DOE-ID NEPA CX DETERMINATION
Idaho National Laboratory

CX Posting No.: DOE-ID-INL-12-087 R9

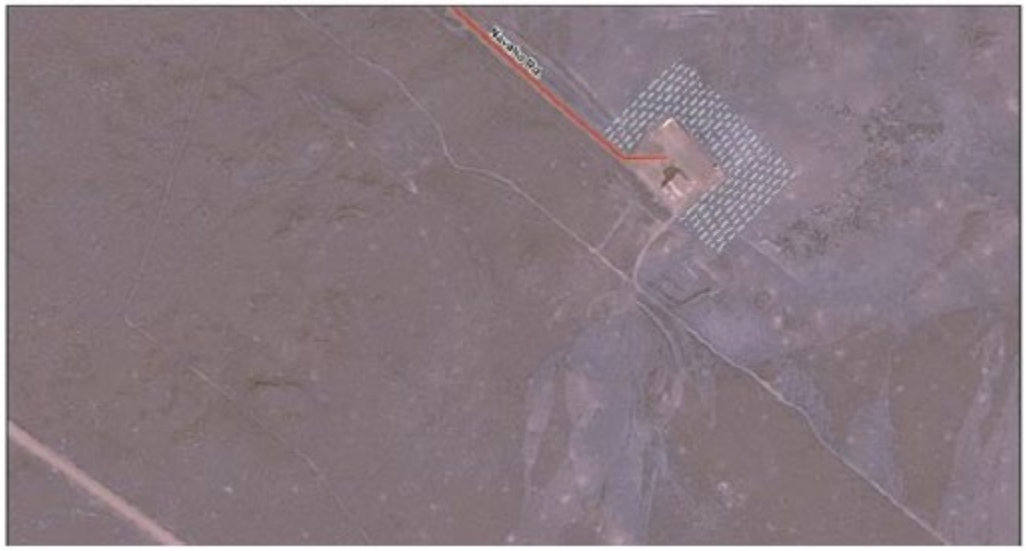
SECTION A. Project Title: Army Medical Department (AMEDD) Radiological Dispersal Device/Improvised Nuclear Device (RDD/IND) Material Training Activities and Evaluations R9

SECTION B. Project Description and Purpose:

Revision 9:

New location:

In coordination with new projects, training activities will be moved away from the PBF-620 area. In INL-12-087 defines an area that is sampled as part of RHOC once a year. The proposed scope is to move activities to different locations as currently performed. The proposed relocated areas are described in the figures below. Activity details as described original EC and Rev 1are not anticipated to change.



Revision 8:

The work described in Rev. 7 to the original EC will be repeated for DOD customers from the week of 24 Apr – 21 May. Training exercises involving DOD personnel will take place at the Critical Infrastructure Test Range Complex (CITRC) in accordance with the work scope of Rev. 7 to the original EC except that radioactive contamination will be dispersed in both PBF-612 and PBF-632. Potential isotopes dispersed may include, but are not limited to: gallium-67 (Ga-67), technetium-99m (Tc-99m), indium-111 (In-111), and thalllium-201 (Tl-201). Upon dispersal, the affected areas will be posted as appropriate by INL radiological control (RADCON) technicians. No contamination will be dispersed outside of buildings or structures. Low-level radioactive wastes generated during this exercise will be disposed of as per direction of Waste Generator Services (WGS) and RADCON. No decontamination of the interior of PER-632 is

planned as the contamination that will be used will be from short-lived radionuclides. As such, at the completion of the day, and at the end of the exercises, the buildings will be secured to preclude unauthorized entry. Periodic surveys will be conducted by RADCON following the exercise until it is deemed that the radioactivity has decayed to deminimus levels, and will be down-posted in accordance with the INL RADCON manual. The original EC, the Environmental Aspects, Work Activities, Conditions, Instructions, and all other requirements remain valid and applicable to the work proposed for Apr - May 2017.

