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Revised General Arrangement Refinement

Submitted to California Energy Commission

Prepared by Elmore North Geothermal LLC

With assistance from **Jacobs**

Elmore North Geothermal Project (23-AFC-02) November 17, 2023



Introduction

Elmore North Geothermal LLC¹ (Applicant) is submitting this project refinement to the California Energy Commission (CEC), which consists of an updated general arrangement drawing for the Elmore North Geothermal Project (ENGP) (23-AFC-02) Application for Certification (AFC).

The updated general arrangement drawing include shifting equipment around the project site to reduce material or construction costs. Equipment designs, physical parameters (height, width, lengths) and throughputs have not changed, with the exception of the cooling tower, which has changed from two, seven cells cooling towers to a single 14 cell cooling tower. In addition, some well pads have been slightly altered in size and orientation but remain in the same proximate locations.

New or revised figures from the ENGP AFC will have "R" following the original number, indicating revision 1.

¹ An indirect, wholly owned subsidiary of BHE Renewables, LLC ("BHER")

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Acronyms and Abbreviations

AFC	Application for Certification
ANSI	American National Standards Institute
ARMR	Archaeological Resource Management Report
BHER	BHE Renewables
CEC	California Energy Commission
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNEL	Community Noise Equivalent Level
CPUC	California Public Utilities Commission
DA	Data Adequacy
EMF	Electric and Magnetic Fields
ENGP	Elmore North Geothermal Project
ESA	Environmental Site Assessment
FAA	Federal Aviation Administration
IEEE	Institute of Electrical and Electronics Engineers
LORS	laws, ordinances, regulations, and standards
NESC	National Electrical Safety Code
NFPA	National Fire Protection Association
NAHC	Native American Heritage Commission
NPCA	Notice of Proposed Construction or Alteration
PRC	Public Resource Code
TLS&N	Transmission Line Safety and Nuisance
USACE	US Army Corps of Engineers
USFWS	US Fish and Wildlife Service

1. **Project Description Changes**

The Applicant has identified refinements to the orientation, placement, number, and type of specific pieces of equipment on the ENGP site. The production or re-injection of geothermal fluid and the throughput of process equipment remain as proposed in the AFC. Below is a summary of the project design changes.

- Reduced Number of Emergency Diesel Generators: The number of generators have been decreased from 4 to 3 due to updated operational electrical load information. The generators have been relocated nearer to the medium voltage bus to optimize the design and reduce quantities.
- Stormwater Retention Basin Relocated to be more central to the project site.
- Change to Storage of Hydrochloric acid (HCL): change amount of hydrochloric acid (HCL) stored on site from 1,250 gallons of 37% HCL to one, 800-gallon tank of dilute HCL (2.5%) and one, 20,000gallon tank of concentrated HCL (<37%). Included a HCL scrubbing system on both HCL tanks.
- Addition of a 10,300 gallon tank of liquid lime (42-47% Calcium Hydroxide), used for pH adjustment of the filtrate from Horizontal Belt Filter.
- Horizontal Belt Filter- Relocated the belt filter and optimized the truck hauling path to allow for a pull through design and reduced pipe rack length and piping runs.
- Combination of Admin/Warehouse The admin/control buildings were relocated to allow for greater onsite security allowing for public access and parking outside of the fence line.
- Power Distribution Centers Optimized Power Distribution Centers locations due to updated load locations
- Cooling Tower The cooling tower design changed from two, seven cell towers to a single 14 cell tower.
- Primary/Secondary Clarifiers The clarifiers arrangements were optimized to reduce concrete, pipe rack, piping, and electrical quantities.
- HP Separators, SP and LP Crystallizers Optimized the centerlines of the HP separators and brought the crystallizers in line to reduce pipe rack quantities.
- Gas Removal System The gas removal system was relocated to below the steam turbine to utilize the space below the steam turbine.
- Thickener The thickener was relocated closer to the brine handling process to reduce construction costs.
- Evapotranspiration Bed The evapotranspiration bed location was relocated closer to the control building.
- Chemical Storage Chemical storage locations were optimized for safe loading/unloading and pull through routes.

Based on these changes, the Applicant is submitting the following revised AFC figures by section.

