**SURF Experiment Planning Statement**

An element of the SURF Experiment Implementation Program

**Title:** ***Project Name*** Date Submitted:

**Status:** [ ]  Preliminary (Expression of Interest, Support Letter request) [ ]  Formal implementation request

1. **Project Summary:**

**Discipline:** [ ]  Biology [ ]  Chemistry [ ]  Engineering [ ]  Geology [ ]  Physics

Choose most applicable

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| **Project Description:**Provide a brief project description, including purpose, scientific merit and scope. Add relevant citations or references as appropriate. If necessary, add additional space to this template. |
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| **IDEA – Inclusion, Diversity, Equity and Access:**SURF is committed to creating a culture that centers on inclusion, diversity, equity and access (IDEA); see <https://sanfordlab.org/sdsta/inclusion-diversity-equity-and-access>. It is critical that all partners and stakeholders embody SURF's commitment to IDEA as both a moral imperative and a necessary ingredient for a successful collaborative scientific environment. Describe project efforts and considerations in these areas. |
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| **Funding Status:**List funding sources (select all that apply), and indicate award durations as well as any pending proposals. If necessary, add additional space to this template. |
|  | [ ]  DOE: *Award No., duration* | [ ]  Institutional: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| [ ]  NSF: *Award No., duration* | [ ]  Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| [ ]  Pending Proposal(s): *Please add all relevant information.* |

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| **Personnel:** List members associated with collaborating institutions, and indicate which institutions expect to have personnel participating in activities at SURF. If necessary, add additional space to this template. |
| *Institutional Personnel (including Position/Role)* | *Perform activities at SURF* |
| **Institution1:** Person1 (faculty), Person2 (postdoc), Person3 (student), etc. | [ ]  Yes [ ]  No |
|  | [ ]  Yes [ ]  No |
|  | [ ]  Yes [ ]  No |
|  | [ ]  Yes [ ]  No |
|  | [ ]  Yes [ ]  No |
|  | [ ]  Yes [ ]  No |
|  | [ ]  Yes [ ]  No |

1. **Experiment Equipment:**

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| **General Description:**Provide a description of equipment, systems and/or processes that will be used during the project at SURF. If necessary, add additional space to this template or provide separate documents. |
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| **General Equipment / Hardware Description:**Provide a list of equipment, parts and tools required to perform activities at SURF. Include pictures, diagrams and manuals (and/or links to these items) where appropriate. If necessary, add additional space to this template in this section or the categories below. |
|  | *Name of equipment / part / tool* | *Dimensions* | *Mass* | *Detail / Notes* |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |
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| **Chemical Description:**List chemicals, including some detector components (e.g., crystals, gasses, scintillator, etc.) or hazardous materials (e.g., lead for shielding); flammability ratings are required for plastics. All chemicals must have a safety data sheet (SDS) and must be approved by SURF before they are brought onto SURF property. Note: the experiment is required to maintain an inventory of chemicals, including storage and usage locations as well as dates of arrival and departure from SURF. |
|  | *Name of chemical (incl manufacturer if known)* | *Quantity* | *Detail / Notes (incl container type such as glass, flammability, etc.)* | *Waste Expected?* |
| 1 |  |  |  | [ ]  Yes [ ]  No |
| 2 |  |  |  | [ ]  Yes [ ]  No |
| 3 |  |  |  | [ ]  Yes [ ]  No |
| 4 |  |  |  | [ ]  Yes [ ]  No |
| 5 |  |  |  | [ ]  Yes [ ]  No |

