



STATEMENT OF WORK

Radiological Control Staff Augmentation

Revision 0

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**Prepared by
Nuclear Waste Partnership LLC
Carlsbad, New Mexico**

for

**U. S. Department of Energy
Waste Isolation Pilot Plant**

SECTION I: INTRODUCTION AND BACKGROUND

General Description of Services Being Sought

Nuclear Waste Partnership (NWP) requires Radiological Protection support personnel (RadCon) to assist with the mission of the Waste Isolation Pilot Plant (WIPP). The required services shall include personnel, area surveys, surveillance and control of work involving high activity, and alpha bearing materials (transuranic) at WIPP in Carlsbad, New Mexico. WIPP is a Department of Energy (DOE) facility located 33 miles southeast of Carlsbad, NM. These work areas are potentially identified as Contamination Areas (CAs), High Contamination Areas (HCAs) and Airborne Radioactivity Areas (ARAs) and include both surface and underground areas of WIPP.

Background

NWP is the WIPP Maintenance & Operations (M&O) contractor responsible for operations at the WIPP Site, scheduling and coordinating waste transportation, and managing the Central Characterization Program (CCP) for the DOE Carlsbad Field Office (CBFO).

SECTION 2: REQUIREMENTS DOCUMENTS

All work performed hereunder shall be in accordance with the below stated documentation and such other requirements as stated therein. The documentation below may be changed, at any time, as deemed appropriate by NWP.

10 CFR 34 , "Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiographic Operations." U.S. Nuclear Regulatory Commission [365.5, 655]
10 CFR 71 , "Packaging and Transportation of Radioactive Material." U.S. Nuclear Regulatory Commission [423.13]
10 CFR 820 , "Procedural Rules for DOE Nuclear Activities." U.S. Department of Energy [113.2]
10 CFR 830.120 , "Quality Assurance Requirements." U.S. Department of Energy [743]
10 CFR 835 , "Occupational Radiation Protection." U.S. Department of Energy [multiple citations]
10 CFR 851 , "Worker Safety and Health Program." U.S. Department of Energy [312, 345]
29 CFR 1910.134 , "Respiratory Protection." Occupational Safety and Health Administration [531]
49 CFR 172 , "Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements." U.S. Department of Transportation [423]
49 CFR 173 , "Shippers - General Requirements for Shipments and Packaging." U.S. Department of Transportation [423]
Atomic Energy Act of 1954 , as amended. Public Law 83-703. [Glossary]
ANSI N2.1 , (1989) "Radiation Symbol." [Glossary]
ANSI/HPS N43.2 , (2001) "Radiation Safety for X-Ray Diffraction and Fluorescence Analysis Equipment." [365.2]
ANSI/HPS N43.3 , (2008) "Radiation Safety for Installations Using Non-Medical X- Ray and Sealed Gamma-Ray Sources, Energies up to 10 MeV." [365]
IEEE/ANSI N323AB , (2013) "Radiation Protection Instrumentation Test and Calibration, Portable Survey

Instruments.” [562.1, 564]
ANSI Z88.2 , (1992) “American National Standard for Respiratory Protection.” [531]
ANSI Z88.6 , (2006) “Respiratory Protection – Respirator Use- Physical Qualifications for Personnel.” [532]
ASME AG-1 , “Code on Nuclear Air and Gas Treatment.” [464.3]
ASME N509 , (1996) “Nuclear Power Plant Air-Cleaning Units and Components.” [464.3]
ASME N510 , (1995) “Testing of Nuclear Air Treatment Systems.” [464.3]
DOE G 151.1-4 , (7/11/07) “Response Elements.” [213.2]
DOE O 210.2A , (4/8/2011) “DOE Corporate Operating Experience Program” [131]
DOE O 231.1B , (6/27/2011) “Environment, Safety, and Health Reporting.” [127, 721, 782]
DOE O 414.1D , (4/25/2011) “Quality Assurance.” [743]
DOE O 420.1C , (12/4/2012) “Facility Safety.” [128, 381]
DOE O 420.2C , (7/21/2011) “Safety of Accelerator Facilities.” [364]
DOE O 422.1 , (6/29/2010) “Conduct of Operations.” [125]
DOE O 426.2 , (7/29/2013) “Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities.” [613]
DOE O 440.1-1B , (5/17/07) “Worker Protection Program for DOE (including National Nuclear Security Administration) Federal Employees.” [312, 345]
DOE O 458.1 , (1/15/2013) “Radiation Protection of the Public and the Environment.” [422, Glossary]
DOE O 460.1C , (5/14/2010) “Packaging and Transportation Safety.” [423]
DOE O 460.2A , (12/22/04) “Departmental Materials Transportation and Packaging Management.” [423]
DOE O 435.1 , (7/9/99) “Radioactive Waste Management.” [441, 442, 443]
DOE P 450.4A , (4/25/2011) “Integrated Safety Management Policy.” [118]
DOE-HDBK-1080-1997 , (1997) “Guide to Good Practices for Oral Examinations”
DOE-HDBK-1108-2002 , (CN2), (2013); “Radiological Safety Training for Accelerator Facilities.” [664]
DOE HDBK-1110-2008 , (2008) “ALARA Training for Technical Support Personnel.” [652, 653] DOE-HDBK-1113-2008 , (2008) “Radiological Safety Training for Uranium Facilities.” [662] DOE-HDBK-1118-1999 , (1999) “Guide to Good Practices for Continuing Training”
DOE-HDBK-1122-2008 , (CN2), (2011) “Radiological Control Technician Training”
DOE-HDBK-1129-2008 , (2009) “Tritium Storage and Safe Handling,” [363]
DOE-HDBK-1129-2008 , (2009) “Tritium Handling and Safe Storage, APPENDIX E: Radiological Control Programs for Special Tritium Compounds”
DOE-HDBK-1129-2008 , (2009) “Tritium Handling and Safe Storage, APPENDIX F: Radiological Training for Tritium Facilities”
DOE-HDBK-1130-2008 , (R), (2013) “Radiological Worker Training”
DOE HDBK-1130-2008 , (R), (2013) “Radiological Worker Training, Appendix A Radiological Control

