Santa Clara City - South Hills Substation

67/12.47kV 12MVA Power Transformer (Qty: 1)

Date: 10/8/2026

Major Material Bid Evaluation

Design Specifications	**10/11.2/12.5/14MVA: ONAN/ONAN/(ONAN/ONAF)/(ONAN/ONAF)** **3-Phase, 60HZ, 55°/65°C Rise** **High Voltage (Delta): 67.0kV** **High Voltage BIL: 350kV** **Low Voltage (Wye): 12.47kV** **Low Voltage BIL: 150kV** **Coolant: Mineral Oil** **De-Energized Tap Changer, 5 Position: ± 2 @ 2.5%** **3 - HV Lightning Arresters: 52kV Rating, 42.0kV MCOV** **3 - LV Lightning Arresters: 9kV Rating, 7.65kV MCOV** **Qty: 2/Bushing - HV CTs - 600/5 Ratio - C400** **Qty: 2/Bushing - LV CTs - 1200/5 Ratio - C400** **Qty: 1 - Neutral CT - 1200/5 Ratio - C400** **-20°F to +120°F Ambient Temp. Range** **Altitude: 3000'** **Seismic: Site Class BC**

Vendor	Peterson Co.	Pacific Power Reps	Core Power Products	Electrotech	Nexus Power	WEG (Direct)
Manufacturer	**Pennsylvania Transformer Technology, Inc.**	**Virginia-Georgia Transformer**	**GE Prolec - Waukesha**	**Siemens**	**Hitachi**	**WEG**
Quoted Specifications	10/11.2/12.5//14MVA: ONAN/ONAF 3-Phase, 60Hz, 55°/65°C Rise High Voltage (Delta): 67kV High Voltage BIL: 350kV Low Voltage (Wye): 12.47kV Low Voltage BIL: 150kV Coolant: Oil Impedence, H-X: 6% at 10MVA De-Energized Tap Changer, 5 Position: ± 2 @ 2.5% 3 - HV Lightning Arresters: 42kV MCOV 3 - LV Lightning Arresters: 7.65kV MCOV Qty: 3/Phase - HV CTs - Not Mentioned Qty: 3/Phase - LV CTs - Not Mentioned Qty: 2 - LV Neutral CTs - Not Mentioned Ambient Temp. Range: Not Mentioned Altitude: Not Mentioned Seismic Rating: Not Mentioned	10/11.2/12.5//14MVA: ONAN/ONAF 3-Phase, 60Hz, 55°/65°C Rise High Voltage (Delta): 67kV High Voltage BIL: 350kV Low Voltage (Wye): 12.47kV Low Voltage BIL: 150kV Coolant: Type II Mineral Impedence, H-X: 8.00% ± 7.50% at 10MVA De-Energized Tap Changer, 5 Position: ± 2 @ 2.5% 3 - HV Lightning Arresters: 54kV Class, 42kV MCOV 3 - LV Lightning Arresters: 9kV Class, 7.65kV MCOV Qty: 2/Phase - HV CTs - 600:5 - C400 Qty: 2/Phase - LV CTs - 1200:5 - C400 Qty: 1/Phase - LV Neutral CTs - 1200:5 - C400 Ambient Temp. Range: -29°C to +49°C Altitude: <3,300' Seismic Zone: Medium	10/12.5//14MVA: ONAN/ONAF/ 3-Phase, 60Hz, 55°/65°C Rise High Voltage (Delta): 67kV High Voltage BIL: 350kV Low Voltage (Wye): 12.47kV Low Voltage BIL: 150kV Coolant: Oil Impedence, H-X: 6% at 10MVA De-Energized Tap Changer, 5 Position: ± 2 @ 2.5% 3 - HV Lightning Arresters: Not Mentioned 3 - LV Lightning Arresters: Not Mentioned Qty: 3/Phase - HV CTs - Not Mentioned Qty: 3/Phase - LV CTs - Not Mentioned Qty: 2 - XV Neutral CTs - Not Mentioned Qty: 1 - XV Winding Gauge - Not Mentioned Ambient Temp. Range: Not Mentioned Altitude: Not Mentioned Seismic Rating: Not Mentioned	10/11.2/12.5//14MVA: ONAN/ONAF 1 3-Phase, 60Hz, 55°/65°C Rise High Voltage (Delta): 67kV High Voltage BIL: 350kV Low Voltage (Wye): 12.47kV Low Voltage BIL: 150kV Coolant: Mineral oil" Impedence, H-X: 6% ± 7.50% at 10MVA De-Energized Tap Changer, 5 Position: ± 2 @ 2.5% 3 - HV Lightning Arresters: 42kV MCOV (Class not Mentioned) 3 - LV Lightning Arresters: 7.65kV MCOV (Class not Mentioned) Qty: 2/Bushing, 2/Bushing - HV CTs - 600:5, 2000:5 - C400 (Total: 12)*** Qty: 1/X2 Phase - LV CTs - WTI** (Total: 1) Qty: 2 - XV Neutral CTs - Not Mentioned Qty: 1 - XV Winding Gauge - Not Mentioned Ambient Temp. Range: <40°C Altitude: <3,280' Seismic Rating: Not Mentioned	10/12.5//14MVA: ONAN/ONAF 3-Phase, 60Hz, 55°/65°C Rise High Voltage (Delta): 67kV High Voltage BIL: 350kV Low Voltage (Wye): 12.47kV Low Voltage BIL: 150kV Coolant: Mineral oil Impedence, H-X: 6 De-Energized Tap Changer, 5 Position: ± 2 @ 2.5% 3 - HV Lightning Arresters: 54kV