Rev 7

The work described in the original EC will be repeated during May and June 2016. Training exercises will take place at the Critical Infrastructure Test Range Complex (CITRC) in accordance with the work scope of the original EC except that all motorized traffic will take place on paved surfaces: 1) there may be foot traffic off of pavement; and 2) no soil samples will be taken. The original EC, the Environmental Aspects, Work Activities, Conditions, Instructions, and all other requirements remain valid and applicable to the work proposed for 2016.

Rev 6

This EC is revised for a training event that we are planning for the week of April 4, 2016. During this evolution of training we will be utilizing sealed sources, including short-lived medical isotopes Ga-67 and 1-131. NOTE: The medical isotopes will not be dispersed as contamination, rather they will remained sealed for use during passive gamma-ray measurements. We will utilize these short-lived radioisotopes and other sealed sources for training exercises inside Critical Infrastructure Test Range Complex (CITRC) PBF-623, PBF-622 and in conex containers located on the asphalt near CITRC-622. Sealed sources will also be used in training exercises in PBF-612 and 613. No soil sampling or other off-asphalt activities will be conducted.

Rev 5

This Environmental Checklist (EC) incorporates and supercedes EC INL-12-087 (OA 17) and its revisions. The training exercises described in the original EC and Revisions 1 and 3 will be repeated during August 2015, including the use of the Power Burst Facility (PBF)-620 area for the basecamp portion of the training. This EC captures the work scope for 2015, and it incorporates requirements for the "Candidate Conservation Agreement for Greater Sage-Grouse (Centrocercus urophasianus) on the Idaho National Laboratory Site" (Department of Energy Idaho Operations Office [DOE/11411514).

Rev 4

Some of the training exercises described in the original EC will be repeated September 22-23 2014 for members of the Nuclear Disablement Team Nuclear Infrastructure Assessment and Disablement Training course. We will utilize shortlived radioisotopes for contamination training exercises inside Critical Infrastructure Test Range Complex (CITRC)-632 and in conex containers located on the asphalt near CITRC-622. Sealed sources will be used in training exercises in PBF-612 and 613. No soil sampling or other off-asphalt activities will be conducted.

Rev 3

The training exercises described in the original EC and Rev 1 will be repeated during July and Aug 2014 with the following changes. The base camp is expected to be located at PBF-613, but may be relocated to PBF-620. PBF-622 will be used to store radioactive material, and some sealed sources will be deployed inside the building on the first day, Crawl Phase, of the exercise. PBF-623 will be used as the primary staging and storage area for radioactive materials during the exercise. The command post will be at the newly installed office trailer, TR4, located near PBF-622/623. The project will not employ the use of a temporary trailer for the 2014 exercise. The original EC, the Environmental Aspects, Work Activities, Conditions, Instructions, and all other requirements remain valid and applicable.

Rev 2

The work described in the original EC will be repeated during May 2014. Training exercises will take place at the Critical Infrastructure Test Range Complex (CITRC) in accordance with the work scope of the original EC. The original EC, the Environmental Aspects, Work Activities, Conditions, Instructions, and all other requirements remain valid and applicable to the work proposed for 2014.

Rev 1

This EC is being revised to document additional training dates in 2013 and proposed use of the former PBF-620 area for training. The original EC, the Environmental Aspects, Work Activities, Conditions, Instructions, and all other requirements remain valid and applicable to the work proposed for 2013. Training activities are scheduled for the month of August 2013. Power Excursion Reactor (PER)-620/Real Time Monitoring Facility (RTMF) - Base Camp Assessment Lane - Sealed sources will be placed at various locations outside of PER-620/ in the sagebrush/grass areas adjacent to the gravel/asphalt to the North and West of PER-620/RTMF as outlined by the irregular shaped area in Figure 1. Students will be conducting walk-over surveys using passive radiation detectors to identify locations in these areas with elevated radiation levels. They will be marking survey and soil sampling grids with field tape, pin flags or other marking device. Soil samples will be collected in this area from 0-6 inches. These samples are being collected simply for training purposes and will not be analyzed, nor taken offsite. If cultural artifacts are noted, the soil sample will not be taken, the sample location will be moved, and Cultural Resource personnel will be alerted to the artifact discovery. All sample material will be returned to the designated sample locations. High volume air samplers will be used to collect air samples around the PER-620/RTMF area.

