

**FIRST HILL VACUUM SWITCH**

**1. Scope**

This construction standard provides the requirements for the installation of a vacuum switch **only** in the First Hill network.

**2. Application**

This document provides direction to SCL crews about how to properly install a vacuum switch and associated accessories in an existing network vault.

**3. Construction Notes**

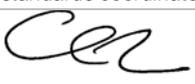
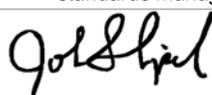
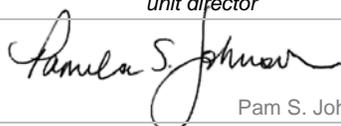
- 3.1 For equipment details and assembly diagrams, refer to engineering drawings listed in references.
- 3.2 Manual switch is to be located near the base of the vault opening so that it can be operated from outside the vault using a hot stick.
- 3.3 Maintain minimum required installation distances from walls as shown in figures 6.1 and 6.2.
- 3.4 Install new current transformers (CTs) on cables coming from the overhead source.
- 3.5 Neutrals of primary cables do not go through CTs for relays.

**4. References**

- Li, John**; SCL Engineer, subject matter expert (john.li@seattle.gov)
- Lu, Curtis**; SCL Standards Engineer, and originator for 1252.10 (curtis.lu@seattle.gov)
- NTP-123**; "Digitalgrid NCS Transmitter Installation, Network Protectors"; Construction Guideline; SCL
- D-44801**; "26.4kV Vacuum Switch without UPS AC/DC Elementary"; SCL Drawing
- D-44802**; "SEL-351A Relay without UPS Relay Key Drawing"; SCL Drawing
- D-44803**; "Relay Enclosures without UPS Panel Arrangement"; SCL Drawing
- D-44804**; "Relay Enclosures without UPS Connection Diagram"; SCL Drawing

**5. Material List**

Item No	Qty	Item	Description	Stock No.
1	1	ENCLOSURE, type 4X	custom built enclosure by SCL Steel Shop	none
2	1	SWITCH, 27 kV Interrupt	Cooper Vacpac 21VP-125-66-12, 27kV 600A continuous current 12ka interrupting current	012989
3	3	CURRENT TRANSFORMERS for relays	ABB type RLC 600/1200:5 Ratios; C100/C200 accuracy. Cat #7524A52G10	none
4	3	CURRENT TRANSFORMERS for telemetering	existing ones may be used for new installations	none
5	1	DIGITALGRID NCS TRANSMITTER remote monitoring system (transmitter and CTs)	see Construction Guideline NTP-123 for details	none
6	1	SCHWEITZWER DISTRIBUTION PROTECTION RELAY	SEL-351A type 0351A00Y2355421 conformal coating, rack mounting, 48/125 Vdc or 125 Vac, 125 Vdc control import, DNP 3.00 LVL 2 slave	none

<i>standards coordinator</i>	<i>standards manager</i>	<i>unit director</i>
 Curtis Lu	 John Shipek	 Pam S. Johnson

**6. Figures**

Figure 6.1,  
plan view

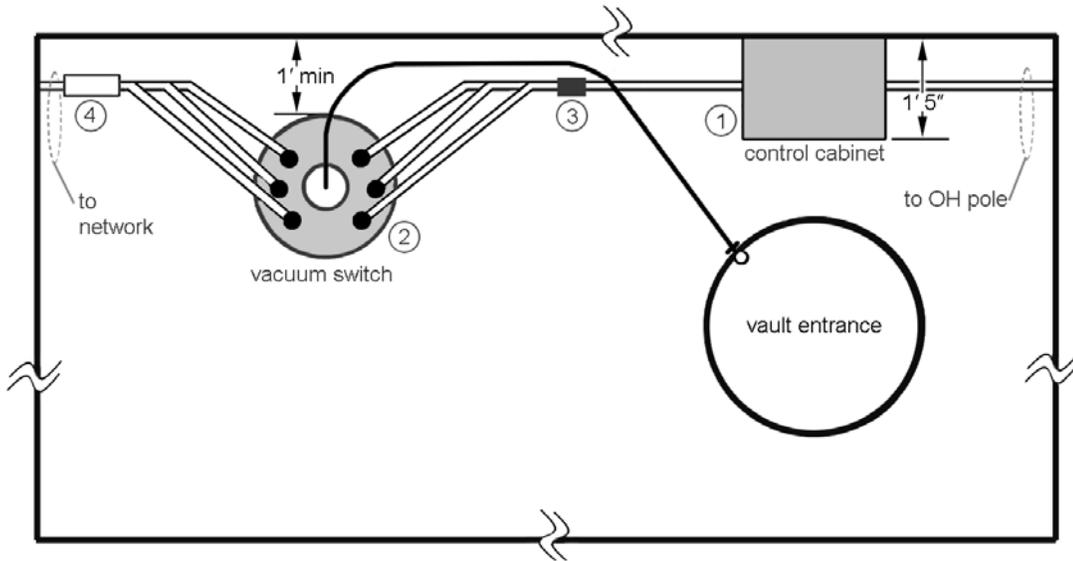


Figure 6.2,  
elevation view

