SuperCDMS Safeguards and Security Strategy
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Summary:

SuperCDMS is a multi-institution effort. Three DOE National Labs are involved: Fermi, SLAC, and PNNL. Several universities in the US and Canada are involved. And finally, the experiment site, SNOLAB in Sudbury, Ontario, is involved.

The project will not impact the security vulnerability at any of the sites where components are being fabricated or assembled. Similarly, no impact to SNOLAB is anticipated. The SuperCDMS assets will be managed and protected in accordance with existing policies, procedures and physical arrangements at each facility. Also, shipment of assets from US institutions to SNOLAB in Canada will be done following all applicable shipping and export laws, ensuring safe and secure transport. Radioactive sources will be used at Fermi and transferred ultimately to SNOLAB. Radioactive sources will be shipped from Fermi to SNOLAB only after authorization is received from Fermi's radioactive source program administrator and SNOLAB's radiological safety officer.

SLAC, Fermi, and PNNL each have existing Safeguards and Security programs in accordance with DOE O 470.4B, Admin Chg. 1, *Safeguard and Security Program*. After CD-1 and prior to CD-2, the project will prepare a **Preliminary Safeguards and Security Vulnerability (PSVAR) report** that will formally document the impact of the project on these national laboratories and SNOLAB and the method of asset protection at each institution. As needed, property protection areas will be utilized or established.

Specific preliminary security information for each of the primary project sites, including SLAC, Fermi, PNNL and SNOLAB is included below.

SLAC:

The SuperCDMS scope of work will happen in existing facilities with adequate security measures. SuperCDMS parts will be assembled in a cleanroom in B33. B33 is unlocked from 6 am to 6 pm but the cleanroom itself is always locked with access via a cipher lock. A limited number of employees who have received training and authorization have been granted the access code. Some parts will be machined in the B107 machine shop and some parts will be cleaned, etched, oxidized and plated in the B25 Plating Shop. Both of these locations have adequate access control features. B107 is locked with digital locks. Only certain people have codes to access the shop. The shop is open from 6 am until 3:30 pm and there is no afterhours work allowed. The Plating Shop access is controlled by having a unique key/locks used only for the shop. Plating shop personnel and the Building Manager are the only ones allowed to have the key. Additionally, during the day, all exterior doors to the shop are locked so access can only be gained via the front door at the Plating Shop Manager's office.

Fermi:

All buildings on site are secured with locking doors. A security force is employed who checks the integrity of the doors and their locked state via their rounds after hours. Fermilab is familiar with safe intercontinental shipment of very sensitive equipment over multiple modes of transportation. All equipment will be appropriately prepared for transport and outfitted with shock sensing devices, if

necessary. Radioactive sources will be controlled at all times in accordance with the Fermilab Radiological Control Manual. Sources will only be shipped with the explicit authorization from the Fermilab Radioactive Source Program Administrator. Fermilab has experience with purchasing and shipping radioactive sources according to the Fermilab Radiological Control Manual.

PNNL:

The 3410, 3420, and 3425 facilities on the PNNL campus will be utilized for the SuperCDMS project. Access to the facilities requires a DOE issued badge. These facilities are defined as property protection areas, requiring the entry points be controlled through 24-hour Prox-card access such that public/unbadged personnel access is prohibited. PNNL security staff perform perimeter and facility checks throughout the day and night shifts. Access to individual laboratory spaces in these facilities is also controlled through either Prox-card, omni-locks, or keys. No additional security measures are required to be implemented to conduct the SuperCDMS project at PNNL. Shipment of SuperCDMS components from PNNL to the project site will be evaluated to maintain safe and secure transport to the project site in Ontario, in compliance with applicable transportation regulations.

SNOLAB:

Security of the experiment will be coordinated between the project and SNOLAB throughout the project lifecycle. The ongoing SNOLAB Gateway Reviews provide the forum to ensure this area is well managed as the project progresses. The SuperCDMS assets will be adequately controlled at all times while at SNOLAB. The SNOLAB surface buildings are locked in the evenings and access to the underground is strictly controlled. Security cameras are deployed on the surface. Control of radioactive sources is strictly managed at SNOLAB and the specific requirements (e.g., double encapsulation) have been communicated to the SuperCDMS Project. All sources must be reviewed and approved by the SNOLAB Radioactive Source Committee prior to their arrival on site.