Training exercises will also take place in accordance with the work scope of the original EC.

PBF 620 Exercise Area:

Original EC

Work Description

The purpose of this work is to plan, prepare, coordinate, observe, and conduct training for response to radiological incidents at the CITRC PBF.

Background

The Idaho National Laboratory (INL) conducts training activities to support numerous programs both on- and off-Site as part of the INL, National and Homeland Security (N&HS), Nuclear Nonproliferation Division (NND), where the use of numerous radiological and nuclear materials are employed. The work activities may include the following:

• Performing measurements on targets using x-ray and gamma ray radiation-producing equipment such as portable xray generators, Betatrons and radioisotope sources
• Production of radiation fields for training and exercises that emulate pre- and post-radiological dispersal device (RDD) and improvised nuclear device (IND) radiation environments.
• Production of contamination areas (inside facilities) to facilitate instruction on training objectives such as contamination control, donning/doffing, sampling techniques, etc.
• Examination of the effects and influence of radiation on equipment and measurement devices
• Validation of techniques, procedures and processes that respective teams use in response to events involving radioactive materials.

Activities that are performed to support the above objectives include:

• Using only Category IV or less quantity of Special Nuclear Materials
• Use of fissionable material in accordance with INL and BEA procedures
• Storing, and transferring nuclear materials in compliance with INL and BEA procedures
• Providing the resources to receive, transport and return radiological/nuclear materials both on- and off-Site
• Handling and staging radioactive materials and sources
• Operating radiation generating devices/equipment
• Providing assistance to achieve training and exercise objectives, including demonstration of equipment and supervising activities in a controller/evaluator position
• Providing Health Physics/Radiation Control supervision for the handling of radiological/nuclear materials and work in radiologically controlled areas, including staging and supporting the exercise and training and participating in the exercise and training
• Providing radioactive sources to establish radiation fields for the exercise and emulate radioactive samples collected from the field
• Providing dosimetry for training participants, as needed.

The RDD/IND Material Training Course is designed to allow participants to train and exercise in near real-life radiological environments where they are expected to use their training to perform measurements, interrogate materials, perform radiation/contamination surveys and collect radioactive and potentially contaminated samples that might be associated with an IND or RDD. Sealed sources may be used. Radioactive contamination may be released at indoor locations where contaminated materials/structures can be controlled and allowed to decay or disposed as radioactive waste. Isotopes used to generate indoor contamination areas will be short-lived (decay to unregulated levels can be expected in less than 60 days). Isotopes used to generate indoor contamination areas may be generated on-Site or may be commercially available medical isotopes.

Training exercises at the INL may include material/surface decontamination using basic methods such as wipes and application of less than 25 gallons of decontamination solution. Solutions will be reviewed, before application, to identify management requirements for subsequent waste such as rags and excess decon solution.

The major equipment used in this activity include: radiation producing equipment such as radioisotopes, x-ray and gamma ray generating equipment, and irradiated materials such as uranium and plutonium sources that have been irradiated to provide a source of fission products. Special Nuclear Materials used in this activity will be limited to Category IV or less and will be managed, used, and stored in compliance with INL procedures.

Project Description

A training exercise will be held at the INL at CITRC in September 2012. None of the work will be performed at the National Security Test Range (NSTR) or Radiological Response Training Range (RRTR). The customer is the US Army Public Health Command (USAPHC). This field training supports US Army Preventive Medicine personnel in emergency response to domestic or international radiological incidents in support of the Global War on Terrorism. The INL is providing the training platform; i.e., CITRC abandoned facilities, secluded and realistic environments, and subject matter experts in support of the Army's own Standard Operating Procedures (SOPs); and Tactics, Techniques, and Procedures (TTPs). The INL's Test Range provides a unique training environment which allows these teams to practice their procedures, test their equipment, and determine their soldiers' proficiencies and/or weaknesses. USAPHC personnel provide the didactic portion of the training, as well as provide Observation and Control (OC) of their soldiers.

