

Transformers Construction Sequence

Appendix K

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The existing transformers in the UV building will be replaced as part of the UV upgrade project, which includes two 4160:480Volt and two 4160:600Volt units. A prepurchase tender was issued to secure the delivery of the transformers within scheduled construction shutdown season (as indicated in the Contract schedule) due long lead delivery timelines.

Base Bid – Transformer Installation during Bypass Period

Contractor to prepare Bid assuming that the pre purchased transformers will be delivered by January 14, 2026, and Contractor can install all transformers during the bypass period.

Transformers are delivered by January 14, 2026, so that they can be installed during the construction bypass period when all transformers can be de-energized simultaneously. The Contractor will complete the final installation, testing, start-up and commissioning as per Contract Documents. The Contractor will install the transformers and provide all primary and secondary cables to power the new MCCs and perform a full start-up of the UV electrical system.

Cash Allowance #1 – Temporary Reuse of Existing Transformers and Sequential Installation of New Transformers

If the pre purchased transformers are delivered after January 14, 2026, the Contractor will temporarily tie the new motor control centres (MCCs) into the existing transformers prior to installing the new transformers sequentially. This additional work will be paid through Cash Allowance #1. Contractor to provide a detailed cost breakdown upon request by the Contract Administrator.

If the transformers are delivered at a date such that they cannot be installed during the construction bypass period, the Contractor is to utilize the existing transformers and tie into new MCCs to energize the UV electrical system. The interim existing transformers construction sequence is as follows:

- 1. During the shutdown, the Contractor will complete all work in the electrical room including new MCCs installation, cable trays, and cable terminations in the MCCs per design documents and drawings.
- 2. Contractor to provide and install termination boxes to provide transition from existing transformers bus duct buses to cables.
- 3. Termination boxes shall be installed on the duct buses outside electrical room adjacent to the transformers. Provide Nema 3R enclosure for termination boxes. Refer to temporary work drawing UD-E101_TW.
- 4. Contractor to run the secondary side cables from MCC to the duct bus transition box, provide enough slack and connect the cable to the temporary termination box to power the MCCs with existing transformers. The cable slack will be used for the future termination to the new transformers.
- 5. Primary cables will remain unmodified on the existing transformers during the interim utilization period, Contractor to coordinate with engineer to modify relay setting on the 4160KV switchgear.
- 6. Start-up the UV electrical system utilizing existing transformers to test commission newly installed MCCs, UV equipment and all auxiliary systems.
- 7. Once the new pre-purchased transformers are delivered to Site, the Contractor will swap the transformers one at the time by isolating each transformer from upstream switchgear and tie to the breakers on the MCC.

The Contractor will replace the isolated transformer with the new transformer, provide all additional installation requirement per original design drawings and document.

- 8. Test and commission newly installed transformer and connect to the system. Isolate next existing transformer and repeat the construction sequence for all existing transformers.
- 9. Consult with the Engineer and the City prior to swap existing transformers to new for shut down schedule.