior to the initiation of a task not within the scope of the RPP; or (3) Within 180 days of the effective date of any modifications to this part.	FRNP accepts requirement § 835.101(g) as written.	Compliant
#21	**§ 835.101(h)**	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. Proposed changes that decrease the effectiveness of the RPP shall not be implemented without submittal to and approval by the Department.	FRNP accepts the requirement § 835.101(h) as written. Note: FRNP will apply the guidelines of DOE G 441.1-1C, Section 3.1, May 2008, when making determination of "Changes that decrease the effectiveness of the RPP."	Compliant
#22	**§ 835.101(i)**	An initial RPP or an update shall be considered approved 180 days after its submission unless rejected by DOE at an earlier date.	FRNP accepts the requirement § 835.101(i) as written.	Compliant
§ 835.102 Internal audits.				
#23	**§ 835.102**	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.	**FRNP RCM Article 134.1** 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 **[835.102] [RPP #23]**. Note: FRNP will apply the graded approach by identifying the functional elements to be assessed within the implementing procedure or assessment plan.	Compliant See Table 1 discussion about ISSC GFS
§ 835.103 Education, training and skills.				
#24	**835.103**	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.	**FRNP RCM Article 141.5** Individuals responsible for developing and implementing measures necessary for ensuring compliance with the requirements of 10 *CFR* § 835 shall have the appropriate education, training, and skills to discharge these responsibilities. **[835.103] [RPP #24]** Note: FRNP will apply the graded approach in the identification of "individuals responsible for developing	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
			and implementing measures necessary for ensuring compliance".	
§ 835.104 Written procedures.				
#25	**§ 835.104**	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.	**FRNP RCM Article 382.2** Written procedures shall be developed and implemented as necessary to ensure compliance with the provisions of this RCM, commensurate with the radiological hazards created by the activity and consistent with the education, training, and skills of the individuals exposed to those hazards. **[835.104] [RPP #25]** Note: FRNP will apply the graded approach process described in DOE G 441.1-1C of May 2008, Section 3.2.0, Paragraph 1, 3rd bullet towards the implementation of FRNP radiation protection procedures for this functional area.	Compliant
Subpart C—Standards for Internal and External Exposure				
§ 835.201 [Reserved]				
§ 835.202 Occupational dose limits for general employees.				
#26	**§ 835.202(a)**	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: (1) A total effective dose of 5 rems (0.05 Sv); (2) The sum of the equivalent dose to the whole body for external exposures and the committed equivalent dose to any organ or tissue other than the skin or the lens of the eye of 50 rems	**FRNP RCM Article 213.1** Except for dose resulting from planned special exposures conducted consistent with Article 213.2 and emergency exposures authorized in accordance with 213.3, the occupational dose received by general employees shall be controlled such that limits provided in Table 2-1 are not exceeded in a year. **[835.202(a)(1)-(4)] [RPP # 26]** **Excerpt from Table 2-1 and Table 2-1 Notes** General Employee: Whole Body (internal + external) (TED) **[835.202(a)(1)] [RPP #26]** 5 rem/year Note: Whole body dose (total effective dose [TED]) = effective dose from external exposures + committed effective dose from internal exposures (*see whole body dose in Glossary*). General Employee: The sum of the equivalent dose to the whole body for external exposures and the committed equivalent dose to any organ or tissue other than the skin or the lens of the eye **[835.202(a)(2)] [RPP #26]** 50	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		(0.5 Sv); (3) An equivalent dose to the lens of the eye of 15 rems (0.15 Sv); and (4) The sum of the equivalent dose to the skin or to any extremity for external exposures and the committed equivalent dose to the skin or to any extremity of 50 rems (0.5 Sv).	rem/year Note: The annual limit of dose to "any organ or tissue" is based on the committed equivalent dose to that organ or tissue resulting from internally deposited radionuclides over a 50-year period after intake plus any equivalent dose to that organ from external exposures during the year. **[835.202(a)(2)] [RPP #26]** General Employee: Lens of the Eye (external) **[835.202(a)(3)] [RPP #26]** 15 rem/year Note: Lens of the eye equivalent dose = equivalent dose from external exposure determined at a tissue depth of 0.3 cm (*see equivalent dose in Glossary*). General Employee: Skin and extremities (external dose to the skin or extremities + internal dose resulting in dose to the skin) **[835.202(a)(4)] [RPP #26]** 50 rem/year Note: Equivalent dose to the skin = equivalent dose from external exposure determined at a tissue depth of 0.007 cm (*see equivalent dose in Glossary*).	
#27	**§ 835.202(b)**	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.	**FRNP RCM Article 213.1.b** All occupational doses received during the current year, (including that received from accidents and non-DOE employment), except the dose resulting from planned special exposures conducted consistent with Article 213.2 and emergency exposures authorized in accordance with 213.3, shall be included when demonstrating compliance with Table 2-1 limits. **[835.202(b)] [RPP #27]**	Compliant
#28	**§ 835.202(c)**	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.	**Excerpt from Table 2-1 Notes** Exposures due to background radiation, as a patient undergoing therapeutic and diagnostic medical procedures, and participation as a subject in medical research programs shall not be included in either personnel radiation dose records or assessment of dose against the limits in this Table. **[835.202(c)] [RPP #28]**	Compliant
§ 835.203 Combining internal and external equivalent doses.				

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
#29	**§ 835.203(a)**	The total effective dose during a year shall be determined by summing the effective dose from external exposures and the committed effective dose from intakes during the year.	**Excerpt from Table 2-1 Notes** Whole body dose (total effective dose [TED]) = effective dose from external exposures + committed effective dose from internal exposures (*see Whole Body Dose in Glossary*). **[835.203(a)] [RPP #29]**	Compliant
#30	**§ 835.203(b)**	Determinations of the effective dose shall be made using the radiation and tissue weighting factor values provided in § 835.2.	**Excerpt from Table 2-1 Notes** Determination of the effective dose shall be made using the radiation and tissue weighting factor values provided in the Glossary. **[835.203(b)] [RPP #30]**. (*see Radiation Weighting Factor (W_R) and Tissue Weighting Factor (W_T) in the Glossary*) **FRNP RCM Article 381.1 excerpt** The information in the Glossary for Radiation Weighting Factors and Tissue Weighting Factors for Various Organs and Tissues shall be used in developing design features to meet the design objectives **[835.203(b)] [RPP #30]**.	Compliant
§ 835.204 Planned special exposures.				
#31	**§ 835.204(a)**	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: (1) 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 unavailable or impractical; (2) The contractor management (and employer, if the employer is not the contractor) specifically requests the planned special exposure, in writing; and (3) Joint written approval is received from the appropriate DOE Headquarters program office and the Secretarial Officer responsible for environment, safety and health matters.	**FRNP RCM Article 213.2.a** 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 for general employees specified in Table 2-1, provided that each of the following conditions is satisfied: 1. The planned special exposure is considered only in an exceptional situation when alternatives that might prevent a radiological worker from exceeding the limits in Table 2-1 are unavailable or impractical; 2. The contractor management (and employer, if the employer is not the contractor) specifically requests the planned special exposure, in writing; and 3. Joint written approval is received from the appropriate DOE Headquarters program office and the Secretarial Officer responsible for environment, safety and health matters**.**	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
			[835.204(a)] [#31]	
#32	**§ 835.204(b)**	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.	**FRNP RCM Article 213.2.b** 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. **[835.204(b)] [RPP #32]**	Compliant
#33	**§ 835.204(c)**	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: (1) In a year, the numerical values of the dose limits established at § 835.202(a); and (2) Over the individual's lifetime, five times the numerical values of the dose limits established at § 835.202(a).	**FRNP RCM Article 213.2.c** An individual shall not receive a planned special exposure that, in addition to the doses determined in Article 213.2.b, would result in a dose exceeding the following: 1. In a year, the numerical values of the dose limits established in Table 2-1 for general employees; and 2. Over the individual's lifetime, five times the numerical values of the dose limits established in Table 2-1 for general employees. **[835.204(c)] [RPP #33]**	Compliant
#34	**§ 835.204(d)**	Prior to a planned special exposure, written consent shall be obtained from each individual involved. Each such written consent shall include: (1) The purpose of the planned operations and procedures to be used; (2) The estimated doses and associated potential risks and specific radiological conditions and other hazards which might be involved in performing the task; and (3) Instructions on the measures to be taken to keep the dose ALARA considering other risks that may be present.	**FRNP RCM Article 213.2.d** Prior to a planned special exposure, written consent shall be obtained from each individual involved. Each such written consent shall include: 1. The purpose of the planned operations and procedures to be used; 2. The estimated doses and associated potential risks and specific radiological conditions and other hazards which might be involved in performing the task; and 3. Instructions on the measures to be taken to keep the dose ALARA considering other risks that may be present. **[835.204(d)] [RPP #34]**	Compliant
#35	**§ 835.204(e)**	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).	**FRNP RCM Article 213.2.e** 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 Article 213.2.a.3. **[835.204(e)] [RPP #35]**	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
#36	**§ 835.204(f)**	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.	**FRNP RCM Article 213.2.f** The dose from planned special exposures is not to be considered in controlling future occupational dose of the individual under Table 2-1, but is to be included in records and reports required by this RCM. **[835.204(f)] [RPP #36]**	Compliant See Table 1 discussion about ISSC GFS
§ 835.205 Determination of compliance for non-uniform exposure of the skin.				
#37	**§ 835.205(a)**	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.	**FRNP RCM Appendix 2B** Non-uniform exposures of the skin from X-rays, beta radiation, and radioactive materials on the skin, including hot particles, shall be assessed and recorded as specified in the table below. **[835.205(a)] [RPP #37]** **Excerpt from Table 2-1 Notes** See Appendix 2B for provision on assessing and recording doses from non-uniform exposure of the skin.	Compliant
#38	**§ 835.205(b)**	For purposes of demonstrating compliance with § 835.202(a)(4), assessments shall be conducted as follows: (1) *Area of skin irradiated is 100 cm^2 or more.* The non-uniform equivalent dose received during the year shall be averaged over the 100 cm^2 of the skin receiving the maximum dose, added to any uniform equivalent dose also received by the skin, and recorded as the equivalent dose to any extremity or skin for the year. (2) *Area of skin irradiated is 10 cm^2 or more, but is less than 100 cm^2*. The non-uniform equivalent dose (H) to the irradiated area received during the year shall be added to any uniform equivalent dose also received by the skin and recorded as the equivalent dose to any extremity or skin for the year. H is the equivalent dose averaged over the 1 cm^2 of skin receiving the maximum absorbed dose, D, reduced by the fraction f, which is the irradiated area in cm^2 divided by 100 cm^2 (i.e., H = fD). In no case shall a value of	**FRNP RCM Appendix 2B excerpt** For purposes of demonstrating compliance with § 835.202(a)(4), assessments shall be conducted as follows: **[835.205(b)] [RPP #38]** Area of skin irradiated is ≥ 100 cm^2 - The non-uniform equivalent dose received during the year shall be: **[835.205(b)(1)] [RPP #38]** • Averaged over the 100 cm^2 of skin receiving the maximum dose, • Added to any uniform equivalent dose also received by the skin, and • Recorded as the equivalent dose to any extremity or skin for the year Area of skin irradiated is ≥ 10 cm^2 and < 100 cm^2 - The non-uniform equivalent dose (H) to the irradiated area received during the year shall be: **[835.205(b)(2)] [RPP #38]** • Averaged over the 1 cm^2 of skin receiving the maximum absorbed dose (D), reduced by the fraction (f) which is the irradiated area in cm^2 divided by 100 cm^2 (i.e. H = fD). In no case shall a value of f less than 0.1 be used. • Added to any uniform equivalent	Compliant See Table 1 discussion about ISSC GFS

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		f less than 0.1 be used. (3) *Area of skin irradiated is less than 10 cm^2*. The non-uniform equivalent dose shall be averaged over the 1 cm^2 of skin receiving the maximum dose. This equivalent dose shall: (i) Be recorded in the individual's occupational exposure history as a special entry; and (ii) Not be added to any other equivalent dose to any extremity or skin for the year.	dose also received by the skin and • Recorded as the equivalent dose to any extremity or skin for the year Area of skin irradiated is < 10 cm^2 - The non-uniform equivalent dose received shall be: **[835.205(b)(3)] [RPP #38]** • Averaged over the 1 cm^2 of skin receiving the maximum dose • This equivalent dose shall be recorded in the individual's occupational exposure history as a special entry[1]; and • Not be added to any other equivalent dose to any extremity or skin for the year	

