2.0 ORGANIZATION AND ADMINISTRATION

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2.1 Organizational Responsibilities and Experience Requirements

2.1.1 Project Director

The Project Director (Director) has overall project responsibility to ensure safety, compliance and financial success of the decontamination and decommissioning of the Hematite Facility while complying with applicable laws and regulations. The Director is responsible for observing and enforcing facility policies and procedures and interfacing with EPA and NRC representatives.

At a minimum the Director shall have:

- B.S. in appropriate discipline or equivalent combination of education and experience. Significant experience in project management of large complex projects.
- Experience with stakeholder interactions including media.
- Competency in nuclear safety.
- Demonstrated commitment to ensuring the safety of workers, the public, and the environment.

2.1.2 Project Oversight Committee Chairman

The Project Oversight Committee Chairman (Chairman) is the head of the Project Oversight Committee. The Chairman is responsible for:

- Chairing the Project Oversight Committee
- Designating sub-committees, in writing, with the concurrence of the majority of the safety committee.
- Determining which committee members shall attend each meeting according to the topics to be covered.
- Recommending committee members to represent at a minimum D&D operations and EH&S.

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At a minimum, the Chairman will have:

- B.S. in appropriate discipline or equivalent combination of education and experience.
- Competency in nuclear safety.

2.1.3 Radiation Safety Officer

The Radiation Safety Officer (RSO) is responsible for the establishment and guidance of programs in radiation protection. He also evaluates potential and/or actual radiation exposures, establishes appropriate control measures, approves written procedures, and assures compliance with pertinent policies and regulations. Under his direction, health physics personnel administer the established site policy, collect samples, perform analyses, take measurements, maintain records, and generally assist in performing the technical aspects of the radiation protection program.

In general, the RSO will have the knowledge and ability necessary to respond effectively to the radiation safety needs of the Hematite Site. The RSO will have a background of training and experience and a maturity of judgment sufficient to recognize the need for expert assistance at an early stage in the development of potential radiation safety problems involving disciplines outside of his or her area of expertise. Specifically the RSO will have or have access to individuals with the following skills and knowledge, as necessary to support the radiation protection program as described in Chapters 3 and 5 of this license:

- Reviewing and approving radiological protection procedures
- Monitoring and surveys of areas in which radioactive material is used
- Oversight of ordering, receipt, surveys, and delivery of licensed material
- Packaging, labeling, surveys, etc., of shipments of licensed material
- Personnel monitoring program, including determining the need for and evaluating bioassays, monitoring personnel exposure records, and developing corrective actions for those exposures approaching maximum permissible limits
- Radiological environmental monitoring program, including the need for an evaluating air, liquid and soil effluents and developing corrective actions for those effluents approaching maximum permissible limits.
- Radiological training of personnel
- Inventory and leak tests of sealed sources
- Responding to and investigating incidents and accidents involving radioactive material
- Maintaining required radiological records

The RSO shall perform quarterly reviews of these items and to ensure compliance with Chapters 3 and 5 of the license and that activities involving the use of radioactive material are being conducted safely.

The RSO is responsible for making a written annual report reviewing the employee exposures and effluent release data to the Project Oversight Committee and executive management having responsibility for the license. This report shall include a review of audits, inspections, and radiological measurements performed during the past calendar year with emphasis on the data collected from the following areas: employee exposures; bioassay results; in-plant airborne radioactivity; and environmental monitoring.

At a minimum the RSO will have:

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1. A Bachelors' degree in the physical sciences, industrial hygiene or engineering form an accredited college or university or an equivalent combination of training and relevant experience in radiological protection. Two years of relevant experience are generally considered equivalent to 1 year of academic study.
2. At least 1 year of work experience in applied health physics, industrial hygiene or similar work relevant to radiological hazards associated with site remediation. This experience should involve actually working with radiation detection and measuring equipment.
3. A thorough knowledge of the proper application and use of health physics equipment used for the radionuclides present onsite, the analytical procedures used for radiological sampling and monitoring, and methodologies used to calculate personnel expsoure to radionuclides present at the site.
4. Strong skills in written and oral communication and organizational management.
5. Past managerial experience.
6. Applicable experience in health and safety fields.
7. Experience in Emergency Management Operations and emergency management.

An acting RSO shall be designated when the named RSO is not present on-site. The acting RSO shall meet RSO qualifications 1), 2) and 3).

2.2 Key Project Elements

In addition to the organizational responsibilities described in Section 2.1, key project elements will be managed to ensure safe and compliant site operations. This organization is depicted in Figure 2.1 included at the end of this chapter.

These key elements include:

- Nuclear Criticality Safety
- Waste Management
- Transportation
- D&D Project Management
- Environmental Project Management
- Quality Assurance
- Licensing Support
- Environment, Health and Safety
- Emergency Management
- Planning and Control
- Procurement/Contracts
- Material Control and Accounting (MC&A) of Special Nuclear Material (SNM)
- Contractor Support

At a minimum the responsible individual for these project elements will have:

- B.S. in relevant technical or administrative area or equivalent experience.

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- Minimum of three (3) years experience in related fields as applicable for the specific project element.

2.2.1 Nuclear Criticality Safety

Nuclear Criticality Safety (NCS) ensures NCS hazards are identified and controls are implemented in accordance with Chapter 4 of this license to provide an acceptable level of safety during site operations. This includes the following fundamentals:

- Development of Nuclear Criticality Safety Assessments (NCSAs) and controls to assure nuclear criticality safety during operating conditions.
- Technical and programmatic control of the NCS program to assure compliance.
- Maintaining an operational understanding of NCS requirements and controls.
- Performing the necessary evaluations and calculations for NCSA production (including definition of scope, computer criticality modeling calculations, documented evaluations, and configuration management of controls and instructions).
- Ensuring that identified NCS limits ensure double contingency without unnecessary operational restrictions.
- Assessing field operations to ensure compliance with NCSAs and to develop work improvements and efficiencies.
- Providing NCS training to project staff (including development and maintenance of training materials, assessment of training effectiveness, etc.).
- Ensuring criticality safety controls are properly incorporated during work planning activities.

2.2.2 MC&A of SNM

MC&A will ensure overall accountability and materials control of SNM in accordance with the requirements of 10 CFR Part 74, where applicable. This shall be accomplished through a graded-approach integration of materials control and accountability systems; instructions and operations consistent with the associated risks, vulnerabilities, and material ownership. MC&A shall include the following:

- Maintaining an accurate, current and reliable inventory of the quantities and locations of SNM.
- Periodically confirm the inventory and locations of SNM
- Resolve indications of missing uranium
- Provide information to aid in the investigation of missing uranium

A Fundamental Nuclear Material Control Plan shall be maintained that describes MC&A objectives, system features and record keeping requirements.

2.2.3 Waste Management

Waste Management includes aspects of waste management from the point of initial generation through ultimate disposition and assures management in a safe

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and compliant manner. Waste generated will be characterized, segregated and handled in accordance with applicable requirements. Waste packaging will interface with waste disposal sites while ensuring compliance with appropriate regulatory requirements. A Waste Management Plan shall be developed to provide information on the types of radioactive wastes expected to be generated during decommissioning activities.