Class, 42kV MCOV 3 - LV Lightning Arresters: 9kV Class, 7.65kV MCOV Qty: 2/Phase - HV CTs - 600:5 - C400 Qty: 2/Phase - LV CTs - 1200:5 - C400 Qty: 1 - XV Neutral CTs - 1200:5 - C400 Ambient Temp. Range: -20°C to 40°C Altitude: <3,300' Seismic Rating: Medium	10/12.5//14MVA: ONAN/ONAF 3-Phase, 60Hz, 55°/65°C Rise High Voltage (Delta): 67kV High Voltage BIL: Not Mentioned Low Voltage (Wye): 12.47kV Low Voltage BIL: Not Mentioned Coolant: Oil Impedence, H-X: 6% at 10MVA De-Energized Tap Changer, 5 Position: Not mentioned 3 - HV Lightning Arresters: Not Mentioned 3 - LV Lightning Arresters: Not Mentioned Qty: 3/Phase - HV CTs - Not Mentioned Qty: 3/Phase - LV CTs - Not Mentioned Qty: 2 - XV Neutral CTs - Not Mentioned Qty: 1 - XV Winding Gauge - Not Mentioned Ambient Temp. Range: Not Mentioned Altitude: Not Mentioned Seismic Rating: Not Mentioned
Physical Characteristics	Overall Height: 165" Overall Width: 123" Overall Depth: 151" Total Weight: 62,689lbs Oil Volume: 2,294gal Sound Level: 68dB Sound Level (w/ Fans): 70dB	Overall Height: 148" Overall Width: 128" Overall Depth: 169" Total Weight: 51,750lbs Oil Volume: Not Mentioned Sound Level: Standard NEMA TR-1 (dBA) Sound Level (w/ Fans): Not Mentioned	Overall Height: 169" Overall Width: 181" Overall Depth: 156" Total Weight: 71,685lbs Oil Volume: 2,440gals Sound Level: 68dB Sound Level (w/ Fans): 71dB	Overall Height: 190" Overall Width: 182.5" Overall Depth: 252.5" Total Weight: 126,544lbs Oil Volume: 6, 167gals Sound Level: 71dBA Sound Level (w/ Fans): 73dBA	Overall Height: 135" Overall Width: 130" Overall Depth: 110" Total Weight: 63,500lbs Oil Volume: 2,479gals Sound Level: 68dBA Sound Level (w/ Fans): 73dBA	Overall Height: 157" Overall Width: 136" Overall Depth: 157" Total Weight: 66,835lbs Oil Volume: 2,119gals Sound Level: 68dB Sound Level (w/ Fans): 70dB
Base Cost	**$1,034,725.00**	**$756,400.00**	**$1,192,800.00**	**$1,204,222.00**	**$826,200.00**	**$849,782.00**
Freight	Included*	$35,000.00	$73,058.00	$34,500.00	Not Included	$57,000.00
Offload Cost	$73,200.00	$32,471.00	$20,476.00	$17,250.00	Not Included	$25,000.00
Assembly/Testing Cost	$25,000.00	$43,850.00	$24,900.00	$170,000.00	Not Included	$40,000.00
Tariffs (If Applicable)						$173,088.00
No Load Loss Cost	$148,920.00	$155,928.00	Not Included	$402,960.00	Not Included	$148,920.00
Load Loss Cost	$166,032.00	$226,910.00	Not Included	$170,644.00	Not Included	$187,708.00
SFRA Test Cost	Not Included	$11,550.00	Not Included	$29,400.00	Not Included	Not Included
Mineral Oil	Included	Included	Included	$60,285.00	Not Included	Included
Overall Total Cost with Loss Eval	$1,447,877.00	$1,262,109.00	Undertermined	$2,089,261.00	Undetermined	$1,481,498.00
Total Unit Order Cost	**$1,132,925.00**	**$879,271.00**	**$1,311,234.00**	**$1,515,657.00**	**$826,200.00**	**$1,144,870.00**
Approval Drawing Delivery (weeks)	24 ARO	16-18 AOA	30, before scheduled shipment	22-24 ARO	12 AAO	16
Equipment Delivery (weeks)	**88-92**	**55-60**	**84-120**	**101-103 ARO**	**82 AAO**	**105-110 ARO**
Warranty	12 Months from erection, or 18 Months from date of shipment	12/18 Months Standard Warranty	60 months from first energization/use or 66 months from delivery	18 months from energization or 24 months from delivery, whicever occurs first.	12 months after installation or 18 months after date of shipment, whichever is first	12/18 months