The INL's role is to provide realistic training facilities and props, sealed radioactive sources, unsealed dispersed radioactive materials (inside PER-632 only), provide briefings (including RWP and site-specific), escort responsibilities, and overall safety oversight while at CITRC. INL will provide radio communications for exercise controllers and exercise participants at each target location, based on their specific request. Communication protocol concerning "real world" use in the event of an INL emergency will be briefed to the customer. Temporary, portable shade canopies may be erected on paved surfaces at each of the training venues to offer relief from the direct sun.

Portable/mobile electrical generators may be used during this exercise.

Field exercises are scenario-based and will mock-up WMD-type events; e.g., RDD production, land and building surveys, casualty decontamination, etc.

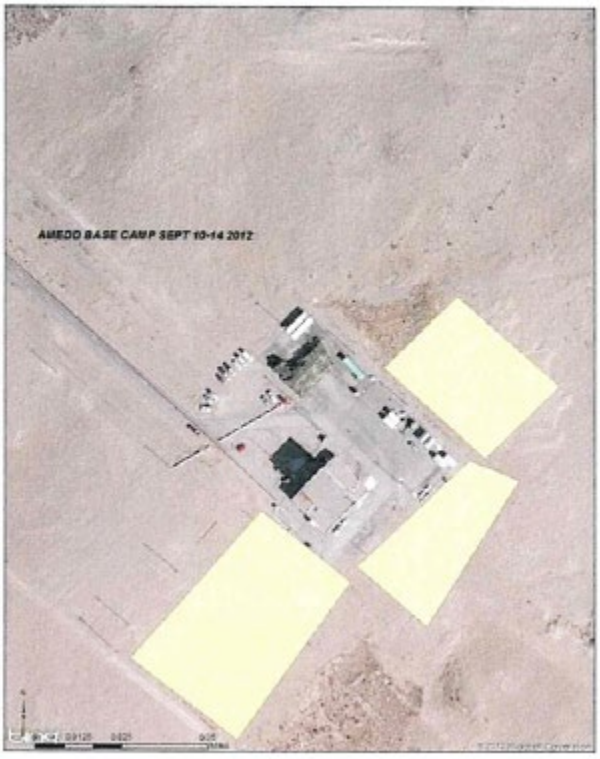
The duration of field exercises at CITRC is four days and we will be utilizing the following buildings and outside areas:

PER-612 - RDD Training Lane - Sealed sources will be placed at various locations inside the building. Students will be entering the building with passive radiation detectors to locate and identify the sources. A mock vehicle accident will also be staged on the access road to PER-612. A sealed radioactive source will be placed inside the vehicle to allow students to exercise their procedures and equipment against a purported RDD event. INL Security personnel will use a small flash-bang device that will be used to initiate the "response of the trainees. This will be done in accordance with INL Security procedures. There will be minimal foot traffic off the pavement, and no vehicle traffic off the pavement outside of existing areas that are already mowed/cleared to minimize the fire risk. These are typically areas that are adjacent to the roadways.

PER-613 - Base Camp Assessment Lane - Sealed sources will be placed at various locations outside of PER-613 in the sagebrush/grass areas adjacent to the asphalt to the North, East, and South of PER-613 as shown in the attached map,

Figure 1. Students will be conducting walk-over surveys using passive radiation detectors to identify locations in these areas with elevated radiation levels. They will be marking survey and soil sampling grids with field tape, pin flags or other marking device. Soil samples will be collected in these areas from 0-6 inches. These samples are being collected simply for training purposes and will not be analyzed, nor taken offsite. If cultural artifacts are noted, the soil sample will not be taken, the sample location will be moved, and BEA CRM personnel will be alerted to the artifact discovery. All sample material will be returned to the designated sample locations. High volume air samplers will be used to collect air samples around the PER-613 area.

