

Photon Sciences

Subject: Photon Sciences Significant Environmental Aspects Matrix

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Approval Signature on file with master copy.

| ACTIVITY DESCRIPTION | | Environmental Aspects | | | | | | | | | | | | | | Comments | | | |
|---|---|----------------------------|-----------------|-------------------|-------------|-------------------------|------------------------------------|------------------------|-------------------|--------------------------|------------------|-------------------|-------------------|--------------------------|---|----------|---|------------|--------------------------|
| | | Regulated Industrial Waste | Hazardous Waste | Radioactive Waste | Mixed Waste | Regulated Medical Waste | Work with Engineered Nanomaterials | Atmospheric Discharges | Liquid Discharges | Chemical (C) Storage/Use | Water Discharges | Water Consumption | Power Consumption | Engineered Nanomaterials | Historical Monuments / Cultural Resources | | Sensitive/Endangered Species and Habitats | Env. Noise | Historical Contamination |
| Title | Number | | | | | | | | | | | | | | | | | | |
| Machine shop operations | PAF 462 | a | a | | | | a*,b** | b | f | | x | x | | | | | | | |
| Photographic dark room | PAF 463 | a | a | | | | x | b | f | | x | x | | | | | | | |
| Vacuum system maintenance | PAF 470 | a | a | | | | | | f | | | x | | | | | | | |
| Electrical/Mechanical equipment maintenance | PAF 466 | a | a | | | | | | a*, f | | x | x | | | | | | | |
| Experimental program | SAFs | a | a | a | | | a | b* | b | f | x | x | x | a | | | | | |
| Cooling Water System | PAF 469 | a | | | | | | x | b | a*, f | | x | x | | | | | | |
| Silicon Crystal Etching & Cutting | PS-ESR-2-190E, PAF 591 | a | a | | | | | x | | f | | x | x | | | | | | |
| Vibrating Wire R&D | PS-PSRF-Vib Wire | | a | | | | | | b | | | x | x | | | | | | |
| Dipole Mapping | PSRF-Field Mapping of Dipole Magnets | | | | | | | | | | | | x | | | | | | |
| Girder R&D | PSRF-Girder R&D project | a | a | | | | | | | | | | x | | | | | | |
| Corrector Magnet | PSRF-Corrector Magnet Project | | | | | | | | | | | | x | | | | | | |
| Vertical Test Facility (VTF) | LT-PSRF-VTF | | | | | | | x | | | | | x | | | | | | |
| Diagnostics & Instrumentation | PSRF-Diagnostics and Instrumentation | | | | | | | | | | | | x | | | | | | |
| Power Supplies R&D | PS-LT-PSRF-Power Sup | | | | | | | | b | | | x | x | | | | | | |
| Interlocks | PS-PSRF-INTERLOCK | | | | | | | | | | | | x | | | | | | |
| Controls | PS-Controls Group | | | | | | | | | | | | x | | | | | | |
| Human Interlock Interface(HII)Inspection | PS-032-2010-DEC-6 | | | | | | | | | | | | x | | | | | | |
| Storage Ring Magnet Inspection | PS-PSRF-Magnet Inspection | | | | | | | | | | | | x | | | | | | |
| Vacuum R&D | PSRF - Storage Ring Vacuum Chamber | a | a | | | | | a | | | | x | x | | | | | | |
| R&D program (see below) | | | | | | | | | | | | | x | | | | | | |
| Vacuum R&D | PSRF - Testing of SR Vacuum Chamber | a | a | | | | | | | | | | x | | | | | | |
| Vacuum Assembly in 905 tent | PSRF - Assembly of vacuum chambers | a | a | | | | | | | | | | x | | | | | | |
| Vacuum Assembly in Bldg 945 | PSRF - Vacuum Assembly in B945 PAF #607 | a | a | | | | | x | b | f | | x | x | | | | | | |
| Petra-7 (Booster Ring) | PSRF-Petra-7 project | | | | | | | | | x | | | x | | | | | | |
| Pulsed Magnet (bldg 832) | LT-PSRF-PULSED MAG | | | | | | | | | | | | x | | | | | | |
| Magnetic Measuring Lab | LT-002-2010-JUN-9 | | a | | | | | | | | | | x | | | | | | |
| NSLS-II Linac Front End Test Stand | PS-030-2010-NOV-1 | | | | | | | | | | | | x | | | | | | |
| Prototype Cooling Skid | PSRF-Prototype Cooling Skid | a | a* | | | | | | | | | | x | | | | | | |
| Nanopositioning | PS-PSRF-NANOPOS | | | | | | | | | | | | x | | | | | | |
| Thin Film | PSRF-Thin film R&D PAF #593 | a | a | | | | | b | b | x | | | x | | | | | | |
| Metrology | LT-PSRF-Metrology | | a | | | | | | | | | | x | | | | | | |
| Machine shops | PAF #605 | a | | | | | | x | x | | | x | x | | | | | | |
| Crystal Fabrication Facility | LT-PSRF-CRYSTAL PAF #606 | a | a | | | | | x | b | f | | x | x | | | | | | |
| 90-Day Haz Store Cabinet, B703 | | | | | | | | x | | f | | | x | | | | | | |
| 90-Day Haz Store Shed, B725 | | | | | | | | x | | f | f | | x | | | | | | |
| NSLSII Construction Project | Env. Evaluation Report | a | | | | | | x | x | f | | x | x | | | a,d | | a | |
| General facility operation | | | | | | | | | | | | | | | | | | | |
| Administration | All | | | | | | | | | b**,f | | x | x | | | | | | a* |

