

## QA/QC Checklist

PENNSYLVANIA STATE UNIVERSITY



Construction Services

# DIVISION 26 – Electrical

## 26 23 00 – Low Voltage (<600V) Switchgear

	General Information	Programming/Design	Bidding/Preconstruction	Installation/Construction	Closeout/Warranty
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### 01 General

1. Verify that there is sufficient clearance in front of switchgear for draw-out breaker removal/installation.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Switchgear shall have hinged doors on the front AND rear of the cabinets. The rear doors shall have a hasp for installation of a padlock. The rear doors shall be labeled to match the front.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. When switchgear arrives on site determine if breakers have been tested. It is better to test at time of delivery rather than after the switchgear is placed in service.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. During construction, OPP Utilities shall have access to electrical rooms or vaults where main switchgear is housed. A key should be issued to OPP Utilities or doors should be cored with a CS-UU core.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. One spare breaker in each frame sized shall be provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Verify that the correct neutral ground bond is in place at the switchgear.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Verify that the grounding electrode systems are properly in place (building, steel, water line, ground bed).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 02 Startup

1. Switchgear will most likely be energized well in advance of the completion of the corresponding project. All energized devices shall be labeled.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Metering shall be in place when the switchgear is energized. In order to do this, the meter communication wire must be installed and properly landed. OPP Utilities will install the meter. Contact Dick Harris ( <a href="mailto:rsh3@psu.edu">rsh3@psu.edu</a> ; (814) 777-8742), OPP Utility Systems Engineer, and/or Kevin Hahn ( <a href="mailto:kxh22@psu.edu">kxh22@psu.edu</a> ; (814) 592-7145), OPP Supervisor Trades III Electrical Services to visit the site and review/approve the installation and coordinate the meter installation.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Training for OPP Utilities and the OPP Electrical Integrity crew shall be done as soon as possible after the gear is energized rather than wait until the end of the project.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4. Switchgear shall be cleaned of construction debris prior to startup. Once switchgear is energized, the electric room shall be cleaned and excess materials shall be removed. The room air shall be filtered if construction dust will continue to be present.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Once switchgear is energized, contractors shall follow NFPA 70E for arc flash protection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

6. Switchgear cabinets should be opened and cleaned again if necessary at the completion of construction.