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2.2.4 Transportation

Transportation operations include the packaging and transportation of materials, both hazardous and non-hazardous, and ensures operations are performed in a manner that protects the safety and health of workers, the general public and the environment. Transportation operations shall be performed in compliance with 10 CFR Part 71 and 49 CFR. This will include the following elements:

- Only approved carriers shall be used to transport hazardous materials.
- The transport of radioactive and hazardous materials shall, as far as reasonably practicable, comply with project policies when undertaken by third party contractors.
- Necessary licenses and permits will be obtained in accordance with all applicable state, federal, local and site requirements.
- Hazardous materials classification, packaging, and preparation for shipment will be conducted under control of the Transportation QA Plan.

2.2.5 D&D Project Management

D&D Project Management includes the safe and efficient interference removal, decontamination and release of the buildings, structures and associated land on-site. The removal of materials from buildings will be performed in accordance with applicable federal and state laws. D&D Project Management includes the following key elements:

- Effective management of resources and the application of effective materials and equipment for site operations
- Recruiting qualified resources and organize them to manage the operations of a major, stringently controlled, demolition project
- Establishing and maintaining a line management safety program that maintains "all accidents are preventable" and responsibility and accountability begins with the employee.
- Direct interface with and management of contractors associated with D&D.

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2.2.6 Environmental Project Management

Environmental Project Management includes the safe and efficient groundwater, surface water remediation, remedial investigation, emergency response actions associated with areas under the environmental responsibility and implementation of the Remedial Investigation/Feasibility Study (RI/FS). This includes planning, organizing, scheduling, directing, coordinating and controlling project resources and budget and establishing necessary administrative controls. Fundamentals of Environmental Project Management include:

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- Managing resources, applying materials and equipment necessary to address the environmental concerns at the Hematite facilities.
- Establishing and maintaining a line management safety program for environmental management.
- Direct interface with and management of contractors associated with the CERCLA process.

2.2.7 Quality Assurance

Quality Assurance (QA) includes; planning, organizing and managing QA activities; providing overall QA directions; managing activities of assigned personnel including leading and organizing teams of personnel and contractors; developing and maintaining noncompliance identification and reporting process. QA includes:

- Managing the QA program, including planning, scheduling, and performing QA activities.
- Maintaining programmatic compliance with the quality assurance program.
- Coordinating assessments of QA programs to identify and control significant loss-producing exposure.
- Remaining informed of existing and proposed changes in QA regulations.
- Reviewing project's management assessment plans, processes and audit results and provide feedback to responsible managers.
- Promoting a communication programs to enhance and encourage employee awareness of QA requirements.

2.2.8 Licensing Support

Licensing Support consists of those activities necessary to ensure compliance with this license and progress to a safe decommissioning of the site. Licensing activities include interaction with regulators, license amendment preparation, calculation of site-specific DCGLs and preparation of the site Decommissioning Plan.

2.2.9 Environment, Health and Safety

Environment, Health and Health (EH&SH) includes meeting Project safety goals and continually improving the Project safety posture. In addition, key elements of EH&S include:

- Health and Safety
  - Developing and managing the Hematite health and safety program including industrial safety and industrial hygiene areas to comply with Federal regulations and standards.
  - Ensuring a safe and healthy work environment.
  - Developing and managing health and safety programs and procedures for implementation of federal safety regulations.
  - Ensuring safe and proper supervision, monitoring, operation, and maintenance of assigned systems and areas.
  - Maintaining accident and incident statistics.
  - Ensuring compliance with 29CFR1910 and 29CFR1926

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- Environmental
  - Implementing formal programs, policies, and procedures for management oversight of a broad spectrum of non-radiological environmental compliance issues.
  - Developing and maintaining collaborative working relationships and effective lines of communication with environmental and radiological protection oversight staff, onsite contractors and Federal, state, and local regulatory agency personnel as may be required.
  - Ensuring compliance with the requirements of Chapter 5 of this license.

2.2.10 Emergency Management

Emergency Management consists of providing technical direction regarding the development and implementation of the project's Emergency Management Program. Emergency procedures generated in support of the Emergency Management Program will be consistent with Appendix R of NUREG-1556 (Volume 11). Changes to these procedures may be made without NRC review or approval.

The Emergency Management Program will include the following fundamentals:

- Postulation of the possible types of site accidents and accident classification with the appropriate emergency response measures and emergency equipment.
- Providing notification of appropriate site, local, state and federal authorities; organizational responsibilities;
- Establishing training requirements for project personnel;
- Ensuring emergency preparedness;
- Specifying reports and records requirements;

2.2.11 Planning and Control

Planning and Control includes the responsibility for functions including financial, accounting, and project scheduling. Additional responsibilities include:

- Maintaining a safe and compliant operation.
- Establishing and maintaining financial and managerial controls.
- Establishing and maintaining centralized project schedules in support of all aspects of the project.

A current schedule shall be maintained through Planning and Control consisting of a Gantt chart with details of the planning and remediation activities. This chart shall include a description of the activity with the expected duration and links to dependent activities. Updated schedules shall be provided periodically to the USNRC for information on the status of the project.

2.2.12 Procurement/Contracts

Procurement/Contracts includes establishing procurement systems and controls for the purchase of materials, equipment, and sale of free-release materials. Legal and procurement reviews of customer, supplier, and subcontractor contracts will be coordinated. Additional elements include:

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- Establishing contracts with subcontractors and vendors.
- Maintaining accurate and detailed procurement records consistent with complexity of activity
- Ensuring receiving operations are run effectively
- Managing commercial contract proposal review

2.2.13 Health Physics Oversight

Health Physics (HP) oversight consists of the day-to-day radiological monitoring of operations. Monitoring is accomplished through the collection of data that allows the effectiveness of radiological and criticality safety, environmental protection and emergency planning programs to be assessed. HP oversight shall be performed by personnel with sufficient experience and training to qualify as a Senior Health Physics Technician per American National Standards Institute (ANSI) publication *Selection, Qualification, and Training of Personnel for Nuclear Power Plants*, ANSI/ANS 3.1 – 1993 with exception to the nuclear power plant experience requirement. HP trainees, who may work under the control of a qualified HP, shall meet the same prerequisites identified above, with the exception of sufficient experience and training to qualify as an ANSI 18.1 Junior Health Physics Technician.

2.2.14 Contractor Support

Contractor Support shall be used as needed to perform decommissioning operations including equipment removal and support of characterization efforts. The Project Managers are the direct interface between the contractor and Westinghouse. Contractors will be responsible for complying with Westinghouse policies on radiation protection, health and safety, and quality assurance. Site-specific training shall be provided to contractors; however, appropriate radiation worker training may be accepted from outside organization upon approval of their training program by the RSO. The contractor will be bound to comply with all radiation protection and license requirements of the Hematite site. Hematite shall provide Health Physics Oversight as discussed in Section 2.2.13 as required to ensure contractor compliance with the license, regulations and site policies and procedures.