Figure 1:



PER-622 will be used as a staging and storage area for the radioactive materials used to support this exercise.

PER-623 - Command PostANalk Training - Sealed sources will be used at this location. One source will be placed inside the south end of PER-623, and one source will be placed on the southeast corner of the asphalt pad. There will be minimal foot traffic off the paved surfaces, and none in the area shown in Figure 2. Additionally, a temporary office trailer will be placed along the west side of PER-623 on the asphalt pad. This trailer will be connected to existing AC power at PER-623. This will serve as the command post for the duration of the exercise. The trailer will be removed after the end of the exercise.

Additionally, portable toilets will be located near the command post, and a cold-waste dumpster will be relocated near the command post from PER-622.

Figure 2.

PER-632 - Contamination and Source Packaging Lane - Sealed sources and radioactive contamination will be used at this training venue. Sealed sources will all be located within the existing white tent structure external to PER-632, and within PER-632. Students will be required to handle sources using appropriate ALARA techniques (time, distance, shielding) to place the sources in a safe configuration. Radioactive contamination will be dispersed within PER-632.

Potential isotopes dispersed may include, but are not limited to: gallium-67 (Ga-67), technetium-99m (Tc-99m), indium-111 (In-111), and thallium- 201 (Tl-201). Upon dispersal in the designated room, the room will be posted as appropriate by INL RADCON, and entry into the room will be made by the students following a radiological work permit (RWP), and under supervision of INL RADCON. No contamination will be dispersed outside of PER-632, and INL RADCON will establish appropriate boundaries and access control to the designated contamination area. Low level radioactive wastes generated during this exercise will be disposed of as per direction of Waste Generator Services (WGS) and RADCON. No decontamination of the interior of PER-632 is planned as the contamination that will be used will be short-lived. As such, at the completion of the day, and at the end of the exercise, PER-632 will be secured to preclude unauthorized entry. Periodic surveys will be conducted by RADCON following the exercise until it is deemed that the radioactivity has decayed to deminimus levels, and will be down-posted in accordance with the INL RADCON manual.

Training at the CITRC facility will generally remain on paved areas and in structures/buildings. Minor work in adjoining vegetated areas may take place subject to additional review and approval by Cultural and Biological personnel. "Minor work" is defined as foot travel or work in which mowing or vegetation destruction/removal is not required. Soil disturbance may include taking samples at depths up to six inches. If Cultural artifacts are discovered during sampling, the soil will be left in place and the sample will be taken at a different location. Notify the INL CRM of the discovery.

The CITRC (PBF) area is known for its richness in cultural artifacts. All personnel participating in training exercises at PBF will be required to read a short training document regarding cultural artifacts prior to the training exercise. In addition, Figure 2 shows a map of one particularly sensitive area adjacent to PBF-622 and 623 that must be excluded from ALL ground disturbances such as offroad vehicles, soil sampling and even casual foot traffic.

Use of vehicles, including ATVs, off of paved areas or road shoulders at any time will require review and approval from Biological personnel.

Solid and liquid wastes will be collected in appropriate containers. Low level radioactive waste may be stored for a time sufficient to allow radioactive decay followed by disposal as non-radioactive waste. Portable sanitary facilities may be staged in support of a training exercise. Effluent may be disposed at the CFA sewage treatment plant or at an off site municipal sewer system. As an alternative to portable sanitary facilities, permanent facilities may also be used.

SECTION C. Environmental Aspects or Potential Sources of Impact:

Air Emissions

Air Emissions may occur from mobile/portable electrical generators; all generators will be in place for periods much less than one year so no permitting is required. Releases of radioactive contamination indoors may result in release to the environment. All indoor releases of contamination will be considered as part of the annual Radioactive National Emissions Standards for Hazardous Air Pollutants (Rad NESHAPs) reporting.