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
§ 835.206 Limits for the embryo/fetus.				
#39	**§ 835.206(a)**	The equivalent dose 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 Sv).	**FRNP RCM Article 215.2.a** For a declared pregnant worker who chooses to continue work involving occupational exposure: The equivalent dose limit for the embryo/fetus from the period of conception to birth, as a result of occupational exposure of a declared pregnant worker, is provided in Table 2-1 **[835.206(a)] RPP #39]**. The dose to the embryo/fetus is equal to the sum of doses received from external doses, sources inside the mother, and sources inside the embryo/fetus. The dose limit to the fetus is the equivalent dose. **Excerpt from Table 2-1** Declared Pregnant Worker: Embryo/Fetus (internal + external) **[835.206(a)] RPP #39]** 0.5 rem/ gestation period	Compliant
#40	**§ 835.206(b)**	Substantial variation above a uniform exposure rate that would satisfy the limits provided in § 835.206(a) shall be avoided.	**FRNP RCM Article 215.2.b** For a declared pregnant worker who chooses to continue work involving occupational exposure: Measures shall be taken to avoid substantial variation above the uniform exposure rate necessary to meet the limits provided in Table 2-1 **[835.206(b)] [RPP #40]**. Efforts should be made to avoid exceeding 50 millirem per month to the declared pregnant worker. **Excerpt from Table 2-1** Declared Pregnant Worker: Embryo/Fetus (internal + external) **[835.206(a)] RPP #39]** 0.5 rem/ gestation period Note: FRNP will apply the guideline of DOE G 441.1-1C, Section 8.3 paragraph 2, May 2008, to determine "substantial variation" unless a separate technical basis is prepared and approved for the activity.	Compliant
#41	**§ 835.206(c)**	If the equivalent dose to the embryo/fetus is determined to have already exceeded 0.5 rem (0.005 Sv) by the time a worker declares her pregnancy, the declared pregnant worker shall not be assigned to tasks where additional occupational	**FRNP RCM Article 215.3** If the equivalent dose to the embryo/fetus is determined to have already exceeded the limits provided in Table 2-1 by the time a worker declares her pregnancy, the declared pregnant worker shall not be assigned	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		exposure is likely during the remaining gestation period.	to tasks where additional occupational exposure is likely during the remaining gestation period. **[835.206(c)] [RPP #41]** **Excerpt from Table 2-1** Declared Pregnant Worker: Embryo/Fetus (internal + external) **[835.206(a)] RPP #39]** 0.5 rem/ gestation period	
§ 835.207 Occupational dose limits for minors.				
#42	**§ 835.207**	The dose limits for minors occupationally exposed to radiation and/or radioactive materials at a DOE activity are 0.1 rem (0.001 Sv) total effective dose in a year and 10 percent of the occupational dose limits specified at § 835.202(a)(3) and (a)(4).	**FRNP RCM Article 213.1.d** The dose limits provided in Table 2-1 apply to all minors occupationally exposed to radiation and/or radioactive materials at a DOE activity. **[835.207] [RPP #42]** **Excerpt from Table 2-1** Minors: Whole Body (internal + external) (TED) **[835.207] [RPP #42]** 0.1 rem/year Minors: Lens of the eye, skin, and extremities **[835.207] [RPP #42]** 10% of General Employee limits	Compliant
§ 835.208 Limits for members of the public entering a controlled area.				
#43	**§ 835.208**	The total effective dose 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 Sv) in a year.	**FRNP RCM Article 214.1** The total effective dose 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 Sv) in a year. **[835.208] [RPP #43].**	Compliant
§ 835.209 Concentrations of radioactive material in air.				
#44	**§ 835.209(a)**	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.	**FRNP RCM Article 235.2** Derived Air Concentration (DAC) values given in 10 *CFR* § 835 Appendices A and C shall be used in posting airborne radioactivity areas in accordance with Table 2-4. **[835.209(a)] [RPP #44]**	Compliant
#45	**§ 835.209(b)**	The estimation of internal dose shall be based on bioassay data rather than air concentration values unless bioassay data are: (1) Unavailable; (2) Inadequate; or	**FRNP RCM Article 521.2** The estimation of internal dose shall be based on bioassay data rather than air concentration values unless one of the following conditions exists: **[835.209(b)] [RPP #45]** a. bioassay data are unavailable; **[835.209(b)(1)] [RPP #45]** b. bioassay data are inadequate; **[835.209(b)(2)] [RPP #45]**	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		(3) Internal dose estimates based on air concentration values are demonstrated to be as or more accurate.	c. internal dose estimates based on representative air concentration values are demonstrated to be as or more accurate. **[835.209(b)(3)] [RPP #45]**	
Subpart D [Reserved]				
Subpart E—Monitoring of Individuals and Areas				
§ 835.401 General requirements.				
#46	**§ 835.401(a)**	Monitoring of individuals and areas shall be performed to: (1) Demonstrate compliance with the regulations in this part; (2) Document radiological conditions; (3) Detect changes in radiological conditions; (4) Detect the gradual buildup of radioactive material; (5) Verify the effectiveness of engineered and administrative controls in containing radioactive material and reducing radiation exposure; and (6) Identify and control potential sources of individual exposure to radiation and/or radioactive material.	**FRNP RCM Article 551.1 excerpt** Radiological monitoring of radiation exposure levels, contamination, and airborne radioactivity shall be conducted to: **[835.401(a)] [RPP #46]** a. Demonstrate regulatory compliance **[835.401(a)(1)] [RPP #46]** b. Characterize workplace conditions and detect changes in those conditions **[835.401(a)(2) & (3)] [RPP #46]** c. Detect the gradual buildup of radioactive material in the workplace **[835.401(a)(4)] [RPP #46]** d. Verify the effectiveness of engineered and administrative controls **[835.401(a)(5)] [RPP #46]** e. Identify and control potential sources of personnel exposure **[835.401(a)(6)] [RPP #46]** Note: The requirements of Section 835.401 are subject to the graded approach through criteria established by the FRNP RCM, radiation protection procedures and other radiation protection documentation.	Compliant
#47	**§ 835.401(b)**	Instruments and equipment used for monitoring shall be: (1) Periodically maintained and	**FRNP RCM Article 551.2** Monitoring shall be performed only by individuals who have the appropriate education, training, and skills (see Article 141.5). The instruments used shall be: **[835.401(b)] [RPP #47]** a. Periodically maintained and calibrated; **[835.401(b)(1)] [RPP**	Compliant See Table 1 discussion about ISSC GFS

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		calibrated on an established frequency;	**#47]**	
		(2) Appropriate for the type(s), levels, and energies of the radiation(s) encountered;	b. Appropriate for the types, levels, and energies of radiation to be detected; **[835.401(b)(2)] [RPP #47]**	
		(3) Appropriate for existing environmental conditions; and	c. Appropriate for existing environmental conditions; and **[835.401(b)(3)] [RPP #47]**	
		(4) Routinely tested for operability.	d. Routinely tested for operability. **[835.401(b)(4)] [RPP #47]**	
§ 835.402 Individual monitoring.				
#48	**§ 835.402(a)**	For the purpose of monitoring individual exposures to external radiation, personnel dosimeters shall be provided to and used by:	**FRNP RCM Article 511.1** Personnel dosimetry shall be provided to and used by individuals as follows: **[835.402(a)] [RPP #48]**	Compliant See Table 1 discussion about ISSC GFS
		(1) Radiological workers who, under typical conditions, are likely to receive one or more of the following: (i) An effective dose of 0.1 rem (0.001 Sv) or more in a year; (ii) An equivalent dose to the skin or to any extremity of 5 rems (0.05 Sv) or more in a year; (iii) An equivalent dose to the lens of the eye of 1.5 rems (0.015 Sv) or more in a year;	a. Radiological workers who are expected to receive from external sources an effective dose of 100 millirem or more in a year or an equivalent dose to the extremities, lens of the eye, or skin of 10 percent or more of the corresponding limits specified in Table 2-1; **[835.402(a)(1)] [RPP #48]**	
		(2) Declared pregnant workers who are likely to receive from external sources an equivalent dose to the embryo/fetus in excess of 10 percent of the applicable limit at § 835.206(a);	b. Declared pregnant workers who are likely to receive from external sources an equivalent dose of 50 millirem (ten per cent of dose limit specified in Table 2-1) or more to the embryo/fetus during the gestation period; **[835.402(a)(2)] [RPP #48]**	
		(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;	c. Occupationally exposed minors likely to receive from external sources an effective dose in excess of 50 percent of the dose limits specified in Table 2-1 in a year. (50 mrem whole body, 750 mrem to lens of the eye, 2.5 rem to the skin or any extremity); **[835.402(a)(3)] [RPP #48]**	
		(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	d. Members of the public who enter the controlled area and are likely to receive from external sources an effective dose of 50 millirem or more in a year; **[835.402((a)(4)] [RPP #48]**	

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		(5) Individuals entering a high or very high radiation area.	e. Individuals entering a high or very high radiation area. **[835.402(a)(5)] [RPP #48]** Note: "Likely to receive" recognizes that professional judgment and experience will be used in making decisions in specific circumstances. (DOE G 441.1-1C, Section 3.1, paragraph 5, May 2008)	
#49	**§ 835.402(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: (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.	**FRNP RCM Article 512.1 excerpt** External dosimetry programs implemented to meet the requirements of Article 511.1 shall be adequate to demonstrate compliance with the dose limits in Table 2-1 and shall be: **[835.402(b)] [RPP #49]** a. Accredited by the DOE Laboratory Accreditation Program (DOELAP) for Personnel Dosimetry **[835.402(b)(1)] [RPP #49];** or b. Excepted from accreditation by the DOELAP Program for Personnel Dosimetry **[835.402(b)(1)] [RPP #49];** or c. Otherwise approved by a Secretarial Officer responsible for environment, safety and health matters **[835.402(b)(2)] [RPP #49].**	Compliant See Table 1 discussion about ISSC GFS
#50	**§ 835.402(c)**	For the purpose 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 of 0.1 rem (0.001 Sv) or more from all occupational radionuclide intakes in a year; (2) Declared pregnant workers likely to receive an intake or intakes resulting in an equivalent dose to the embryo/fetus in excess of 10 percent of the limit stated at § 835.206(a);	**FRNP RCM Article 521.1** The following individuals shall participate in an internal dosimetry program: **[835.402(c)] [RPP #50]** a. Radiological workers who are likely to receive a committed effective dose of 100 millirem or more from all occupational radionuclide intakes in a year; **[835.402(c)(1)] [RPP #50]** b. Declared pregnant workers likely to receive intakes resulting in an equivalent dose to the embryo/fetus of 50 millirem or more during the gestation period; **[835.402(c)(2)] [RPP #50]**	Compliant See Table 1 discussion about ISSC GFS

