

## HIRAM SUBSTATION INVENTORY LIST

### Summary

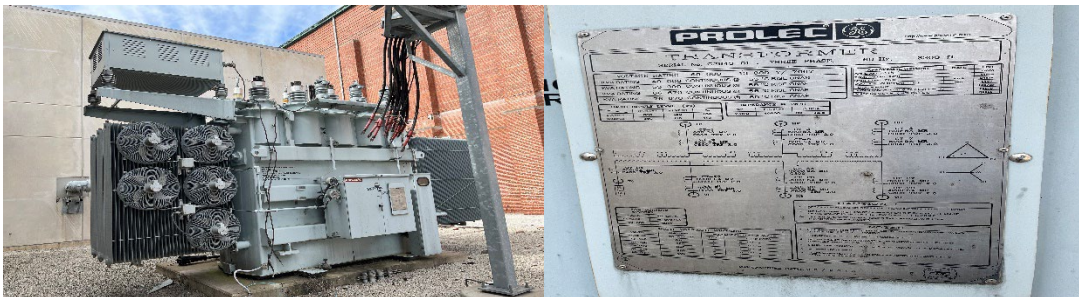
Provided is a list of none Commissioned BioUrja Hirman Electrical Substation inventory equipment, located at 1 Edmund St., Peoria, Illinois 61602. The list is prepared in two (2) parts of Open-Air Insulated Substation Equipment and Insulated Gas Substation located in building structure. The Open-Air Insulated Substation equipment consist of distribution transformers, distribution control voltage transformers, distribution current transformers, motor operated air disconnects, meter cabinets and relay and communication control cabinet and racks. The Insulated Gas Substation (GIS) consist of leak-tight gas insulated Sulfur Hexafluoride gas (SF6) single all in one operating – electrical substation connected with fixings and connectors of of two (2) 69kv distribution Busses with disconnectors, eight (8) 69kV feeder breakers and four (4) tie breakers. The GIS also consist of associated relay and control panels.

The detail provides of equipment listed below is the best that can be specified at this time, with no input from A & E firm of ADM that has possession the necessary document of equipment specification, Bill of Materials, and engineering drawings.

Note: GIS should not be broken apart, if separated its value will be diminished.

### Open Air Insulated Substation Equipment

- 1) Transformer 40/53/66/76 MVA, Voltage 69kV-13.8Y/7967 delta kV, GE manufacturer, Serial # G2943-01



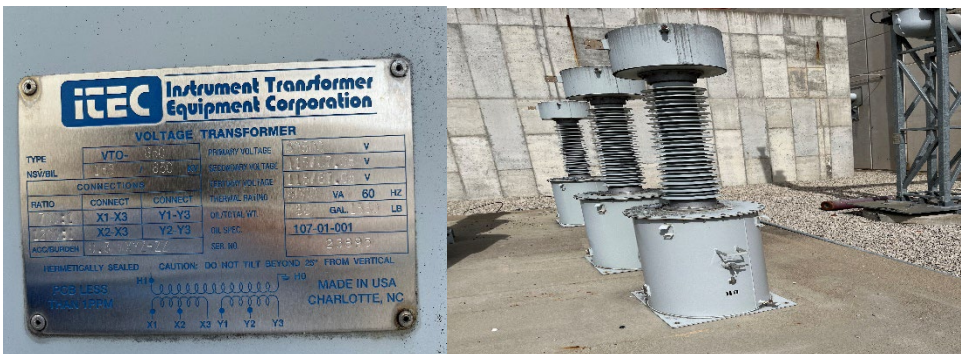
- 2) Transformer 40/53/66/76 MVA, Voltage 69kV-13.8Y/7967 delta kV, GE manufacturer, Serial # G2943-02



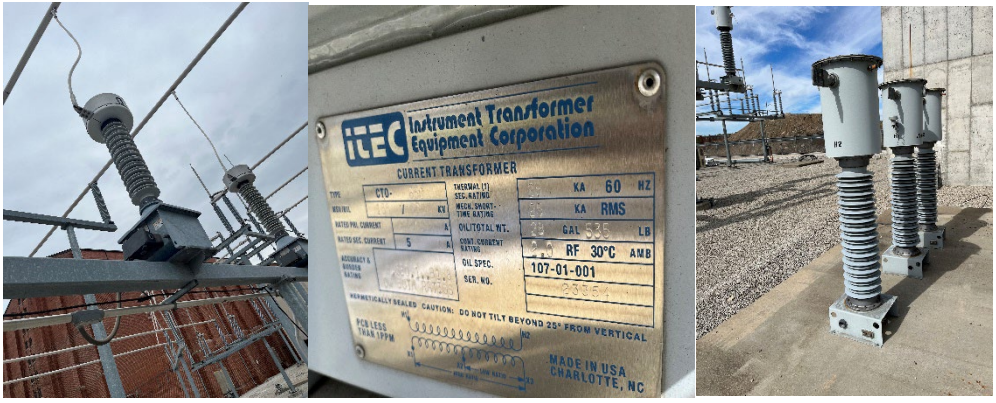
- 3) Pad Mounted Station Service (SS) Transformer 300 KVA, Voltage 13.8kV-480Y/277 delta, Dry type load breaks, ERMCO manufacturer, Serial # 61309659957 (Quantity 2)