2.3 Organizational Assignments

Mr. A. Joseph Nardi will act as the Management Review Committee Chairman. Mr. Nardi has a Bachelor of Science degree in Chemical Engineering from The Pennsylvania State University and a Master of Science degree in Nuclear Engineering from Stanford University. Mr. Nardi has worked for Westinghouse Electric Company for 35 years in various positions primarily associated with radiological health. For the past 22 years, he has served as the License Administrator for Westinghouse and is the principal point of contact between Westinghouse and the NRC. Over the past 18 years, he has been he has been involved with decommissioning activities at 11 Westinghouse sites. His experience has covered almost all segments of the nuclear fuel cycle which include uranium mining operation, several uranium and plutonium fuel fabrication facilities, service centers that support nuclear power plant operations, two

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research reactors, and several research facilities. The decommissioning projects have covered the entire spectrum of radionuclides that are associated with the nuclear fuel cycle. Mr. Nardi has been an active participant in the NRC decommissioning workshops and has played an active role in attempting to influence the regulatory framework for decommissioning. Mr. Nardi is also an active member of the Radiation Safety Committee for two other Broad Scope Licenses. Mr. Nardi's resume is provided at the end of this Chapter.

Other key elements as described in Section 2.2 will be filled by qualified personnel as approved by the Project Director. The POC will provide advisement on replacement of project personnel. Each key element does not need to be managed by one individual. Westinghouse employees or contractors may perform element management. Project elements can be grouped and managed in a way that is beneficial to the site operations.

2.4 Project Oversight Committee

The Project Oversight Committee enables the self-regulation of the project. The goal of the Project Oversight Committee is to promote and continuously improve work place safety on the Hematite D&D Project. The Committee's purpose is to evaluate the effectiveness of and recommend improvements to the Project safety rules, policies, and procedures for accident and illness prevention programs in the workplace and, ensure that written updates and changes to policies and procedures of the safety programs are completed. The Committee will review first of a kind evolution and intent procedure changes.

The Committee shall provide management oversight and review of operations associated with the Westinghouse FFCF D&D. The Committee shall monitor D&D operations to ensure they are being performed safely and according to regulatory requirements. The Committee shall ensure that appropriate measures are taken to maintain radiation exposures ALARA through administrative and procedural controls, in addition to the design and control of radiological facilities and equipment.

The Project Oversight Committee shall perform an annual review of each of the following:

- Industrial safety trends
- Radiation safety trends
- Environmental protection trends
- Criticality safety practices
- Adequacy of emergency planning and drills
- Effectiveness of ALARA Program
- Effectiveness of Waste Minimization Program
- Abnormal occurrences and accidents

The Committee shall have a minimum of five members chosen to provide both administrative and technical competence. The Committee shall consist of the Radiation Safety Officer (RSO), the Chairperson, a Committee Secretary and other management and qualified individuals as appointed by the Project Director.

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Mr. Cort N. Horton will be the site RSO. Mr. Horton has over 20 years experience in decommissioning project management, operational health physics, and waste management. Mr. Horton has supported various decommissioning projects resulting in NRC material license terminations. His responsibilities have included developing and implementing radiation safety policies and procedures. Additionally, Mr. Horton has working knowledge of NRC, DOT, OSHA and EPA regulations. Mr. Horton's resume is provided at the end of this Chapter.¶

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The Committee shall meet at least quarterly, or more frequently at the discretion of the Committee Chairperson or designated alternate. The Committee shall maintain a written record of the minutes of each meeting. A copy of the meeting minutes shall be distributed to members of the Committee and senior management having direct responsibilities for activities conducted under the license.

Sub committees may be established to lead and work programmatic elements as deemed appropriate by the Committee. Membership on the sub committee is not limited to safety committee members only. Other project employees may be assigned as needed to ensure the right expertise is provided.

Items brought to the Committee will be placed on the Action Item List. The item will remain on the list until closed or voted by the Committee in the majority to be deleted.

2.5 Training

A decommissioning training plan shall be developed to define the site-specific training required to safety perform work at the Hematite facility. Site employees and subcontractors shall comply with this training plan. Training shall be established for individuals working in or frequenting restricted areas.

Training will vary from a read-and-sign program to classroom or on-the-job instruction. The extent of training will be commensurate with the degree of hazard. Qualified personnel will provide training whose knowledge of the subject they are teaching exceeds that to be expected of workers completing the training.

The duration of training will vary from a few minutes for visitors, through a few hours for experienced radiation workers, to several days for some workers without prior training in radiation protection and radiation work techniques.

The training program will be approved by the Radiation Safety Officer, conducted under the RSO's cognizance, and reviewed and updated, as necessary, under the RSO's direction.

2.5.1 Trainees

Training shall be provided for visitors, general employees, radiation workers and HP technicians. At a minimum, all individuals, including supervisors, likely to exceed 100 mrem in a year shall receive radiation worker training before beginning work. The following minimum training requirements shall be required and provided for in the Training Plan:

Visitor Access Training

Visitor access training shall include general safety, emergency response, radiation controls and security instruction for visitors who will be on site less than 30 days.

General Employee Radiation Training

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In addition, the Committee will submit a meeting report to the Hematite manager level personnel and the Director.¶

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An escort, who has received the required training, may be provided for those who have not completed their radiation protection training. If the individual is to be in the restricted area for long enough periods that training is required by 10 CFR 19.12, such training will be completed in a timely manner.¶

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General Employee Radiation Training (GERT) will be provided to non-radiological workers at the site. GERT shall be required for all General Employees who routinely (greater than 30 days per year) enter the Controlled Area. GERT shall completed by General Employees prior to unescorted access to the Controlled Area and potential occupational exposure. Additional training beyond GERT shall be required for unescorted access to any Radiological Area.

GERT shall not be required for personnel receiving Radiation Worker Training or HP Technician Training, since those training courses incorporate and extend beyond GERT content. Documentation of successful GERT completion shall be maintained.

GERT will be divided into general training and project-specific training. The general section of the training shall include:

- Risks of exposure to radiation and radioactive materials, including prenatal radiation exposure;
- Basic radiological fundamentals and radiation protection concepts;
- Individual rights and responsibilities as related to implementation of the facility radiation protection program;
- Individual responsibilities for implementing ALARA measures; and
- Individual exposure reports that may be requested.

The project-specific component of GERT shall include the following aspects:

- Project escort and visitor policies;
- Area access and egress requirements including the use of appropriate personal protective equipment (PPE);
- Warning signs and barriers;
- Types and locations of radiation and radioactive material on site;
- Alarm types and responses.

Training for individuals shall communicate basic knowledge of radiation hazards and protective policies.