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		(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 (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.	c. Occupationally exposed minors likely to receive a committed effective dose in excess of 50 millirem from all radionuclide intakes in a year; **[835.402(c)(3)] [RPP #50]** or d. Members of the public who enter a controlled area and are likely to receive an intake resulting in a committed effective dose exceeding 50 millirem in a year. **[835.402(c)(4)] [RPP #50]** Note: "Likely to receive" recognizes that professional judgment and experience will be used in making decisions in specific circumstances. (DOE G 441.1-1C, Section 3.1, paragraph 5, May 2008)	
#51	**§ 835.402(d)**	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 Radiobioassy.	**FRNP RCM Article 522.1** All bioassay programs implemented to demonstrate compliance with Article 521.1 shall be adequate to demonstrate compliance with the dose limits in Table 2-1 and shall be: **[835.402(d)] [RPP #51]** a. Accredited by the DOELAP for Radiobioassay (DOE-STD-1112-2016) **[835.402(d)(1)] [RPP #51]**; or b. Excepted from accreditation by the DOELAP for Radiobioassay **[835.402(d)(1)] [RPP #51]**; or c. Otherwise approved by a Secretarial Officer responsible for environment, safety and health matters. **[835.402(d)(2)] [RPP #51]**	Compliant See Table 1 discussion about ISSC GFS
§ 835.403 Air monitoring.				
#52	**§ 835.403(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 (2) As necessary to characterize the airborne radioactivity hazard where	**FRNP RCM Article 555.2 excerpt** Air sampling equipment shall be used where an individual is likely to receive an annual exposure of 40 or more Derived Air Concentration (DAC) hours in a year **[835.403(a) and (a)(1)] [RPP #52]**. **FRNP RCM Article 555.2 excerpt** Samples shall also be taken as	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		respiratory protective devices for protection against airborne radionuclides have been prescribed.	necessary to characterize the hazard in areas where respiratory protection devices have been prescribed for protection against airborne radionuclides **[835.403(a)(2)] [RPP #52]**. Note: "Likely to receive" recognizes that professional judgment and experience will be used in making decisions in specific circumstances. (DOE G 441.1-1C, Section 3.1, paragraph 5, May 2008)	
#53	**§ 835.403(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.	**FRNP RCM Article 555.3 excerpt** Real-time air monitoring shall be conducted as necessary to detect and provide warning of airborne radioactivity concentrations that warrant immediate action to terminate inhalation of airborne radioactive material **[835.403(b)] [RPP #53]**.	Compliant
§ 835.404 [Reserved]				
§ 835.405 Receipt of packages containing radioactive material.				
#54	**§ 835.405(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: (1) Take possession of the package when the carrier offers it for delivery; or (2) 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.	**FRNP RCM Article 423.12** Specific arrangements shall be made for receiving packages containing radioactive material, regardless of the means of conveyance, in excess of Type A quantities (as defined in 10 *CFR* § 71.4). These arrangements shall include making arrangements to receive packages upon delivery or to receive notification of delivery which leads to expeditious receipt of the package **[835.405(a), (1) & (2)] [RPP #54]**.	Compliant
#55	**§ 835.405(b)**	Upon receipt from radioactive material transportation, external surfaces of packages known to contain radioactive material shall be monitored if the package: (1) 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	**FRNP RCM Article 552.4 excerpt** When radioactive material exceeding a Type A quantity (as defined in 10 *CFR* § 71.4) is received, radiation monitoring of the received packages shall be performed if: **[835.405(b)] [RPP #55]** a. The package 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	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		(2) 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); or (3) Has evidence of degradation, such as packages that are crushed, wet, or damaged.	**[835.405(b)(1)] [RPP #55]** b. The package has been transported as low specific activity (LSA) material on an exclusive use vehicle; or **[835.405(b)(2)] [RPP #55]** c. Has evidence of degradation, such as packages that are crushed, wet, or damaged. **[835.405(b)(3)] [RPP #55]**	
#56	**§ 835.405(c)**	The monitoring required by paragraph (b) of this section shall include: (1) Measurements of removable contamination levels, unless the package contains only special form (as defined at 10 *CFR* 71.4) or gaseous radioactive material; and (2) Measurements of the radiation levels, if the package contains a Type B quantity (as defined at 10 *CFR* 71.4) of radioactive material.	**FRNP RCM Article 554.3 excerpt** When radioactive material is received (other than gaseous or special form materials as defined at 10 *CFR* § 71.4), contamination monitoring of the received packages shall be performed if: **[835.405(c) and (c)(1)] [RPP #56]** a. The package 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 **[835.405(b)(1)][RPP #55]** b. The package has been transported as low specific activity (LSA) material on an exclusive use vehicle. **[835.405(b)(2)] [RPP #55]** c. Has evidence of degradation, such as packages that are crushed, wet, or damaged. **[835.405(b)(3)] [RPP #55]** **FRNP RCM Article 552.5** Radiation monitoring shall also be performed when a received package contains a Type B quantity (as defined in 10 *CFR* § 71.4) of radioactive material. **[835.405(c)(2)] [RPP #56]**	Compliant
#57	**§ 835.405(d)**	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.	**FRNP RCM Article 552.6** When monitoring of received packages is required, (as specified in Article 552.4 and 552.5), monitoring of received packages of radioactive material shall be performed as soon as practicable following receipt, but not later than eight hours after the	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
			beginning of the working day following the receipt of the package. **[835.405(d)] [RPP #57]** **FRNP RCM Article 554.4** When monitoring of received packages is required (as specified in Article 554.3), monitoring shall be performed as soon as practicable following receipt, but not later than eight hours after the beginning of the working day following the receipt of the package. **[835.405(d)] [RPP #57]** Note: A "working day" is considered the interval of time within each 24 hour period during which the building or area is routinely occupied or available for operations other than emergency activities.	
#58	**§ 835.405(e)**	Monitoring pursuant to § 835.405(b) is not required for packages transported on a DOE site which have remained under the continuous observation and control of a DOE employee or DOE contractor employee who is knowledgeable of and implements required exposure control measures.	**FRNP RCM Article 552.7** Monitoring in accordance with Article 552.4 is not required for packages transported on a DOE site which have remained under the continuous observation and control of a DOE employee or DOE contractor employee who is knowledgeable of and implements required exposure control measures. **[835.405(e)] [RPP #58]** **FRNP RCM Article 554.5** Monitoring in accordance with Article 554.3 is not required for packages transported on a DOE site which have remained under the continuous observation and control of a DOE employee or DOE contractor employee who is knowledgeable of and implements required exposure control measures. **[835.405(e)] [RPP #58]**	Compliant
Subpart F—Entry Control Program				
§ 835.501 Radiological areas.				
#59	**§ 835.501(a)**	Personnel entry control shall be maintained for each radiological area.	**FRNP RCM Article 330.1** Personnel entry control shall be maintained for each radiological area. **[835.501(a)] [RPP # 59]** Note: FRNP considers entry control to include postings, barricades, control devices on entryways, visual and audible alarms, administrative procedures, locked entryways, access control systems and training. FRNP entry controls are used to the degree commensurate with existing and	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
			potential radiological hazards within the area.	
#60	**§ 835.501(b)**	The degree of control shall be commensurate with existing and potential radiological hazards within the area.	**FRNP RCM Article 330.2** The degree of control shall be commensurate with existing and potential radiological hazards within the area. **[835.501(b)] [RPP #60]**	Compliant
#61	**§ 835.501(c)**	One or more of the following methods shall be used to ensure 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.	**FRNP RCM Article 330.3** One or more of the following methods shall be used to ensure control: **[835.501(c)] [RPP #61]** a. Signs and barricades; b. Control devices on entrances; c. Conspicuous visual and audible alarms; d. Locked entrance ways; or e. Administrative controls.	Compliant
#62	**§ 835.501(d)**	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.	**FRNP RCM Article 382.3 excerpt** Written authorizations, including specific radiation protection measures, 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 **[835.501(d)] [RPP # 62]**.	Compliant
#63	**§ 835.501(e)**	No control(s) shall be installed at any radiological area exit that would prevent rapid evacuation of personnel under emergency conditions.	**FRNP RCM Article 231.12 excerpt** These barriers shall be set up such that they do not impede the intended use of emergency exits or evacuation routes **[835.501(e)] [RPP #63]**. **FRNP RCM Article 330.4** No control(s) shall be installed at any radiological area exit that would prevent rapid evacuation of personnel under emergency conditions. **[835.501(e)] [RPP #63]**	Compliant
§ 835.502 High and very high radiation areas.				
#64	**§ 835.502(a)**	The following measures shall be implemented for each entry into a high radiation area: (1) The area shall be monitored as necessary during access to determine the exposure rates to which the individuals are exposed; and (2) Each individual shall be monitored	**FRNP RCM Article 334.3 excerpt** The following measures shall be implemented for each entry into a high radiation area: **[835.502(a)] [RPP #64]** a. The area shall be monitored as necessary during access to determine the exposure rates to which individuals are exposed **[835.502(a)(1)] [RPP #64]**; and b. Each individual shall be	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		by a supplemental dosimetry device or other means capable of providing an immediate estimate of the individual's integrated equivalent dose to the whole body during the entry.	monitored by a supplemental dosimetry device or other means capable of providing an immediate estimate of the individual's integrated equivalent dose to the whole body during the entry. **[835.502(a)(2)] [RPP #64]**	
#65	**§ 835.502(b)**	*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 an equivalent dose 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:	**FRNP RCM Appendix 3B.1** One or more of the following features should be used for each entrance or access point to a high radiation area and 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 whole body dose of 1 rem in any one hour at 30 centimeters from the source or any surface that the radiation penetrates: **[835.502(b)] [RPP #65]**	Compliant
		(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;	a. 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; **[835.502(b)(1)] [RPP #65]**	
		(2) A device that functions automatically to prevent use or operation of the radiation source or field while individuals are in the area;	b. A device that functions automatically to prevent use or operation of the radiation source or field while individuals are in the area; **[835.502(b)(2)] [RPP #65]**	
		(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;	c. 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; **[835.502(b)(3)] [RPP #65]**	
		(4) Entryways that are locked. During periods when access to the area is required, positive control over each entry is maintained;	d. Entryways that are locked. During periods when access to the area is required, positive control over each entry is maintained; **[835.502(b)(4)] [RPP #65]**	
		(5) Continuous direct or electronic surveillance that is capable of preventing unauthorized entry;	e. Continuous direct or electronic surveillance that is capable of preventing unauthorized entry; **[835.502(b)(5)] [RPP #65]**	
		(6) A control device that will	f. A control device that will	