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| **Electrical Equipment Description:**List electrical equipment and associated specifications. Equipment should be approved by a nationally-recognized testing lab (NRTL). Low-smoke zero-halogen (LSZH) jacketed cables are required for underground use at SURF. Note: the experiment is required to maintain an inventory, including inspection dates. |
|  | *Name of electrical equipment / tool (incl manufacturer, model # if known)* | *Voltage (Volts)* | *Current (Amps)* | *Certifications (e.g. UL, CSA, etc.)* |
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| **Hoisting and Rigging Equipment Description:**List hoisting & rigging equipment, including hoists, cranes as well as rigging gear such as slings and shackles, etc. Note: Experiment-owned hoisting and rigging equipment may need to be inspected on a regular basis, so the experiment is required to maintain an inventory. |
|  | *Name of hoisting & rigging equipment (incl manufacturer, model # if known)* | *Detail / Notes (incl manufacture / purchase date)* |
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| **Pressure Vessel Description:**List pressure vessels. Note: Pressure vessels (including owned, leased and/or rented units) need to be inspected regularly, so the experiment is required to maintain an inventory. |
|  | *Name of pressure vessel equipment (incl manufacturer, model #, national board # if known)* | *Detail / Notes (incl manufacture / purchase date)* |
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| **Radioactive Material Description:**List radioactive materials. Transportation of radioactive sources to or from SURF property must be coordinated with the SURF Radiation Safety Officer (RSO), and only individuals approved by the SURF RSO are authorized to handle radioactive materials on SURF property. Note that new radioactive sources may need to be added to the SURF NRC license, which can take up to 90 days. Note: the experiment is required to maintain an inventory. |
|  | *Name of radioactive material (incl isotope, manufacturer, activity if known)* | *Detail / Notes (incl purpose, physical description)* |
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| 2 |  |  |
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1. **Experiment Area and Infrastructure Needs:**

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| **Location:**Indicate preferred project site(s) from the main accessible underground elevations (feet below surface) and SURF facilities (underground and surface) listed below. |
| [ ]  300L | [ ]  2000L | [ ]  4850L [ ]  Davis Campus [ ]  Ross Campus [ ]  West Drift [ ]  17 Ledge [ ]  Other: \_\_\_\_\_\_ | [ ]  Surface [ ]  Surface Lab [ ]  Core Archive [ ]  Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| [ ]  800L | [ ]  4100L |
| [ ]  1700L | [ ]  Not sure |
| [ ]  Other Level(s): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Main site considerations: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | [ ]  Site selection visit requested Proposed date: \_\_\_\_\_\_\_\_ Number of people: \_\_\_\_ |

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| **Space:** Provide information regarding the footprint of the experiment setup (including any height considerations). Also provide storage, staging and office needs. If warranted, add drawings and diagrams. |
|  | Storage: [ ]  N/A [ ]  Cold [ ]  Heated | [ ]  Office space requested |
| Staging: [ ]  N/A [ ]  Surface [ ]  UG | [ ]  Other: \_\_\_\_\_\_\_\_\_\_\_ |

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| **Site Preparations:**Include any special project site requirements (some charges may apply). If necessary, add additional space to this template. |
|  | [ ]  No site preparations required | [ ]  Cost estimate requested |
| [ ]  Concrete (e.g. floor, pedestal, etc) | [ ]  Site / equipment enclosure |
| [ ]  Hoist | [ ]  Drilling (holes, mounting, etc) |
| [ ]  Water mgmt. (e.g. sump, pipe, filtration, etc) | [ ]  Ground support (e.g. rock bolts, mesh) |
| [ ]  Electrical / network | [ ]  Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| **Site Environment:**Indicate significant project sensitivities to various environmental parameters. If necessary, add additional space to this template. |
|  | [ ]  No significant environmental sensitivities |
| [ ]  Temperature Require range: \_\_\_\_\_\_\_ C | [ ]  Humidity Require range: \_\_\_\_\_\_\_% |
| [ ]  Dust | [ ]  Pressure changes |
| [ ]  Vibration (e.g. drilling, blasting) | [ ]  Radiation (also radon) |

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| **Services:** List requirements. Include a description of any other facility support requested. Costs of providing some services may be passed on to the experiment. |
| [ ]  No Services Required | [ ]  Power*(provide detail in separate table below)* | [ ]  IT Services*(provide detail in separate table below)* |
| [ ]  Compressed Air*(detail pressure and duration required)*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | [ ]  Compressed Gases*(detail cylinder size, quantity and expected usage)*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | [ ]  Cryogens*(detail vessel size, quantity and expected usage)*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| [ ]  Water*(detail quantity and quality)*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | [ ]  Transportation of Hazardous Items, incl chemicals*(detail items and expected frequency)*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | [ ]  Material Assays*(provide # samples and sensitivity required)*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| [ ]  Other Services *(list items and relevant details): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_* |