Radiation Worker Training

Radiation Worker training shall be required for all project personnel, except HPs, whose job assignments involve entry into Radiological Areas. Training shall precede assignment as a Radiation Worker. Individuals who have not completed Radiation Worker training may enter Radiological Areas only under escort and may not perform hands-on work. Case-by-case exemptions may be granted by the RSO for personnel who will be on-site for one month or less and who:

- Are under constant escort by a qualified escort who will assist in donning and doffing of PPE;
- Will perform only light hands-on work;
- Will not require PPE beyond a single set of anti-contamination clothing;
- Will **NOT** wear respirators;
- Will be under continuous HP coverage.

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Radiation Workers who wear respiratory protection equipment shall be trained and periodically retrained in the use of appropriate equipment.

Radiation Worker Training shall include generic, project-specific and practical factor components. In addition, Radiation Workers shall also receive pre-natal exposure training. The generic component shall include a more in-depth presentation of the information presented in the GERT generic component, including:

- Radiological and radiation protection fundamentals and concepts, including use of Radiation Work Permits (RWPs) and dosimetry;
- Radioactive contamination control and Radiation Worker responsibilities;
- ALARA principles and practices and individual responsibilities for implementing ALARA measures;
- Use of PPE;
- Risks of exposure to radiation and radioactive material
- 10 CFR Part 20 requirements and limits.
- Individual rights and responsibilities as related to implementation of the radiation protection program.

The project-specific component of Radiation Worker training shall include:

- Sources of radiation, radioactive material and contamination on the project site;
- Project radiation protection policies, procedures and practices including administrative exposure limits;
- Proper response to alarms and off-normal occurrences;
- Project measures to control the spread of radioactive contamination including the use of ventilation, filtration and containment;
- Individual exposure reports that may be requested;
- Responsibilities of Radiation Workers to minimize their exposure and the spread of radioactive contamination.

Specific practical factors that the individual must perform for evaluation shall include:

- Donning/Doffing PPE;
- Review and interpretation of radiological survey maps and/or RWPs;
- Entering and exiting a simulated Radiological Area to perform a task;
- Anticipated response to simulated off-normal situations, such as spills, alarms or faulty radiological control equipment;
- Use of contamination survey instruments for self-monitoring (frisking), including verification of instrument response and source response checks.

Radiological Worker examination shall verify the knowledge of radiation protection fundamentals possessed by a Radiation Worker, including working knowledge of radiological controls, prior to unsupervised assignment involving radiological exposure.

Health Physics Technician Training

HP training shall be designed to provide suitably experienced personnel with information necessary to effectively meet responsibilities, and verify qualification

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commensurate with project HP job requirements. Training shall consist of generic, project-specific, and practical factor components.

The generic component of HP Training shall include a more in depth presentation of the same topics as the Radiation Worker Training generic component, plus job-specific topics including the following:

- Instrumentation and dosimetry fundamentals of operation;
- Calculation of Derived Air Concentration (DAC) values from air sample information;
- Standard emergency response practices;
- Evaluation of off-normal conditions and proper standard response;
- Elements of surveillance and control (job coverage).

The project-specific component shall thoroughly familiarize personnel with project radiation protection requirements, policies and procedures, as well as potential radiological hazards. Training topics shall include:

- Review of the project Radiological Protection Plan and associated procedures;
- Review of project emergency procedures;
- Radiological hazards specific to the project including radionuclide distribution, internal exposure hazards and criticality;
- Familiarization with planned project activities with emphasis on radiological controls and ALARA measures to be implemented;

The practical factor component shall thoroughly familiarize personnel with the use of project radiation protection systems and equipment. Aspects shall include those covered in Radiation Worker Training, plus:

- Operation of instruments and equipment;
- Survey performance and documentation;

2.5.2 Frequency

The Hematite Radiation Protection training is scheduled so that each individual is trained in radiation protection before entering a restricted area. In special cases, where a worker or visitor must enter a restricted area prior to completion of the training, a trained and qualified individual will escort the individual.

The Hematite Radiation Protection training includes periodic refresher training, as necessary, to maintain awareness of the need, and each individual's responsibility, for maintaining exposures ALARA and to update and renew each individual's knowledge of appropriate subjects including emergency procedures and response criteria. Refresher training is conducted at intervals not exceeding 12 months with a 30-day grace period.

Meetings, postings, memos or other means of communication will be used, as necessary, to inform workers of important new developments in procedures, equipment, and regulations that have an immediate impact on the radiation protection aspects of their work.

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The Radiation Protection training is designed to meet the needs of each individual, depending on background, previous training, and job classification.¶
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Appropriate instructional methods and materials such as classroom lectures, video-training tapes, computer-aided instruction, and actual equipment may be used to present the radiation protection training. Performance-based training will be utilized particularly in the areas of survey instrument use, protective clothing use, and respirator use.¶
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The Basic Radiation Protection training at the Hematite site will ordinarily consist of a formal course of instruction. Although the general format of the course may change, the basic subject material will only vary as necessary to provide updated information.¶
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The Basic Radiological Training includes the following subjects:¶
<#>Applicable regulations and license conditions;¶
<#>Areas where radioactive material is used and stored;¶
<#>Potential hazards associated with radioactive material;¶
<#>Appropriate radiation safety procedures;¶
<#>Special site rules;¶
<#>Individual's obligation to report unsafe conditions to the Radiation Safety Staff or management;¶
<#>Appropriate response to ... [1]

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2.5.3 Evaluation

Each worker's knowledge, competency, and understanding will be evaluated with regard to the radiation protection aspects of specific job to be performed. The evaluation consists of a written test with a practical factors session as described in Sections 2.5.1. The worker will receive additional instruction and be retested in any subject in which the worker's performance is deficient.

Qualified workers may elect to take the written test without classroom training. Failure of tests in this situation requires classroom training prior to retesting.

Requalification evaluation will be carried out in conjunction with refresher training. Satisfactory performance by an individual on a requalification evaluation may be substituted for refresher training for that individual. The evaluation will include topics treated in the refresher training.

2.5.4 Programmatic Training

Programmatic training is required training that must be completed within six (6) months of personnel report date. Programmatic Training consists of the following as required by an individual's job and responsibilities:

- Reporting of Defects and Noncompliance
- Quality Assurance
- Workplace Substance Abuse
- Site Safety Awareness

2.5.5 Contractor Training

Contractor training shall meet the requirements of this license and the Hematite Training Plan. Contractor training may be accepted for contractor personnel with review and approval of their training program by the RSO.

2.5.6 Training Records

Records of worker radiation protection training will be retained as required by regulatory requirements. Such records shall include:

- The worker's name.
- Inclusive dates for each segment of training or for each different training program.
- A specific description of all training completed satisfactorily, including references to pertinent lesson plans, course outlines, syllabuses, and other subject-specific descriptive information. Specific reference is usually made to such materials by date, edition, issue, etc., applicable to each worker.
- A performance rating for each segment of training or each different training program satisfactorily completed by the worker. This rating normally consists of a pass/fail grade, numerical or letter grade, or a written evaluation.
- The source of the training, i.e., the training facility and its location.
- Name(s) of individual(s) providing the training.