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		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.	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. **[835.502(b)(6)] [RPP #65]**	
#66	**§ 835.502(c)**	*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.	**FRNP RCM Appendix 3B.2** 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. **[835.502(c)][RPP #66]**	Compliant
#67	**§ 835.502(d)**	No control(s) shall be established in a high or very high radiation area that would prevent rapid evacuation of personnel.	**FRNP RCM Appendix 3B.3** No control(s) shall be established in a high or very high radiation area that would prevent rapid evacuation of personnel. **[835.502(d)] [RPP #67]**	Compliant
Subpart G—Posting and Labeling				
§ 835.601 General requirements.				
#68	**§ 835.601(a)**	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.	**FRNP RCM Article 231.3 excerpt** Except as otherwise provided in Articles 231.2 and 232.2, signs shall include the standard radiation warning trefoil colored magenta or black on a yellow background **[835.601(a)] [RPP #68]**. **FRNP RCM Article 412.4 excerpt** Except as otherwise provided in Article 412.2, labels shall include the standard radiation warning trefoil colored magenta or black on a yellow background **[835.601(a)] [RPP #68]**.	Compliant
#69	**§ 835.601(b)**	Signs required by this subpart shall be clearly and conspicuously posted and may include radiological protection instructions.	**FRNP RCM Article 231.4 excerpt** Signs required by this Chapter shall be clearly and conspicuously posted, clearly worded, and, where appropriate, may include radiological control instructions **[835.601(b)] [RPP #69]**.	Compliant
#70	**§ 835.601(c)**	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.	**FRNP RCM Article 231.2** The posting requirements in this RCM 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	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
			this RCM. **[835.601(c)] [RPP #70]** **FRNP RCM Article 412.2** The labeling requirements in this RCM 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 RCM. **[835.601(c)] [RPP #70]**	
§ 835.602 Controlled areas.				
#71	**§ 835.602(a)**	Each access point to a controlled area (as defined at § 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 of more than 0.1 rem (0.001 sievert) in a year.	**FRNP RCM Article 232.1** Each access point to a controlled area 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 of more than 0.1 rem (0.001 sievert) in a year. **[835.602(a)] [RPP #71]**	Compliant
#72	**§ 835.602(b)**	Signs used for this purpose may be selected by the contractor to avoid conflict with local security requirements.	**FRNP RCM Article 232.2** Signs used for Controlled Areas may be selected by FRNP to avoid conflict with local security requirements. **[835.602(b)] [RPP #72]**	Compliant
§ 835.603 Radiological Areas and Radioactive Material Areas				
#73	**§ 835.603**	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.	**FRNP RCM Article 231.5** Each access point to radiological areas and radioactive material areas (as defined in the Glossary of this RCM) shall be posted with conspicuous signs bearing the wording provided in this Chapter. **[835.603] [RPP #73]**	Compliant
#74	**§ 835.603(a)**	*Radiation area.* The words "Caution, Radiation Area" shall be posted at each radiation area.	**FRNP RCM Article 234.1 excerpt** Areas shall be posted to alert individuals to the presence of external radiation in accordance with Table 2-3 and Article 231 **[835.603(a-c)] [RPP #s 74-76]**. **Table 2-3 excerpt** Criteria for Posting Radiation Areas "Area - Radiation Area: Criteria – Radiation levels could result in an individual receiving > 0.005 rem/hr in 1 hour at 30 cm: Required Posting – "CAUTION, RADIATION AREA" **[835.603(a)] [RPP # 74]**	Compliant
#75	**§ 835.603(b)**	*High radiation area.* The words "Caution, High Radiation Area" or	**FRNP RCM Article 234.1 excerpt** Areas shall be posted to alert	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		"Danger, High Radiation Area" shall be posted at each high radiation area.	individuals to the presence of external radiation in accordance with Table 2-3 and Article 231 **[835.603(a-c)] [RPP #s 74-76]**. **Table 2-3 excerpt** Criteria for Posting Radiation Areas "Area – High Radiation Area: Criteria – Radiation levels could result in an individual receiving > 0.1 rem/hr in 1 hour at 30 cm: Required Posting - "CAUTION" or "DANGER," "HIGH RADIATION AREA" **[835.603(b)] [RPP # 75]**	
#76	**§ 835.603(c)**	*Very high radiation area*. The words "Grave Danger, Very High Radiation Area" shall be posted at each very high radiation area.	**FRNP RCM Article 234.1 excerpt** Areas shall be posted to alert individuals to the presence of external radiation in accordance with Table 2-3 and Article 231 **[835.603(a-c)] [RPP #s 74-76]**. **Table 2-3 excerpt** Criteria for Posting Radiation Areas "Area – Very High Radiation Area: Criteria – Radiation levels could result in an individual receiving > 500 rad in 1 hour at 100 cm: Required Posting - "GRAVE DANGER, VERY HIGH RADIATION AREA" **[835.603(c)] [RPP # 76]**	Compliant
#77	**§ 835.603(d)**	*Airborne radioactivity area*. The words "Caution, Airborne Radioactivity Area" or "Danger, Airborne Radioactivity Area" shall be posted at each airborne radioactivity area.	**FRNP RCM Article 235.1 excerpt** Areas shall be posted to alert individuals to the presence (or likely presence) of removable surface contamination and airborne radioactivity in accordance with Table 2-4 and Article 231. **[835.603(d-f)] [RPP #s 77-79]** **Table 2-4 excerpt** Criteria for Posting Contamination, High Contamination and Airborne Radioactivity Areas "Area – Airborne Radioactivity Area: Criteria – Airborne concentrations (μCi/ml) above background: 1) are > the applicable DAC values[1]; or 2) could result in an individual (w/o respirator) receiving an intake > 12 DAC-hrs in a week: Required Posting - "CAUTION" or "DANGER," "AIRBORNE RADIOACTIVITY AREA" **[835.603(d)] [RPP #77]**	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
			Footnote: 1 Levels exceed or are likely to exceed the listed values	
#78	**§ 835.603(e)**	*Contamination area.* The words "Caution, Contamination Area" shall be posted at each contamination area.	**FRNP RCM Article 235.1 excerpt** Areas shall be posted to alert individuals to the presence (or likely presence) of removable surface contamination and airborne radioactivity in accordance with Table 2-4 and Article 231. **[835.603(d-f)] [RPP #s 77-79]** **Table 2-4 excerpt** Criteria for Posting Contamination, High Contamination and Airborne Radioactivity Areas "Area – Contamination Area: Criteria – Removable contamination levels (dpm/100 cm^2) > Table 2-2 values[1] but ≤ 100 x Table 2-2 values: Required Posting - "CAUTION, CONTAMINATION AREA"**[835.603(e)] [RPP #78]** **Footnote:** 1 Levels exceed or are likely to exceed the listed values	Compliant
#79	**§ 835.603(f)**	*High contamination area.* The words "Caution, High Contamination Area" or "Danger, High Contamination Area" shall be posted at each high contamination area.	**FRNP RCM Article 235.1 excerpt** Areas shall be posted to alert individuals to the presence (or likely presence) of removable surface contamination and airborne radioactivity in accordance with Table 2-4 and Article 231. **[835.603(d-f)] [RPP #s 77-79]** **Table 2-4 excerpt** Criteria for Posting Contamination, High Contamination and Airborne Radioactivity Areas "Area – High Contamination Area: Criteria – Removable contamination levels (dpm/100 cm^2) > 100 x Table 2-2 values[1]: Required Posting - "CAUTION" or "DANGER," "HIGH CONTAMINATION AREA"**[835.603(f)] [RPP #79]** **Footnote:** 1 Levels exceed or are likely to exceed the listed values	Compliant
#80	**§ 835.603(g)**	*Radioactive material area.* The words "Caution, Radioactive Material(s)" shall be posted at each radioactive material area.	**FRNP RCM Article 236.1 excerpt** Accessible areas where items or containers of radioactive material in quantities exceeding the values	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
			provided in Appendix 4A of this RCM are used, handled, or stored shall be posted "CAUTION or DANGER, RADIOACTIVE MATERIAL" **[835.603(g)] [RPP #80]**	
§ 835.604 Exceptions to posting requirements.				
#81	**§ 835.604(a)**	Areas may be excepted from the posting requirements of § 835.603 for periods of less than 8 continuous hours when placed under continuous observation and control of an individual knowledgeable of, and empowered to implement, required access and exposure control measures.	**FRNP RCM Article 231.15 excerpt** Areas may be excepted from the radiological area posting requirements of this RCM for periods of less than 8 continuous hours, when posting is not practical, such as radioactive material transfers. Under these conditions, the area shall be placed under the continuous observation and control of individuals who are knowledgeable of and empowered to implement required access and exposure control measures **[835.604(a)] [RPP #81]**.	Compliant
#82	**§ 835.604(b)**	Areas may be excepted from the radioactive material area posting requirements of § 835.603(g) when: (1) Posted in accordance with §§ 835.603(a) through (f); or (2) 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 (3) 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 by an accelerator).	**FRNP RCM Article 236.3** Radioactive material areas may be excepted from the posting requirements of Article 236.1 when: a. The area is posted as a radiological area in accordance with Article 234 or 235 **[835.604(b)(1)] [RPP # 82]**; or b. Each item or container of radioactive material in the area is clearly labeled in accordance with this RCM such that individuals entering the area are made aware of the hazard **[835.604(b)(2)] [RPP #82]**; or c. The radioactive material of concern consists solely of structures or installed components which have been activated (such as by exposure to neutron radiation or particles produced by an accelerator) **[835.604(b)(3)] [RPP #82]**	Compliant
#83	**§ 835.604(c)**	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.	**FRNP RCM Article 231.16** Areas containing only packages received from radioactive material transportation labeled and in non-degraded condition need not be posted in accordance with Articles 234, 235 and 236 until the packages are monitored in accordance with Articles 552 and 554. **[835.604(c)] [RPP #83]**	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
§ 835.605 Labeling items and containers.				
#84	**§ 835.605**	Except as provided at § 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.	**FRNP RCM Article 412.1** Except as provided in Articles 412.2, 412.4, 412.9 and 431.2, 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. **[835.605] [RPP #84]**. **FRNP RCM Article 431.2 excerpt** Accountable sealed sources and all other sealed radioactive sources having activities exceeding one tenth of the values in Appendix 4A of this RCM, or their storage containers, shall be labeled with the radiation symbol and "CAUTION" or "DANGER" and "RADIOACTIVE MATERIAL" (see Table 4-1). The label shall also provide sufficient information to control exposures **[835.605] [RPP #84]**.	Compliant
§ 835.606 Exceptions to labeling requirements.				
#85	**§ 835.606(a)**	Items and containers may be excepted from the radioactive material labeling requirements of § 835.605 when: (1) 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 (2) The quantity of radioactive material is less than one tenth of the values specified in appendix E of this part and less than 0.1 Ci; or (3) Packaged, labeled, and marked in accordance with the regulations of the Department of Transportation or DOE	**FRNP RCM Article 412.9** Items and containers may be excepted from the radioactive material labeling requirements of Article 412.1 in accordance with Table 4-2. **[835.606(a)] [RPP #85]** **Table 4-2 excerpt** Material is used, handled, or stored in radiological areas or radioactive material areas **[835.606(a)(1)] [RPP #85]** **Table 4-2 excerpt** Material having a total quantity of radioactive material below one tenth of the values in Appendix 4A of this RCM and less than 0.1 Ci **[835.606(a)(2)] [RPP #85]** **Table 4-2 excerpt** Material that has been packaged, labeled, and marked in accordance with the applicable (e.g., DOE or	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		Orders governing radioactive material transportation; or (4) Inaccessible, or accessible only to individuals authorized to handle or use them, or to work in the vicinity; or (5) Installed in manufacturing, process, or other equipment, such as reactor components, piping, and tanks; or (6) The radioactive material consists solely of nuclear weapons or their components.	Department of Transportation) radioactive material transportation requirements **[835.606(a)(3)] [RPP #85]** **Table 4-2 excerpt** Material that is inaccessible, or accessible only to individuals authorized to handle or use them, or to work in the vicinity **[835.606(a)(4)] [RPP #85]** **Table 4-2 excerpt** Material that is installed in manufacturing, process, or other equipment **[835.606(a)(5)] [RPP #85]** **Table 4-2 excerpt** Material that consists solely of nuclear weapons or their components **[835.606(a)(6)] [RPP #85]**	
#86	**§ 835.606(b)**	Radioactive material labels applied to sealed radioactive sources may be excepted from the color specifications of § 835.601(a).	**FRNP RCM Article 412.4 excerpt** Radioactive material labels applied to sealed radioactive sources may be excepted from the normal color scheme of magenta or black on yellow (see Article 431.2). **[835.606(b)] [RPP #86]**. **FRNP RCM Article 431.2 excerpt** Because of the wide variety of labels that are affixed to sealed radioactive sources by their manufacturers, these labels are excepted from the normal color scheme of magenta or black on yellow **[835.606(b)] [RPP #86]**.	Compliant
Subpart H—Records				
§ 835.701 General provisions.				
#87	**§ 835.701(a)**	Records shall be maintained to document compliance with this part and with radiation protection programs required by § 835.101.	**FRNP RCM Article 711.1 excerpt** Records shall be maintained to document compliance with 10 *CFR* § 835 and with radiation protection programs required by 10 *CFR* § 835.101. **[835.701(a)] [RPP #87]**	Compliant See Table 1 discussion about ISSC GFS
#88	**§ 835.701(b)**	Unless otherwise specified in this subpart, records shall be retained until final disposition is authorized by DOE.	**FRNP RCM Article 771** A combination of media may be used for a comprehensive records system. All records should be stored in a manner that ensures their integrity, retrievability, and security and, unless otherwise specified, shall be retained until final disposition is authorized by DOE. **[835.701(b)] [RPP #88]**	Compliant See Table 1 discussion about ISSC GFS

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
§ 835.702 Individual monitoring records.				
#89	**§ 835.702(a)**	Except as authorized by § 835.702(b), records shall be maintained to document doses received by all individuals for whom monitoring was conducted and to document doses received during planned special exposures, unplanned doses exceeding the monitoring thresholds of § 835.402, and authorized emergency exposures.	**FRNP RCM Article 722.1** Except as authorized by Articles 722.13 and 722.14, records shall me maintained to document doses received by all individuals for whom monitoring was conducted and to document doses received during planned special exposures, unplanned doses exceeding the monitoring thresholds of Articles 511.1 and 512.1, and authorized emergency exposures. **[835.702(a)] [RPP #89]**	Compliant See Table 1 discussion about ISSC GFS
#90	**§ 835.702(b)**	Recording of the non-uniform equivalent dose 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). Recording of internal dose (committed effective dose or committed equivalent dose) is not required for any monitoring result estimated to correspond to an individual receiving less than 0.01 rem (0.1 mSv) committed effective dose. The bioassay or air monitoring result used to make the estimate shall be maintained in accordance with § 835.703(b) and the unrecorded internal dose estimated for any individual in a year shall not exceed the applicable monitoring threshold at § 835.402(c).	**FRNP RCM Appendix 2B Footnote 1** Recording of the non-uniform equivalent dose to the skin is not required if the dose is less than 2% of the limit specified for the skin at Table 2-1. **[835.702(b)] [RPP #90]** **Excerpt from Table 2-1** General Employee: Skin and extremities (external dose to the skin or extremities + internal dose resulting in dose to the skin) **[835.202(a)(4)] [RPP #26]** 50 rem/year **FRNP RCM Article 722.13** Records of non-uniform dose to the skin need not be retained in an individual's dose records if the dose is less than 2 percent of the limit for the skin in Table 2-1 **[835.702(b)] [RPP #90]** (see Article 723 for requirements for records of radiological incidents and occurrences). **FRNP RCM Article 722.14** Recording of internal dose (committed effective dose or committed equivalent dose) is not required if the dose is less than 0.01 rem (0.1 mSv). The bioassay or air monitoring result used to estimate the dose shall be maintained in accordance with Article 751.2.b. The unrecorded internal dose estimated for any individual in a year shall not exceed the applicable monitoring threshold of Article 521.1. **[835.702(b)] [RPP #90]**	Compliant See Table 1 discussion about ISSC GFS

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
#91	**§ 835.702(c)**	The records required by this section shall: (1) Be sufficient to evaluate compliance with subpart C of this part; (2) Be sufficient to provide dose information necessary to complete reports required by subpart I of this part; (3) Include the results of monitoring used to assess the following quantities for external dose received during the year: (i) The effective dose from external sources of radiation (equivalent dose to the whole body may be used as effective dose for external exposure); (ii) The equivalent dose to the lens of the eye; (iii) The equivalent dose to the skin; and (iv) The equivalent dose to the extremities. (4) Include the following information for internal dose resulting from intakes received during the year: (i) Committed effective dose; (ii) Committed equivalent dose to any organ or tissue of concern; and (iii) Identity of radionuclides. (5) Include the following quantities for the summation of the external and internal dose: (i) Total effective dose in a year; (ii) For any organ or tissue assigned an internal dose during the year, the sum of the equivalent dose to the whole body from external exposures and the committed equivalent dose to that	**FRNP RCM Article 722.1 Excerpt** a. The individual monitoring records required by Article 722 shall be sufficient to evaluate compliance with Articles 213, 214, 215 and 216 **[835.702(c)(1)] [RPP #91]** and; b. Be sufficient to provide dose information necessary to complete reports required by Article 781. **[835.702(c)(2)] (RPP #91]** **FRNP RCM Article 722.4 excerpt** External dose records shall include applicable extremity, skin, lens of the eye, and whole body dose monitoring results **[835.702(c)(3), (3)(i), (3)(ii), (3)(iii), and (3)(iv)] [RPP # 91]**. **FRNP RCM Article 722.5 excerpt** Internal dose records shall include committed effective dose, committed equivalent doses to the affected organs and tissues, and identity of radionuclides **[835.702(c)(4), (4)(i), (4)(ii), and (4)(iii)] [RPP #91]**. **FRNP RCM Article 722.7** The total effective dose received by each individual monitored in accordance with Article 511.1 or 521.1 shall be maintained for each year the individual is monitored. **[835.702(c)(5)(i)] [RPP #91]** **FRNP RCM Article 722.6** Records of the summation of external equivalent dose to the whole body and committed equivalent dose to any organ assigned a dose shall be maintained for the individual receiving	Compliant See Table 1 discussion about ISSC GFS