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| **Electrical Service:**Provide information regarding required electrical service based on the equipment and associated power requirements listed in Section 2. SURF provides necessary electrical connections (some charges may apply). SURF can provide 3-phase power: 480V / 208 V / 120 V (a transformer may be required for other voltages). If extension cords are necessary, use heavy-duty or extra heavy-duty 12 AWG (minimum); GFCI also required. Experiment provides conditioned or UPS backup power (several power blips occur per year due to weather). If necessary, add additional space to this template. |
|  | Electrical service: [ ]  No [ ]  Yes *(Note: SURF provides)* [ ]  120 V: # circuits: \_\_\_\_\_\_ # outlets: \_\_\_\_\_\_ at \_\_\_\_\_\_ amps [ ]  208 V: # circuits: \_\_\_\_\_\_ # outlets: \_\_\_\_\_\_ at \_\_\_\_\_\_ amps [ ]  480 V: # circuits: \_\_\_\_\_\_ # outlets: \_\_\_\_\_\_ at \_\_\_\_\_\_ amps |
| Other: *(Note: Expt provides)* Extensions cords: [ ]  No [ ]  Yes Quantity: \_\_\_\_\_\_\_\_\_ Power strips: [ ]  No [ ]  Yes Quantity: \_\_\_\_\_\_\_\_\_ UPS: [ ]  No [ ]  Yes Quantity: \_\_\_\_\_\_\_\_\_ |

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| **Information Technology Service:**Provide information regarding network and computer resources (below, check all that apply). Where indicated below, provide estimates of quantities. SURF provides necessary network hardware (some charges may apply) so that it can manage and maintain the equipment. Experiments provide their own computer resources (for servers in the SURF IT Server Room, there are specification guidelines). If necessary, add additional space to this template. |
|  | Network service: [ ]  No [ ]  Yes *(Note: SURF provides)* Network type: [ ]  Wired, # ports \_\_\_\_\_ [ ]  Wireless, # connections \_\_\_\_\_ Network access: [ ]  Onsite [ ]  Offsite (requires VPN, static IP) Network minimum data transfer bandwidth: \_\_\_\_\_\_\_\_\_\_\_ Mbps |
| Computer resources: [ ]  No [ ]  Yes *(Note: Experiment provides)* Computer type: [ ]  Laptop, #\_\_\_\_\_\_ [ ]  Desktop/server, # \_\_\_\_\_\_ Computer location: [ ]  Expt site [ ]  Surface (e.g., IT Server Room) |
| Other service / resources: [ ]  Phone *(SURF provided)* [ ]  Timing *(Expt provided)* [ ]  Other: \_\_\_\_\_\_\_\_\_\_\_\_ |

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| **Equipment Logistics:**Describe how materials will arrive at SURF and associated logistics for transportation and handling. Highlight large, heavy, or sensitive/high-value items from the equipment list in Section 2. Items are transported underground (cage) and on the level (rail) by SURF personnel. Estimate # loads; shipments up/down will be coordinated with SURF (restrictions may apply). Note: Yates South Cage max cargo dimensions: 139 cm (W), 377 cm (L), 258 cm (H); max load weight = 4808 kg (same max capacity as SURF forklifts); options exist for items that exceed nominal dimensions (up to 732 cm, 4536 kg). |
|  | Delivery to SURF: [ ]  Expt personnel [ ]  Mail / courier [ ]  Freight |
| Equipment Packaging: [ ]  Palletized [ ]  Crated (wood) [ ]  Boxed (cardboard) |
| Handling at SURF: [ ]  Expt personnel (i.e., hand-carry or backpack) [ ]  Forklift (surface and/or UG) [ ]  Rail transport (UG), incl staging on rail truck(s) on surface [ ]  Dolly / cart / wagon (surface and/or UG) [ ]  Staging for assembly / system checkout (surface and/or UG) [ ]  Hoisting required, max mass: \_\_\_\_\_\_\_\_\_ tons (surface and/or UG) [ ]  Sensitive / high-value transport *(special form required)* |