Executive Summary 2.

The following revised ENGP Executive Summary figures are being submitted.

- Figure 1-3 Architectural RenderingFigure 1-4 Project Location



Figure 1-3R Architectural Rendering, Elmore North Geothermal Project Imperial County, California





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Los Angeles	A CEL MAN	112
Anaheim	Cathedral	mal
Beach San ta	Ana City Palm Desert	36 J 2
2 8	Salton Sea	ona
	Project Location	Califo
San D	Diego	Viuma
	Tijuana	lexicali
Sec. 1	Mexico	5
	Strengt "	G
Miles	Ensenada	in the second

Legend

- Plant
- Well Pad
- Injection Well
- Production Well
- ----- Pipeline
- ---- Water Supply Pipeline
- Gen-Tie Line Pole
- ---- Gen-Tie Line
- Pull Site
- Switching Station
- Borrow Pit
- Construction Camp
- Construction Laydown and Parking Areas
 - Existing Transmission/Distribution Power Lines
- Sonny Bono Salton Sea National Wildlife Refuge



Figure 1-4R Project Location Elmore North Geothermal Project Imperial County, California



3. **Project Description**

The following revised ENGP Project Description figures are being submitted.

- Figure 2-1R General Arrangement
- Figure 2-4aR Elevation View Looking North
- Figure 2-4bR Elevation View Looking South
- Figure 2-4cR Elevation View Looking East and West
- Figure 2-5R Peak Water Balance
- Figure 2-6bR Post-Construction Drainage
- Figure 2-7aR Depth of Excavation
- Figure 2-7bR Depth of Excavation
- Figure 2-7cR Depth of Excavation
- Figure 2-7dR Depth of Excavation
- Data Request Set 1 Figure DA4.0-1aR Production Wells
- Data Request Set 1 Figure DA4.0-1bR Injection Wells







LEGE	ND:	18.	NOT USED	37.	NOT USED	56.	STORM WATER RETENTION BASIN	74.	AREA SUMP / PUMP	93.	NOT USED
		19.	NOT USED	38.	NOT USED	57.	OX BOX	75.	NOT USED	94.	NOT USED
1.	NOT USED	20.	NOT USED	39.	NOT USED	58.	NOT USED	76.	NOT USED	95.	CIRCULATING WATER PUMPS A/B
2.	COOLING TOWER	21.	NOT USED	40.	NOT USED	59.	NOT USED	77.	NOT USED	96.	NOT USED
3.	NOT USED	22.	NOT USED	41.	NOT USED	60.	NOT USED	78.	NOT USED	97.	CIRCULATING WATER PIPING
4.	NOT USED	23.	NOT USED	42.	NOT USED	61.	NOT USED	79.	CONCENTRATED HCL STORAGE	98.	2.5% HCL DOSING
5.	NOT USED	24.	NOT USED	43.	HYDRO BLAST PAD	62.	NOT USED	80.	NOT USED	99.	LIQUID LIME STORAGE AND DOSING
6.	NOT USED	25.	NOT USED	44.	NOT USED	63.	NOT USED	81.	NOT USED	100.	NOT USED
7.	HORIZONTAL BELT FILTER	26.	NOT USED	45.	NOT USED	64.	NOT USED	82.	NOT USED	101.	NOT USED
8.	NOT USED	27.	NOT USED	46.	NOT USED	65.	NOT USED	83.	NOT USED	102.	NOT USED
9.	NOT USED	28.	NOT USED	47.	NOT USED	66.	NOT USED	84.	NOT USED	103.	NOT USED
10.	NOT USED	29.	NOT USED	48.	PIPE RACK	67.	NOT USED	85.	NOT USED	104.	NOT USED
11.	SECONDARY CLARIFIER	30.	NOT USED	49.	EMERGENCY BRINE POND PUMPS	68.	BRINE INJECTION / BOOSTER PUMPS	86.	NOT USED	105.	ACID FUME SCRUBBER
12.	PRIMARY CLARIFIER	31.	NOT USED	50.	NOT USED		A/B/C	87.	NOT USED		
13.	ROCK MUFFLER	32.	NOT USED	51.	TRAILER PARKING	69.	NOT USED	88.	NOT USED		
14.	NOT USED	33.	NOT USED	52.	NOT USED	70.	NOT USED	89.	NOT USED		
15.	NOT USED	34.	NOT USED	53.	BRINE POND	71.	NOT USED	90.	NOT USED		
16.	NOT USED	35.	NOT USED	54.	NOT USED	72.	NOT USED	91.	NOT USED		
17.	NOT USED	36.	NOT USED	55.	NOT USED	73.	NOT USED	92.	NOT USED		