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		organ or tissue; and (iii) Cumulative total effective dose. (6) Include the equivalent dose to the embryo/fetus of a declared pregnant worker.	such dose. **[835.702(c)(5)(ii)] [RPP #91]** **FRNP RCM Article 722.9** Individual dose records shall include the cumulative total effective dose. **[835.702(c)(5)(iii)] [RPP #91]** **FRNP RCM Article 722.8** The equivalent dose to the embryo/fetus of a declared pregnant worker shall be maintained **[835.702(c)(6)] [RPP #91]** and should be kept with the occupational dose records for that worker.	
#92	**§ 835.702(d)**	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.	**FRNP RCM Article 722.1.c** Documentation of all occupational doses received during the current year, except for doses resulting from planned special exposures conducted in compliance with Article 213.2 and emergency exposures authorized in accordance with Article 213.3, shall be obtained to demonstrate compliance with dose limits in Table 2-1 for general employees. 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. **[835.702(d)] (RPP #92]**	Compliant See Table 1 discussion about ISSC GFS
#93	**§ 835.702(e)**	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.	**FRNP RCM Article 721.1 excerpt** For each radiological worker whose occupational exposure is monitored in accordance with Article 511.1 or 521.1, reasonable efforts shall be made to obtain records of prior years' occupational doses **[835.702(e)] [RPP #93]**. Note: "Reasonable efforts shall be made", means at least three attempts to obtain exposure information as recommended by DOE G 441.1-1C, Section 13.2.0.3, paragraph 1, May 2008.	Compliant See Table 1 discussion about ISSC GFS
#94	**§ 835.702(f)**	The records specified in this section that are identified with a specific individual shall be readily available to that individual.	**FRNP RCM Article 712.3** Detailed information concerning an individual's exposure shall be made available to that individual, upon request. An individual's exposure information may be made available to others consistent with the provisions of the Privacy Act of 1974 (PA), which	Compliant See Table 1 discussion about ISSC GFS

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
			contains requirements to protect the privacy of individual records. **[835.702(f)] [RPP #94] and [835. 801(d)] [RPP #110]**	
#95	**§ 835.702(g)**	Data necessary to allow future verification or reassessment of the recorded doses shall be recorded.	**FRNP RCM Article 722.3** Procedures, data, and supporting information needed to reconfirm an individual's dose at a later date shall be maintained. **[835.702(g)] [RPP #95]**	Compliant See Table 1 discussion about ISSC GFS
#96	**§ 835.702(h)**	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.	**FRNP RCM Article 774.1** 10 *CFR* § 835 establishes requirements for retaining records. Upon cessation of activities that could result in the occupational exposure of individuals, all required records related to individual exposure monitoring shall be transferred to DOE. **[835.702(h)] [RPP #96]**	Compliant See Table 1 discussion about ISSC GFS
§ 835.703 Other monitoring records.				
#97	**§ 835.703(a)**	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);	**FRNP RCM Article 751.2** The following records shall be maintained to document: **FRNP RCM Article 751.2.a** Results of monitoring and surveys for radiation and radioactive materials as required by 10 *CFR* § 835 Subpart E (Articles 423.12, 511.2, 512.1, 521.1, 522.1, 551.1, 552.4 - 552.7, 554.3 - 554.5, 555.2, 555.3 of this RCM) and 10 *CFR* § 835 Subpart L (Articles 222.1, 224 - 224.2, 325.1, 337, and 421.1 - 421.6 of this RCM), except for monitoring required by 10 *CFR* § 835.1102(d) (Articles 335.1, 338.1 and 347.5 of this RCM). **[835.703(a)] [RPP #97]**	Compliant
#98	**§ 835.703(b)**	Results of monitoring used to determine individual occupational dose from external and internal sources;	**FRNP RCM Article 751.2.b** Results of monitoring and calculations used to determine individual occupational doses; **[835.703(b)] [RPP #98]**	Compliant
#99	**§ 835.703(c)**	Results of monitoring for the release and control of material and equipment as required by § 835.1101; and	**FRNP RCM Article 751.2.c** Results of monitoring for the release and control of material and equipment as required by 10 *CFR* § 835.1101 (Articles 421.1-421.6 of this RCM); **[835.703(c)] [RPP #99]** and	
#100	**§ 835.703(d)**	Results of maintenance and calibration performed on instruments and equipment as required by § 835.401(b).	**FRNP RCM Article 751.2.d** Results of maintenance and calibration performed on instruments and equipment as required by Article 551.2. **[835.703(d)] [RPP #100]**	Compliant See Table 1 discussion about ISSC GFS

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
§ 835.704 Administrative records.				
#101	**§ 835.704(a)**	Training records shall be maintained, as necessary, to demonstrate compliance with § 835.901.	**FRNP RCM Article 725.3 excerpt** Personnel training records shall be controlled and retained **[835.704(a)] [RPP #101]**. **FRNP RCM Article 725.4** Records shall be retained for the following types of radiation safety training **[835.704(a)] [RPP #101]**: a. General employee radiological training b. Radiological worker training c. Periodic training, as appropriate d. Members of the public training for unescorted access.	Compliant
#102	**§ 835.704(b)**	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.	**FRNP RCM Article 742 excerpt** Records of actions taken to maintain occupational exposures ALARA shall be maintained (see Article 711.1). These records shall include facility design and control measures required by Articles 311.2, 311.3, 316.1, 316.2, 361.1, 381, 381.2, 381.3, 382.1, and 382.4 **[835.704(b)] [RPP #102]** Note: "Actions taken to maintain…" means the seven elements of an occupational ALARA program as specified in DOE G 441.1-1C, Section 4.2.0, May 2008.	Compliant
#103	**§ 835.704(c)**	Records shall be maintained to document the results of internal audits and other reviews of program content and implementation.	**FRNP RCM Article 743 excerpt** Records of quality assurance reviews and audits developed for radiological control functions shall be retained to ensure that sufficient records are specified, prepared, reviewed, approved, and maintained to accurately reflect completed work **[835.704(c)] [RPP #103].**	Compliant See Table 1 discussion about ISSC GFS
#104	**§ 835.704(d)**	Written declarations of pregnancy, including the estimated date of conception, and revocations of declarations of pregnancy shall be maintained.	**FRNP RCM Article 723.3 excerpt** Records of the formal written declaration of pregnancy, including the estimated conception date, and revocations of declarations of pregnancy shall be maintained **[835.704(d)] [RPP #104].**	Compliant See Table 1 discussion about ISSC GFS

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
#105	**§ 835.704(e)**	Changes in equipment, techniques, and procedures used for monitoring shall be documented.	**FRNP RCM Article 751.2.g** Changes in monitoring equipment, techniques, and procedures. **[835.704(e)] [RPP #105]**	Compliant
#106	**§ 835.704(f)**	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.	**FRNP RCM Article 751.2.e** Records shall be maintained as necessary to demonstrate compliance with the requirements of Articles 431.3-431.8 of this RCM for sealed radioactive source control, inventory and source leak tests. **[835.704(f)] [RPP #106]**	Compliant
Subpart I—Reports to Individuals				
§ 835.801 Reports to individuals.				
#107	**§ 835.801(a)**	Radiation exposure data for individuals monitored in accordance with § 835.402 shall be reported as specified in this section. 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.	**FRNP RCM Article 781.3 excerpt** Radiation exposure data for individuals monitored in accordance with Article 511.1 and 521.1 shall be reported as specified in this RCM. Each notification and report of individual doses shall be in writing and shall include the site or facility name, the individual's name and social security number, employee number, or other unique identification number, and all dose information required by Articles 722.1 and 722.4 - 722.9 **[835.801(a)] [RPP # 107]**.	Compliant See Table 1 discussion about ISSC GFS
#108	**§ 835.801(b)**	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. 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.	**FRNP RCM Article 781.2** Upon request, terminating employees shall be provided a report, as soon as data are available but not later than 90 days following the last day of employment. A written estimate, based upon available information, shall be provided upon termination, if requested. **[835.801(b)] [RPP #108]**	Compliant See Table 1 discussion about ISSC GFS
#109	**§ 835.801(c)**	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.	**FRNP RCM Article 781.1 excerpt** Individuals who are monitored in accordance with Article 511.1 or 521.1 shall be provided an annual report of their dose **[835.801(c)] [RPP #109]**.	Compliant See Table 1 discussion about ISSC GFS
#110	**§ 835.801(d)**	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).	**FRNP RCM Article 712.3** Detailed information concerning an individual's exposure shall be made available to that individual, upon request. An individual's exposure information may be made available to others consistent with the provisions of the Privacy Act of 1974 (PA), which contains requirements to protect the	Compliant See Table 1 discussion about ISSC GFS

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
			privacy of individual records. **[835.702(f)] [RPP #94] and [835. 801(d)] [RPP #110]** **FRNP RCM Article 781.1 excerpt** Upon request, an individual shall be provided detailed information concerning his or her exposure. **[835.801(d)] [RPP #110]**	
#111	**§ 835.801(e)**	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. Such report shall be transmitted at a time not later than the transmittal to the Department.	**FRNP RCM Article 781.4** Reports of individual exposure to radiation or radioactive material required under DOE O 232.2, *Occupational Reporting and Processing of Operations Information* or as a result of a planned special exposure, emergency exposure, or accident should be submitted to DOE in accordance with applicable occurrence reporting requirements. Copies of the individual dose information contained in these reports shall be provided to the affected individual at a time not later than transmittal of the report to the Department. **[835.801(e)] [RPP #111]**	Compliant See Table 1 discussion about ISSC GFS
Subpart J—Radiation Safety Training				
§ 835.901 Radiation safety training.				
#112	**§ 835.901(a)**	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: (1) Before being permitted unescorted access to controlled areas; and (2) Before receiving occupational dose during access to controlled areas at a DOE site or facility.	**FRNP RCM Article 331.1 excerpt** Each individual shall complete radiation safety training on the topics established in Article 613.1 commensurate with the hazards and required controls: **[835.901(a)] [RPP #112]** a. Before being permitted unescorted access to controlled areas **[835.901(a)(1)] [RPP # 112]**; and b. Before receiving occupational dose during access to controlled areas (whether escorted or not) **[835.901(a)(2)] [RPP # 112]**.	Compliant
#113	**§ 835.901(b)**	Each individual shall demonstrate knowledge of the radiation safety training topics established at § 835.901(c), commensurate with the hazards in the area and required controls, by successful completion of an examination and performance demonstrations: (1) Before being permitted unescorted	**FRNP RCM Article 631.1 excerpt** Each individual shall demonstrate knowledge of the radiation safety training topics established in Article 613.1, commensurate with the hazards in the area and required controls, by successful completion of an examination and appropriate performance demonstrations prior to being permitted unescorted access to	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		access to radiological areas; and (2) Before performing unescorted assignments as a radiological worker.	radiological areas and prior to performing unescorted assignments as a radiological worker **[835.901(b)] [RPP #113]**.	
#114	**§ 835.901(c)**	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: (1) Risks of exposure to radiation and radioactive materials, including prenatal radiation exposure; (2) Basic radiological fundamentals and radiation protection concepts; (3) 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; (4) Individual rights and responsibilities as related to implementation of the facility radiation protection program; (5) Individual responsibilities for implementing ALARA measures required by § 835.101; and (6) Individual exposure reports that may be requested in accordance with § 835.801.	**FRNP RCM Article 613.1** 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: **[835.901(c)] [RPP #114]** a. Risks of exposure to radiation and radioactive materials, including prenatal radiation exposure; **[835.901(c)(1)] [RPP #114]** b. Basic radiological fundamentals and radiation protection concepts; **[835.901(c)(2)] [RPP #114]** c. 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; **[835.901(c)(3)] [RPP #114]** d. Individual rights and responsibilities as related to implementation of the facility radiation protection program **[835.901(c)(4)] [RPP #114]** e. Individual responsibilities for implementing ALARA measures; and **[835.901(c)(1)] [RPP #114]** f. Individual exposure reports that may be requested in accordance with Article 781. **[835.901(c)(1)] [RPP #114]**. Note: FRNP will apply the graded approach process described in DOE G 441.1-1 C of May 2008, section 14.2, towards the implementation of FRNP radiation protection procedures and training.	Compliant
#115	**§ 835.901(d)**	When an escort is used in lieu of training in accordance with paragraph	**FRNP RCM Article 621.6 excerpt** If an escort is used in lieu of training,	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		(a) or (b) of this section, the escort shall: (1) Have completed radiation safety training, examinations, and performance demonstrations required for entry to the area and performance of the work; and (2) Ensure that all escorted individuals comply with the documented radiation protection program.	then the escort shall have completed the level of training required for the areas to be entered and the work to be performed and shall ensure that the escorted individual complies with the radiation protection program **[835.901(d)] [RPP #115]** **FRNP RCM Article 631.6** If an escort is used in lieu of training, then the escort shall have completed the level of training required for the areas to be entered and the work to be performed and shall ensure that the escorted individual complies with the radiation protection program **[835.901(d)] [RPP #115]**.	
#116	**§ 835.901(e)**	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 24 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.	**FRNP RCM Article 613.2 excerpt** Prior to permitting an individual to enter a radiological area unescorted or perform unescorted/unsupervised radiological work, successful completion of training commensurate with the hazard in the area and required controls shall be demonstrated (see Article 631.1). Chapter 3 provides guidance regarding the level of training appropriate for each defined area. Examinations and performance demonstrations shall be used to demonstrate satisfactory completion of initial Radiological Worker Training (see Article 631.1). Examinations shall be used to demonstrate satisfactory completion of biennial Radiological Worker Training and Radiological Worker Training provided for significant changes to the radiological control program **[835.901(e)] [RPP #116]** **FRNP RCM Article 613.4 excerpt** General Employee Radiological Training and Radiological Worker training shall be completed at intervals not to exceed 24 months **[835.901(e)] [RPP #116]**. This biennial training should not be limited to subjects with which the students are already familiar, but should focus on applicable lessons learned and topics that will increase the students' knowledge of radiological hazards and controls. Training shall also be provided to affected individuals	Compliant See Table 1 discussion about ISSC GFS