Discharging to Surface-, Storm-, or Ground Water

NA

Disturbing Cultural or Biological Resources

There is the potential for this work to impact vegetation and for project personnel to interact with various wildlife species. A Biological Resource Review will be arranged within two weeks prior to the initiation of any activities that might disturb soil or vegetation and again following completion of project activities. A nesting bird survey is included with the Biological Resource Review for actions occurring between April 1 - October 1 per compliance with the Migratory Bird Treaty Act. Bat surveys are also included with the Biological Resource Review in accordance with the INL Bat Protection Plan.

Cultural: A Section 106 review was completed under CRMO project number (BEA-23-08) and resulted in No Historic Properties Affected. Please refer to the Cultural Resource Review (CRR) (BEA-23-08) for details or Hold Points and Project Specific Instructions of the ECP.

Generating and Managing Waste

This work is expected to generate industrial waste, low-level radioactive waste, and sanitary waste. Hazardous or mixed waste is not expected.

Industrial waste will include common office trash and non-radioactive sample materials. Common wash water may also be generated. Wash water may be discharged to a local septic system or at the Central Facilities Area (CFA) sewage treatment plant. Low-level radioactive waste will include PPE and sample materials. Indoor materials such as furniture, carpet, and similar materials may also be contaminated and disposed as radioactive waste if not left in place for decay.

Radioactive personnel protective equipment (PPE) and decontamination solution may be disposed as radioactive waste or stored for decay until cleared by Radiological Control (RadCon) personnel for disposal as non-radioactive. Liquid radioactive waste may be solidified prior to disposal in a landfill. Sanitary waste may be disposed at the CFA sewage treatment plant or at a permitted off-INL sewage treatment plant such as the Idaho Falls system. Industrial and low level radioactive waste will be managed by Waste Generation Services (WGS).

Releasing Contaminants

Air emissions are expected to be the primary air contaminant. Air emissions are expected to include exhaust from portable/mobile electrical generators, ATVs, and potential radioactive emissions to the air from buildings. Exhaust emissions are not regulated. Potential radioactive emissions will be submitted for inclusion in the annual Rad NESHAPs report.

Using, Reusing, and Conserving Natural Resources

All materials would be reused and/or recycled where economically practicable. All applicable waste would be diverted from disposal in the landfill where conditions allow. The project would practice sustainable acquisition, as appropriate and practicable, by procuring construction materials that are energy efficient, water efficient, are bio-based in content, environmentally preferable, non-ozone depleting, have recycled content, or are non-toxic or less-toxic alternatives (see https://sftool.gov/GreenProcurement).

SECTION D. Determine Recommended Level of Environmental Review, Identify Reference(s), and State Justification: Identify the applicable categorical exclusion from 10 Code of Federal Regulation (CFR) 1021, Appendix B, give the appropriate justification, and the approval date.

For Categorical Exclusions (CXs), the proposed action must not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environmental, safety, and health, or similar requirements of Department of Energy (DOE) or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment or facilities; (3) disturb hazardous substances, pollutants, contaminants, or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources (see 10 CFR 1021). In addition, no extraordinary circumstances related to the proposal exist that would affect the significance of the action. In addition, the action is not “connected” to other action actions (40 CFR 1508.25(a)(1) and is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1608.27(b)(7)).

References:

B1.2 "Training exercises and simulations"

Justification:

B1.2 Training exercises and simulations. Training exercises and simulations (including, but not limited to, firing-range training, small-scale and short-duration force-on-force exercises, emergency response training, fire fighter and rescue training, and decontamination and spill cleanup training) conducted under appropriately controlled conditions and in accordance with applicable requirements.

Is the project funded by the American Recovery and Reinvestment Act of 2009 (Recovery Act) ☐ Yes ☒ No

Approved by Jason L. Anderson, DOE-ID NEPA Compliance Officer on: 05/12/2023.