

DOE-ID NEPA CX DETERMINATION Idaho National Laboratory

SECTION A. Project Title: EMAPS

SECTION B. Project Description and Purpose:

Revision 1:

The purpose of this revision is to cover ground preparation activities for Pad A that were overlooked in the original EC. The ground will need to be graded flat and level. Gravel will need to be brought in as fill to provide a stable base. The affected area is the previously disturbed area where the trailers and equipment will be located as identified in Figure 2. There will be no clearing or grubbing of vegetation.

All conditions and project-specific instructions from the original EC remain in effect.

Original EC:

The purpose of the proposed work is to conduct R&D testing at the Smart Grid Test Pad.

The proposed work will support a DOE-sponsored, national level program designed to show potential physical consequences of cyber-attacks on critical infrastructure as well as to demonstrate mitigation strategies and technologies to prevent them. The program includes four other DOE national labs who will participate in this research and testing. The goal of the project is to create a representative system for testing that is isolated and separate from production facilities and air-gapped from Power Management SCADA.

Project start date: 3/8/2019

Project end date: 9/30/2020

Project costs: \$6.7M

The project will be focused on three main areas: CITRC Substation and the adjacent Smart Grid Test Bed (SGTB) Shelter, Test Pad A, and Obsidian Test Pad. These locations are shown in the Figure below. All of these areas are previously disturbed and designed for power system testing.

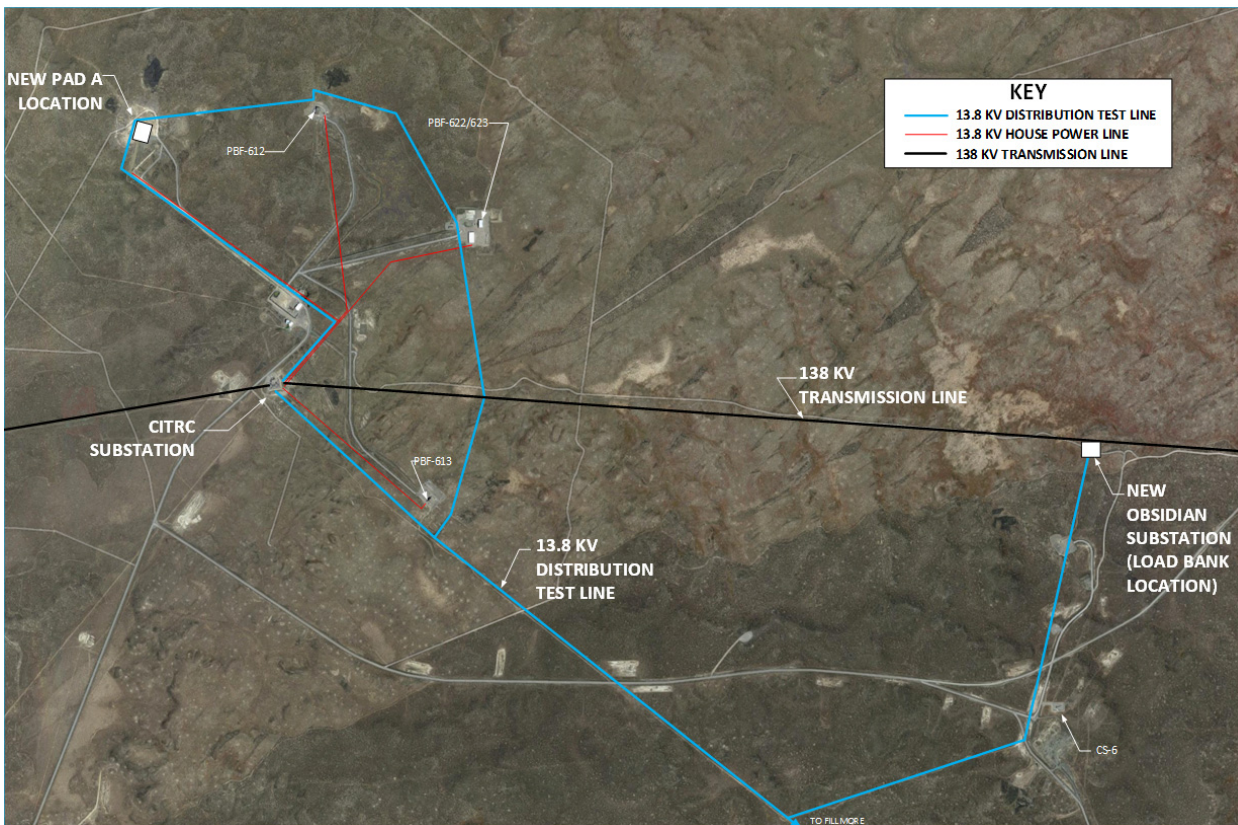


Figure 1. System Overview

Project goals include reconfiguring the existing distribution test power infrastructure to realize a looped distribution system to support research and testing activities. Most of this infrastructure is already in place as a result of the recent smart grid distribution enhancement project.