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
			when there is a significant change to the radiological control program **[835.901(e)] [RPP #116]**. Note: FRNP will apply the graded approach described in DOE G 441.1-1C of May 2008, Section 14.7 paragraphs 2, 3, and 4 towards the implementation of this requirement.	
§§ 835.902-835.903 [Reserved]				
Subpart K—Design and Control				
§ 835.1001 Design and control.				
#117	**§ 835.1001(a)**	Measures shall be taken to maintain radiation exposure in controlled areas ALARA through engineered and administrative controls. The primary methods used shall be physical design features (e.g., confinement, ventilation, remote handling, and shielding). Administrative controls shall be employed only as supplemental methods to control radiation exposure.	**FRNP RCM Article 311.2 excerpt** Measures shall be taken to maintain radiation exposure in controlled areas ALARA through engineered and administrative controls. The primary methods used to maintain exposures ALARA shall be facility and equipment physical design features. Performance of some activity, such as maintenance or modification, may render a permanently-installed physical design feature inadequate. In such an instance, a special subset of design features, often referred to as engineered controls (e.g., temporary shielding, containment devices, and filtered ventilation systems) should be used, as appropriate, to further control individual exposure **[835.1001(a)] [RPP #117]** **FRNP RCM Article 311.3 excerpt** When physical design features, including engineered controls, are impractical or inadequate, they shall be augmented by administrative controls **[835.1001(a)] [RPP #117] & [835.1001(b)] [RPP # 118]**. **FRNP RCM Article 316.1 excerpt** The primary methods used to maintain individual internal doses ALARA shall be physical design features, such as confinement, ventilation, and remote handling **[835.1001(a)] [RPP #117]**. **FRNP RCM Article 361.1 excerpt** Primary emphasis shall be placed on engineered features to contain plutonium and to prevent airborne and surface contamination **[835.1001(a)] [RPP #117]**.	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
#118	**§ 835.1001(b)**	For specific activities where use of engineered controls is demonstrated to be impractical, administrative controls shall be used to maintain radiation exposures ALARA.	**FRNP RCM Article 311.3 excerpt** When physical design features, including engineered controls, are impractical or inadequate, they shall be augmented by administrative controls **[835.1001(a)] [RPP #117] & [835.1001(b)] [RPP # 118]**. **FRNP RCM Article 316.2** Administrative controls, including access restrictions and the use of specific work practices designed to control airborne radioactivity, shall be used as the secondary method to maintain internal doses ALARA. **[835.1001(b)] [RPP #118]** **FRNP RCM Article 382.1 excerpt** Administrative control and procedural requirements shall be developed and implemented as necessary to supplement facility design features, particularly when the design of existing facilities is not in accordance with current standards **[835.1001(b)] [RPP #118]**.	Compliant
§ 835.1002 Facility design and modifications.				
#119	**§ 835.1002(a)**	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.	**FRNP RCM Article 381 excerpt** The following design objectives are applicable during the design of new facilities and modification of existing facilities. Additional design criteria are provided in DOE O 420.1C. 4. In justifying facility design and physical controls, optimization methods shall be used **[835.1002(a)] [RPP #119].**	Compliant
#120	**§ 835.1002(b)**	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 millirem (5 µSv) per hour and as far below this average as is reasonably achievable. 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.	**FRNP RCM Article 381 excerpt** The following design objectives are applicable during the design of new facilities and modification of existing facilities. Additional design criteria are provided in DOE O 420.1C. 1. For areas of continuous occupancy (2000 hours per year), the design objective shall be to maintain the average exposure level ALARA and below 0.5 millirem per hour. If occupancy is not continuous, the design objective shall be to maintain doses ALARA and below 20% of the occupational dose limits provided in Table 2-1 **[835.1002(b)] [RPP #120]**.	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
#121	**§ 835.1002(c)**	Regarding the control of airborne radioactive material, the design objective shall be, under normal conditions, 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; confinement and ventilation shall normally be used.	**FRNP RCM Article 316.1** The primary methods used to maintain individual internal doses ALARA shall be physical design features, such as confinement, ventilation, and remote handling **[835.1001(a)] [RPP #117]**. The design objective shall be, under normal conditions, to avoid releases of radioactive material to the workplace atmosphere. The objective, under all conditions, shall be to control inhalation of radioactive material to levels that are ALARA **[835.1002(c)] [RPP #121]**. **FRNP RCM Article 381.2** For control of airborne radioactivity, the design objective shall be to avoid releases to the work place atmosphere under normal conditions and, under any conditions, to control inhalation by workers to levels that are ALARA. Confinement and ventilation shall normally be used. **[835.1002(c)] RPP #121]**	Compliant
#122	**§ 835.1002(d)**	The design or modification of a facility and the selection of materials shall include features that facilitate operations, maintenance, decontamination, and decommissioning.	**FRNP RCM Article 381.3 excerpt** For materials used in facility construction and modification, the design objective shall be to select materials that facilitate operations, maintenance, decontamination, and decommissioning **[835.1002(d)] [RPP #122]**.	Compliant
§ 835.1003 Workplace controls.				
#123	**§ 835.1003(a)**	During routine operations, the combination of engineered and administrative controls shall provide that: The anticipated occupational dose to general employees shall not exceed the limits established at § 835.202; and	**FRNP RCM Article 382.4** The combination of engineered controls and administrative control procedures shall be sufficient to ensure that, during routine operation, the Table 2-1 dose limits for general employees are met and to ensure doses are ALARA **[835.1003(a)][RPP #123] [835.1003(b)] [RPP #124]**.	Compliant
#124	**§ 835.1003(b)**	The ALARA process is utilized for personnel exposures to ionizing radiation.	**FRNP RCM Article 382.4** The combination of engineered controls and administrative control procedures shall be sufficient to ensure that, during routine operation, the Table 2-1 dose limits for general employees are met and to ensure doses are ALARA **[835.1003(a)] [RPP #123] [835.1003(b)] [RPP #124]**.	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
Subpart L—Radioactive Contamination Control				
§ 835.1101 Control of material and equipment.				
#125	**§ 835.1101(a)**	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: (1) Removable surface contamination levels on accessible surfaces exceed the removable surface contamination values specified in appendix D of this part; or (2) 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.	**FRNP RCM Article 421.1 excerpt** Except as provided in Article 421.5 and 421.6 accessible surfaces of material or equipment that has entered contamination, high contamination, or airborne radioactivity areas shall be surveyed to less than Table 2-2 values prior to release from these areas to controlled areas **[835.1101(a) & (1)] [RPP #125]**. **FRNP RCM Article 421.2** If an assessment of the prior use of the material or equipment indicates that inaccessible surfaces are not likely to be contaminated in excess of applicable limits, a complete survey of accessible surfaces and documentation of the assessment may be an appropriate basis to release materials to the controlled area **[835.1101(a)(2)] [RPP #125]**. **FRNP RCM Article 421.3 excerpt** If an assessment of the prior use of the material or equipment indicates that inaccessible surfaces are likely to be contaminated to levels in excess of the Table 2-2 values, then the material shall not be released from the radiological area, except as permitted under Article 421.5 or 421.6 **[835.1101(a)(2)] [RPP #125]**. **FRNP RCM Article 421.4** Contamination levels shall be less than Table 2-2 values prior to releasing material and equipment for unconditional use in controlled areas **[835.1101(a)] [RPP #125]**.	Compliant
#126	**§ 835.1101(b)**	Material and equipment exceeding the removable surface contamination values specified in appendix D of this part may be conditionally released for 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.	**FRNP RCM Article 421.6 excerpt** Material and equipment with total or removable contamination levels exceeding Table 2-2 values may be moved on site from one radiological area to another if appropriate monitoring is performed and appropriate controls are established and implemented **[835.1101(b)] [RPP #126]**.	Compliant
#127	**§ 835.1101(c)**	Material and equipment with fixed contamination levels that exceed the	**FRNP RCM Article 421.5 excerpt** Material and equipment with fixed	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		total contamination values specified in appendix D of this part may be released for use in controlled areas outside of radiological areas only under the following conditions: (1) Removable surface contamination levels are below the removable surface contamination values specified in appendix D of this part; and (2) The material or equipment is routinely monitored and clearly marked or labeled to alert personnel of the contaminated status.	contamination levels that exceed the total contamination values specified in Table 2-2, and removable contamination levels less than Table 2-2 values, may be released for conditional use in controlled areas outside of radiological areas **[835.1101(c) & (c)(1)] [RPP #127]**. The material or equipment shall be routinely monitored and clearly marked or labeled to alert individuals to the contaminated status **[835.1101(c)(2)] [RPP #127]**.	
§ 835.1102 Control of areas.				
#128	**§ 835.1102(a)**	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.	**FRNP RCM Article 337 excerpt** 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 **[835.1102(a)] [RPP #128]**. Note: FRNP will apply a graded approach to "appropriate controls" dependent upon the type and level of contamination present and the activities in and around the area.	Compliant
#129	**§ 835.1102(b)**	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 contaminant, the radionuclides present, and the fixed and removable surface contamination levels.	**FRNP RCM Article 222.1 excerpt** Any area in which contamination levels exceed the values specified in Table 2-2 shall be controlled in a manner commensurate with the physical and chemical characteristics of the contaminant, the radionuclides present, and the fixed and removable surface contamination levels **[835.1102(b)] [RPP #129].**	Compliant
#130	**§ 835.1102(c)**	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:	**FRNP RCM Article 224 excerpt** Areas located outside of radiological areas that are accessible to individuals where the measured total surface contamination levels exceed the values specified in Table 2-2, but the removable surface contamination levels are less than the corresponding surface contamination values specified in Table 2-2, shall be controlled as follows: **[835.1102(c)] [RPP #130]**	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		(1) 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 (2) The area shall be conspicuously marked to warn individuals of the contaminated status.	**FRNP RCM Article 224.1** The area shall be routinely monitored to ensure the surface contamination remains fixed to the surface and removable surface contamination levels remain below Table 2-2 values. **[835.1102(c)(1)] [RPP #130]** **FRNP RCM Article 224.2 excerpt** The area shall be conspicuously marked to warn individuals of the contamination status **[835.1102(c)(2)] [RPP # 130]**.	
#131	**§ 835.1102(d)**	Individuals exiting contamination, high contamination, or airborne radioactivity areas shall be monitored, as appropriate, for the presence of surface contamination.	**FRNP RCM Article 335.3 excerpt** Individuals exiting contamination, high contamination, or airborne radioactivity areas should remove protective clothing (see Appendix 3C for recommended procedure). When entering an uncontaminated area, these individuals shall be monitored, as appropriate, for the presence of contamination on their skin and clothing **[835.1102(d)] [RPP #131].** **FRNP RCM Article 338.1 excerpt** Individuals shall be monitored as appropriate for the presence of surface contamination when exiting contamination, high contamination, or airborne radioactivity areas **[835.1102(d)] [RPP #131]**. **FRNP RCM Article 347.5 excerpt** If the working area was a contamination area, high contamination area, or airborne radioactivity area, workers shall monitor those areas of their body that are potentially contaminated **[835.1102(d)] [RPP #131]**.	Compliant
#132	**§ 835.1102(e)**	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.	**FRNP RCM Article 325.1 excerpt** Individuals shall wear protective clothing during the following activities: **[835.1102(e)] [RPP #132]** a. Handling of contaminated materials with removable contamination in excess of Table 2-2 levels b. Entry to area in which removable contamination exists at levels exceeding the removable surface contamination values specified in Table 2-2.	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
Subpart M—Sealed Radioactive Source Control				
§ 835.1201 Sealed radioactive source control.				
#133	**§ 835.1201**	Sealed radioactive sources shall be used, handled, and stored in a manner commensurate with the hazards associated with operations involving the sources.	**FRNP RCM Article 431.8** Both accountable and nonaccountable sealed radioactive sources shall be used, handled, and stored in a manner commensurate with the hazards associated with the operations involving the sources. **[835.1201] [RPP #133]**	Compliant
§ 835.1202 Accountable Sealed Radioactive Sources				
#134	**§ 835.1202(a)**	Each accountable sealed radioactive source shall be inventoried at intervals not to exceed six months. This inventory shall: (1) Establish the physical location of each accountable sealed radioactive source; (2) Verify the presence and adequacy of associated postings and labels; and (3) Establish the adequacy of storage locations, containers, and devices.	**FRNP RCM Article 431.3** Each accountable sealed radioactive source shall be inventoried at intervals not to exceed six months. This inventory shall: **[835.1202(a)] [RPP #134]** a. Establish the physical location of each accountable sealed radioactive source; **[835.1202(a)(1)] [RPP #134]** b. Verify the presence and adequacy of associated postings and labels; and **[835.1202(a)(2)] [RPP #134]** c. Establish the adequacy of storage locations, containers, and devices. **[835.1202(a)(3)] [RPP #134]**	Compliant
#135	**§ 835.1202(b)**	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 µCi.	**FRNP RCM Article 431.4** Except for sealed radioactive sources consisting solely of gaseous radioactive material, 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 µCi (as indicated by the presence of 0.005 µCi or more activity on the leak test sample). **[835.1202(b)] [RPP #135]**	Compliant
#136	**§ 835.1202(c)**	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	**FRNP RCM Article 431.5** Periodic leak tests need not be performed if the source has been documented to have been removed from service. Such sources shall be stored in a controlled location and subject to periodic inventory in accordance with Article 431.3 and subject to leak testing prior to being	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		subject to source leak testing prior to being returned to service.	returned to service. **[835.1202(c)] [RPP #136]**	
#137	**§ 835.1202(d)**	Notwithstanding the requirements 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.	**FRNP RCM Article 431.6 excerpt** If an accountable sealed radioactive source is located in an area that is unsafe for human entry or otherwise inaccessible, (such as due to operational or environmental constraints), then periodic inventories and leak tests need not be performed **[835.1202(d)] [RPP #137]**.	Compliant
#138	**§ 835.1202(e)**	An accountable sealed radioactive source found to be leaking radioactive material shall be controlled in a manner that minimizes the spread of radioactive contamination.	**FRNP RCM Article 431.7 excerpt** If an accountable sealed radioactive source is found to be leaking radioactive material, then controls shall be established to minimize the spread of radioactive contamination **[835.1202(e)] [RPP #138]**.	Compliant
Subpart N—Emergency Exposure Situations				
§ 835.1301 General provisions.				
#139	**§ 835.1301(a)**	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: (1) Approval is first obtained from the contractor management and the Head of the responsible DOE field organization; (2) The individual receives counseling from radiological protection and medical personnel regarding the consequences of receiving additional occupational exposure during the year; and (3) The affected employee agrees to return to radiological work.	**FRNP RCM Article 213.3.a** A general employee whose occupational dose has exceeded the numerical value of any of the limits specified in Table 2-1 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: 1. Approval is first obtained from the FRNP RPM and the Head of the responsible DOE field organization; 2. The individual receives counseling from RADCON and medical personnel regarding the consequences of receiving additional occupational exposure during the year; and 3. The affected employee agrees to return to radiological work. **[835.1301(a)] [RPP #139]**	Compliant
#140	**§ 835.1301(b)**	All doses exceeding the limits specified in § 835.202 shall be recorded in the affected individual's occupational dose record.	**FRNP RCM Article 213.3.b** All doses exceeding the limits specified in Table 2-1 shall be recorded in the affected individual's occupational dose record. **[835.1301(b)] [RPP #140]**	Compliant See Table 1 discussion about ISSC GFS
#141	**§ 835.1301(c)**	When the conditions under which a dose was received in excess of the limits specified in § 835.202, except	**FRNP RCM Article 213.3.c** When the conditions under which a dose was received in excess of the	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		those received in accordance with § 835.204, have been eliminated, operating management shall notify the Head of the responsible DOE field organization.	limits specified in Table 2-1, except those received in accordance with Article 213.2, have been eliminated, operating management shall notify the Head of the responsible DOE field organization. **[835.1301(c)] [RPP #141]**	
#142	**§ 835.1301(d)**	Operations which have been suspended as a result of a dose 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.	**FRNP RCM Article 213.3.d** Operations which have been suspended as a result of a dose in excess of the limits specified in Table 2-1, except those received in accordance with Article 213.2 may be resumed only with the approval of DOE. **[835.1301(d)] [RPP #142]**	Compliant
§ 835.1302 Emergency exposure situations.				
#143	**§ 835.1302(a)**	The risk of injury to those individuals involved in rescue and recovery operations shall be minimized.	**FRNP RCM Article 213.3.e.1** The risk of injury to those individuals involved in rescue and recovery operations shall be minimized. **[835.1302(a)] [RPP #143]** Note: "Risk…shall be minimized" means if alternative actions are available to meet emergency needs, then adopting the action with the lowest risk of significant personnel injury shall take precedence over property loss considerations.	Compliant
#144	**§ 835.1302(b)**	Operating management shall weigh actual and potential risks against the benefits to be gained.	**FRNP RCM Article 213.3.e.2** Operating management shall weigh actual and potential risks against the benefits to be gained. **[835.1302(b)] [RPP #144]**	Compliant
#145	**§ 835.1302(c)**	No individual shall be required to perform a rescue action that might involve substantial personal risk.	**FRNP RCM Article 213.3.e.3** No individual shall be required to perform a rescue action that might involve substantial personal risk. **[835.1302(c)] [RPP #145]**	Compliant
#146	**§ 835.1302(d)**	Each individual authorized to perform emergency actions likely to result in occupational doses exceeding the values of the limits provided at § 835.202(a) shall be trained in accordance with § 835.901(b) and briefed beforehand on the known or anticipated hazards to which the individual will be subjected.	**FRNP RCM Article 213.3.e.4** Each individual authorized to perform emergency actions likely to result in occupational doses exceeding the values of the limits provided in Table 2-1 shall be trained in accordance with Article 631.1 and briefed beforehand on the known or anticipated hazards to which the individual will be subjected. **[835.1302(e)] [RPP #146]**	Compliant
§ 835.1303 [Reserved]				

