

SECTION 2

Existing System Description

2.1 Site Locations

- 2.1.1 The existing twelve DC Power Systems were all manufactured by Eltek with interchangeable controllers and rectifiers. Table 1 contains the radio site information for the sites requiring replacement including the site abbreviation, the site name, site address, coordinates, ground elevation, and tower information.

Table 1: Radio Site and Tower Information

Abbreviation Site Name Address	Coordinates (NAD83)	Ground Elevation AMSL	Tower Height Type	Owner Tower Building Property
CC KITSAP 911 911 Carver Street Bremerton, WA Kitsap County	47-33-18.92 122-40-51.52	102.1m 335ft	54.864m 180ft SS 3-Leg	KITSAP 911 <u>KITSAP 911</u> KITSAP 911
E30 East 30th 3027 Olympus Drive Bremerton, WA 98310 Kitsap County	47-35-26.31 122-37-11.77	123.4m 405ft	41.148m (135ft) Self-Supporting (SS) 3-Leg	SBA Communications Corp. <u>City of Bremerton</u> City of Bremerton
GM Gold Mountain – 90 Ft Microwave Tower -and- Gold Mountain – 260 Ft Main Tower 1686 Minard Road West Bremerton, WA Kitsap County	47-32-57.0 122-47-08.1 47-32-55.8 122-47-08.1	531.9m 1745ft 533.1m 1749ft	27.432m 90ft SS 4-Leg 79.248m 260ft SS 4-Leg	KITSAP 911 <u>N/A</u> DNR KITSAP 911 <u>KITSAP 911</u> DNR
HR Hansville Road 31821 Hansville Rd NE Hansville, WA 98340 Kitsap County	47-51-01.77 122-32-33.37	112.8m 370ft	54.864m 180ft SS 3-Leg	KITSAP 911 <u>KITSAP 911</u> Kitsap County
LH Lincoln Hill 20230 Pugh Road NE Poulsbo, WA Kitsap County	47-44-45.55 122-37-11.64	123.4m 385ft	54.864m 140ft Water Tank w/ 4-Leg 40ft Extension 180ft Overall	City of Poulsbo PW <u>KITSAP 911</u> City of Poulsbo
MO Mandus Olson 10590 Mandus-Olson Road NE (East of Mandus Olson Road NE, South of NE Koura Road) Bainbridge Island, WA Kitsap County	47-39-21.81 122-32-50.11	104.9m 344ft	54.864m 180ft SS 3-Leg	KITSAP 911 <u>KITSAP 911</u> Bainbridge Island School District

Abbreviation Site Name Address	Coordinates (NAD83)	Ground Elevation AMSL	Tower Height Type	Owner Tower Building Property
NH Newberry Hill 8115 Dickey Road Silverdale, WA Kitsap County	47-38-17.51 122-43-32.12	165.2m 542ft	45.72m 150ft SS 3-Leg	Central Kitsap School District <u>KITSAP 911</u> Silverdale Water District
OH Orchard Heights 1826 Fircrest Drive SE Port Orchard, WA Kitsap County	47-31-55.32 122-35-59.83	118.0m 387ft	54.864m 180ft SS 3-Leg	KITSAP 911 <u>KITSAP 911</u> South Kitsap Fire & Rescue
PU Purdy Purdy Transfer Station 14515 54th Avenue N.W. Purdy, WA Pierce County	47-23-27.0 122-36-29.0	110.6m 363ft	91.44m 300ft SS 3-Leg	Pierce County <u>KITSAP 911</u> Pierce County PW
SP Simon Point 2400 Tahuyeh Lake Rd NW Bremerton, WA 98312 Kitsap County	47-35-15.0 122-49-6.0	323.1m 1060ft	54.864m 180ft SS 3-Leg	KITSAP 911 <u>KITSAP 911</u> DNR
SU Suquamish 22063 Dewberry Rd NE Indianola, WA 98342 Kitsap County	47-45-35.09 122-31.03.62	93.0m 305ft	121.92m 400ft Guyed 3-Leg	Suquamish Tribe <u>KITSAP 911</u> Suquamish Tribe
TL Teal Lake 1057 Teal Lake Road Port Ludlow, WA Jefferson County	47-54.02.10 122-40-13.65	160.0m 525ft	54.864m 180ft SS 3-Leg	KITSAP 911 <u>KITSAP 911</u> Olympic Resources

2.2 Existing DC Power Systems and Battery Descriptions

2.2.1 The DC power systems information is provided in Table 2.2. Ten of the DC Power Systems have three 1500-Watt rectifiers with 250A battery disconnect breakers. At Cencom, the main dispatch center, the DC power system has five 1500-Watt rectifiers with a 450A battery disconnect breaker. Gold Mountain, the highest site in the county, has nine 1500-Watt rectifiers with two 450A battery disconnect breakers.

Table 2: DC Power System Information

Site	Manufacturer	Rectifier Positions	Rectifiers	Battery Disconnect
CC	Eltek	10	5 Flatpack 1500W	450A
E30	Eltek	4	3 Flatpack 1500W	250A
GM	Eltek	20	9 Flatpack 1500W	2 x 450A
HR	Eltek	6	3 Flatpack 1500W	250A
LH	Eltek	4	3 Flatpack 1500W	250A
MO	Eltek	4	3 Flatpack 1500W	250A
NH	Eltek	4	3 Flatpack 1500W	250A
OH	Eltek	4	3 Flatpack 1500W	250A
PU	Eltek	4	3 Flatpack 1500W	250A
SP	Eltek	4	3 Flatpack 1500W	250A
SU	Eltek	6	3 Flatpack 1500W	250A
TL	Eltek	4	3 Flatpack 1500W	250A

All existing rectifiers have a Low Voltage Load Disconnect (LVLD) contactor.

2.2.2 The batteries at 10 of 12 sites were recently replaced with an in-service date of March 2020. The Gold Mountain batteries with an in-service date of 2017 are being replaced and part of this RFP. The single battery system at 911 Carver St (Cencom) are being removed after the new rectifier is placed into service. Table 3 provides the battery information by site including the make, model, cell Amp Hour ratings, the number of battery strings and the number of battery cells.