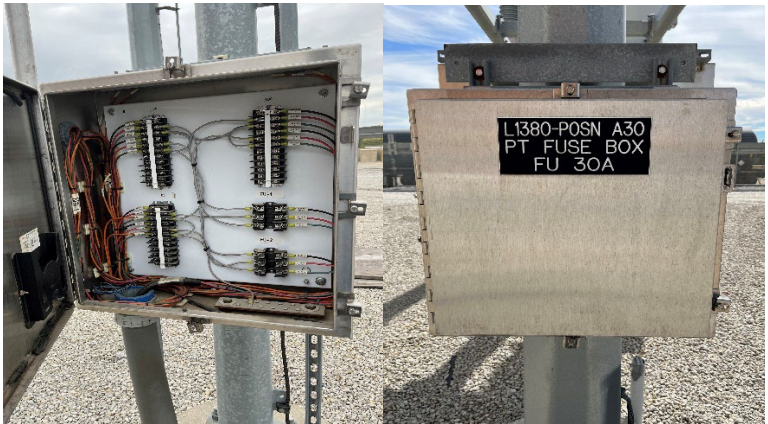
- 4) PTs (Potential Transformers), Voltage Ratio 700/1200:1, BIL 13.8kV/650kV, Primary voltage 80500v, Secondary Voltage 115/67 V, ITEC manufacturer, Serial # 23895 (Quantity 6)



- 5) Current Transformer, Primary current 250/500 A, Secondary Current 5A, type CTO-650, manufacturer ITEC, Quantity (6)



- 6) PT Fuse Enclosure, Nema 4X, 36" X 36" X 12" (Quantity 3)



- 7) MOAD (Motor Operator Air Disconnect) with Structure, type VM-1-104, Serial # V-60400621, OPTG volts 125dc, Heater volts 115vac, torque 10,000 lb-in, OPTG time 4-6 secs, Style 3 24060082, Southern State manufacturer (Quantity 4)



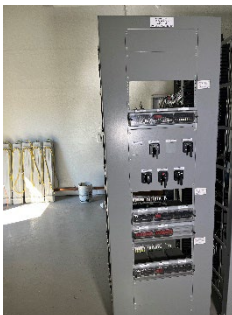
- 8) Intertie Metering Cabinet, Enclosure Nema 4A, 36" X 36" X 12" (Quantity 2)



- 9) Voltage Transformer, Group 3, Ratio 700/12001:1:1, Primary voltage 80.5 kV, BIL 650kV, Std. IEEE C57.13, Kuhlman Electric Manufacturer (Quantity 3)



- 10) Open Air Insulated Station Breaker A40 Panel 12W-1



11) Open Air Insulated Station Breaker A30 Panel 11W-1



12) Open Air Insulated Station Breaker Communication Rack



13) Open Air Insulated Station DIFF Relay Top Bus Panel 8W-1



14) Open Air Insulated Station DIFF Relay Bottom Bus Panel



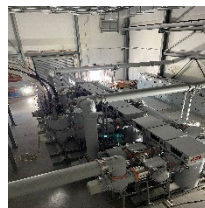
15) Open Air Insulated Station Synchroscope



**INSULATED GAS SUBSTATION (GIS) EQUIPMENT**

GIS consist of two (2) 69kv distribution Busses with disconnectors, eight (8) 69kV feeder breakers and four (4) tie breakers.