HORIZONTAL: 1"=30'-0" VERTICAL: 1"=30'-0"



Figure 2-4aR Elevation View Looking North, Elmore North Geothermal Project Imperial County, California





		22.	NOT USED
1.	STEAM TURBINE	23.	HP SCRUBBER
2.	NOT USED	24.	HP SEPARATOR A/B
3.	VACUUM PUMP SKIDS A/B/C	25.	GENERATOR STEP-UP TRANSFORMER
4.	NOT USED	26.	ALTERNATE FEED TRANSFORMER
5.	CONTROL / MAINTENANCE BUILDING	27.	NOT USED
6.	EJECTORS A/B/C	28.	HOTWELL PUMPS
7.	NOT USED	29.	SEAL WATER COOLER
8.	THICKENER	30.	NOT USED
9.	SCRUBBER/DEMISTER DRAIN AFT	31.	HP DEMISTER
10.	NOT USED	32.	SP DEMISTER
11.	NOT USED	33.	LP DEMISTER
12.	NOT USED	34.	NOT USED
13.	NOT USED	35.	INSTRUMENT AIR / SERVICE AIR RECEIVERS
14.	PROCESS AFT A/B	36.	NOT USED
15.	DILUTION WATER HEATER A/B	37.	NOT USED
16.	CONDENSER	38.	NOT USED
17.	NOT USED	39.	NOT USED
18.	NOT USED	40.	NOT USED
19.	LP CRYSTALLIZER A/B	41.	FRESH WATER POND

- 20. SP CRYSTALLIZER A/B

- 41. FRESH WATER POND

21. LI UUINUUUU

42. WARM-UP AFT

47. DIESEL GENERATOR 48. PIPE RACK 49. EMERGENCY BRINE POND PUMPS 50. VT-SURGE CUBICLE 51. NOT USED 52. NOT USED 53. BRINE POND 54. NOT USED

46. GANTRY CRANE

-----44. NOT USED 45. NOT USED

55. ISOLATED PHASE BUS DUCT

- 56. NOT USED
- 57. NOT USED 58. NOT USED
 - 59. ANTI-FOAM STORAGE AND DOSING SYSTEM
 - 60. NORMS STORAGE AND DOSING SYSTEM
 - 61. FLOCCULANT STORAGE AND DOSING SYSTEM
 - 62. NOT USED
 - 63. NOT USED

65. NOT USED 66. NOT USED 67. POTABLE WATER SYSTEM 68. NOT USED 69. NOT USED 70. NOT USED 71. NOT USED 72. NOT USED 73. NOT USED 74. NOT USED 75. NOT USED 76. NOT USED 77. NOT USED 78. BRINE INJECTION ANTISCALANT DOSING 79. NOT USED 80. NOT USED 81. NOT USED 82. NOT USED 83. NOT USED

84. THICKENER UNDERFLOW PUMPS

85. NOT USED

- 99. NOT USED 100. 230kV BREAKER 101. NOT USED 102. NOT USED 103. NOT USED
 - 104. NOT USED 105. NOT USED

87. NOT USED

89. NOT USED

90. NOT USED

93. NOT USED 94. NOT USED

95. NOT USED

98. NOT USED

NOT USED

92. VESSEL DRAIN AFT

CIRCULATING WATER PIPING

88.

91.

96.

97.