Table 3: Battery Information

Site	Battery Make	Battery System	AH	Number of Strings	Number of Cells	Cell Width	In Service Date
CC	Enersys	DDm100-21	1000	1	24	3	Jun 16
E30	Enersys	DDm85-13	510	1	24	6	Mar 20
GM	Enersys	DDm125-27	1625	2	48	4	2017
HR	Enersys	DDm85-13	510	1	24	4	Mar 20
LH	Enersys	DDm85-13	510	1	24	4	Mar 20
MO	Enersys	DDm85-13	510	1	24	4	Mar 20
NH	Enersys	DDm85-13	510	1	24	4	Mar 20
OH	Enersys	DDm85-13	510	1	24	4	Mar 20
PU	Enersys	DDm85-15	595	1	24	6	Mar 20
SP	Enersys	DDm85-13	510	1	24	4	Mar 20
SU	Enersys	DDm85-13	510	1	24	4	Mar 20
TL	Enersys	DDm85-15	595	1	24	4	Mar 20

2.3 Available Load Breaker Positions and Load Readings

2.3.1 The available load breaker positions and load readings are provided in Table 4 for each of the sites.

Table 4: Available Breaker Positions and Existing Load Readings

Site	Available Breaker Positions Shelf, Quantity, (Positions)	Existing Loads (Eltek Readings)
CC	C: 6 (10-15) B: 4 (19-22) A: 1 (10)	54.7A
E30	B: 5 (11-14) A: 22 (3-23)	6.8A
GM	B: 14 (3,5-8,10-11,14-16,18-21) A: 14 (3,5-13,16-18,22)	84A
HR	B: 13 (3-8,12-16,19,24) A: 7 (7-11,16,17)	28.2A
LH	B: 17 (8-24) A: 8 (4-8,15-16,22)	12.6A
MO	B: 6 (2,18-22) A: 21 (2-22)	12.7A
NH	B: 20 (1-20) A: 1 (6)	38.6A
OH	B: 19 (1-19) A: 15 (1-2,6-7,11-12,14-17,20-24)	15.0A
PU	B: 12 (13-24) A: 20 (5-24)	6.0A
SP	B: 19 (2-20) A: 11 (2-8,18-21)	10.7A
SU	B: 17 (1-15,17) A: 8 (6-11,17,20)	20.7A
TL	B: 19 (1-18) A: 4 (5,9,10,18)	16.7A

2.4 Site Photos

Site photos in Figures 1 through 28 show the DC Power Racks, Battery Systems, Panelboards, and Circuit Directories for each site to assist the Contractor in determining the level of effort to replace the DC power equipment. Each type of battery system is also provided in the photos along with typical junction boxes for the spare/future circuits for additional rectifier systems.

2.4.1 CC - 911 Carver St. (commonly referred to as Cencom)



Figure 1: 911 Carver St. (Cencom) DC Power Rack



Figure 2: 911 Carver St. (Cencom) Battery

2.4.2 E30 - E 30th Street



Figure 3: E30th DC Power Rack and Battery System

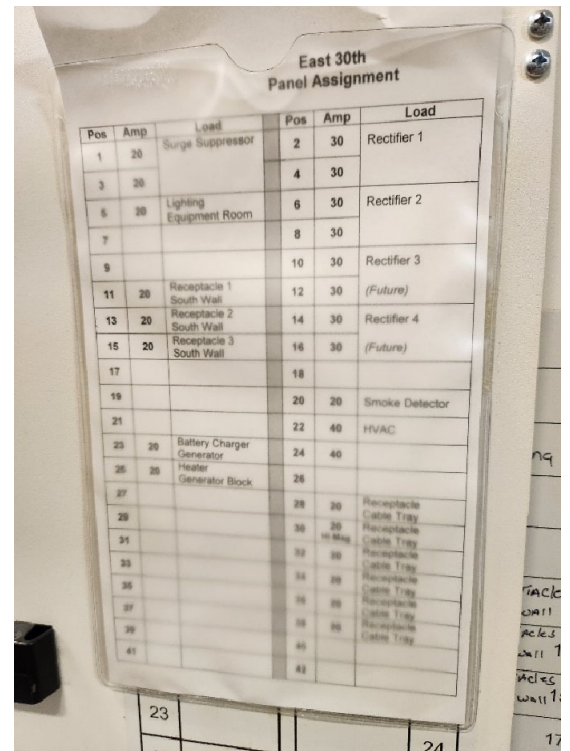
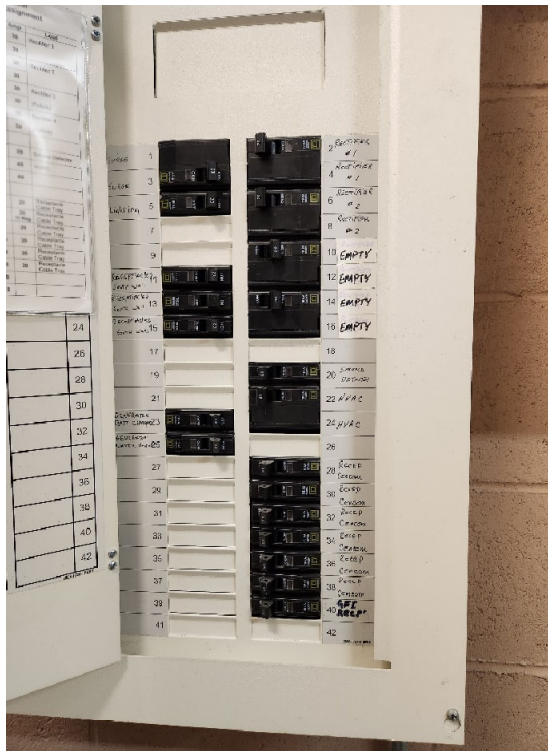