1. **Hazards and Integrated Safety Management (ISM)**

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| **Potential Hazards & Risk Assessment:** Check experiment-related hazards. Note that most activities require a separate written Hazard Analysis. For experiments with significant or numerous hazards, an Experiment Hazard Assessment Summary (EHAS), quantitative analyses, walk-through inspections and readiness reviews may be required. The experiment is required to manage (and may need to provide some) training for collaboration personnel. |
| [ ]  Fall exposures > 4 feet\* | [ ]  Working above others | [ ]  Ladder use | [ ]  Scaffold use | [ ]  Scaffold erection\* | [ ]  Confined space entry\* |
| [ ]  Heavy equipment operation (e.g. crane, excavator, etc.)\* | [ ]  Fork lift operations / powered industrial trucks\* | [ ]  Hoisting & rigging\* | [ ]  Boom lift operations | [ ]  Electrical equipment maintenance (if > 50 V may req. training) | [ ]  Lockout / tagout (LOTO) activities\* |
| [ ]  Rotating equipment | [ ]  High noise levels | [ ]  Waste generation (may req. training) | [ ]  Discharges to sanitary system | [ ]  Potential impact to storm water / UG water | [ ]  Potential spill to environment |
| [ ]  Air emissions (incl. equipment/generators) | [ ]  General demolition | [ ]  Trenching / excavation | [ ]  Excessive dust | [ ]  Potential silica exposure\* | [ ]  Potential asbestos exposure\* |
| [ ]  Chemical use (req. safety data sheet, may req. training) | [ ]  Pressurized air/fluids & compressed gases\* & vacuum | [ ]  Cryogens\* | [ ]  Potential oxygen deficiency (ODH)\* | [ ]  Lead (Pb) work\* | [ ]  Use of refrigerants (req. safety data sheet) |
| [ ]  Radiation – ionizing (incl exempt-quantity, may req. amendment)\* | [ ]  Radiation – nonionizing (e.g. lasers, RF)\* | [ ]  Biological hazards (e.g. animal/insect bites/stings, mold, etc.) | [ ]  Installation of power – temporary or permanent\* | [ ]  Welding / cutting / brazing (req. permit)\* | [ ]  Fire / explosion / extreme temperature (req. permit / fire watch)\* |
| [ ]  Ergonomics (lifting > 50 lbs, etc.) | [ ]  Soldering (permit not req.) | [ ]  Work in hot/humid environment | [ ]  Cord-and-plug tools | [ ]  Limited/impaired communication | [ ]  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

***\*Denotes Special Training, Permit and/or Competent Person required***

1. **Personnel Access Requirements**

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| **Personnel Schedule:**List expected onsite experiment personnel as function of time and project phase, including maximum and minimum numbers. |
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| **Personnel Access:**List number of onsite work hours expected per day and per week (steady-state and maximum, underground and surface). Personnel require a badge when on SURF property (training is required before a personal badge is issued). Standard underground access via the Yates shaft for day shift is as follows: 6:30am, 7am, 7:30am, 11:30am [Down]; 11:45am, 4pm, 4:30pm and 5pm [Up]. Standard Yates Shaft UG access is 4 days per week (alternating Mon-Thu, Tue-Fri); access via the Ross Shaft may be coordinated (with access up to 6 days per week). Limited periods of 24-hour coverage up to 7 days per week with shifts up to 12.5 hours can be accommodated (shifts beyond 12.5 hours in duration are managed under the SURF fatigue management policy). Additional access guidelines may apply. |
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1. **Experiment Schedule**

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| **Experiment Schedule:**Provide a schedule of experiment activities, including different phases of the project such as installation, commissioning, operation and decommissioning. If necessary, add additional space to this template. |
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1. **Experiment Operations**