BACK VIEW (LOOKING SOUTH) HORIZONTAL: 1"=30'-0" VERTICAL: 1"=30'-0"



BACK VIEW (LOOKING SOUTH) HORIZONTAL: 1"=30'-0" VERTICAL: 1"=30'-0"

BRINE INJECTION ELECTRICAL ENCLOSURE

BRINE INJECTION ELECTRICAL ENCLOSURE SUS TRANSFORMERS



KEY PLAN



SCALE IN F

Figure 2-4bR **Elevation View Looking South, Elmore North Geothermal Project** Imperial County, California



LEGEND:

1.	STEAM TURBINE
2.	COOLING TOWER
3.	NOT USED
4.	SUBSTATION
5.	CONTROL / MAINTENANCE BUILDING
6.	NOT USED
7.	HORIZONTAL BELT FILTER
8.	THICKENER
9.	NOT USED
10.	HEAD TANK
11.	SECONDARY CLARIFIER
12.	NOT USED
13.	NOT USED
14.	PROCESS AFT A/B
15.	DILUTION WATER HEATER A/B
16.	CONDENSER
17.	NOT USED
18.	NOT USED
19.	LP CRYSTALLIZER A/B
20.	SP CRYSTALLIZER A/B

21. NOT USED

22. NOT USED 23. NOT USED 24. HP SEPARATOR A/B 25. GENERATOR STEP-UP TRANSFORMER 26. NOT USED 27. NOT USED 28. NOT USED 29. NOT USED 30. NOT USED 31. NOT USED 32. NOT USED 33. NOT USED 34. NOT USED 35. NOT USED 36. NOT USED 37. NOT USED 38. NOT USED 39. FIRE WATER PUMP ENCLOSURE 40. SERVICE WATER PUMPS 41. NOT USED 42. WARM-UP AFT 43. HYDRO BLAST PAD 44. NOT USED

45.	NOT USED
46.	GANTRY CRANE
47.	DIESEL GENERATOR
48.	PIPE RACK
49.	EMERGENCY BRINE POND PUMPS
50.	NOT USED
51.	NOT USED
52.	NOT USED
53.	NOT USED
54.	NOT USED
55.	NOT USED
56.	NOT USED
57.	OX BOX
58.	NOT USED
59.	ANTI-FOAM STORAGE AND DOSING
	SYSTEM
60.	NORMS STORAGE AND DOSING SYSTEM
61.	NOT USED
62.	COOLING TOWER CHEMICAL FEED
	SYSTEM
63.	NOT USED
64.	NOT USED
65.	NOT USED

66. HP CONDENSATE STORAGE TANK 67. POTABLE WATER SYSTEM 68. BRINE INJECTION / BOOSTER PUMPS A/B/C 69. NOT USED 70. NOT USED 71. NOT USED 72. NOT USED 73. NOT USED 74. AREA SUMP / PUMP 75. NOT USED 76. CONVEYOR SYSTEM 77. NOT USED 78. BRINE INJECTION ANTISCALANT DOSING 79. NOT USED 80. NOT USED 81. NOT USED 82. NOT USED 83. AERATED BRINE STORAGE TANK 84. NOT USED 85. NOT USED 86. NOT USED

87. COOLING TOWER ELECTRICAL

- ENCLOSURE
- 88. NOT USED
- 89. NOT USED
- 90. COOLING TOWER ELECTRICAL ENCLOSURE SUS TRANSFORMERS
- 91. NOT USED 92. NOT USED
- 93. NOT USED
- 94. NOT USED 95. CIRCULATING WATER PUMPS A/B
- 96. COMPONENT COOLING WATER PUMPS
- A/B
- 97. NOT USED 98. NOT USED
- 99. NOT USED
- 100. 230kV BREAKER
- 101. NOT USED
- 102. NOT USED
- 103. NOT USED
- 104. COOLING HUT
- 105. NOT USED







EAST VIEW (LOOKING WEST) HORIZONTAL: 1"=40'-0" VERTICAL: 1"=40'-0"





Figure 2-4cR **Elevation View Looking East and West, Elmore North Geothermal Project** Imperial County, California



___ SCALE IN FEE SCALE: 1" = 40'-0"



1. INCLUDES COMPONENT COOLING WATER.

2. BASED ON 8 CYCLES OF CONCENTRATION.

ICE TABLE	
SUPPLY	FLOW (GPM)
er, etc.)	940
	3,523
	~1
	504
ater Required	4,968
sate Available	4,383
Deficit	-585
DEMAND	FLOW (GPM)
	585