One new power pole will be installed at Test Pad A to support this work.

DOE-ID NEPA CX DETERMINATION Idaho National Laboratory

Temporary construction activities will be focused on the Pad A location and will add a 13.8 kV to 480 V substation and a fence that encloses the 13.8 kV equipment and is over the existing 50 ft. x 50 ft. ground grid. Other additions to the Pad A area will include:

- Two flatbed trailers, each with two 15 kV vacuum circuit breakers mounted on them (4 breakers total)
- Two trailer-mounted 500 kW 480 V load banks.
- One set of 480 V switchgear with air circuit breakers, mounted in an enclosure on a skid
- An enclosed battery trailer employing absorbed glass mat (AGM) batteries
- A control/instrumentation shelter that will house equipment including protective relays and communications equipment. The shelter may require some minor shimming or additional fill to make the area that it sits on is level.
- Two 300KVA, 13.8 kV-480 V mineral-oil filled transformers. The transformers will be installed at ground level with spill containment and barrier walls surrounding them. These used transformers will have been manufactured after 1979 and thus PCB-free. The transformers will have manual tapchangers.

Assembly of various components on the trailers will take place at CFA-664.

Testing activities will include testing the two transformers to failure, which may result in spillage of oil and potential localized fire. The test may be repeated such that up to four transformers may be damaged in the course of testing. Any failed transformers will be drained of remaining oil and disposed of through the excess process or by recycling as scrap. Any oil caught by the spill containment will be pumped to drums or other suitable containers using a portable pump.

After testing is complete the damaged transformers will be recycled or disposed through the excess program. Other mobile equipment will either be retained for future use or dispositioned/returned.

