4.6 Technical Staffing and Training

The State of Indiana is using the NRC Inspection Manual Chapter 1248 Formal Qualification Program for Federal and State Materials and Environmental Management Programs as a model for technical staffing and for training program elements. This is described in this section of the Application. In Section 4.6.1 below we describe the organization of the program and provide a staffing analysis to indicate the organization will be sufficient to maintain the Agreement State Program. In Section 4.6.2, we describe the staff qualification plan, and in Section 4.6.3, we describe the qualifications of the current staff.

4.6.1 Organization

As described in Section 4.1.2, the Radioactive Materials Control Program will reside within the Indiana Department of Homeland Security. The staff responsible for the Agreement State Program work in the Radiation Program which is shown in the organization chart below. The staff is comprised of two Senior Health Physicists and three Health Physicists. The program will also have the support of the Radiation Programs Director, Hazmat Section Chief, General Counsel for the Indiana Department of Homeland Security, and additional legal support from the Office of General Council. For emergency preparedness, the Radiological Emergency Preparedness Coordinator, the Radiological Transportation and Radiological Nuclear Prevention Program Manager, and the Indiana Department of Health Radiochemistry Lab support prevention, response, and recovery efforts.

The primary document describing the qualifications and training of Radioactive Material Control Program staff is RMCPP 5.1 *Qualifications and Training*. In this procedures, various roles are described. RMCP staff will become qualified as Materials Inspectors and License Reviewers following the guidance of RMCPP 5.1 *Qualification and Training* and are tracked in RMCPP 5.1 Attachment 5.1-1 *Health Physicist Qualification Journal*. The RMCPP and Qualification Journal are in Section 4.6.2 below.

<u>Staff Needs Analysis</u>

An analysis was performed using the forms from the Handbook for Processing an Agreement. The first form is the Staff Needs Analysis, Table 4.6-1. The values in the table are based on the types and numbers of licensees at the time of this application. The second form is the Staff Resource Analysis, Table 4.6-2. This indicates the time in days available for each of the individuals who may conduct inspections and license review activities. The final form, Table 4.6-3, shows the difference between the amount of staff time needed and available. It indicates that for the radioactive material licensees in Indiana, there is more than a sufficient amount of staff time available.

The following tables utilize Full Time Equivalent (FTE) for determining the number of staff needed based on licensing and inspection items in a year.

This conversion is based upon the following numbers for state employees. State employees work 75 hours per pay period, for 26 pay periods in a given year, this amounts to 1,950 working hours for an employee. However, this does not take into account any time off. Employees can use or have up to 14 holidays (depending on the year), or 105 hours of holiday time. As well as approximately 180 hours of earned leave (changes slightly depending on years of service). This leaves 1665 hours as working hours of a full time employee. Or in other words a conversion of hours to FTE is 1665 hours / 1 FTE. The results of these tables shows a need of 5.5 FTE needed for the licensing and inspections in a year. The staff breakdown results in 6.0 FTE working on the RMCP.

Table 4.6-1 Staff Needs Analysis

License Category	Number of Licenses	Licensing actions/yr	Staff days per action	Licensing staff days	Inspections per year	Staff days per inspection	Inspection staff days
Broad Scope Academic	5	1	2	2	2	5	10
Nuclear Med - Written Directive Not Req	23	5	2	10	5	4	20
Nuclear Med-Therapy	41	10	2	20	14	4	56
Brachytherapy	23	4	2	8	12	4	48
Medical - Broad Scope	1	1	2	2	1	5	5
Nuclear Pharmacy	16	4	2	8	8	3	24
Fixed Gauge	38	6	1	6	8	3	24
Portable Gauge	24	4	2	8	5	5	25
Industrial - other Includes Irradiators	15	2	2	4	3	5	15