Figure 4: E30th St. 120/240 VAC Panel and Circuit Directory

2.4.3 GM - Gold Mountain



Figure 5: Gold Mountain Batteries and DC Power Cabinet



Figure 6: Gold Mountain DC Power Cabinet



Figure 7: Gold Mountain 120/240 VAC Panel and Circuit Directory

2.4.4 HR - Hansville Road

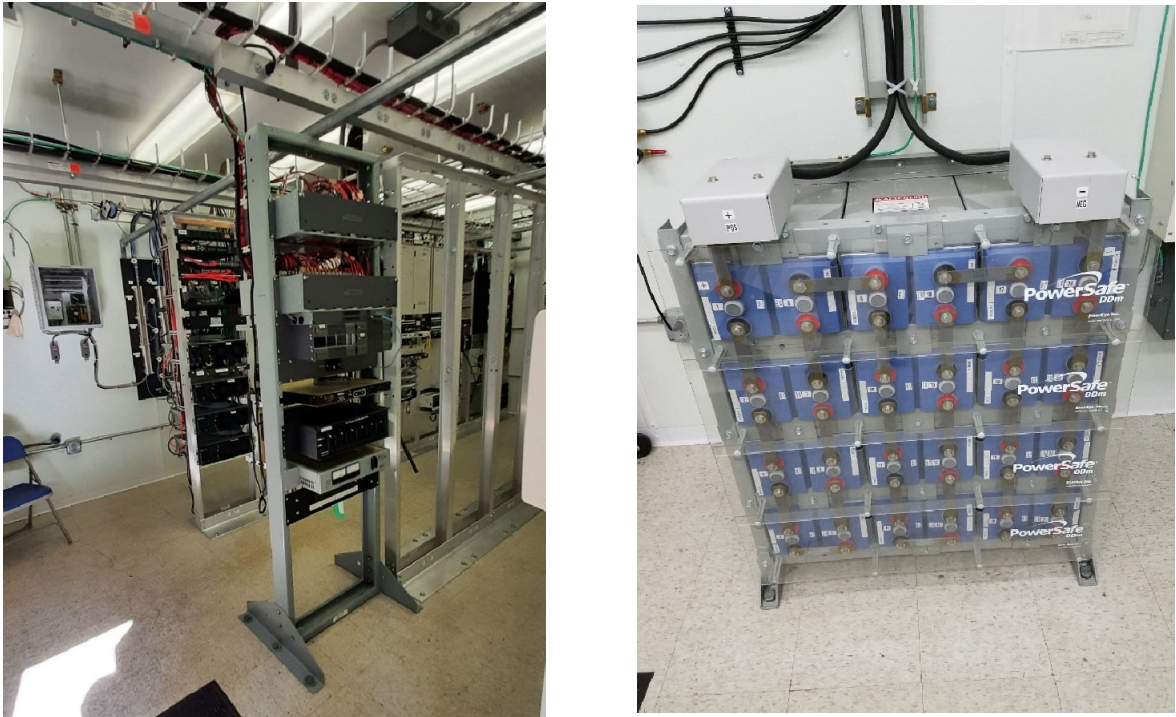


Figure 8: Hansville Road DC Power Rack and Battery System

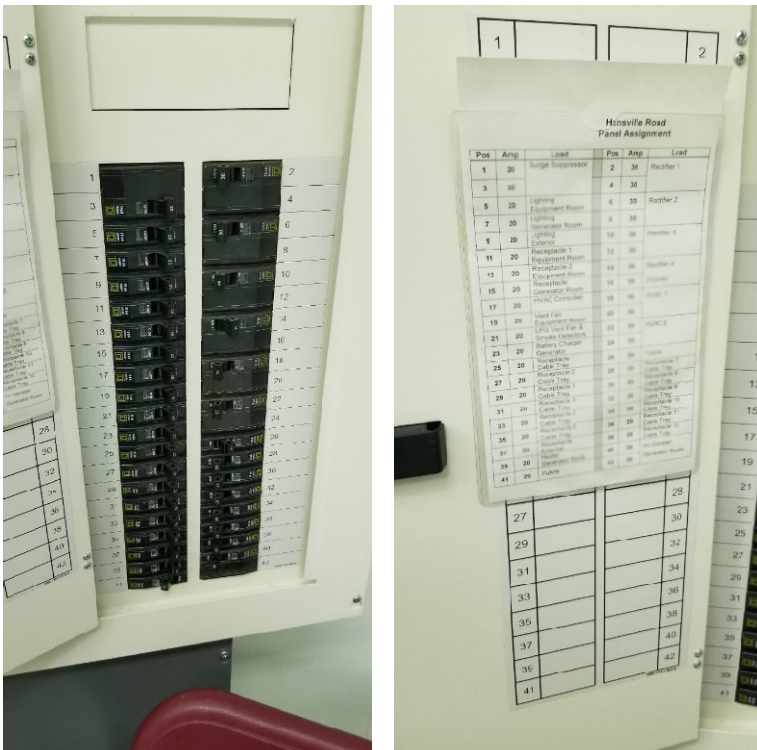


Figure 9: Hansville Road 120/240 VAC Panel and Circuit Directory

2.4.5 LH - Lincoln Hill

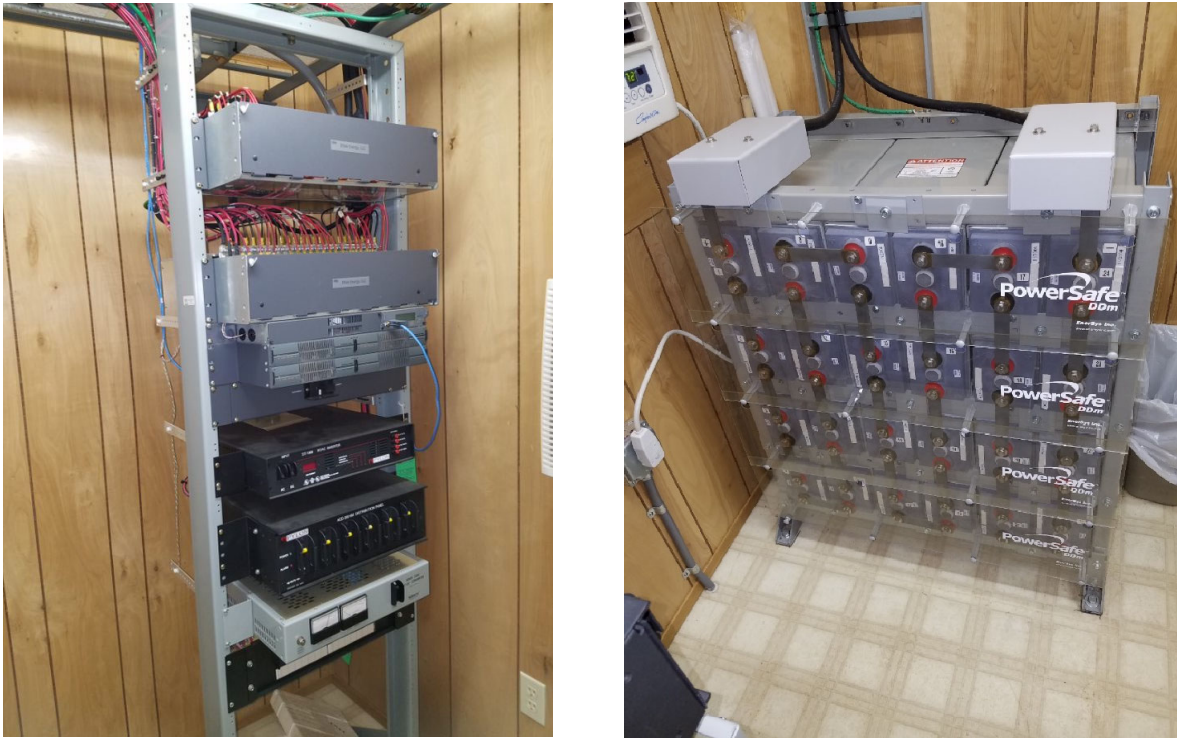


Figure 10: Lincoln Hill DC Power Rack and Battery System



Figure 11: Lincoln Hill Main 120/240 VAC Panel (Note: 20A Rectifier Circuit Breakers)

