

3. ROLES AND RESPONSIBILITIES FOR CABLING AND RACKS

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3.1 RACKS

In general, laboratories will provide build-to-print design packages that contain specifications, drawings, installation instructions, test requirements, and all other needed technical data. Conventional Facilities (CF) racks will be designed by the AE and fabricated and installed by CF subcontractors. Technical systems racks will either be fabricated by laboratory in-house labor, laboratory subcontractors, or by SNS via a task order based contract with qualified subcontractor. Fabrication consists of all or part of ordering cabinets, cabinet wiring, installing electronics, and factory testing.

Fabrication and testing activities performed at the SNS rack fabricator facility, Receiving, Assembly, Testing, and Storage (RATS) building or the site after installation will be performed by teams consisting of an applicable mixture of laboratory and SNS-ASD personnel.

3.2 CABLE TRAYS

Responsibility for design and installation of cable trays is included in Appendix A. In the accelerator, cable trays not designed by the AE/CM will be designed by SNS, not the laboratories.

3.3 CONVENTIONAL FACILITIES CABLING

The following cabling (including any needed cable tray and conduit) will be designed the AE and provided by CM construction contractors:

Power and grounding to receptacles and conventional facilities equipment

Lighting

Fire Alarm, Smoke detection, telephone, public address, plant security, and office network drops

Conventional Facilities controls

Communications and controls cabling outside of buildings (this cabling is terminated in communications rooms) and controls network drops

Conduit for Target Protection System (TPS) cabling passing through the Klystron building and to the RTBT Service Building

3.4 ACCELERATOR SYSTEMS CABLING

1) Power and Grounding Cabling (to power panels and ground lugs on building walls)

In the Front End building, power cabling up to power panels on the wall and grounding cable up to ground lugs on the wall will be designed the AE and provided by CM construction contractors. That is, SNS-ASD only provides cabling from power panels and ground lugs to racks.

Linac Tunnel, Klystron Building, Ring Tunnel, Ring Service buildings power cabling will stop at the unit substation and grounding cabling will stop at ground lugs on the wall. Power cabling from the unit substation to distribution and power panels in the buildings will be designed and installed by SNS-ASD. However, imbedded conduit needed for this cabling will be designed the AE and provided by CM construction contractors.

2) Technical systems cabling

This cabling includes Rf power, Rf control, Magnet power and control, Pulse Forming Network (PFN), accelerator cooling water systems, vacuum systems, cryogenics systems, diagnostics, Integrated Controls Systems, Personnel Protection System (PPS), etc.

Cable drawings showing cabling from power panels and grounding lugs on building walls to racks and technical equipment and from racks to technical equipment will be provided by laboratories.

Drawings showing cable tray and conduit needed for this cabling will be provided by SNS-ASD.

Equipment layout drawings showing the location of racks, junction boxes, cable tray, etc. will be provided by SNS-ASD.

This cabling and any conduit needed to support it will be installed and terminated by SNS-ASD (with appropriate guidance and assistance with partner laboratories).

3.5 TARGET AND INSTRUMENT SYSTEMS CABLING

Target systems cabling includes cold moderator cryogenics, Hg loop, target cooling water systems, robotics, target systems controls, Target Protection System (TPS). Instrument systems cabling includes data acquisition cabling, high voltage cabling to detectors, power cabling to instrument systems equipment, etc.

In the Target building, power and ground cabling up to Hg pumps, water cooling pumps and other heavy equipment will be designed the AE and provided by CM construction contractors. Termination of this cabling on technical equipment will be provided by SNS-XFD and/or its subcontractors.

Power cabling to racks, cabling from racks to technical equipment, and all other cabling will be designed, installed, and terminated by SNS-XFD and/or its subcontractors.

3.6 CABLE PROCUREMENT

Cabling within racks will be procured as part of rack fabrication (stuffing) contracts. Spare cabling to support maintenance and testing in the RATS building will be procured by SNS.

Cabling needed by Conventional Facilities construction contractors will be procured as part of construction contracts. Cable specifications will be provided by the AE.

Technical Systems cabling (including conduit, junction boxes etc.) will be procured by SNS and delivered to the RATS building except for special cases such as:

- a) Cabling that is being provided by equipment suppliers as part of laboratory procurements of equipment. Example are cabling for Rf transmitter equipment in the Linac
- b) Cabling already in use at laboratories (such as most of the Front End system cabling)
- c) Laboratory expertise is needed to insure proper characteristics are obtained,
- d) Existing laboratory contracts provide a procurement advantage