Training for Supervisors”
DOE HDBK-1130-2008 , (R), (2013) “Radiological Worker Training, Appendix B Radiological Contamination Control for Laboratory Research”
DOE HDBK-1130-2008 , (R), (2013) “ Radiological Worker Training, Appendix C Radiological Safety Training for Radiation-Producing (X-Ray) Devices”
DOE-HDBK-1131-2007 , (R), (2013) “General Employee Radiological Training”
DOE-HDBK-1141-2008 , (2008) “Radiological Assessor Training”
DOE-HDBK-1145-2013 , (2013) “Radiation Safety Training for Plutonium Facilities.” [661]
DOE-STD-1107-97 (CN1) , (2007); “Knowledge, Skills, and Abilities for Key Radiation Protection Positions at DOE Facilities.” [142.3, 143.3, 646.1, 651.1, 654.4]
DOE-STD-1112-98 , (1999) “Department of Energy Laboratory Accreditation Program for Radiobioassay.” [522.1]
DOE-STD-1121-2008 , (CN1), (2013) “Internal Dosimetry” [523]
DOE-STD-1128-2013 , (2013) “Good Practices for Occupational Radiological Protection in Plutonium Facilities.” [361.2]
DOE-STD-1136-2009 , (2009) “Guide of Good Practices for Occupational Radiation Protection in Uranium Facilities,” [362]
DOE-STD-1189-2008 , (2008) “Integration of Safety into the Design Process” [381]
DOE-STD-3020-2005 , (2005) “Specification for HEPA Filters Used by DOE Contractors.” [464]
DOE-STD-3025-2007 , (2007) “Quality Assurance Inspection and Testing of HEPA Filters.” [464]
ICRP Publication 60 , (1990) “1990 Recommendations of the ICRP on Radiological Protection.” [App. 2B]
ICRP Publication 68 , (1994) “Dose Coefficients for Intakes of Radionuclides by Workers.” [App. 2B]
NCRP Report No. 116 , (1993) “Limitation of Exposure to Ionizing Radiation” [App. 2B]
Privacy Act of 1974 , as amended. [712.3]
Resource Conservation and Recovery Act of 1976 , as amended. Public Law 94-580. [443]

SECTION 3: SCOPE

All RadCon personnel should be qualified to ANSI 3.1 or have a current DOE Core card.

All work defined in this Statement of Work (SOW) shall be performed under the direction and guidelines of NWP Safety Management Policies.

3.01 RadCon Technician

The RadCon Technician shall perform a wide variety of complex radiological assignments to minimize personnel exposures to radiological hazards and ensure compliance with applicable regulations and procedures; shall perform radiological surveys and complete documentation for receipt, processing and emplacement of contact-handled and remote-handled waste when assigned by the Cognizant Manager or designee; and shall perform similar and related duties as assigned. The RadCon Technician shall use respirators, as required.

Education

A High School Diploma or GED is required.

Experience

One year nuclear operations experience is required.

Other Requirements

Current DOE RCT Core is **REQUIRED**. A pre-employment physical is required that demonstrates ability to perform in underground/mine working conditions (see paragraph 6.02.2, "Working Conditions"). Personnel shall be required to complete and maintain training and qualifications for respirator use.

3.02 RadCon Engineer

The RadCon Engineer shall be responsible for the day-to-day implementation of the WIPP Radiological Control Program and Conduct of Operations in all aspects of normal, abnormal and emergency response work. The RadCon Engineer shall provide radiological engineering support and oversight for the day-to-day activities, regarding Radiation Protection implementation of 10 CFR 835, applicable DOE Orders, WIPP Radiological Control Manual, and associated WIPP Radiological Control procedures. The RadCon Engineer shall be responsible for assisting with the implementation and continuing improvement of the WIPP radiological control program. The RadCon Engineer shall be responsible provides technical health physics support to the Radiation Protection Program in assigned areas as a Subject Matter Expert.