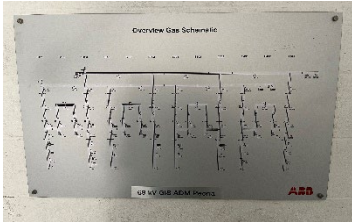
16) 69kV GIS STATION VIEWS



17) GIS Relay, Communication And Control Panels

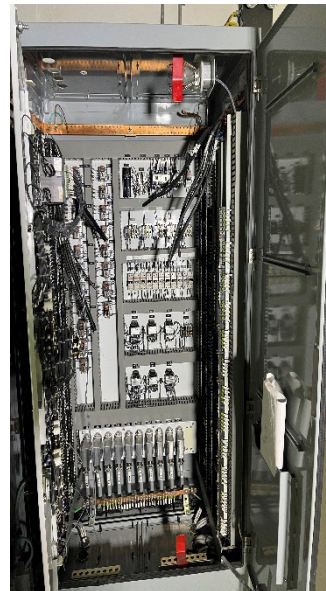


Overview Gas Schematic



### Single GIS Panel

18) GIS 69 kV Transformer 60 Panel



19) GIS 69 kV Tie Breaker B102 Panel

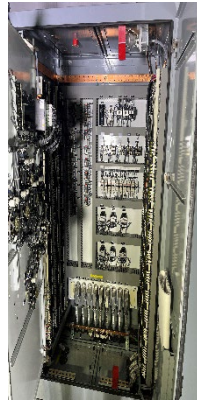


20) GIS 69kV Tie Breaker B103 Panel

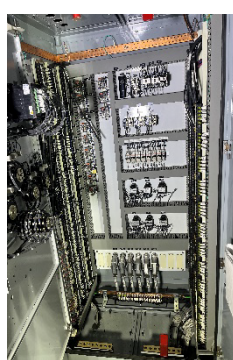




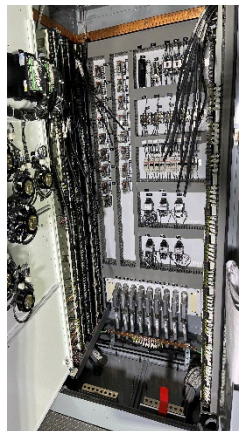
21) GIS Breaker B201 Panel



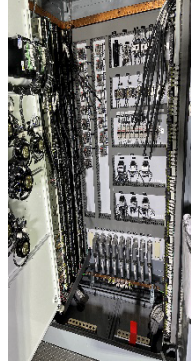
22) GIS Tie Breaker BB202 Panel



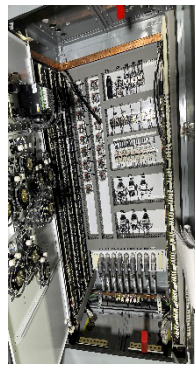
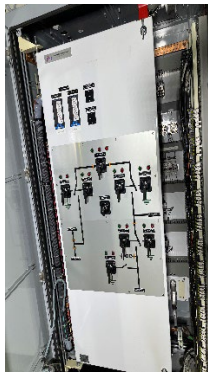
23) GIS Tie Breaker B203 Panel



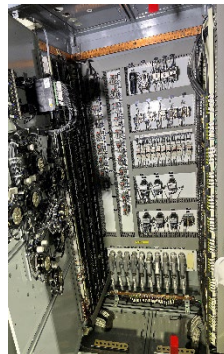
24) GIS Breaker B203



25) GIS Tie Breaker B302



26) GIS Breaker B401



27) GIS Breaker Tie Breaker B402



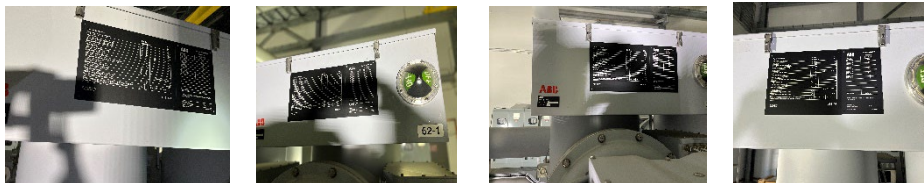
28) GIS Breaker B403

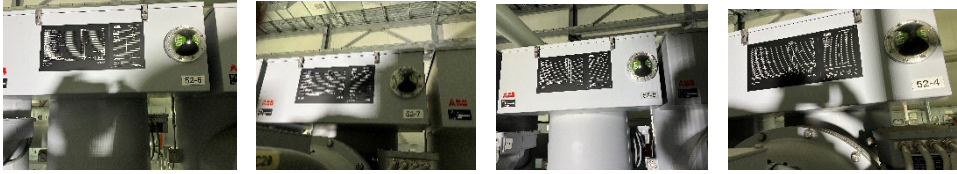


29) GIS 72kV Feeder Circuit Breakers B101, B103, B201, B103, B201, B203, B401 and B403. (Quantity 8)

Specification: Manufacture -ABB, Type- ELK-04, serial Number-241002070,72kV, Lightning Impulse withstand -325kV, Power Frequency withstand voltage-160kV, Normal Current By/Bius-Bar- 402500A, Short Circuit Breaking Current- 40kV, DC Component of short Circuit Breaking- 45%, Gas-FS6, DC Supply Voltage of Auxilliary Circuit-125 Vac, AC Supply of Auxillary Circuit 208/120Vac., Minimum functional Gas Pressure for Insulation at 20C Ambient Temperature-75.4 to 87Psi.