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
§ 835.1304 Nuclear accident dosimetry.				
#147	**§ 835.1304(a)**	Installations possessing sufficient quantities of fissile material to potentially constitute a critical mass, such that the excessive exposure of individuals to radiation from a nuclear accident is possible, shall provide nuclear accident dosimetry for those individuals.	**FRNP RCM Article 515.1** Facilities that possess fissile materials in sufficient quantities to create a critical mass such that the potential exists for excessive exposure of individuals in an accident shall provide nuclear accident dosimetry to affected individuals. **[835.1304(a)] [RPP #147]**	Compliant
#148	**§ 835.1304(b)**	Nuclear accident dosimetry shall include the following: (1) A method to conduct initial screening of individuals involved in a nuclear accident to determine whether significant exposures to radiation occurred; (2) Methods and equipment for analysis of biological materials; (3) A system of fixed nuclear accident dosimeter units; and (4) Personal nuclear accident dosimeters.	**FRNP RCM Article 515.2** The nuclear accident dosimetry system shall include the following: **[835.1304(b)] [RPP #148]** a. A method to conduct initial screening of potentially exposed individuals to identify those who have received significant doses; **[835.1304(b)(1)] [RPP #148]** b. Equipment and methods sufficient to analyze appropriate biological samples **[835.1304(b)(2)] [RPP #148]** and dosimeters; c. A system of fixed nuclear accident dosimeter units **[835.1304(b)(3)] [RPP #148]** capable of measuring the estimated neutron dose and approximate neutron spectrum; and d. Personnel nuclear accident dosimeters. **[835.1304(b)(4)] [RPP #148]**	Compliant
Appendix A to Part 835—Derived Air Concentrations (DAC) for Controlling Radiation Exposure to Workers at DOE Facilities				
#149	**Appendix A Paragraph 1**	The data presented in appendix A are to be used for controlling individual internal doses in accordance with § 835.209, identifying the need for air monitoring in accordance with § 835.403, and identifying and posting airborne radioactivity areas in accordance with § 835.603(d).	**FRNP RCM Article 223.3** FRNP and its subcontractors shall comply with the contents of 10 *CFR* § 835 Appendices A and C. **[835 Appendix A and C]** **[RPP #s 149 thru 162]**	Compliant
#150	**Appendix A Paragraph 2**	The DAC values are given for individual radionuclides. For known mixtures of radionuclides, determine the sum of the ratio of the observed concentration of a particular radionuclide and its corresponding DAC for all radionuclides in the mixture. If this sum exceeds unity (1), then the DAC has been exceeded. For	**FRNP RCM Article 223.3** FRNP and its subcontractors shall comply with the contents of 10 *CFR* § 835 Appendices A and C. **[835 Appendix A and C]** **[RPP #s 149 thru 162]**	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		unknown radionuclides, the most restrictive DAC (lowest value) for those isotopes not known to be absent shall be used. For any single radionuclide not listed in appendix A with decay mode other than alpha emission or spontaneous fission and with radioactive half-life greater than two hours, the DAC value shall be 4 E-11 µCi/mL (1 Bq/m^3). For any single radionuclide not listed in appendix A that decays by alpha emission or spontaneous fission the DAC value shall be 2 E-13 µCi/mL (8 E-03 Bq/m^3).		
#151	**Appendix A Paragraph 3**	The DACs for limiting radiation exposures through inhalation of radionuclides by workers are listed in this appendix. The values are based on either a stochastic (committed effective dose) dose limit of 5 rems (0.05 Sv) or a deterministic (organ or tissue) dose limit of 50 rems (0.5 Sv) per year, whichever is more limiting.	**FRNP RCM Article 223.3** FRNP and its subcontractors shall comply with the contents of 10 *CFR* § 835 Appendices A and C. **[835 Appendix A and C]** **[RPP #s 149 thru 162]**	Compliant
#152	**Appendix A Paragraph 4**	Note: The 15 rems (0.15 Sv) dose limit for the lens of the eye does not appear as a critical organ dose limit.	**FRNP RCM Article 223.3** FRNP and its subcontractors shall comply with the contents of 10 *CFR* § 835 Appendices A and C. **[835 Appendix A and C]** **[RPP #s 149 thru 162]**	Compliant
#153	**Appendix A Paragraph 5**	The columns in this appendix contain the following information: (1) Radionuclide; (2) inhaled air DAC for type F (fast), type M (moderate), and type S (slow) materials in units of µCi/mL; (3) inhaled air DAC for type F (fast), type M (moderate), and type S (slow) materials in units of Bq/m^3; (4) an indication of whether or not the DAC for each class is controlled by the stochastic (effective dose) or deterministic (organ or tissue) dose. The absorption types (F, M, and S) have been established to describe the absorption type of the materials from the respiratory tract into the blood. The range of half-times for the absorption types correspond to: Type F, 100% at 10 minutes; Type M, 10% at 10 minutes and 90% at 140 days; and Type S 0.1% at 10 minutes and 99.9% at 7000 days. The DACs are listed by radionuclide, in order of increasing atomic mass, and are based on the	**FRNP RCM Article 223.3** FRNP and its subcontractors shall comply with the contents of 10 *CFR* § 835 Appendices A and C. **[835 Appendix A and C]** **[RPP #s 149 thru 162]**	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		assumption that the particle size distribution of 5 micrometers AMAD is used. For situations where the particle size distribution is known to differ significantly from 5 micrometers AMAD, appropriate corrections may be made to both the estimated dose to workers and the DACs.		
#154	**Appendix A Footnote 1**	A determination of whether the DACs are controlled by stochastic (St) or deterministic (organ or tissue) dose, or if they both give the same result (E), for each absorption type, is given in this column. The key to the organ notation for deterministic dose is: BS = Bone surface, ET = Extrathoracic, K = Kidney, L = Liver, and T = Thyroid. A blank indicates that no calculations were performed for the absorption type shown.	**FRNP RCM Article 223.3** FRNP and its subcontractors shall comply with the contents of 10 *CFR* § 835 Appendices A and C. **[835 Appendix A and C] [RPP #s 149 thru 162]**	Compliant
#155	**Appendix A Footnote 2**	The ICRP identifies these materials as soluble or reactive gases and vapors or highly soluble or reactive gases and vapors. For tritiated water, the inhalation DAC values allow for an additional 50% absorption through the skin, as described in ICRP Publication No. 68, Dose Coefficients for Intakes of Radionuclides by Workers. For elemental tritium, the DAC values include a factor that irradiation from gas within the lungs might increase the dose by 20%.	**FRNP RCM Article 223.3** FRNP and its subcontractors shall comply with the contents of 10 *CFR* § 835 Appendices A and C. **[835 Appendix A and C] [RPP #s 149 thru 162]**	Compliant
#156	**Appendix A Footnote 3**	A dash indicates no values given for this data category.	**FRNP RCM Article 223.3** FRNP and its subcontractors shall comply with the contents of 10 *CFR* § 835 Appendices A and C. **[835 Appendix A and C] [RPP #s 149 thru 162]**	Compliant
#157	**Appendix A Footnote 4**	DAC values derived using hafnium tritide particle and are based on "observed activity" (i.e, only radiation emitted from the particle is considered). DAC values derived using methodology found in Radiological Control Programs for Special Tritium Compounds, DOE-HDBK-1184-2004.	**FRNP RCM Article 223.3** FRNP and its subcontractors shall comply with the contents of 10 *CFR* § 835 Appendices A and C. **[835 Appendix A and C] [RPP #s 149 thru 162]**	Compliant
#158	**Appendix A Footnote 5**	These values are appropriate for protection from radon combined with its short-lived decay products and are based on information given in ICRP Publication 65: Protection Against Radon-222 at Home and at Work and in DOE-STD-1121-98: Internal	**FRNP RCM Article 223.3** FRNP and its subcontractors shall comply with the contents of 10 *CFR* § 835 Appendices A and C. **[835 Appendix A and C] [RPP #s 149 thru 162]**	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		Dosimetry. The values given are for 100% equilibrium concentration conditions of the short-lived radon decay products with the parent. To allow for an actual measured equilibrium concentration or a demonstrated equilibrium concentration, the values given in this table should be multiplied by the ratio (100%/actual %) or (100%/demonstrated %), respectively. Alternatively, the DAC values for Rn-220 and Rn-222 may be replaced by 2.5 working level (WL) and 0.83 WL, respectively, for appropriate limiting of decay product concentrations. A WL is any combination of short-lived radon decay products, in one liter of air without regard to the degree of equilibrium, that will result in the ultimate emission of 1.3 E + 05 MeV of alpha energy.		
Appendix B to Part 835 [Reserved]				
Appendix C to Part 835—Derived Air Concentration (DAC) for Workers From External Exposure During Immersion in a Cloud of Airborne Radioactive Material				
#159	**Appendix C (a)**	The data presented in appendix C are to be used for controlling occupational exposures in accordance with § 835.209, identifying the need for air monitoring in accordance with § 835.403 and identifying the need for posting of airborne radioactivity areas in accordance with § 835.603(d).	**FRNP RCM Article 223.3** FRNP and its subcontractors shall comply with the contents of 10 *CFR* § 835 Appendices A and C. **[835 Appendix A and C]** **[RPP #s 149 thru 162]**	Compliant
#160	**Appendix C (b)**	The air immersion DAC values shown in this appendix are based on a stochastic dose limit of 5 rems (0.05 Sv) per year. Four columns of information are presented: (1) Radionuclide; (2) half-life in units of seconds (s), minutes (min), hours (h), days (d), or years (yr); (3) air immersion DAC in units of µCi/mL; and (4) air immersion DAC in units of Bq/m3. The data are listed by radionuclide in order of increasing atomic mass. The air immersion DACs were calculated for a continuous, nonshielded exposure via immersion in a semi-infinite cloud of airborne radioactive material. The DACs listed in this appendix may be modified to allow for submersion in a cloud of finite dimensions.	**FRNP RCM Article 223.3** FRNP and its subcontractors shall comply with the contents of 10 *CFR* § 835 Appendices A and C. **[835 Appendix A and C]** **[RPP #s 149 thru 162]**	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
#161	**Appendix C (c)**	The DAC values are given for individual radionuclides. For known mixtures of radionuclides, determine the sum of the ratio of the observed concentration of a particular radionuclide and its corresponding DAC for all radionuclides in the mixture. If this sum exceeds unity (1), then the DAC has been exceeded. For unknown radionuclides, the most restrictive DAC (lowest value) for those isotopes not known to be absent shall be used.	**FRNP RCM Article 223.3** FRNP and its subcontractors shall comply with the contents of 10 *CFR* § 835 Appendices A and C. **[835 Appendix A and C]** **[RPP #s 149 thru 162]**	Compliant
#162	**Appendix C Paragraph Under Table**	For any single radionuclide not listed above with decay mode other than alpha emission or spontaneous fission and with radioactive half-life less than two hours, the DAC value shall be 1 E-06 µCi/mL (7 E+04 Bq/m^3).	**FRNP RCM Article 223.3** FRNP and its subcontractors shall comply with the contents of 10 *CFR* § 835 Appendices A and C. **[835 Appendix A and C]** **[RPP #s 149 thru 162]**	Compliant
Appendix D to Part 835—Surface Contamination Values				
#163	**Appendix D Paragraph 1**	The data presented in appendix D are to be used in identifying the need for posting of contamination and high contamination areas in accordance with § 835.603(e) and (f) and identifying the need for surface contamination monitoring and control in accordance with §§ 835.1101 and 835.1102.	FRNP commits to full compliance with 10 *CFR* § 835, Appendix D Paragraph 1.	Compliant
#164	**Appendix D Footnote 1**	The values in this appendix, with the exception noted in footnote 6 below, apply to radioactive contamination deposited on, but not incorporated into the interior or matrix of, the contaminated item. Where surface contamination by both alpha- and beta-gamma-emitting nuclides exists, the limits established for alpha- and beta-gamma-emitting nuclides apply independently.	**FRNP RCM Table 2-2 Footnote 1** The values in this table, with the exception noted in footnote 6 below, apply to radioactive contamination deposited on, but not incorporated into the interior or matrix of, the contaminated item. Where surface contamination by both alpha- and beta-gamma-emitting nuclides exists, the limits established for alpha- and beta-gamma-emitting nuclides apply independently. **[835 Appendix D Footnote 1]** **[RPP #164]**	Compliant
#165	**Appendix D Footnote 2**	As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.	**FRNP RCM Table 2-2 Footnote 2** As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation. **[835 Appendix D Footnote 2]** **[RPP #165]**	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
#166	**Appendix D Footnote 3**	The levels may be averaged over one square meter provided the maximum surface activity in any area of 100 cm^2 is less than three times the value specified. For purposes of averaging, any square meter of surface shall be considered to be above the surface contamination value if: (1) From measurements of a representative number of sections it is determined that the average contamination level exceeds the applicable value; or (2) it is determined that the sum of the activity of all isolated spots or particles in any 100 cm^2 area exceeds three times the applicable value.	**FRNP RCM Table 2-2 Footnote 3** The levels may be averaged over one square meter provided the maximum surface activity in any area of 100 cm^2 is less than three times the value specified. For purposes of averaging, any square meter of surface shall be considered to be above the surface contamination value if: (1) from measurements of a representative number of sections it is determined that the average contamination level exceeds the applicable value; or (2) it is determined that the sum of the activity of all isolated spots or particles in any 100 cm^2 area exceeds three times the applicable value. **[835 Appendix D Footnote 3]** **[RPP #166]**	Compliant
#167	**Appendix D Footnote 4**	The amount of removable radioactive material per 100 cm^2 of surface area should be determined by swiping the area with dry filter or soft absorbent paper, applying moderate pressure, and then assessing the amount of radioactive material on the swipe with an appropriate instrument of known efficiency. (Note—The use of dry material may not be appropriate for tritium.) When removable contamination on objects of surface area less than 100 cm^2 is determined, the activity per unit area shall be based on the actual area and the entire surface shall be wiped. It is not necessary to use swiping techniques to measure removable contamination levels if direct scan surveys indicate that the total residual surface contamination levels are within the limits for removable contamination.	**FRNP RCM Table 2-2 Footnote 4** The amount of removable radioactive material per 100 cm^2 of surface area should be determined by swiping the area with dry filter or soft absorbent paper, applying moderate pressure, and then assessing the amount of radioactive material on the swipe with an appropriate instrument of known efficiency. (Note - The use of dry material may not be appropriate for tritium.) When removable contamination on objects of surface area less than 100 cm^2 is determined, the activity per unit area shall be based on the actual area and the entire surface shall be wiped. It is not necessary to use swiping techniques to measure removable contamination levels if direct scan surveys indicate that the total residual surface contamination levels are within the limits for removable contamination. **[835 Appendix D Footnote 4]** **[RPP #167]**	Compliant
#168	**Appendix D Footnote 5**	This category of radionuclides includes mixed fission products, including the Sr-90 which is present in them. It does not apply to Sr-90 which has been separated from the other fission products or mixtures where the Sr-90 has been enriched.	**FRNP RCM Table 2-2 Footnote 5** This category of radionuclides includes mixed fission products, including the Sr-90 which is present in them. It does not apply to Sr-90 which has been separated from the other fission products or mixtures where the Sr-90 has been enriched. **[835 Appendix D Footnote 5]** **[RPP #168]**	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
#169	**Appendix D Footnote 6**	Tritium contamination may diffuse into the volume or matrix of materials. Evaluation of surface contamination shall consider the extent to which such contamination may migrate to the surface in order to ensure the surface contamination value provided in this appendix is not exceeded. Once this contamination migrates to the surface, it may be removable, not fixed; therefore, a "Total" value does not apply. In certain cases, a "Total" value of 10,000 dpm/100 cm^2 may be applicable either to metals, of the types which form insoluble special tritium compounds that have been exposed to tritium; or to bulk materials to which particles of insoluble special tritium compound are fixed to a surface.	**FRNP RCM Table 2-2 Footnote 6** Tritium contamination may diffuse into the volume or matrix of materials. Evaluation of surface contamination shall consider the extent to which such contamination may migrate to the surface in order to ensure the surface contamination value provided in this table is not exceeded. Once this contamination migrates to the surface, it may be removable, not fixed; therefore, a "Total" value does not apply. In certain cases, a "Total" value of 10,000 dpm/100 cm^2 may be applicable either to metals of the types which form insoluble special tritium compounds that have been exposed to tritium; or to bulk materials to which particles of insoluble special tritium compound fixed to a surface. **[835 Appendix D Footnote 6] [RPP #169]**	Compliant
#170	**Appendix D Footnote 7**	These limits only apply to the alpha emitters within the respective decay series.	**FRNP RCM Table 2-2 Footnote 7** These limits apply only to the alpha emitters within the respective decay series. **[835 Appendix D Footnote 7] [RPP #170]**	Compliant
Appendix E to Part 835—Values for Establishing Sealed Radioactive Source Accountability and Radioactive Material Posting and Labeling Requirements				
#171	**Appendix E Paragraph 1**	The data presented in appendix E are to be used for identifying accountable sealed radioactive sources and radioactive material areas as those terms are defined at § 835.2(a), establishing the need for radioactive material area posting in accordance with § 835.603(g), and establishing the need for radioactive material labeling in accordance with § 835.605.	**FRNP RCM Appendix 4A excerpt** The data presented in this Appendix are to be used for identifying accountable sealed radioactive sources and radioactive material areas as those terms are defined in the Glossary of this RCM, establishing the need for radioactive material area posting in accordance with Article 236.1, and establishing the need for radioactive material labeling in accordance with Articles 412.1 and 431.2. **[835 Appendix E Paragraph 1] [RPP #171]**	Compliant
#172	**Appendix E Paragraph 2**	Any alpha emitting radionuclide not listed in appendix E and mixtures of alpha emitters of unknown composition have a value of 10 µCi.	**FRNP RCM Appendix 4A excerpt** Any alpha emitting radionuclide not listed in this appendix and mixtures of alpha emitters of unknown composition have a value of 10 µCi. **[835 Appendix E Paragraph 2] [RPP #172]**	Compliant
#173	**Appendix E Paragraph 3**	With the exception that any type of STC has a value of 10 Ci, any radionuclide other than alpha emitting	**FRNP RCM Appendix 4A excerpt** With the exception that any type of STC has a value of 10 Ci, any	Compliant