2.4.6 MO - Mandus Olson



Figure 12: Mandus Olson Power Rack

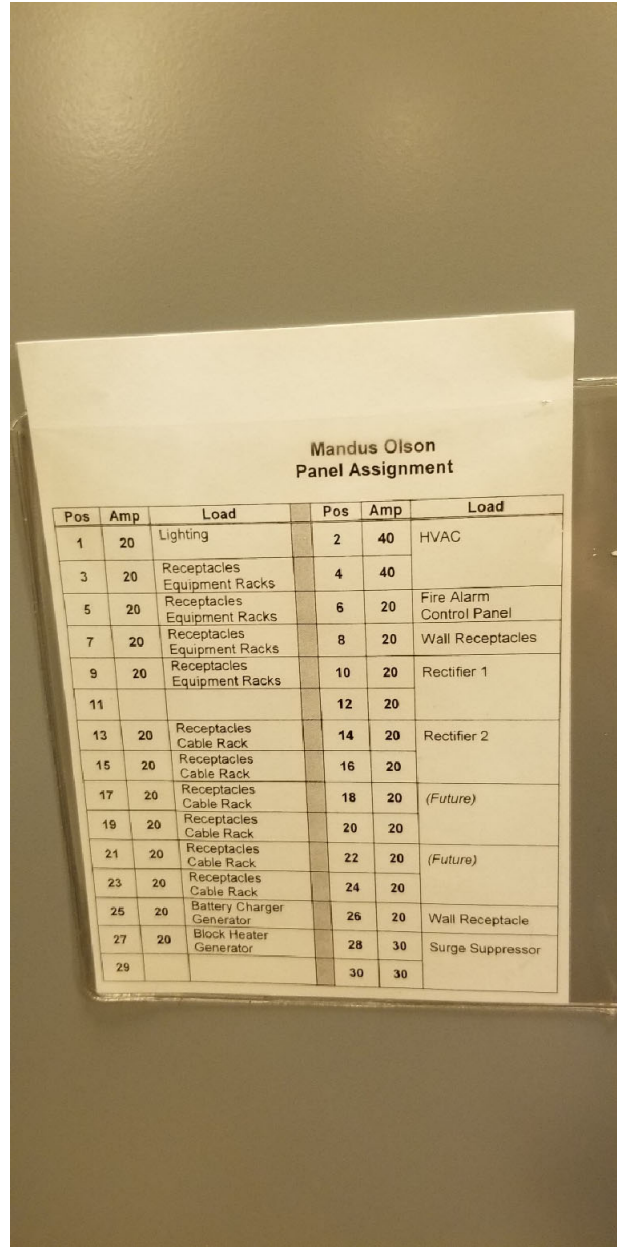


Figure 13: Mandus Olson 120/240VAC Breaker Panel and Circuit Directory
(Note: 20A 2P Rectifier Circuit Breakers)