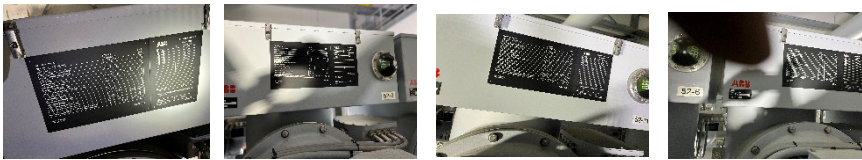
GIS 72kV Name Plate for Feeder Circuit Breakers B101, B103, B201, B203, B301, B303, B401 and B403





30) GIS 72kV Name Plate for Tie Circuit Breakers B201, B202, B302 and B402 (Quantity-4)  
Specification: Manufacture -ABB, Type- ELK-04, serial Number-241002070,72kV, Lightning Impluse withstand -325kV, Power Frequency withstand voltage-160kV, Normal Current By/Bius-Bar- 402500A, Short Circuit Breaking Current- 40kV, DC Component of short Circuit Breaking- 45%, Gas-FS6, DC Supply Voltage of Auxilliary Circuit-125 Vac, AC Supply of Auxillary Circuit 208/120Vac., Minimum functional Gas Pressure for Insulation at 20C Ambient Temperature-75.4 to 87Psi.

GIS 72kV Name Plate for Tie Circuit Breakers for B102, B202, B302 and B402



### GIS Relay and Control Panels

31) GIS Tie Breaker Panel 2E-1



32) GIS TIE Breaker B202 Panel 5E-1



33) GIS Spare Breaker B301 Panel 7E-1



34) GIS Tie Breaker B302 Panel 8E-1



35) GIS Breaker B303 Panel 9E-1



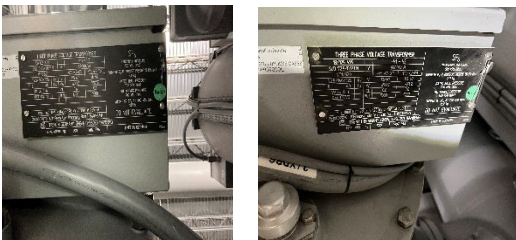
36) GIS Tie Breaker B402 Panel 11E-1



37) GIS Surge Arresters- Manufacture ABB, Serial Number-HA5297918, ANSI/IEEE Standard-C37.122-2018, voltage 72.5kV, Lightning Impluse withstand voltage 325kV, Max. continues operating voltage 48kV, Nominal discharge current 10kA, Operating gas pressure at 20C 520 Pa. (Quantity 9)



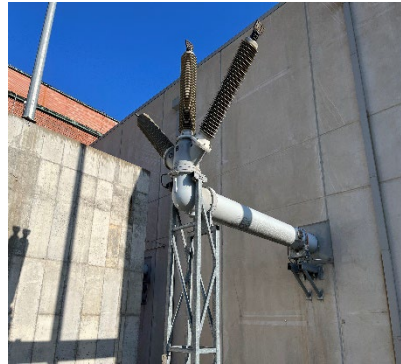
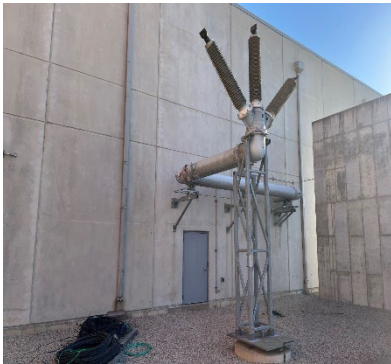
38) GIS Control Voltage Transformer (PTs)-Manufacture -Trench Germany, Voltage 115-67kV, Standard IEEE C57.13, Rated SF6 gas pressure 700Pa (Quantity- 10), Serial Number SUD 725/E87TM.



39) GIS Control Current Transformer-Manufacture- Zelisko, Standard-IEEE C57.13, Voltage 0.72/3kV, Type ELK-CTO 520LG, Ratios- 300/5A, 400/5A, 800/5A, 1100/5A, 1200/5A, 1500/5A,1600/5AA (Quantity 12)



40) GIS Cable to Gas Terminations



41) GIS Gas to Air Terminations