Notes:	**Manufactured in Raeford, NC** 1) Extended Warranties: 18 Months: +0.5% 24 Months: +0.5% 36 Months: +1.0% 48 Months: +1.5% 60 Months: +2.00% 2) Transformer will be shipped completely assembled. 3) Short Circuit Testing is not included, PTT doesn't offer it at this time. 4) Seismic testing/analysis are not included. Transformer designed to withstand medium seismic load. 5) Certain specifications are not mentioned (see above). Can we get these? 6) SFRA Test not included * DAP	**Manufactured in Roanoke, VA** 1) Transformer will be shipped completely assembled and oil filled. 2) Freight is prepaid. 3) All quoted prices for offloading, testing, installation, supervision, or any other post-delivery services provided in the proposal are estimates only and are not to be interpreted as fixed prices. 4) To ensure validity of Warranty coverage, Virigina - Georgia Transformer requires Dissolved Gas Analysis (DGA) reports of the supplied unit to be provided every year for the period of Warranty coverage. 6) No Load Loss Cost and Load Loss Costs are high 7) Impedance rated higher than specified	**Manufactured in Goldsboro, NC** 1) Freight & Rigging (I put Rigging price as "Offload Cost" on this document) are provided as an estimate only. Actual cost plus 25% will be nivoicedc after F&R (Freight & Rigging) invoices are received. 2) Field Services [includes Assembly and Testing] are provided as an estimate only, with Project Mangement providing price adjustment prior to shipment. 3) No-Load and Load Losses were not provided. 4) Transformer will be shipped oil filled by truck to our specified pad. 5) Seismic Analysis adder cost is $27,950.	**Manufactured in Tenjo, Columbia** 1) Taxes not included in quote. 2) Oil and transportation costs (including any offloading) are included as budget estimates only and will be billed at cost +15% upon completion of work. 3) Prices are subjec to the price escalation formula referenced in section 2.1.1 and this price is only valid if all units will be ordered and delivered at the same time. 4) Prices may not be exempt from sales tax. 5) Seismic bracing is included, but seismic rating isn't mentioned. 6) SEL-2414 appears to be included in price but is not explicitly. May need to ask for clarification on this. 7) Transformer will not be shipped completely assembled. The items requiring assembly will be "Main tank without oil, liquid, with dry air and positive pressure. The cooler, air terminal enclosure and bushings will be removed for the transport facility. The fragile parts will be covered and protercted against impacts." 8) Seller's proposal pricing excludes all tariffs, taxes, and other governmental charges associated with importation of the equipment to be provided. *Type II ASTM-D-3487, Ergon Hyvolt II NG or CrossTrans 206. **Are there any other low side CT's? ***High side and low side CT's seem to be incorrect in proposal.	**Manufactured in South Boston, MA** 1) No Short Circuit Test will be done. No Switching Impulse or Front of Wave Impulse will be done. 2) No Load Loss Cost, Load Loss Cost, SFRA Test Cost, SEL-2414 Transformer Monitor Cost, and Mineral Oil Cost was not mentioned in proposal. May need to reach out to see if these are included in quoted price. **3) Total Unit Order Cost is inconclusive due to insufficient detail and incomplete info.** *Seller pays the cost of transporting goods to a certain destination. **Doesn't include tariffs issued after January 20th, 2025.	**Manufactured in Mexico** 1) Lead time is only an estimate based on the date quoted. Lead time will be assessed at the time of order. 2) Field Engineering Service (flat rate per diem): $40,000 3) Transformer will not be completely assembled. (LV Bushing, HV arresters, LV arresters, Brakets, Radiators, Fans). 4) Many design specs and details not provided.
Recommended Supplier:	**Virginia-Georgia Transformer (via PPR); based on cost and lead time** *(Assuming losses are acceptable and clarification on listed design impedance).*					