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2.6 Policies and Procedures

Policies and procedures shall be established for the project. Policies are upper tier documents that assign responsibilities for compliance with specific requirements; work is not performed to these documents, but they set forth the Project's approach to and responsibilities for compliance and work processes. Procedures are documents that define how the technical requirements stated in policies are implemented. Procedures are mandatory and followed during the work activities. Policies and procedures shall include the following areas:

- D&D Operations
- Environment, Health and Safety
- General Management Information
- Health Physics
- Nuclear Criticality
- QA
- Waste Management (including transportation)

At a minimum, the following documents shall be prepared:

- Training Plan
- Project Oversight Committee Charter
- Project Management Plan
- Health and Safety Plan
- Radiation Protection Plan
- Nuclear Criticality Safety Plan
- Quality Assurance Program Plan
- Waste Management Plan

These documents shall be placed on controlled distribution to the USNRC, Region III.

Policies and procedures shall undergo a review and approval process by project personnel based on the content of the document or as deemed necessary by the Project Director. Revisions to policies and procedures shall undergo the same level of review as the original issue of the document. Policies and procedures shall be reviewed bi-annually from the date of the last revision to ensure applicability to current site activities. The Project Director shall review and approve project policies and procedures. The QA Manager is responsible for reviewing and approving policies and procedures applicable to quality and the RSO shall review and approve policies and procedures applicable to radiation protection.

2.7 Quality Assurance

A Hematite Quality Assurance Program Plan (HQAPP) shall be established to define the project constraints necessary to comply with corporate and regulatory quality assurance (QA) requirements. The HQAPP shall include a description of the management system that shall be implemented to ensure continued compliance with applicable requirements. Key elements of the HQAPP include,

- Quality System

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- Document Control
- Records Management
- Surveillance and Audits
- Control of Inspection, Measuring and Test Equipment
- Control of Non-Conforming Items
- Corrective Action

2.7.1 Quality System

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Activities affecting quality shall be prescribed by and performed in accordance with documented policies, procedures, plans, drawings or a type appropriate to the circumstance. These documents shall include or reference appropriate quantitative or qualitative acceptance criteria for determining that prescribed activities have been satisfactorily accomplished. The documents shall contain enough detail to allow a qualified person within the organization to use them independently. These documents, and their revisions, shall include a review and documented resolution of comments by the QA Manager before issuance.

2.7.2 Document Control

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The preparation, issue, and change of documents that specify quality requirements or prescribe activities affecting quality shall be controlled to ensure that current and correct documents are being employed by those performing the work. Such documents (e.g., policies and procedures), including changes, shall be reviewed for adequacy by and approved for release by authorized personnel.

A system shall be established and implemented for the control of documentation. The system shall assure that current and correct documents are available to project personnel, and shall provide the following:

- Identification of documents to be controlled
- Methods of distribution
- Assignment of responsibilities for preparing, reviewing, approving, issuing, and controlling documents
- Review of documents for adequacy, completeness, and correctness before approval and issue
- Identification of controls applied to uncontrolled or superseded documents to prevent their inadvertent use

2.7.3 Records Management

A Quality Assurance Records system shall be maintained. QA records shall include, but are not limited to, design related records (calculations, drawings, research, development test reports and, design reviews), operating logs, inspection and test records, instructions and procedures, audit reports, personnel qualification(s), quality related procurement data, repair records, maintenance records, dosimetry records, radiological surveys, air sampling results and calibration records. Requirements and responsibilities for record transmittal, distribution, retention, maintenance, and disposition shall be established in approved procedures.

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Procedures shall define storage, preservation and safekeeping requirements to meet applicable standards, codes and regulatory requirements. Quality Records retention periods are shall also be established and documented. In no case shall a quality record be destroyed before the applicable regulatory standard allows.

Quality Assurance records shall be retained and protected against damage, loss, or deterioration in accordance with governing implementing procedures and applicable regulatory standards (e.g., 10 CFR 50 Appendix B & 10 CFR Part 71.91, 71.135) as appropriate, and/or contractual requirements.

Records shall be reviewed for completeness, identification, and legibility prior to being entered into the quality records system. Quality records may exist in electronic media but shall be subject to appropriate measures to assure protection against deterioration or loss as afforded to hard-copy records. Protection for hardcopy QA records shall be provided by using either one of the following storage methods:

(a) two sets of identical records maintained at physically separate, remote and equivalent storage locations, with access control and security that minimizes the risk of damage from fire, flooding and abnormal deterioration; or

(b) official copies of QA records maintained in approved fireproof cabinet or vault, at a single location.

2.7.4 Surveillance and Audits

Internal and external surveillances and audits (Independent Assessments) of project activities or suppliers shall be planned, scheduled, and performed by personnel qualified in accordance with the requirements of the HQAPP. Audits shall be performed in accordance with written procedures, by personnel who do not have direct responsibility for the activities being audited. Internal audits shall be performed annually or more often, if deemed necessary by the responsible QA Manager. Audits shall provide comprehensive, independent verification and evaluation of the implementation of the entire Quality Assurance Program to verify compliance, determine effectiveness, and promote improvement in accordance with applicable regulations, codes or standards. External audits shall be performed triennially, as appropriate.

Audit results and corrective action activities shall be documented in an audit report. Follow-up actions shall be taken for areas found deficient during these audits to verify corrective action implementation and effectiveness. Records of audits (e.g., audit plans, written replies, and record of completion of corrective actions) and the qualifications of auditors shall be maintained as Quality Assurance records.

Surveillance and audit activities shall be planned and performed to verify conformance to drawings, procedures and/or specifications for each work operation where necessary to assure quality. Individuals other than those who performed, or directly supervised the activity being surveilled or audited shall perform the surveillance or audit for acceptance. The qualifications of surveillance and audit personnel shall be based on their completed training, experience and demonstrated capability to perform the required inspection

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functions in accordance with applicable codes, standards, and approved procedures.

Surveillance and audit procedures shall require the specification of hold points, witness points, inspection equipment requirements, accept-reject criteria, personnel requirements, characteristics to inspect, variable attributes, recording instructions, reference documentation and other requirements, as appropriate. The surveillance and audit procedure shall require that inspection results include supporting information such as variables, attributes, data, NDE records, welding information, certified materials test report (and/or certification), special process data, discrepancy reports, related dispositions and resultant re-inspection data.

In-service inspection methods shall include evaluations of performance capability of essential emergency and safety systems and equipment, verification of calibration and integrity of instruments and instrument systems, and verification of maintenance as appropriate.

2.7.5 Control of Inspection, Measuring and Test Equipment

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Control systems shall be established and implemented to ensure that tools, gauges, instruments, and other measuring and test devices used that affect or evaluate the quality of activities are controlled, calibrated, and adjusted at specific intervals so that the necessary accuracies are maintained.

Documented procedures for calibrating M&TE and measurement reference standards will be used. Procedures such as published standard practices, written instructions that accompany purchased equipment, or other acceptable instructions may be used.