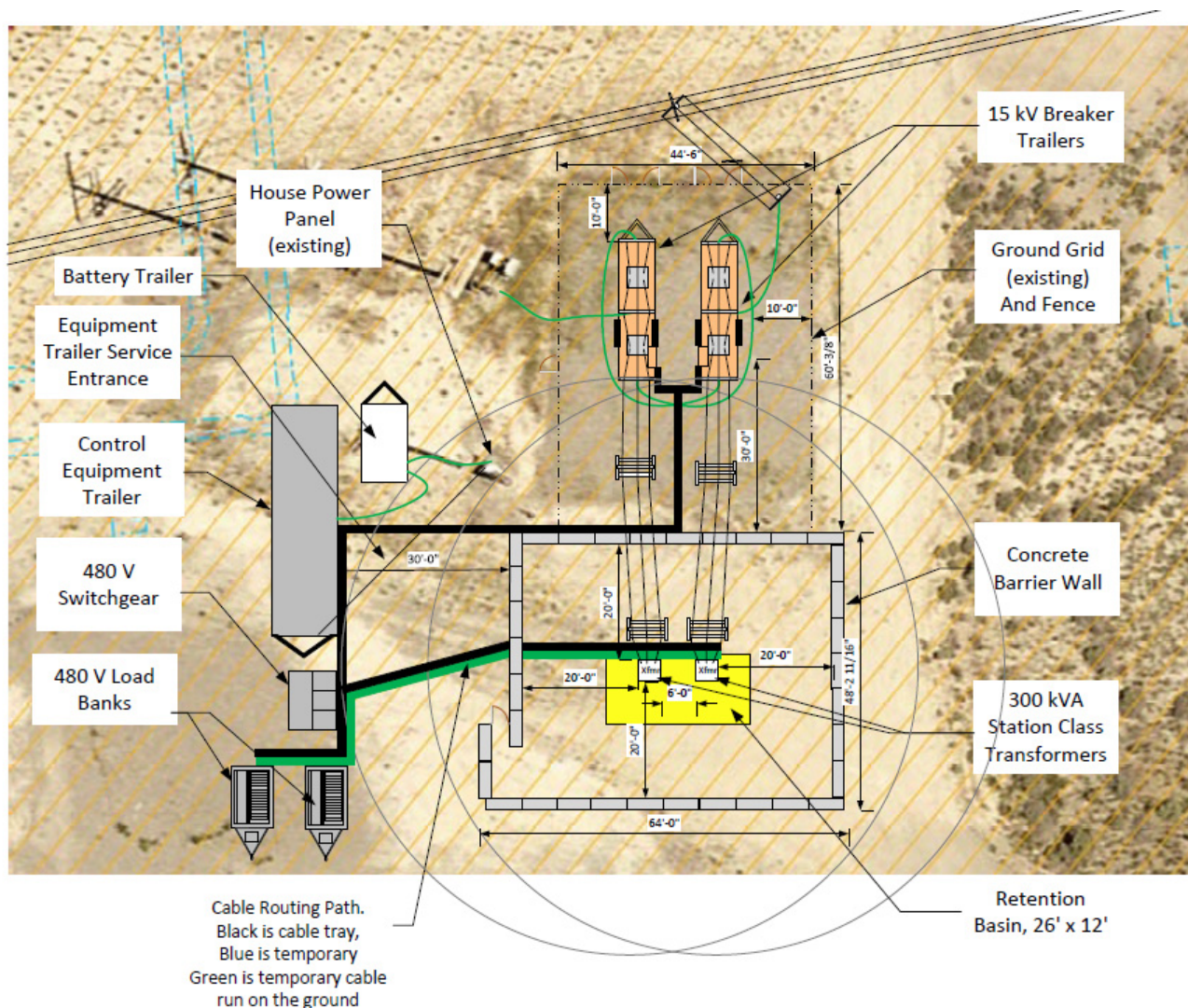


Figure 2. Proposed Test Pad A Plan View

DOE-ID NEPA CX DETERMINATION

Idaho National Laboratory

A trailer-mounted, 2000 kW load bank will also be located at the site of the new Obsidian substation to support testing. This load bank will be installed temporarily just outside of the test pad fence and connected to a padmount transformer powered by Circuit 56. A small (<30 kW) mobile generator may be used to provide control power for the load bank as well as power for instrumentation and control equipment.

Testing is planned to be complete by the end of August 2019. While follow-on testing is not currently planned, the modifications at the Pad A location will be left in place pending possible future testing. As equipment is removed, the areas it occupied will be restored to the same state as prior to testing.

SECTION C. Environmental Aspects or Potential Sources of Impact:

Air Emissions

Construction activities have the potential to generate fugitive dust. Fugitive dust must be controlled/minimized.

Emissions from potential fires will need to be addressed in an Air Permit Applicability Determination (APAD).

Emissions from mobile and portable electrical generators are exempt. Air emissions from stationary generators must comply with state and Federal regulations. Contact the PEL before purchasing/procuring stationary fossil-fueled electrical generators. An APAD is required for emergency generators before requisition.

Disturbing Cultural or Biological Resources

Section 10.2.3 of the CCA exempts areas within current footprints, including CITRC, from sagebrush conservation measures identified in the CCA. Despite the exemption, this project expects to carry out many Best Management Practices (BMPs). BMPs which will be implemented include: 1) collocating new infrastructure within current infrastructure areas; 2) fit new double-hung power poles (located at turns and end-poles) with perch/nest deterrents; 3) install no new power poles within 1 km of a known lek; and 4) revegetate disturbed areas (except fire-defensible perimeters, quickly with approved seed mixes. Re-seeded areas may need routine watering over several summer seasons.

Areas outside current footprints will follow measure described in the CCA.

Cultural resource sensitivity is very high throughout the PBF/CITRC area. Project management will implement recommendations by INL cultural resources personnel during construction and operation of the SGTB to avoid impacts to sensitive sites. INL cultural resource personnel, including Shoshone-Bannock tribal representatives, must monitor all ground disturbances, even in previously disturbed areas, for additional finds. If cultural materials are discovered during construction monitoring, work must be stopped and INL cultural resource personnel must be contacted to assess the situation. Cultural resource reviews will occur at all stages of SGTB construction, including mandatory 30-day review periods for the State Historic Preservation Office and Shoshone-Bannock Tribes each time new components are added to the construction schedule.

Generating and Managing Waste

Construction activities are expected to generate a variety of industrial wastes including scrap metal, wire, cable, wood, cleaning materials, wire spools, and common trash. Industrial waste will be recycled to the extent practicable. Operations at the test bed are expected to generate small amounts of common trash and industrial waste.

Waste oil from the transformers and spent transformer casings and internals are expected to be generated. These will be recycled to the extent possible.

Releasing Contaminants

Typical construction chemicals such as lubricants, fuels, adhesives, paints, etc., would be used. These could potentially be released to the environment.

Using, Reusing, and Conserving Natural Resources

Waste will be diverted from disposal in the landfill when possible. The damaged transformers will be recycled or disposed through the excess program.

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

DOE-ID NEPA CX DETERMINATION
Idaho National Laboratory

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: 10 CFR 1021, Appendix B to subpart D, items B3.6, "Small-scale research and development, laboratory operations, and pilot projects"

Justification: The proposed R&D activities are consistent with CX B3.6 "Siting, construction, modification, operation, and decommissioning of facilities for small-scale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment."

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

Approved by Jason Sturm, DOE-ID NEPA Compliance Officer on: 6/12/2019