	669
ter Demand	1,254
ND	FLOW (GPM)
	3 286

	3,286
	848
	-326
ater Demand	2,764

IAND	FLOW (GPM)
	2,764
	1,254
ter Demand	4,018

Figure 2-5R Peak Water Balance Elmore North Geothermal Project Imperial County, California





NOTES:

- 1. PRELIMINARY EARTHWORK QUANTITIES: CUT = 87,0915 CY FILL = 136,202 CY
- 2. BALANCE VOLUMES ARE FROM EXISTING GROUND TO FINISHED GRADE.
- 3. TOP OF CONCRETE IS -226.0 UNLESS SPECIFIED ON THE PLANS.
- 4. REFER TO PLOT PLAN (PP-001) FOR EQUIPMENT LAYOUT.
- 5. SEE 20046788EN-CS-001 FOR OVERALL SURFACING PLAN.

6. SITE STORM WATER QUANTITIES: DESCRIPTION 18" HDPE -18" HDPE (5'-15' DEPTH) -18" HDPE (5'-15' DEPTH) -2" DIA INLET (-5' DEPTH) -2" DIA INLET (-5' DEPTH) 18" FLARED END SECTION

QTY UNIT 2391 LF 2016 LF 375 LF 10 EA 10 EA 6 EA

Figure 2-6bR Post-Construction Drainage, Elmore North Geothermal Project Imperial County, California





Figure 2-7aR Depth of Excavation, Elmore North Geothermal Project Imperial County, California





Figure 2-7bR Depth of Excavation, Elmore North Geothermal Project Imperial County, California





Figure 2-7cR Depth of Excavation, Elmore North Geothermal Project Imperial County, California





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	NI STATE
product addresses of the second data	and the second se
	the second way and the second
	LEGEND
	PRODUCTION LINE
	HOT BRINE LINE
	AERATED INJECTION LINE
	CONDENSATE INJECTION LINE
	GEN-TIE
	FRESH WATER LINE
	POWER PLANT -
	LSI. 5 FT EXCAVATION DEPTH
	GEN-TIE - FST. 30 FT DRILLED PIER DEPTH
	PIPING CORRIDOR -
	EST. 20 FT DRILLED PIER DEPTH
	BORROW SITE/CONSTRUCTION
	LAYDOWN/CONSTRUCTION CAMP -
	LSI. 5 FT EXCAVATION DEPTH
	BURIED PIPE CORRIDOR -
K	EST. 5 FT EXCAVATION DEPTH
	EST. 5 FT EXCAVATION DEPTH
	IID SWITCHING STATION -
	EST. 5 FT EXCAVATION DEPTH
	1.
	HOOBER ROAD / E HOOBER ROAD
No.	

Figure 2-7dR Depth of Excavation, Elmore North Geothermal Project Imperial County, California





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LosA	ngeles oRiverside	352
Beach	Anaheim Cathedral Indio	1. 19-19
	Santa Ana Palm Desert 10	-
2	Salton	na
	Oceanside	lifo
1	Project Location	A Ca
<i>\</i>	San Diego	Yuma
1	Tijuana	cali
Sec. 1.	Mexico	The state
25		5
Miles	Ensenada	2

Legend

2ª

- Plant
- Well Pad
- Production Well
- Pipeline
- Gen-Tie Line Pole
- ---- Gen-Tie Line
- Pull Site
- Construction Laydown and Parking Areas



Figure DA4.0-1aR Production Wells Elmore North Geothermal Project Imperial County, California









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Los Angel	es	1702
Anał	o Riverside Cathedra	Janes !!
Beach	an ta Ana City Palm Desert	36 / 1
2	Murrieta	na
	Oceanside Sea	alifo
	Project Location	0
5	Tijuana M	exicali 7 Yuma
10.00	Mexico	The second
25		6
Miles	Ensenada	n l

Legend

- Well Pad
- Injection Well
- Pipeline
- Construction Camp



Figure DA4.0-1bR Injection Wells Elmore North Geothermal Project Imperial County, California



4. Air Quality

Air quality and public health figures, along with updated Air Quality and Public Health AFC sections, were provided as part of the Applicant's response to Data Request Set #1, which was submitted on November 10, 2023.