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| **What-If… Scenarios:**List results and consequences to experiment and any mitigation measures that are planned or that are being considered.  |
| *Topic Area* | *What if…* | *Result / Consequences (List different scenarios if applicable)* | N/A |
| Access | What if access to experiment equipment was restricted for longer than one day? |  | [ ]  |
| Ventilation | What if the laboratory temperature rose above or fell below the specified limits?  |  | [ ]  |
|  | What if the laboratory humidity rose above or fell below the specified limits? |  | [ ]  |
|  | What if the laboratory exhaust system went down?  |  | [ ]  |
| Water | What if purified water became unavailable? |  | [ ]  |
|  | What if chilled water became unavailable? |  | [ ]  |
|  | What if potable water became unavailable? |  | [ ]  |
|  | What if industrial water became unavailable? |  | [ ]  |
|  | What if the fire water system was triggered and fire water/mist came in contact with your experiment? |  | [ ]  |
|  | What if fire water/mist did not activate when needed? |  | [ ]  |
|  | What if there was a water leak within the laboratory? |  | [ ]  |
| Water Inflows | What if the laboratory began filling with water because of a catastrophic water inflow (storm) event?  |  | [ ]  |
| Water | What if the waste water collection system inside the laboratory overflowed because pumps weren't working? |  | [ ]  |
| Compressed Air | What if the compressed air system provided by the facility became unavailable? |  | [ ]  |
| Power | What if normal power goes down? Would your experiment be damaged if it was unpowered for an extended period of time? |  | [ ]  |
|  | What if standby power generators ran out of power (nominally for fire & life safety), assuming normal power is still down? (96 hours of standby is the requirement) |  | [ ]  |
| What if power quality fluctuated outside of specified limits: voltage drop, harmonic distortion, etc.? |  | [ ]  |
| What if the experiment-provided UPS fails? |  | [ ]  |
| *Topic Area* | *What if…* | *Result / Consequences (List different scenarios if applicable)* | N/A |
| Electromagnetic Interference (EMI) | What if EMI became unacceptable? |  | [ ]  |
| Cyberinfrastructure | What if network connections outside of the laboratory became disabled? |  | [ ]  |
| What if network connections inside of the laboratory became disabled? |  | [ ]  |
|  | What if connection to external data processing became unavailable? |  | [ ]  |
|  | What if connection to internal data processing became unavailable? |  | [ ]  |
|  | What if network time protocol (NTP) was unavailable? |  | [ ]  |
| Transportation | What if material handling systems were unavailable (rail cars, hoists/cranes, etc.)? |  | [ ]  |
|  | What if material handling systems became disabled while in transport? (for example, cryogens in transport on rail cars) |  | [ ]  |
| Fire & Life Safety | What if an evacuation was conducted due to a hazardous event (e.g., fire)? Describe situations where you would keep the experiment running or shut it down? |  | [ ]  |
| Excavation | What if there was excessive disturbance of the experiment due to blasting/excavation activities nearby? |  | [ ]  |
|  | What if geotechnical repairs needed to be made to the rock structure above or near the experiment? |  | [ ]  |
| Other | What if…? *Name scenario critical to the experiment.* |  | [ ]  |

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| **Decommissioning Plan:**Provide initial details regarding how the experiment will be decommissioned. If necessary, add additional space to this template. |
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1. **Decommissioning Plan**
2. **SURF Review Section – to be completed by SURF personnel**

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| **Experiment Implementation Program Requirements:**Additional documentation requirements. |
| Required for All Experiments: [x]  Memorandum of Understanding (MOU) [x]  Insurance (general liability, Workers’ Compensation)Services Agreements: [ ]  General Services Agreement (GSA) [ ]  Contract |
| **Environment, Safety & Health Requirements:**Based on the information provided in the Experiment Planning Statement, the following training, inventories, ESH documents and reviews are warranted. |
| Required for All Experiments: [x]  Procedure(s) (Job Hazard Analysis, Standard Operating Procedure, etc.)Minimum Training: [ ]  Orientation (surface and/or underground) [ ]  General Safety – Basic (and subsequent Annual Refresher Training (ART))Other Training: [ ]  SURF: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [ ]  Non-SURF: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Inventories: [ ]  Chemicals [ ]  Electrical [ ]  Hoisting & Rigging [ ]  Pressure Vessels [ ]  Radioactive MaterialsESH Documents: [ ]  Experiment Hazard Assessment [ ]  Quantitative [ ]  Quantitative [ ]  Quantitative Summary (EHAS), incl additional training Analysis – Mechanical Analysis – ODH Analysis – PressureReviews: [ ]  Walk-through Inspection(s) [ ]  Readiness Review(s) |
| **SURF Review**  |
| **SCIENCE** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Name | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Signature |
| **ENVIRONMENT, SAFETY & HEALTH** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Name | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Signature |
| **ENGINEERING** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Name | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Signature |
| **INFORMATION TECHNOLOGY** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Name | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Signature |
| **HOISTS AND SHAFTS** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Name | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Signature |
| **SURFACE OPERATIONS & UTILITIES** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Name | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Signature |
| **UNDERGROUND OPERATIONS** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Name | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Signature |
| **Other Review** (If applicable) |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Group | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Name | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Signature |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Group | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Name | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Signature |
| **SURF Acceptance** |
| **SURF LABORATORY DIRECTOR** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Name | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Signature |