2.4.7 NH - Newberry Hill



Figure 14: Newberry Hill DC Power Rack and Battery System

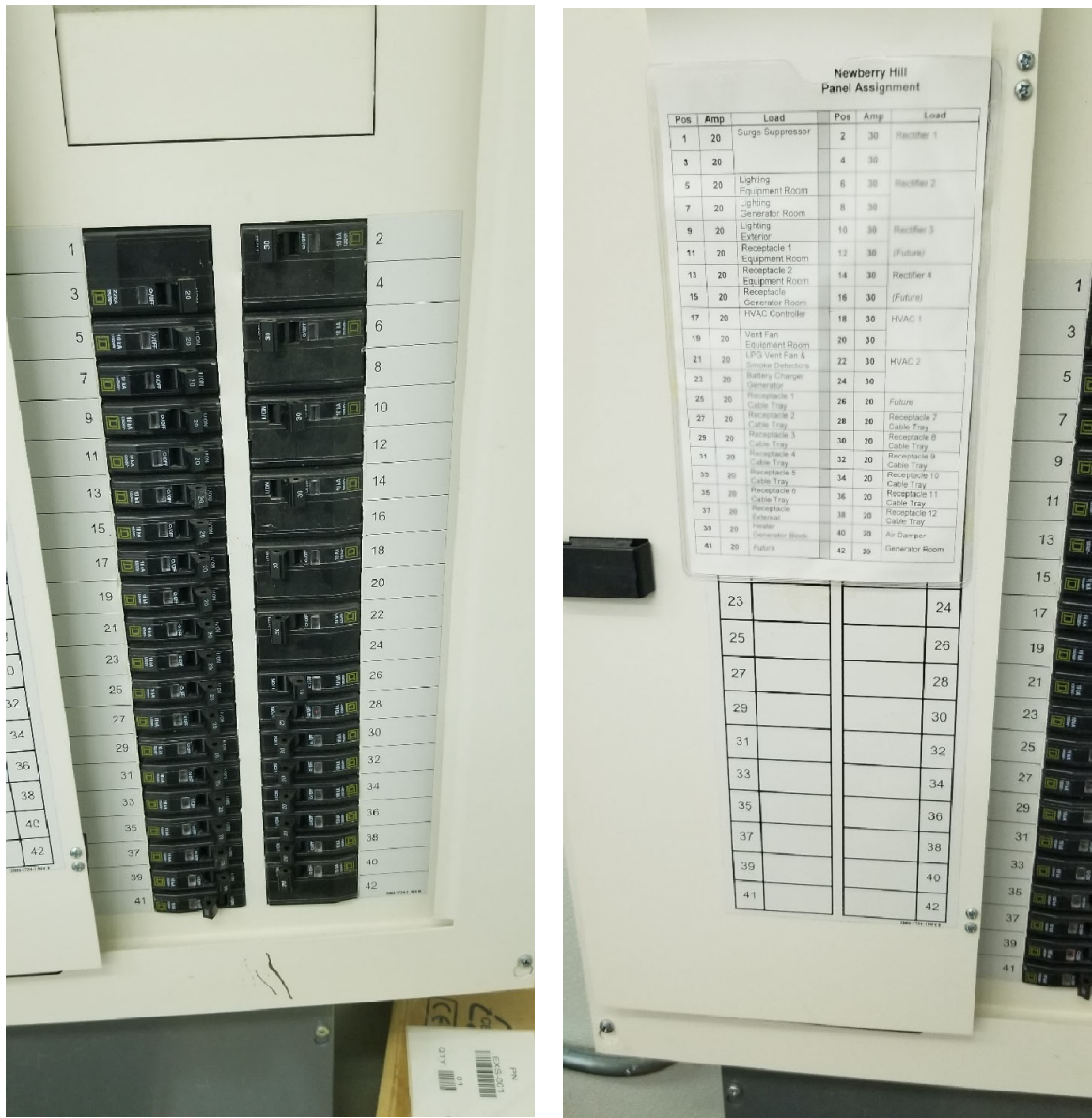


Figure 15: Newberry Hill 120/240 VAC Breaker Panel and Circuit Directory

2.4.8 OH - Orchard Heights



Figure 16: Orchard Heights DC Power Rack

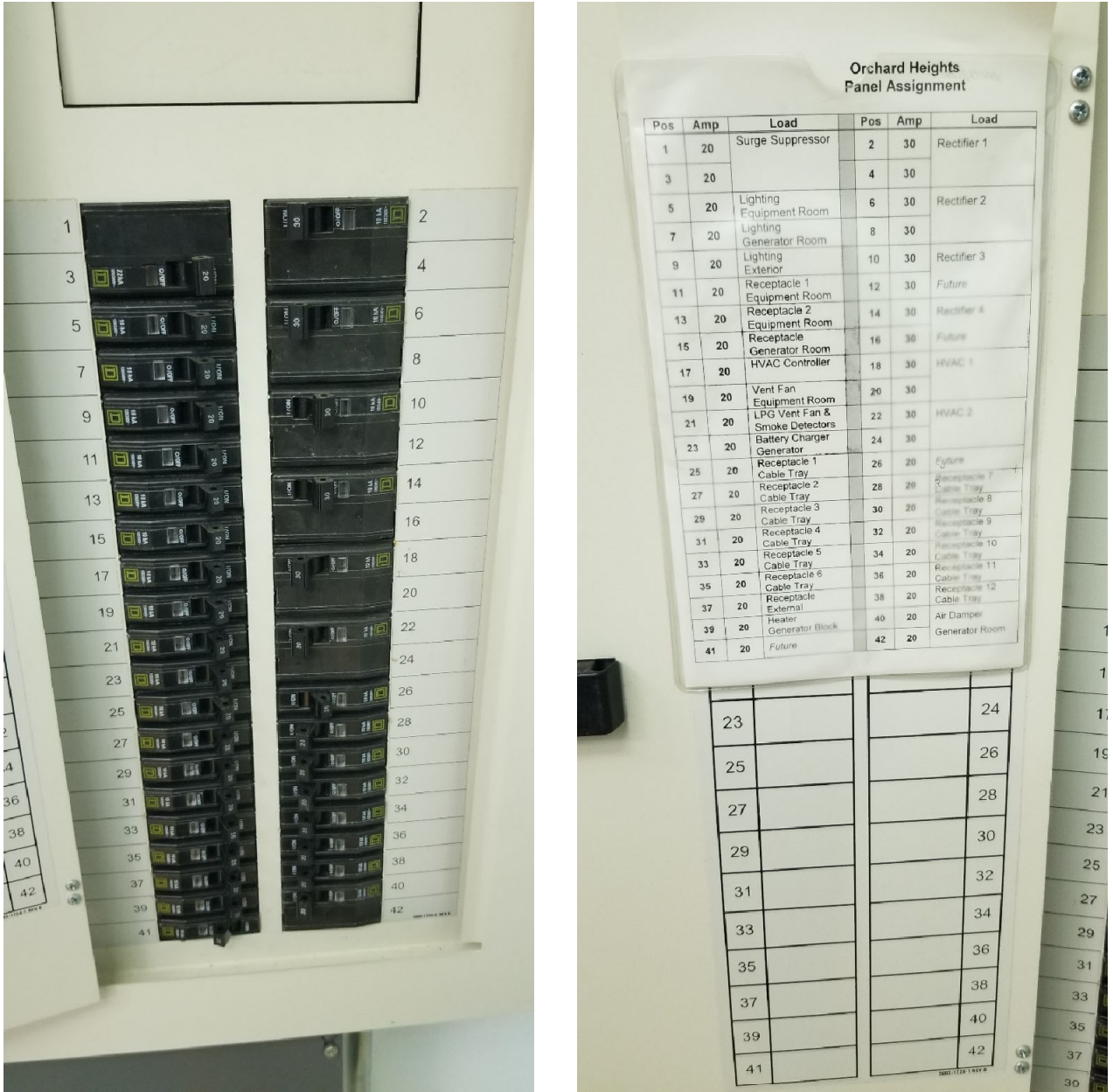


Figure 17: Orchard Heights 120/240 VAC Panel and Circuit Directory

2.4.9 PU - Purdy



Figure 18: Purdy DC Power Rack and Battery System



Figure 19: Purdy Site AC Power Junction Box