Industrial Radiography	11	2	1	2	10	4	40
Well Logging	0	0	0	0	0	0	0
Veterinary	3	1	1	1	1	3	3
Services	6	1	1	1	1	3	3
Research/ Development Broadscope	4	1	2	2	1	5	5
Manufacturing/ Distribution Broadscope[1]	0	1	0	1	1	0	1
Manufacturing/ Distribution	9	1	2	2	2	5	10
Part 37 Security[2]	N/A	N/A	N/A	N/A	8	1	8
Reactive[3]	N/A	N/A	N/A	N/A	3	1	3
Decommissioning[4]	0	0	0	0	0	0	0
LLRW broker	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LLRW site	N/A	N/A	N/A	N/A	N/A	N/A	N/A
U recovery	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SS&D	N/A	N/A	N/A	N/A	N/A	N/A	N/A

1. Manufacturing/Distribution is a new licensee currently in the application review phase with NRC as of November 2024. As such this is reflected as 1 licensing and inspection action a year currently as a placeholder value dependent on if a license is issued.
2. Part 37 Security inspection numbers are based on an average of NRC 10 CFR 37 inspections per year from 2012 to 2024. This average is approximately 8 per year.
3. Reactive Inspections is based on an average of NRC data for reactive inspections performed per year from 2012 to 2024. This shows an average of approximately 2 per year and 1.2 days on site per inspection. Conservatively, 3 per year and 1 day on site is used.
4. Decommissioning has no current licensees, and no apparent trend was available from the NRC.

Table 4.6-2 Staff Resource Analysis

Staff Member	Position	Licensing	Inspection	Admin	Other
Courtney Eckstein	RCPD	10%	10%	20%	
Kaci Studer	S/HP	30%	30%	30%	
Brenda Tubbs	S/HP	30%	30%	30%	

Daisy Coffman	HP	40%	40%	10%	
Patrick Turner	HP	40%	40%	10%	
Kevin Stahl	HP	40%	40%	10%	
Adam Bowers	Radiation Support Specialist			25%	
Sean Wooding	Attorney				30%(Enforcement)
Marcie Fries	Accountant			25%	
Raed Obaieda	LAN Admin (IT)				10%
Clayton Kinder	Section Chief				10%(Enforcement)
Stephen Jones	State Fire Marshal				10%(Enforcement)
Total FTEs for RMCP:		1.9	1.9	1.6	0.6

Table 4.6-3 Staff Balance Analysis

STAFF BALANCE ANALYSIS

License Category	Licensing Needed (Days)	Inspection Needed (Days)
Broad Scope Academic	10	2
Nuclear Med - Written Directive Not Req	20	10
Nuclear Med- Therapy	56	20
Brachytherapy	48	8
Medical - Broad Scope	5	2
Nuclear Pharmacy	24	8
Fixed Gauge	24	6
Portable Gauge	25	8
Industrial - other Includes Irradiators	15	4
Industrial Radiography	40	2
Well Logging	0	0
Veterinary	3	1
Services	3	1

Research/ Development Broadscope	5	2
Manufacturing/ Distribution Broadscope	1	1
Manufacturing/ Distribution	10	2
Part 37	N/A	8
Reactive	N/A	3
Decommissioning	0	0
Totals:	289	88
FTE Comparison: (X * 24 / 1665)	4.2	1.3

4.6.2 Qualification Program

The qualification program is described in RMCPP 5.1 Qualification and Training. Individual accomplishment of the qualification process is documented in that person's Qualification Journal. In general, individuals are trained to conduct inspections and to do license review activities through training classes and on-the-job training. Individuals maintain proficiency through on-going training that enhances licensing and inspection professional abilities. These are described in the RMCPP in Section 4.6.1 of this application. Individual completion of the qualification components is documented in that person's Qualification Journal. The Radiation Control Program Director will sign off on the qualification journals. This, too, is in Section 4.6.3 of this application. Refresher Training is also discussed in RMCPP 5.1.

The Radiation Control Program Director will take all steps available to replace staff that either leaves or retires from the Agreement State Program. One element of this is technical training and qualification of other Radiation Program Staff. This will be undertaken after the five current staff members assigned to the Radioactive Materials Program are fully qualified.