Calibration procedures shall contain the following minimum information:

- Identity of the item calibrated
- Calibration equipment and measurement reference standards to be used, including a required parameter, range and accuracies required
- Checks, tests, measurements, and acceptance tolerances of each instrument characteristic being calibrated
- Sequence of operations
- Special instructions, safety precautions, or other information

Records shall be maintained for each piece of equipment to show that established schedules and procedures for the calibration of M&TE and measurement reference standards have been followed. The records will contain a history of calibration and other means of control, showing when a calibration is due, conformance or nonconformance to required tolerances before and after adjustments, and any limits on use or corrections to be applied.

2.7.6 Control of Nonconforming Items

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The Westinghouse Corrective Action Process (CAPs) shall be used to identify, document, analyze and correct conditions adverse to quality of items and

services in accordance with established procedures. Hematite shall pursue a program of continuous improvement using a uniform process for the effective identification, correction and prevention of issues that impact quality. The CAPs will be the primary mechanism for implementing corrective and preventative actions for the Hematite quality assurance program. Employees are reponsible for identifying quality or business effectiveness issues and supporting their resolution.

Significance of issues will be identified to establish priority for resolution action. Items of low significance may not require resolution but will be identified, recorded and tracked as indicators of emerging trends or precursors of higher significance issues.

2.7.7 Corrective Actions

When significant conditions averse to quality have been identified and when other methods of obtaining corrective action have failed or have been ineffective, a corrective action (CA) shall be requested. Westinghosue's CAPs program shall be used to track CAs. The procedure for requesting corrective action provide for the following:

- Completion of issue identification in CAPs
- Determination of the cause of the condition
- Identification and implementation of actions to correct the condition and prevent recurrence of similar conditions
- Documentation of the adverse condition, the cause, and the corrective actions taken; and reporting to the appropriate levels of management for review and assessment
- Verification of the implementation of the corrective action

Any member of the project who identifies a condition averse to quality may initiate an issue to report an occurrence that impacts or has the potential to impact conformance to applicable requirements, safety, efficiency, cost, schedule or any other aspect of business effectiveness. The issue shall be identified with a unique number per the CAPs program.

The progress of an issue affecting quality will be tracked by QA to and verified upon completion. The effectiveness of the corrective action shall be verified by surveillance, audit, trend analysis, or other reviews.

Upon notification or receipt of an issue, the responsible management shall take the necessary actions to bring the adverse condition under control and to investigate the causes of the condition. The management controls may include (1) suspension of all or part of the work, (2) management and supervisory reviews of work in progress, or (3) other actions deemed appropriate by the management of the organization.

2.8 Investigations and Reporting

Events specified by applicable regulations or license conditions shall be investigated and reported to the NRC. The QA Manager or EH&S Manager shall

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Internal and external audits (Independent Assessments) of project activities or suppliers shall be planned, scheduled, and performed by personnel qualified in accordance with the requirements of the project QA Plan. Audits shall be performed in accordance with written procedures and checklists, by personnel who do not have direct responsibility for the activities being audited. Internal audits should be performed annually or more often, if deemed necessary by the responsible QA Manager. Audits shall provide comprehensive, independent verification and evaluation of the implementation of the entire Quality Assurance Program to verify compliance, determine effectiveness, and promote improvement in accordance with applicable regulations, codes or standards. External audits shall be performed triennially, as appropriate.¶
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be responsible for conducting the investigation and documentation of reportable events.

Non-reportable occurrences shall be investigated and documented as appropriate. Such reports shall be available for NRC inspection.

2.9 Periodic Progress Reports

Periodic progress reports shall be submitted to the NRC at a frequency agreed upon by the agency. The progress reports should contain, but are not limited to the following:

- Critical Issues
- Issues of Interest to Regulatory Agencies
- Operational Highlights
- Schedule Information
- Miscellaneous

2.10 Stop Work Authority

All project personnel have stop work authority and are responsible for exercising their authority upon identification of an unsafe or suspected unsafe condition. Stop work declaration requires judgement on the part of the individual. When stop work is invoked, associated personnel are responsible for immediately stopping work on the subject task or stopping as soon as possible after the task is placed in a safe condition.

Stop work may be formal or informal. A formal stop work is required when an unsafe condition exists and adherence to procedures will not correct the condition. An unsafe condition is a condition that, if left uncorrected, could negatively impact the safety of workers, the public, or the environment. Informal stop work is associated with conditions that are not considered unsafe but require correction prior to recommencing work.

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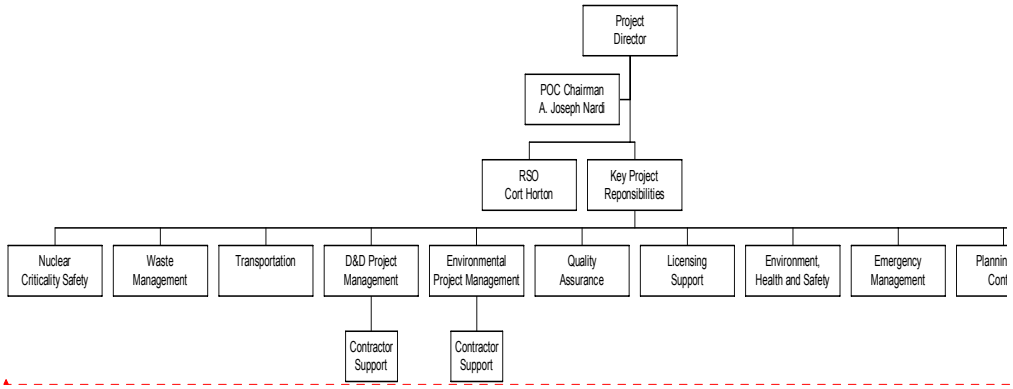

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License No. SNM-33 Revision 0

Docket No. 70-36

A. Joseph Nardi

Experience Summary Mr. Nardi has worked for Westinghouse Electric Company for 35 years in various positions primarily associated with radiological health. For the past 22 years, he has served as the License Administrator for Westinghouse and is the principal point of contact between Westinghouse and the NRC.

Current Position **Supervisory Engineer**

Mr. Nardi is the Project Oversight Committee Chairman responsible for chairing the POC; designating sub-committees, in writing, with the concurrence of the majority of the safety committee; determining which committee members shall attend each meeting according to the topics to be covered; and, recommending the appointment of committee members.

Previous Responsibilities

Over the past 18 years, Mr. Nardi has been involved with decommissioning activities at 11 Westinghouse sites. His experience has covered almost all segments of the nuclear fuel cycle which include uranium mining operation, several uranium and plutonium fuel fabrication facilities, service centers that support nuclear power plant operations, two research reactors, and several research facilities. The decommissioning projects have covered the entire spectrum of radionuclides that are associated with the nuclear fuel cycle.

Mr. Nardi has been an active participant in the NRC decommissioning workshops and has played an active role in attempting to influence the regulatory framework for decommissioning.

Mr Nardi is also an active member of the Radiation Safety Committee for two other Broad Scope Licenses.

- License Administrator (1980-Present)

Responsible for direct interface between Westinghouse and regulatory agencies for materials licenses and transportation container approvals. Provide direct licensing support to each facility to assure a consistent Westinghouse approach before agencies.