Note: Typical Junction Boxes with 240 V Circuits for Spare/Future Rectifiers

2.4.10 SP - Simon Point

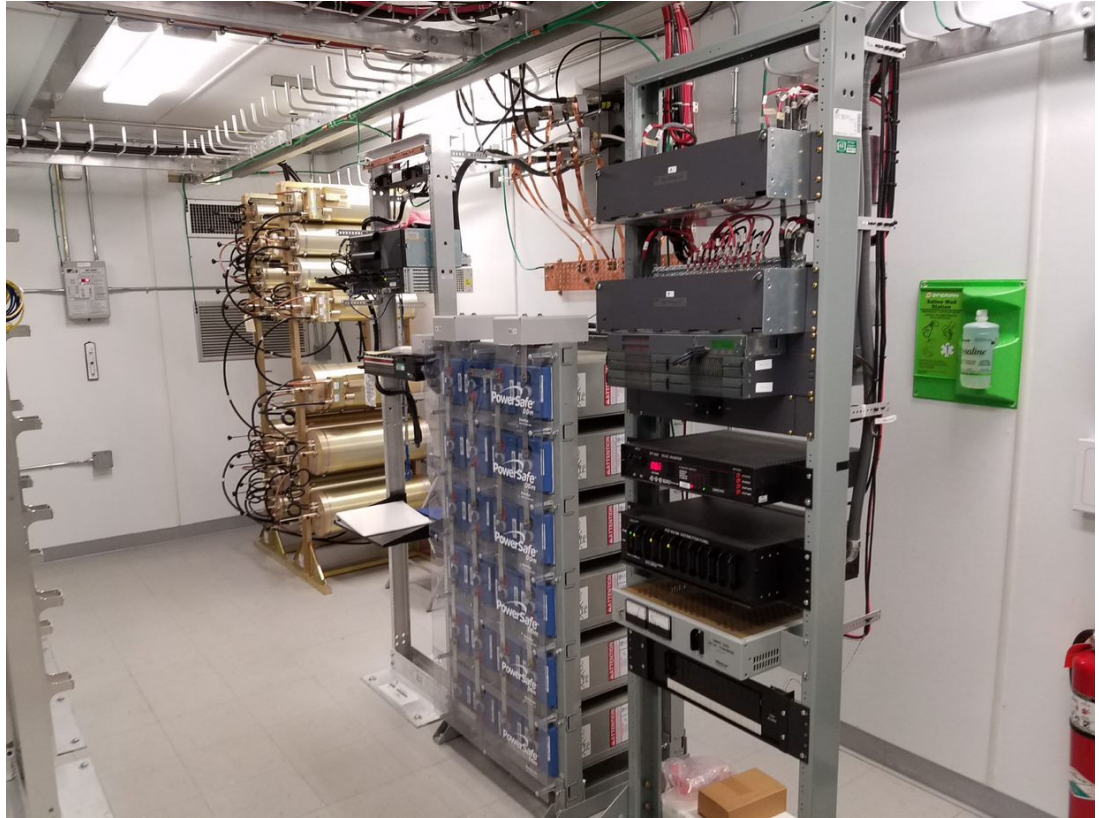


Figure 21: Simon Point DC Power Rack

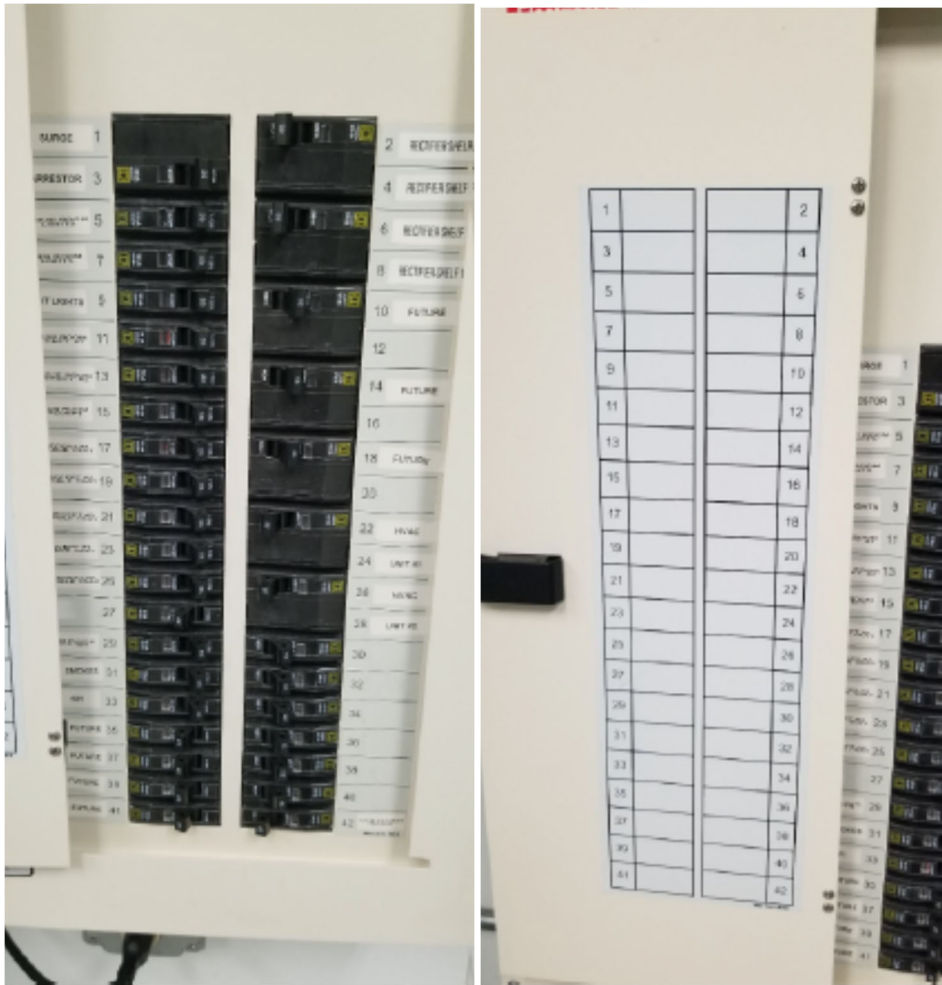


Figure 22: Simon Point 120/240 VAC Breaker Panel and Circuit Directory

2.4.11 Suquamish



Figure 23: Suquamish DC Power Rack

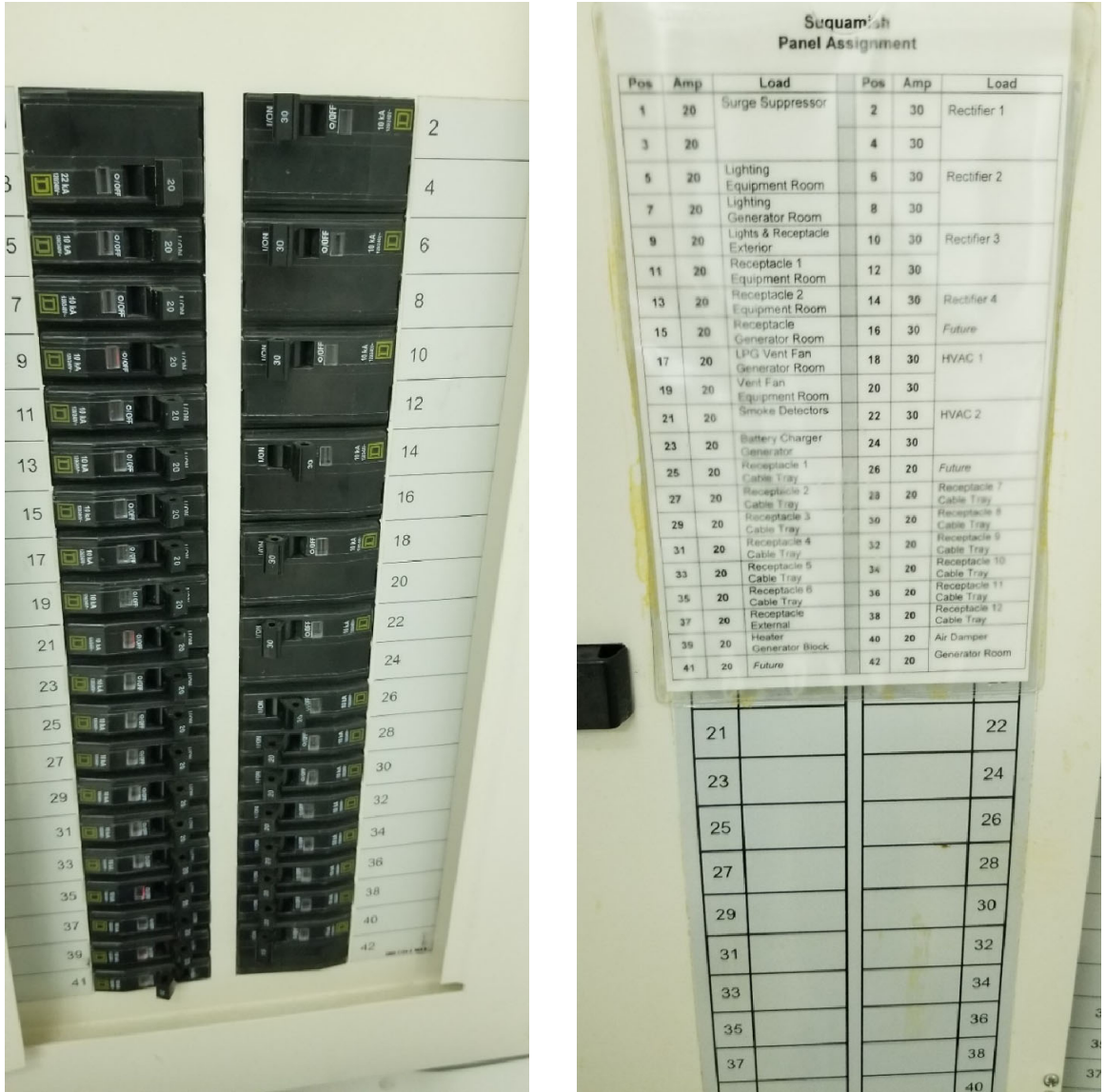


Figure 24: Suquamish 120/240 VAC Panel and Circuit Directory

2.4.12 Teal Lake



Figure 25: Teal Lake DC Power Rack