Education

Baccalaureate degree in engineering, science, or a related field and at least 11 years related experience or an advanced degree in engineering, science, or a related field plus 9 years related experience or 19 years education/experience in lieu of a Bachelor degree are required for the position. Additionally, strong written and verbal communication skills are required.

Experience

Experience as a Radiological Engineer is preferred. CHP certification is preferred..

Other Requirements

ABHP certification and/or NRRPT registration is desirable.

Will be required to complete and maintain training and qualifications for respirator use. A pre-employment physical is required that demonstrates ability to perform in underground/mine working conditions (see paragraph 6.02.2, "Working Conditions").

3.03 RadCon Mentor

The RadCon Mentor shall be responsible for the day-to-day implementation of the WIPP Radiological Control Program and Conduct of Operations in all aspects of normal, abnormal and emergency response work. The RadCon Mentor shall provide daily work assignments and ensure that radiological support for recovery and waste handling operations are conducted in accordance with approved procedures in compliance with 10CFR835. The RadCon Mentor shall be responsible for ensuring the completion of routine and job coverage surveys, posting and control of radiological areas, instrumentation maintenance and source control, routine air monitoring as well as other duties as assigned by the Radiological Control and Dosimetry Manager. The RadCon Mentor shall qualify as a Radiological Control Technician at the WIPP site.

Education

High School Diploma or GED with eight years of relevant experience, Associate Degree in engineering, science, or related field with six years of relevant experience, or Bachelor of Science Degree in engineering, science, or a related field with four years of relevant experience is required.

Experience

Experience as a DOE qualified Radiological Control Technician or equivalent military or civilian nuclear power experience is required.

Other Requirements

Shall be required to complete and maintain training and qualifications for respirator use. A pre-employment physical is required that demonstrates ability to perform in underground/mine working conditions (see paragraph 6.02.2, "Working Conditions").

3.04 RadCon Supervisor

The RadCon Supervisor shall be responsible for the day-to-day implementation of the WIPP Radiological Control Program and Conduct of Operations in all aspects of normal, abnormal and emergency response work. The RadCon Supervisor shall provide daily work assignments and ensure that radiological support for recovery and waste handling operations are conducted in accordance with approved procedures in compliance with 10CFR835. The RadCon Supervisor is responsible for ensuring the completion of routine and job coverage surveys, posting and control of radiological areas, instrumentation maintenance and source control, routine air monitoring as well as other duties as assigned by the Radiological Control and Dosimetry Manager. The RadCon Supervisor shall qualify as a Radiological Control Technician at the WIPP site.

Education

High School Diploma or GED with eight years of relevant experience, Associate Degree in engineering, science, or related field with six years of relevant experience, or Bachelor of Science Degree in engineering, science, or a related field with four years of relevant experience is required.

Experience

Experience as a DOE qualified Radiological Control Technician or equivalent military or civilian nuclear power experience is required.

Other Requirements

Shall complete and maintain training and qualifications for respirator use. A pre-employment physical is required that demonstrates ability to perform in underground/mine working conditions (see paragraph 6.02.2, "Working Conditions").

SECTION 4: QUALITY ASSURANCE

4.01 Work performed at the WIPP will be in accordance with WP 13-1, *NWP Quality Assurance Program Description*, and applicable WIPP programs and implementing procedures.

4.02 The Subcontractor shall provide personnel qualified to perform the requested services. Documentation of personnel qualification will be provided prior to arrival of personnel at the WIPP Site.

SECTION 5: REPORTS, DATA, AND DELIVERABLES

Data shall be handled in accordance with daily operating technical procedures and direction from NWP Radiological Control Management.

SECTION 6: OTHER SPECIAL CONSIDERATIONS

6.01 Anticipated Work Schedule – Ten (10) hours per day schedule with overtime at the discretion of NWP. It is anticipated that work schedule will be for a five (5) day workweek.

6.02 Additional Considerations

6.02.1 Required Equipment

Radiological monitoring equipment will be provided by NWP.

6.02.2 Working Conditions

The Subcontractor employees shall meet the following job requirements;

- Able to lift and carry 35 pound for job assignments
- Able to climb a minimum of four story of stairs (e.g., Station A and the 2nd Floor ventilation room above the CH Bay at WIPP)
- Able to traverse uneven ground (e.g., the mine floor heaves can be anywhere from 6" to 2' or more)
- Able to use a scaling bar with (both hands) in various positions and angles in a thrusting manner to sound the Rib (side walls) and the Back (roof) of the mine
 - Weight of Scaling Bars
 - 10' - 22.5 lbs. with additional 1.5 lbs. scaling head
 - 13' - 29.25 lbs. with additional 1.5 lbs. scaling head
- Able to work in the normal aspects of the mine, i.e.,
 - Dusty environment,
 - Work in low light environment using Miner Cap Lamp
 - Able to enter and exit the mine on the Conveyance Cage to the Underground at 2180' below Surface
 - Salt Conveyance approx. 6' X 5'
 - Waste Conveyance approx. 15' X 15'
 - Work in the Heat and Humidity of the Underground wearing a respirator and Anti-C clothing for up to 4 hours