- Corporate Radiation Safety Officer (1983-1989), Wyoming Mineral Corporation (Westinghouse subsidiary)

Responsible for overall radiation protection program and licensing associated with the uranium mining operations at four locations.

- Radiation Safety Officer (1976-1980), Westinghouse Cheswick Site

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Responsible for the radiation protection program for all site radiological operations including plutonium fuel fabrication, industrial radiography and a by-product material operation for reactor components.

- Marketing Engineer (1973-1976)

Responsible for competitor analysis, fuel cycle analysis and preparation of technical presentations for customers related to Westinghouse experience, capabilities and informational topics.

- Licensing Engineer (1967-1973)

Engineer for mixed oxide fuel fabrication pilot plant, responsible for licensing, health physics support, and nuclear criticality safety. Participated in design for mixed oxide fuel fabrication facility.

Education Stanford University
M.S. Nuclear Engineering

The Pennsylvania State University
B. S. Chemical Engineering

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Experience Summary . Mr. Horton has 20 years' experience in decommissioning project management, operational health physics, and waste management. This experience includes management and technical application.¶
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Current Position . **Radiation Safety Officer ¶**
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Mr. Horton is responsible directing and managing radiation protection personnel and resources. He is responsible for health physics, radiation protection, nuclear cri ... [4]
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Appropriate instructional methods and materials such as classroom lectures, video-training tapes, computer-aided instruction, and actual equipment may be used to present the radiation protection training. Performance-based training will be utilized particularly in the areas of survey instrument use, protective clothing use, and respirator use.

The Basic Radiation Protection training at the Hematite site will ordinarily consist of a formal course of instruction. Although the general format of the course may change, the basic subject material will only vary as necessary to provide updated information.

The Basic Radiological Training includes the following subjects:

Applicable regulations and license conditions;
Areas where radioactive material is used and stored;
Potential hazards associated with radioactive material;
Appropriate radiation safety procedures;
Special site rules;
Individual's obligation to report unsafe conditions to the Radiation Safety Staff or management;
Appropriate response to emergencies or unsafe conditions;
Worker's right to be informed of occupational radiation exposure and bioassay results; and
Locations of pertinent regulations, licenses, and other material required by regulations.

Radiation Protection Training Objectives

Upon completion of the Radiation Protection Training, each individual shall be able to demonstrate competency in the following as appropriate for their specific job assignment:

State the individual worker rights, privileges, responsibilities, and recommended approach to solving radiological concerns.
Explain the concept of ALARA and apply the principles of time, distance, and shielding.
Recognize the internal exposure pathways and the controls that can be implemented to minimize internal exposure.
State both the federal occupational radiation exposure limits and the Westinghouse administrative limits.

Recognize restricted areas, explain the basis for area postings, and identify the administrative controls for entry (RWP).
Demonstrate the proper procedure for donning and doffing anti-contamination clothing.
State the proper procedure for facility access and egress.
Explain site dosimetry requirements and procedures.
Read a self-reading pocket dosimeter.
State the proper response to the site radiation monitoring system and site alert signal, and identify proper evacuation routes.
State the risks and health effects associated with acute and chronic radiation exposures.
Apply low-level radioactive waste minimization techniques.
Explain the TEDE-ALARA concept and how it can be applied to reduce radiation dose.
State the risks and health effects to the embryo/fetus from exposure to ionizing radiation.
State the occupational dose limits for a declared pregnant worker.
Identify the proper procedure for declaring pregnancy.

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Audits and Inspections

Internal and external audits (Independent Assessments) of project activities or suppliers shall be planned, scheduled, and performed by personnel qualified in accordance with the requirements of the project QA Plan. Audits shall be performed in accordance with written procedures and checklists, by personnel who do not have direct responsibility for the activities being audited. Internal audits should be performed annually or more often, if deemed necessary by the responsible QA Manager. Audits shall provide comprehensive, independent verification and evaluation of the implementation of the entire Quality Assurance Program to verify compliance, determine effectiveness, and promote improvement in accordance with applicable regulations, codes or standards. External audits shall be performed triennially, as appropriate.

Audit results and corrective action activities shall be documented in an audit report. Follow-up actions shall be taken for areas found deficient during these audits to verify corrective action implementation and effectiveness. Records of audits (e.g., audit plans, written replies, and record of completion of corrective actions) and the qualifications of auditors shall be maintained as Quality Assurance records.

Inspection activities shall be planned and performed to verify conformance to drawings, procedures and/or specifications for each work operation where necessary to assure quality. Individuals other than those who performed, or directly supervised the activity being inspected shall perform inspection for acceptance. The qualifications of inspection personnel shall be based on their completed training, experience and demonstrated capability to perform the required inspection functions in accordance with applicable codes, standards, and approved procedures. Indirect control by monitoring processing methods, equipment, or personnel, shall be used when inspection is impossible or disadvantageous. Both inspection and process monitoring shall be used when control is inadequate without both.

Inspection procedures and instructions shall require the specification of hold points, witness points, inspection equipment requirements, accept-reject criteria, personnel requirements, characteristics to inspect, variable attributes, recording instructions, reference documentation and other requirements, as appropriate. The inspection procedures and instructions shall require that inspection results include supporting information such as variables, attributes, data, NDE records, welding information, certified materials test report (and/or certification), special process data, discrepancy reports, related dispositions and resultant re-inspection data.

In-service inspection methods shall include evaluations of performance capability of essential emergency and safety systems and equipment, verification of calibration and integrity of instruments and instrument systems, and verification of maintenance as appropriate.

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Records shall be reviewed for completeness, identification, and legibility prior to being entered into the quality records system. Some, or all, quality records may exist in electronic media but shall be subject to appropriate measures to assure protection against deterioration or loss as afforded to hard-copy records. Protection for QA records shall be provided by using either one of the following storage methods:
two sets of identical records maintained at physically separate, remote and equivalent storage locations, with access control and security that minimizes the risk of damage from fire, flooding and abnormal deterioration; or
official copies of QA records maintained in approved fireproof cabinet or vault, at a single location.

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Experience Summary Mr. Horton has 20 years' experience in decommissioning project management, operational health physics, and waste management. This experience includes management and technical application.

Current Position **Radiation Safety Officer**

Mr. Horton is responsible directing and managing radiation protection personnel and resources. He is responsible for health physics, radiation protection, nuclear criticality safety and waste management operations. He implements the requirements of the Materials License (SNM-33) and the applicable requirements of 10CFR, 49CFR, 29CFR, and State regulatory drivers. Mr. Horton is responsible for maintaining personnel monitoring records and providingh technical training for Radiological Control Technicians. In addition, Mr. Horton performs performs cost tracking for waste disposal, waste processing, and analytical support and maintains radioactive waste package inventory and prepares manifests for transportation and disposal.