5. Hazardous Materials Handling

The increase in the amount of concentrated HCL and the use of a dilute HCL tank, and liquid lime tank requires an update to AFC Table 5.5-1. An updated Table 5.5-1R below shows the changes (in boldface and underlined) to the project.

Table 5.5-1R. Use and Location of Hazardous Materials

Chemicalª	Use	Maximum Quantity Onsite (gallons, lbs, tons)	Annual Quantity (gallons, lbs, tons)	Storage Location (General Arrangement Location Code)	State	Type of Storage
Chemical Treatment CL41	Oxidizing Biocide	1,000 gallons	6,250 gallons	Cooling Tower (62)	Liquid	Continuously onsite
ChemTreat CL456	Biodetergent	250 gallons	1,500 gallons	Cooling Tower (62)	Liquid	Continuously onsite
ChemTreat CL5428	Dispersant	250 gallons	1,500 gallons	Cooling Tower (62)	Liquid	Continuously onsite
ChemTreat CT775	Corrosion Inhibitor	250 gallons	1,500 gallons	Cooling Tower (62)	Liquid	Continuously onsite
ChemTreat CL2065	Nonoxidizing Biocide	500 gallons	3,000 gallons	Cooling Tower (62)	Liquid	Continuously onsite
HASA 12.5% Sodium Hypochlorite Solution	Oxidizing Biocide	3,000 gallons	36,000 gallons	Cooling Tower (62)	Liquid	Continuously onsite
ChemTreat C2187T	Oxidizing Biocide – H ₂ S Abatement	2,000 lbs	125,000 lbs	Cooling Tower (62)	Solid	Continuously onsite
ChemTreat C2184G	Oxidizing Biocide – H ₂ S Abatement	500 lbs	2,200 lbs	Cooling Tower (62)	Solid	Continuously onsite
NALCO GEO901	Norms Inhibitor	6,000 gallons	110,000 gallons	NORMS (60)	Liquid	Continuously onsite
NALCO N7471 Antifoam	Antifoaming Agent	900 gallons	13,140 gallons	HP Separator Area (59)	Liquid	Continuously onsite
NALCO 1720	Oxygen Scavenger	500 gallons	9,000 gallons	Clarifier (61)	Liquid	Continuously onsite
GE0912	Scale Inhibitor	3,000 gallons	20,075 gallons	HP Separator (25)	Liquid	Continuously onsite
NALCO N9907	Polymer/Flocculant	4,000 lbs	57,670 lbs	Clarifier (61)	Solid	Continuously onsite

Revised General Arrangement Refinement

Chemicalª	Use	Maximum Quantity Onsite (gallons, lbs, tons)	Annual Quantity (gallons, lbs, tons)	Storage Location (General Arrangement Location Code)	State	Type of Storage
Battery Electrolyte	UPS and Emergency Shutdown Battery Array	1,200 gallons	1,800 gallons	Battery Rooms (37)	Liquid	Continuously onsite
Diesel No. 2	Fuel for Onsite Equipment	10,000 gallons	10,000 gallons	Southwest of Cooling Tower AST (69)	Liquid	Continuously onsite
Diesel No. 2	Fire Pump Operation	1,000 gallons	1,000 gallons	Fire Water Pump AST (39)	Liquid	Continuously onsite
Diesel No. 2	Emergency Generator Operation	25,352 gallons	25,352 gallons	Emergency Generators (46, 47)	Liquid	Continuously onsite
Hydrochloric Acid <37%	<u>Filter Press Wash</u>	<u>20,000 gallons</u>	<u>789,000 gallons</u>	<u>Filter Press (79)</u>	<u>Liquid</u>	<u>Continuously onsite</u>
Hydrochloric Acid <2.5%	Filter Press Wash	<u>800 gallons</u>	<u>10,400,000 gallons</u>	<u>Filter Press (98)</u>	<u>Liquid</u>	<u>Continuously onsite</u>
Liquid Lime	<u>Filter Press Wash</u>	<u>10,300 gallons</u>	<u>292,000 gallons</u>	<u>Filter Press (99)</u>	<u>Liquid</u>	<u>Continuously onsite</u>
Sulfur Hexafluoride	Circuit Breakers/TET Test	300 lbs	300 lbs	Switchyards/Resources Test Unit (4, 54)	Gas	Continuously onsite
Anti-Freeze and Coolant	Portable Equipment in Shop	2,000 gallons	2,000 gallons	Maintenance Building (6)	Liquid	Continuously onsite
Naphtha	Portable equipment in Shop	500 gallons	500 gallons	Maintenance Building (6)	Liquid	Continuously onsite
Hydraulic Fluid	Portable Equipment in Shop/Equipment	4,000 gallons	4,000 gallons	Maintenance Building/Filter Press (6)	Liquid	Continuously onsite
Laboratory Reagents	Geothermal Fluids/Filter Cake Laboratory Analysis	10 gallons	10 gallons	Laboratory/Chemical Storage Cabinets (5)	Liquid and Granular Solid	Continuously onsite

