

Phase Relations

1. Scope

This work practice covers the phase relationships throughout the Seattle City Light (SCL) generation, transmission, and distribution systems.

2. Application

This work practice applies throughout the SCL generation, transmission, and distribution areas.

This standard is intended for use by SCL engineering and operations personnel.

For nominal voltages, refer to SCL 0035.13.

3. Principal Transformations

Voltage Diagrams	Nominal Supply High Voltage	Nominal Circuit Low Voltage
1-2	230 kV Y (Note 1)	115 kV Y
1-3	230 kV Y (Note 1)	26.4 kV Y
2-3	115 kV Y (Note 1)	26.4 kV Y
4-5	26.4 kV Δ	4.3 kV Y
12-14	4.3 kV Δ	208/120 V Y UG
5-6	2.4 kV 1Ø	120/240 V OH
8-16	230 kV Y BPA (Note 1)	115 kV Y PS
1-10	230 kV Y (Note 1)	34.5 kV Y
11-13	13.8 kV Δ	480Y/277 V Y UG
11-14	13.8 kV Δ	208/120 V Y
12-13	4.3 kV Δ	480/277 V Y UG
4-27	26.4 kV Δ	13.2 kV Δ BOE 2
3-7	15 kV 1Ø	120/240 V OH
4-24	26.4 kV Δ	13.8 kV Y U of W
4-28	26.4 kV Δ	13.8 kV Y
2-11	115 kV Y	13.2 kV Δ
4-22	26 kV Δ	480Y/277 V
4-23	26 kV Δ	208Y/120 V
3-13	26 kV Y	480Y/277 V
3-14	26 kV Y	208Y/120 V

Note 1: Tertiary winding is required.

Standards Coordinator
 Brett Hanson



Standards Supervisor
 John Shipek

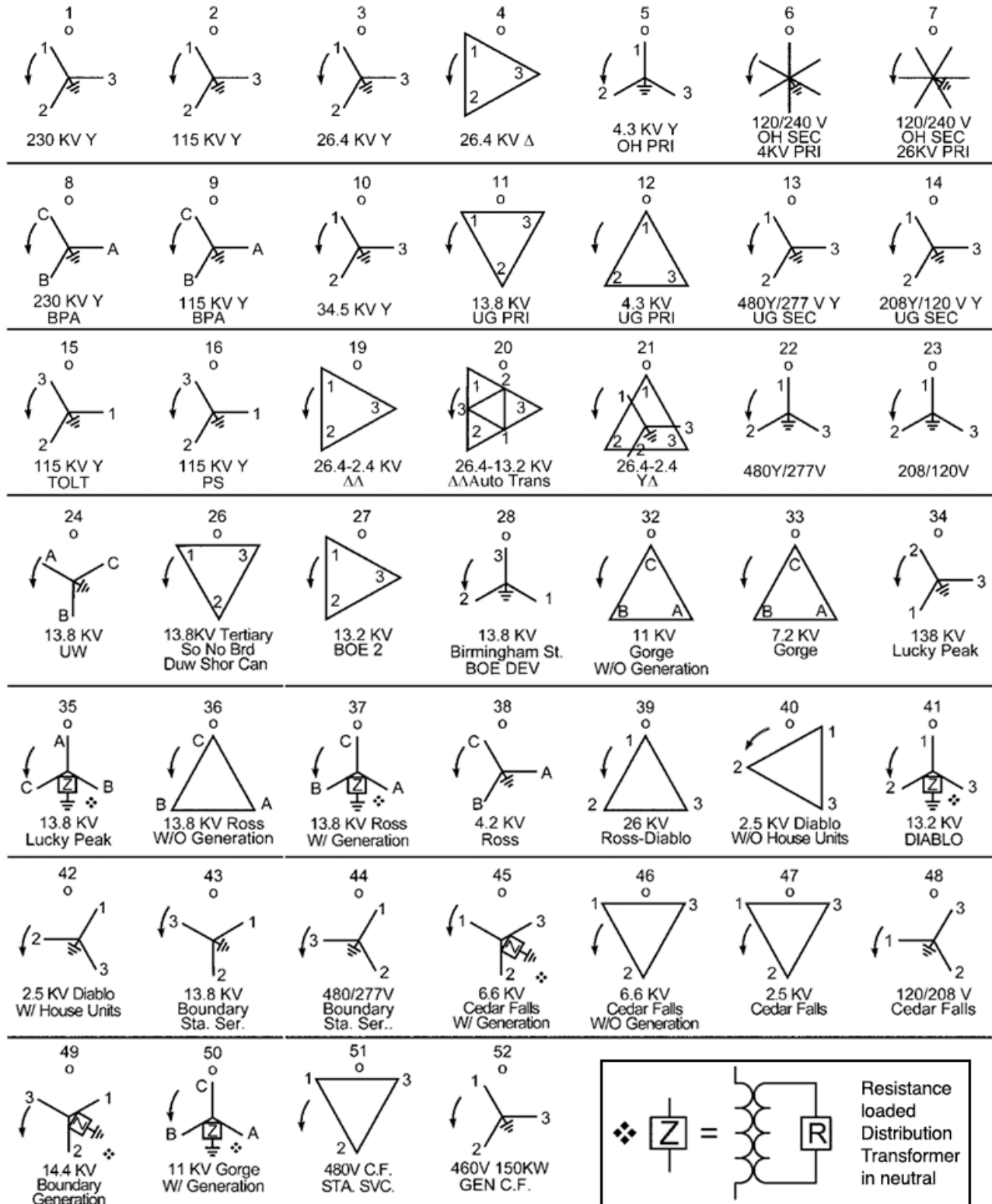


Unit Director
 Darnell Cola



4. Phase Relations

Figure 4: Phase Relations for SCL System



Notes

1. The symbol "o" at the top of each diagram is the common point for all diagrams on this drawing.
2. For items noted with the symbol " \diamond ", tertiary winding is required.

5. References

SCL Construction Guideline E1-4/NGE-30; "Phase Relations for City Light System"
(canceled)

SCL Construction Standard 0035.13; "Voltage Zones"

6. Sources

Hanson, Brett; SCL Standards Engineer, subject matter expert and originator of 0035.04
(brett.hanson@seattle.gov)

Cook, Ryan; SCL Associate Generation Engineer and subject matter expert for 0035.04
(ryan.cook@seattle.gov)