Previous Responsibilities

Sr. Radiological Engineer

Provides technical support for decommissioning activities and agreement state radioactive material license maintenance.
Implements decontamination techniques and evaluates decontamination effectiveness.
Prepares material license amendment to allow the unrestricted release of a radium processing facility by using radiation dose modeling. The amendment provided the technical justification for radiation dose based volumetric release criteria.
Prepares radiological characterization report for a historical radium process facility. The characterization report contains pictures of the facility, historical and newly generated radiation survey data, and documentation of the reference grid system.

Radiological Engineer

Responsible for radiological characterization of the High Flux Beam Reactor (HFBR) a low power research reactor located at Brookhaven National Laboratory. Characterization activities included procedure development, field survey instrument selection and qualification, technician training, and preparation of the draft radiological characterization plan.
Packaged and certified 20 inner modal containers of radioactively contaminated soil for disposal at Envirocare of Utah and Waste Control Specialists (WCS). Prepared radioactive waste profile and Special Nuclear Material exemption.

Waste Management Engineer

Responsible for waste management activities for disposal of hazardous wastes generated as the result of the production of nuclear fuel at the Hematite facility. Prepared and maintained Envirocare of Utah waste profiles (3) and negotiated contracts with hazardous waste processors for compaction, incineration, and free-release of radioactively contaminated waste materials.

Implemented sorting, segregating, and certification of waste materials with value engineering for waste disposal.
Interacted with the Nuclear Regulatory Commission (NRC) for two audits of facility waste management program and practices
Prepared initial decommissioning plan approach for near term D/D activities.
Interacted with Union Pacific Railroad to evaluate and construct a rail spur for shipping radioactively contaminated debris for disposal.

Project Manager

Responsible for development and start up of D/D Projects.
Provided mobilization and technical support for Fernald Plant 5 decommissioning activities.
Provided Quality Assurance program maintenance.
Prepared proposals for DOE marketing effort.
Developed and implemented waste management and transportation program in support of FUSRAP waste removal activities in St. Louis, Missouri.
Implemented Low Track for waste manifest preparation to support U.S. Army Corps of Engineers low level radioactive waste removal activities.
Removed the decant system for high level waste storage tanks at the Melton Valley Waste Area at Oak Ridge, Tennessee.
Characterized, packaged, and certified for disposal radioactive waste materials.
Developed contract scope changes and prepared the Melton Valley Project final report.

Radiation Safety Officer

Provide technical and administrative support for radiation safety programs as required by 10CFR parts 20 and 30.
Activities for the NRC licensee include maintenance support for personnel dosimetry, radiological surveys for contamination control, radiation safety training for pharmaceutical research staff, radioactive and hazardous waste packaging/certification for unknown chemicals and biological waste, and maintenance of data bases for radioisotope inventory and waste management.
Provide notification to Federal and State agencies as required by regulations.
Provide NRC materials license maintenance including applications for amendments and license reduction.
Maintain radiation safety program records and provide support for internal and external program audits.
Provide other company radiation safety personnel technical support for programs endorsed by agreement and non-agreement states.
Prepared technical specification (RFP) to select D and D contractor and sub contract management.
Prepared materials license amendment for D and D without a formal NRC decommissioning plan.

Performed scoping surveys (MARSSIM), personnel records close out, regulatory coordination with the NRC.
Performed license termination for eight buildings in 9 months at a cost of $1.8M.
Obtained NRC release for unrestricted use of eight licensed buildings without regulatory question or comment concerning Final Status Report.

Field Services Department Manager

Responsible for analytical support, waste management, and characterization.
Provided technical and administrative support for professional and technical staff.

Senior Health Physicist

Provided general engineering and health physics support during the D/D of the DoE Weldon Springs Site Uranium Processing Facility under the CERCLA process.
Developed sampling plan to characterize local area for explosive contamination (DNT/TNT).
Developed and managed subcontracts for hydrolasing, abrasive blasting, and acid washing for decontamination.
Assisted with contract negotiations within the DoE procurement system.
Developed implementation plans for DoE orders.
Developed packaging and shipping requirements for hazardous materials in accordance with 49CFR requirements.
Implemented radiation protection controls during remmediation activities.
Established the implementation plan for DoE Order 5480.11, Radiation Protection.
Facilitated the building of a RCRA mixed waste storage facility.
Performed and supervised hazardous material shipments including radioactive, explosive, poison, and flammable DOT hazard classes.
Developed radio analytical technical specification for contract support.

Senior Engineer

Developed the radiation protection program for the Waste Isolation Pilot Plant (WIPP).
Performed shielding analysis for the Transuranic Package Transporter (TRUPACT).
Developed NEPA documentation for a new ventilation shaft prior to WIPP receiving TRU waste.
Member of the TRU Waste Certification Committee to certify generators to ship TRU waste to the WIPP for disposal.
Developed the technical contract for the implementation of the mobile NDA/NDE equipment designed by Los Alamos Scientific Laboratory.

Project Manager/Sr. Health Physics Supervisor

Provided health physics and project management support for a variety of D/D projects.
Developed and implemented radiation protection and waste management programs, performed cost tracking, hiring and development of project personnel, and extensive client interaction.
Managed projects of approximately $1M. Maintained and operated an analytical laboratory performing gamma spectroscopy, liquid scintillation, and proportional counting for radioactive contaminates.
Collected unknown chemical samples for commercial analyses.

Health Physicist

Responsible for environmental monitoring and radiological accident investigation in support of nuclear submarine refueling.
Coordinated radiation dosimetry program for two thousand workers supporting three shifts.
Member of the Radiological Emergency Response Team.

District Engineer

Responsible for the design and implementation of stimulation and cementing treatments for oil/gas well servicing (deep/ultra deep).
Provided technical training and on-location assistance for service engineers.
Interacted with customers concerning applications of petroleum completion fluids, squeeze cementing techniques, and plugs.
Performed analyses of water to ensure chemical compatibility with well treatment constituents for complex fracturing and cementing techniques.
Responsibilities also included sales support, quality assurance, and development of engineering trainees.
As District radiation Safety Officer: responsible for shipping of radioactive sources, applications of radioactive tracers and nails, and personnel radiation monitoring.

Education

Findlay University, Findlay, Ohio

M.S. Environmental Management

Oklahoma State University
B.S. Radiation and Nuclear Engineering

Reports

Merrill Pharmaceuticals, Inc. Final Status Radiological Survey Report
Merrill Pharmaceuticals, Inc. Building 48 Final Status Radiological Survey Report
Surface Radiological Release Criteria- USEPA/JAERI
Radiation Safety Manual- Dowel Division of Dow Chemical
Pantex Environmental Monitoring Report- Mason and Hangar CO Appointments

Additional

NRC Invited speaker for Headquarters Symposium to Streamline the D/D Process for Non Reactor Facilities
State of Ohio Radioactive Waste Authority, Technical Consultant
DoE Decommissioning Televideo Program Presenter
U.S. Environmental Protection Agency and Japanese Atomic Energy Research Institute, Residual Radioactivity and Recycling Workshop, Invited Speaker, Mito, Japan
DoE Pollution Prevention Conference- Honorable Mention