Revised General Arrangement Refinement

Chemicalª	Use	Maximum Quantity Onsite (gallons, lbs, tons)	Annual Quantity (gallons, lbs, tons)	Storage Location (General Arrangement Location Code)	State	Type of Storage
Turbine Lubrication Oil	Lubricate Rotating Equipment (e.g., steam turbine bearings, valves)	22,000 gallons	22,000 gallons	Lubricating oil reservoirs adjacent to the steam turbine and drum storage in lubricant storage shed/warehouse (63)	Liquid	Continuously onsite
Mineral Insulating Oil	Transformers	45,000 gallons	30,000 gallons	Transformers and drum storage in lubricant storage shed (38, 44)	Liquid	Continuously onsite
Acetylene	Welding Gas	750 cubic feet	750 cubic feet	Maintenance Building (6)	Gas	Continuously onsite
Oxygen	Welding Gas	750 cubic feet	750 cubic feet	Maintenance Building (6)	Gas	Continuously onsite
Propane	Torch Gas	750 cubic feet	750 cubic feet	Maintenance Building (6)	Gas	Continuously onsite
Alloy Mix Gas	Welding Gas	750 cubic feet	750 cubic feet	Maintenance Building (6)	Gas	Continuously onsite
Lab Gas (Helium, Argon, Nitrogen, Air)	Laboratory	750 cubic feet	750 cubic feet	Laboratory (5)	Gas	Continuously onsite
Liquid Argon	Laboratory	300 gallons	500 gallons	Laboratory (5)	Liquid	Continuously onsite
Cleaning Chemicals	Cleaning	Varies (< 25 gallons of fluids or 100 lbs of solids for each chemical)	Varies (< 25 gallons of fluids or 100 lbs of solids for each chemical)	Control Room (5)	Liquid or Solid	Continuously onsite

Revised General Arrangement Refinement

Chemicalª	Use	Maximum Quantity Onsite (gallons, lbs, tons)	Annual Quantity (gallons, lbs, tons)	Storage Location (General Arrangement Location Code)	State	Type of Storage
Paint	Touchup of Painted Surfaces	Varies (< 25 gallons of fluids or 100 lbs of solids for each chemical)	Varies (< 25 gallons of fluids or 100 lbs of solids for each chemical)	Control Room (5)	Liquid	Continuously onsite

Notes:

AST = aboveground storage tank

H₂S = hydrogen sulfide

HP = high pressure

lb = pound(s)

UPS = uninterruptible power supply

^a Chemical vendor may be subject to change; however, chemical class will remain the same or similar.

6. Visual Resources

The following updated ENGP Visual Resource figures are being submitted.

- Figure 5.13-2bR Visual Simulation from Rock Hill (KOP1)
- Figure 5.13-2dR Visual Simulation from Red Hill (KOP2)
- Figure 5.13-2fR Simulation from Sonny Bono Salton Sea National Wildlife Refuge (KOP3)



Figure 5.13-2bR Visual Simulation from Rock Hill (KOP1), Elmore North Geothermal Project Imperial County, California





Figure 5.13-2dR Visual Simulation from Red Hill (KOP2), Elmore North Geothermal Project Imperial County, California





Figure 5.13-2fR Visual Simulation from Sonny Bono Salton Sea National Wildlife Refuge (KOP3), Elmore North Geothermal Project Imperial County, California