Notes:

1. A blank cell indicates that the aspect is not present.
2. An x in a cell indicates that the aspect is present, but is not significant.
3. A letter other than x indicates that the aspect is significant.
(The letter refers to the specific criteria for the aspect which has been met.)
See Key:

[Revision Log](#)**Review Guidance**

[Definitions are taken directly from the "Environmental Aspects and Impacts" Subject Area](#)

Any generation of the below waste streams will be coded with an "a":

Industrial Waste, Hazardous, Radioactive, Mixed, Medical Waste, Transuranic

Work with Engineered Nanomaterials:

a) Any work with engineered nanomaterials. Refer to the interim procedure Approach to Nanomaterial ESH in the Interim Procedures Subject Area.

Engineered Nanomaterials:

a) Any air, liquid, or solid waste discharge of engineered nanomaterials.

Atmospheric Discharge

- a) Any process that requires a point source air permit or inclusion in the Title V permit as an emissions unit, or contributes to a regulated emission point.
- b) Operations or activities that use engineering controls to reduce hazardous air pollutant or radionuclide emissions.
- c) Radioactive emissions that require monitoring (continuous or confirmatory) by 40 CFR 61 Subpart H of the National Emission Standards for Hazardous Air Pollutants (NESHAPS).

Liquid Discharge

- a) Radionuclides that are detectable at the point of discharge from the facility.
- b) Discharges of any of the chemicals listed on the BNL State Pollutant Discharge Elimination System (SPDES) Permit Chemicals exhibit.
- c) Operations or activities that use engineering controls to reduce the quantity or concentration of pollutant.
- d) Existence of underground injection control devices under the responsibility of the owner organization as specified in the Underground Injection Control subject area.

Power Consumption

- a) Total Organizational Power Consumption Greater than 58 M KWh/yr.

Chemical Storage/Use or Radioactive Material

- a) Storage or use of chemicals or radioactive materials requiring engineering controls specified in the Storage and Transfer of Hazardous & Nonhazardous Materials subject area.
- b) System configuration requires back-flow prevention.
- c) Transportation of chemicals or dispersible radioactive materials.
- d) Storage or use of PCBs as specified in the PCB Management subject area.
- e) Any underground pipes or ducts that contain chemical and/or radioactive material/contaminant.
- f) Storage or use in quantities capable of resulting in a spill, as defined in the Spill Response Area.

Water Consumption

- a) Total organizational water consumption greater than 650,000 gal/day.
- b) Continuous (24/hrs/day), permanent (to continue for the foreseeable future) once-through use greater than 4 gpm that discharges to the sanitary sewer system.
- c) Daily (8 hrs/day), permanent, once-through water use greater than 10 gpm that discharge to sanitary sewer system.
- d) Continuous use greater than 10 gpm, or daily use greater than 15 gpm for a period greater than 30 days that discharge to the Sanitary Sewer System.

Facility-specific Aspects:

Historical/Cultural Resources
Sensitive/Endangered Species And Sensitive Habitats
Environmental Noise
Historical Contamination (groundwater/soil)
Soil Activation
Other