

Appendix 5-3

Main Power Transformer Specification Sheet



Exhibit R Geronimo Energy MPT Detail Sheet

Riverside Solar

Transformer Classification: Transmission Transformer
Winding Configuration: Three Winding
 3-Phase, 60 Hertz
Elevation: Full MVA at 1000 m

Operation: Step-up or Step-down
HV: Wye
LV: Wye LV in-phase with HV
TV: Open Delta - Lags HV by 30 degrees
Winding Insulation: Graded to the neutral

Rating: ONAN/ONAF/ONAF 65C 75 / 100 / 125 MVA, Main
 43.75 MVA minimum, Tertiary top 65C rating

Nominal Voltage (kV):		Winding/Internal BIL (kV):		Minimum Bushing/External BIL (kV)	Minimum Bushing Rating (Amperes)
HV:	115.00	HV:	450	HV:	550 800
LV:	34.50	LV:	200	LV:	200 3000 Note 1
TV:	13.80	TV:	110	TV:	200 1900
		H0:	150	H0:	150 Note 1
		X0:	150	X0:	150

NOTES:
¹ When LV bushing BIL matches the neutral bushing BIL, bushing ampacities shall match.
² One tertiary bushing CT required on one of the two corner bushings.
³ In 0.625% steps, line drop compensation is required.

DETC: Not Required
LTC: Required plus 10 % to minus 10 %
Note 3
Surge Arresters **LV** 24.4 kV MCOV **Oil preservation System:** Conservator Design
 HV 84 kV MCOV **Sound Level:** 72 dBA No-Load w/all cooling
Impedance: HV – LV 9.0 % +/- 7.5% ONAN rating

Loss Evaluation: The following penalties will be assigned to transformer losses for evaluation:

- \$8,000 /kW No-Load at 100% voltage rating and 20C
- \$2,600 /kW Load at 85C (65C ONAN losses)
- \$2,600 /kW Auxiliary, second stage cooling rating

Site Conditions

Site Conditions		
Elevation	340	Feet above mean sea level
Average Annual Temperature	46	Deg F
Average High Temperature	55	Deg F
Extreme High Temperature	97	Deg F
Average Low Temperature	37	Deg F
Extreme Low Temperature	-43	Deg F
Ambient Temperature Rating	-45 Deg C to +40 Deg C	
Average Annual Precipitation (Rainfall)	43	Inches
Storm Intensity 10 year - 1 hour	1.51	Inches/Hour
Storm Intensity 1 hour (Maximum)	3.23	Inches/Hour

Wind Loading

DESCRIPTION	Category	NOTES
Classification of Structure Category	IV	Ref. ASCE 7-10, Section 1.5
Exposure	C	Ref. ASCE 7-10, Section 26.7
Reference Wind Velocity, V	120 mph	26.5

Seismic Criteria

Mapped Maximum Considered Earthquake (MCE), 5% damped, spectral response acceleration at a short period (0.2 seconds) **S_s = 0.19g.**
 Mapped Maximum Considered Earthquake (MCE), 5% damped, spectral response acceleration at a 1 second period, **S₁ = 0.074g.**
 Seismic Importance Factor, **IE = 1.50.**
 Based on the information presented in the Geotechnical Report, the project site has been assigned to **Site Class D**, to be verified by a site-specific geotechnical report.

Location	CT Requirements/phase		Accuracy
	Current (A)	TRF	
HV (top)	1200:5	2.0	C400 MR
HV (middle-1)	2000:5	2.0	C800 MR
HV (middle-2)	400:5	2.0	SR 0:15B-1.8
HV (bottom)	Space only	2.0	
LV (top)	3000:5	2.0	C800 MR
LV (middle-1)	3000:5	2.0	C800 MR
LV (middle-2)	3000:5	2.0	C800 MR
LV (bottom)	Space only	2.0	
TV (Top) see Note 2	2000:5	2.0	C800 MR
TV (Bottom)	Space only	2.0	
HV Neutral CT	1200:5	2.0	C400 MR
LV Neutral CT	3000:5	2.0	C800 MR

Quantity: 1
Location: Riverside Solar
 Jefferson County, NY 13622

Delivery to Site Date: 6/1/2023
Available for Energization Date: 7/1/2023

Technical Contact: John Strom
 Telephone: 952-300-9483
 Fax:
 e-mail: jstrom@geronimoenergy.com