4.6.3 Current Staff Qualification Program

With the formal establishment of the Agreement State Program, qualification of the current staff will be established in a manner based on RMCPP 5.1 but modified to account for the fact that Radioactive Materials Control Program work may begin soon, even immediately, after the Agreement is established. Current Senior Health Physicists and Health Physicists in the Radioactive Materials Control Program will be deemed fully qualified as documented in writing by the Radiation Program Director.

This qualification is substantiated by significant evidence which includes their completion of all the core training courses identified in RMCPP 5.1, their accompaniment of NRC inspector, or qualified inspectors from other Agreement States, on inspections most types of licensees in Indiana, and their spending two weeks studying in person NRC staff license review activities conducted at the NRC Region III office.

Kaci Studer and Brenda Tubbs will serve as Senior Health Physicists and Daisy Coffman, Kevin Stahl, and Patrick Turner will serve as Health Physicists. All will be documented fully qualified at the time of the Agreement taking effect. This is documented in a letter from the Radiation Program Director in Appendix 4.6-1. All have documentation for their training and experience in their individual Qualification Journals. Indiana is planning on all RMCP staff to accompany the NRC, and other Agreement State Inspectors, on their inspections many more times before completion of the Agreement. All RMCP staff will spend two weeks studying license review work by the NRC at Region III before completion of the Agreement.

Table 4.6-4
Current Staff Training Completion

Radioactive Materials Control Program Core Training Courses	Req'd For Licensing	Req'd for Inspection	License Reviewer/Inspector					
			Studer	Tubbs	Coffman	Stahl	Turner	Eckstein
G-108: Inspection Procedures		Yes		7/28/23	12/1/23	12/1/23		
G-109: Licensing Practices & Procedures	Yes			12/14/23	12/24/23			
G-205: Root Cause/Incident Investigation Training		Yes	2/17/23	5/5/23				
H-122S: Fundamentals of Health Physics Self Study			8/9/22	6/19/22	3/13/23	8/17/23	11/29/23	
H-201: Advanced Health Physics	Yes	Yes						
H-305: Safety Aspects of Industrial Radiography	Yes	Yes	3/17/23	3/17/23				
H-308S: Transportation of Radioactive Materials Self-Study	Yes	Yes	1/6/23	1/22/23	5/9/23		1/17/24	
H-317S: Medical Uses of Radiation Self Study	Yes	Yes	7/28/23		8/4/23			
S-201: Materials Control & Security Systems & Principles	Yes	Yes		8/18/23	8/18/23			
Specialized and Enhanced Training Courses								
F-104: Health Physics for Uranium Recovery								
H-115S: Characterization and Planning for Decommissioning								

H-117S: Introductory Health Physics			6/10/22	6/10/22	3/2/23	6/19/23	11/21/23	
H-120S: Radiological Surveys in Support of Decommissioning (MARSAME)							12/5/23	
H-121S: Multi-Agency Radiation Survey and Sites Investigation Manual (MARSSIM)							12/11/23	
H-122Lab: Fundamental Health Physics Labs Course			11/4/22	1/27/23	6/16/23	1/26/24		
H-130Lab: Environmental Monitoring and Air Sampling for Radioactivity Lab Course				9/29/23				
H-130S: Environmental Monitoring & Air Sampling for Radioactivity Self-Study			11/3/23	9/5/23	12/20/23	11/22/23	2/1/24	
H-301S: Health Physics Statistics Self-Study Course			1/5/23	7/14/22		8/17/23		
H-311: Respiratory Protection								
H-312S: Internal Dosimetry Self-Study			8/28/23	7/21/23				
H-314: Safety Aspects of Well Logging								
H-315: Irradiator Technology Course								
H-408: RESRAD OVERVIEW								
H-412: Advanced RESRAD Training Workshop								
H-413: MILDOS-Area Training Workshop								
H-500: Visual Sampling Plan								