RPP #	10 *CFR* § 835 Section	Restatement of the Requirement	FRNP Policy and Commitment Basis	Compliance Status
		radionuclides not listed in appendix E and mixtures of beta emitters of unknown composition have a value of 100 µCi.	radionuclide other than alpha emitting radionuclides not listed in this appendix and mixtures of beta emitters of unknown composition have a value of 100 µCi. **[835 Appendix E Paragraph 3] [RPP #173]**	
#174	**Appendix E Note**	Note: Where there is involved a mixture of radionuclides in known amounts, derive the value for the mixture as follows: determine, for each radionuclide in the mixture, the ratio between the quantity present in the mixture and the value otherwise established for the specific radionuclide when not in the mixture. If the sum of such ratios for all radionuclides in the mixture exceeds unity (1), then the accountability criterion has been exceeded.	**FRNP RCM Appendix 4A excerpt** Note: Where there is involved a mixture of radionuclides in known amounts, derive the value for the mixture as follows: determine, for each radionuclide in the mixture, the ratio between the quantity present in the mixture and the value otherwise established for the specific radionuclide when not in the mixture. If the sum of such ratios for all radionuclides in the mixture exceeds unity (1), then the accountability criterion has been exceeded. **[835 Appendix E Note] [RPP #174]**	Compliant

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