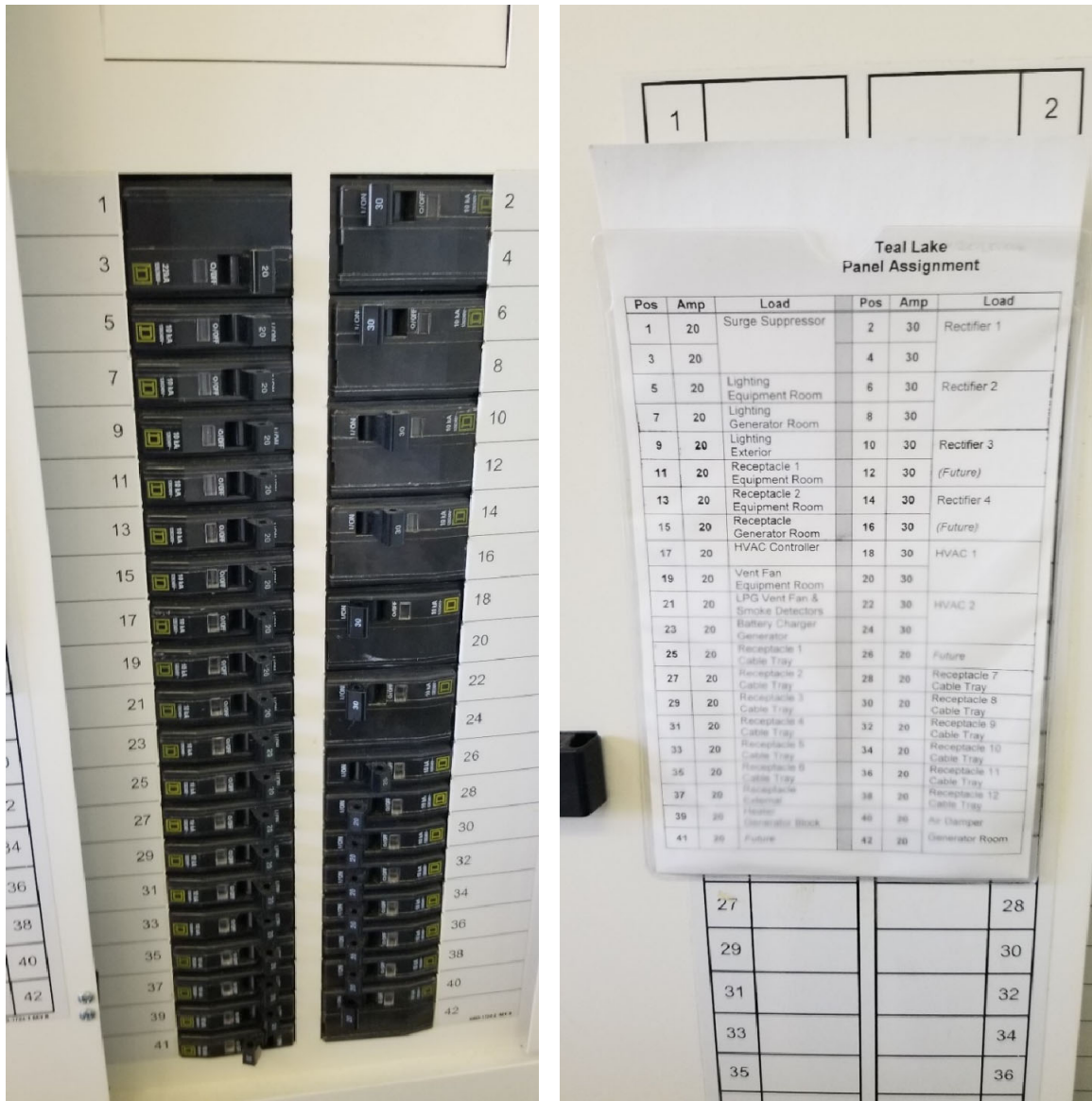


Figure 26: Teal Lake 120/240VAC Breaker Panel and Circuit Directory

2.4.13 Existing LVLD Contactor

The LVLD contactor in the existing systems is found in the DC Distribution A shelf above the rectifier system controller as shown in Figure 27. The contactor is a non-latching contactor model CT400A-48C2S manufactured by Contact Industries in Lexington Ohio. The existing LVBD contactor will be disabled when the new rectifier is placed in service by replacing the DC distribution A shelf.

