

Vertiv™ SFN & System Project Services.

Vertiv offers comprehensive project services for communication and IT infrastructure, encompassing everything from initial planning and design to equipment procurement, installation, and commissioning, ensuring a coordinated and efficient project delivery.



Flushing



Vertiv flushing the SFN with the fluids determined in coordination with the customer*:

- Ensure flushing loops are connected to secondary fluid network rack valve trains;
- Isolate remaining SFN valve trains from racks & CDU using isolation valves;
- Affix external transfer pump to SFN and prepare the adequate filtration;
- Pump flushing fluid through piping at required flowrates and pressures;
- Record flushing duration, flow rate, and pressure
- Leave the pump connected and ready for pressure testing

Pressure test



Vertiv executing a pressure test of the SFN determined in coordination with the customer*:

- Rack valve train isolation points in the proper position, racks not connected to the SFN, isolation valve closed on CDU supply and return valve trains
- Flushing loop connection maintained between supply and return rack valve trains
- Follow pressure tests required by the material manufacturer and Vertiv standard procedures
- Perform pressure testing in accordance with local plumbing regulations as validated by Vertiv

Filling



Vertiv filling the secondary fluid circuit with the fluid and additives determined in coordination with the customer*:

- Ensure isolation valves are closed to the CDU and the racks are not connected to the SFN
- Check that the system was previously drained and not left with pressure inside
- Connect flushing loops, external transfer pump and filtration device to SFN
- Fill secondary fluid network
- Pump the coolant through the circuit until it runs clear from the drain
- Observe and mitigate for any leaks

Commissioning



Vertiv commissioning the system composed by the CDU + the secondary fluid network circuit, using fluids and additives determined in coordination with the customer*:

- Disengage flushing loops from rack valve trains
- SFN isolation valves are engaged with the CDU
- If applicable, isolation valves are engaged with iT racks
- Finalize system parameters to operational settings
- Perform fail-over testing on pumps and units at each load testing interval
- Conduct unit fine-tuning

Performed by Vertiv

Performed by Subcontractor

Project Management

Capability Map



AC Power



DC Power



Thermal Management



Switchgear & Busway

| Commissioning Phase | Technical activities | Project Management |
|--|--|--|
| Pre-Project activity | <ul style="list-style-type: none"> • Commissioning Spec & Plan • Engineering • Design Review • Schedule Integration • Submittal Review • Commissioning Procedure • Commissioning Kick-off | <ul style="list-style-type: none"> • Project Charter / Project Initiation Docs • Identify Stakeholder |
| Level 0 Program and Design | <ul style="list-style-type: none"> • Quality inspection | <ul style="list-style-type: none"> • Work Breakdown Structure (WBS) • Supply Chain & Procurement Management Plan • Project Team Creation • Create Risk Management Plan • Create Communication Management Plan • Create Change Management Plan • Create Project Schedule • Health & Safety Assessment • Kick-Off meeting with Customer |
| Level 1 Factory Witness Test | <ul style="list-style-type: none"> • Factory Witness Test | |
| Level 2 Delivery, QA/QC, Installation Assembly, Field Supervision | <ul style="list-style-type: none"> • Site Acceptance Inspection • Delivery & Assembly • Equipment Installation • Quality inspection | <ul style="list-style-type: none"> • Supply Chain & Procurement Management • Execute Project Plan • Schedule On-Site Resource Management • Facilitate Team Meetings & Distributed Minutes • Health & Safety Management |
| Level 3 Start-Up and Site Acceptance Test | <ul style="list-style-type: none"> • Installation & Startup • Pre-Functional Equipment Verification • Startup Finalization • Site Acceptance Test | |
| Level 4 Functional Performance Testing | <ul style="list-style-type: none"> • Functional Performance Test | |
| Level 5 Integrated System Test Support | <ul style="list-style-type: none"> • Integrated System Test • Training & O&M Verification | |
| Level 6 Close Out & Turn-over | <ul style="list-style-type: none"> • System Manual • Seasonal Testing • Warranty Review & Supplemental Report • Commissioning Report | <ul style="list-style-type: none"> • Customer Acceptance • Handover to Operation & Maintenance • Lessons Learned • Financial Closure • Project Closure |