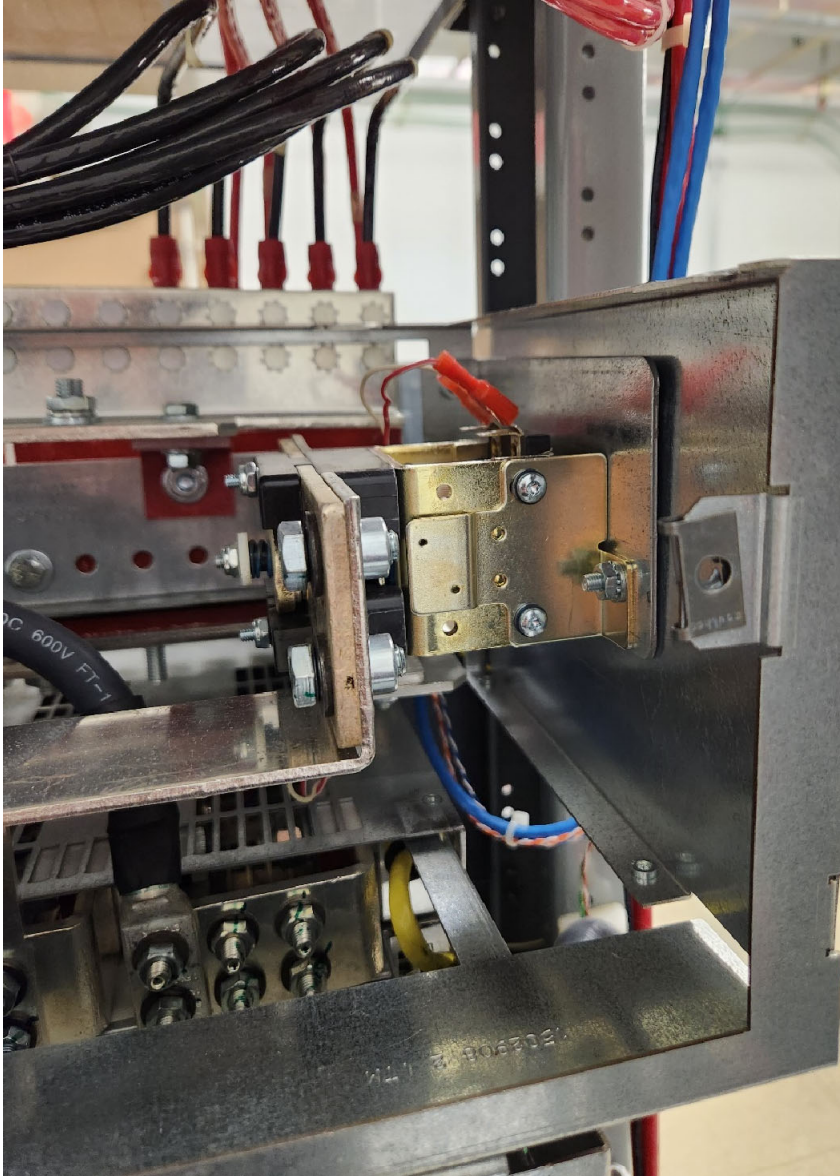


Figure 27: Existing LVBD Contactor

2.4.14 Rear View of Existing DC Distribution A Shelf

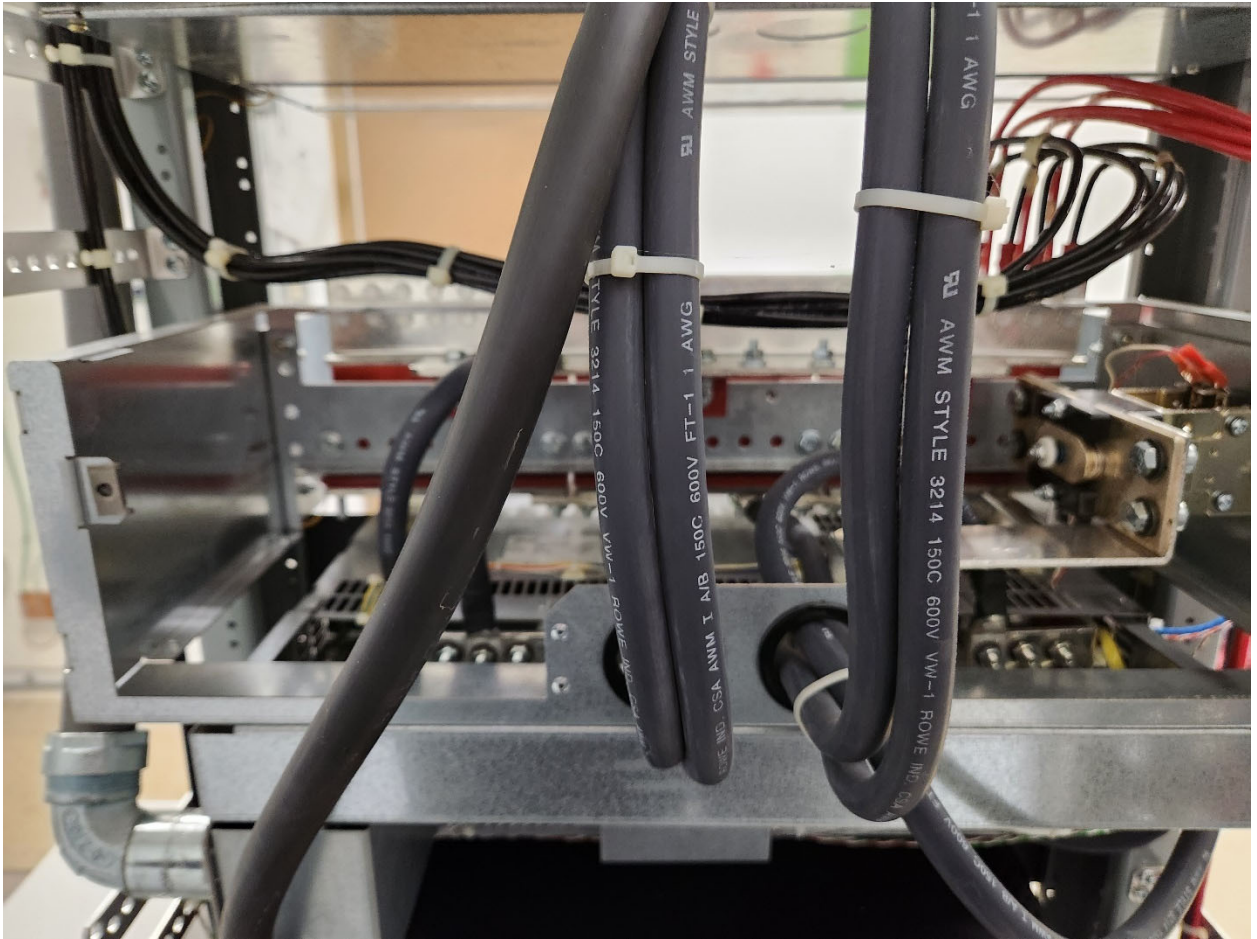


Figure 28: Rear View of Existing DC Distribution A Shelf (All Sites except Gold Mountain)