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| The purchase scope includes the following items: | QTY |  |  |
| · Two Solar Titan T130 Gas Turbine Generators (skid mounted) Built in 2013 | 2 |  |  |
| · Two ABB generators AM130 1000LM (skid mounted) 11kV 22789 KVA | 2 |  |  |
| · Two Donaldson Air Intake systems | 2 |  |  |

2x New Surplus Titan 130

Equipment Description

1. Gas Turbine Generators

Each of the two Solar Titan 130 GTGs is designed to produce approximately 15.2MW of electricity based on Natural Gas.

The GTG’s are controlled via the local Solar Supplied PLC. This includes all safety related functionality. The Air Products Basic Process Control System (BPCS) communicates with the Solar PLC feeding set points to and receiving alarms from the Solar PLC.

The GTGs were installed in c 2013, but not commissioned. They have been preserved in accordance with manufacturers recommendations. Both GTG’s are in good condition. Solar have carried out a recent (May 2018) Condition assessment report.

2. Air Intake System

The Donaldson TTD™ Air Inlet system is designed to provide self-cleaning, anti-icing, single stage, high efficiency filtration for prolonged periods (up to two years) in harsh climates without turbine shutdown for filter cleaning or replacement.

It utilizes cylindrical filter elements, hung vertically from a horizontal tube sheet. These filters are cleaned by pulsing a wave of air into them opposite the normal air flow direction

3. Generators

Each Gas turbine uses a Generator to produce it electrical power.

Additional Components available – Not included in the price

4. Two Heat Recovery Steam Generator (HRSG) Packages (Includes

HP/LP Steam Drums, and Ammonia Injection Racks)

The exhaust gasses from each GTG are directed into individual HRSG packages

(U770A/B) where the useful thermal energy is used to generate HP Steam (45 barg &

400 o C) and LP steam (4.4 barg and 260 o C). Each HRSG comprises HP & LP Economizers, Boilers and Superheaters. Each HRSG also has a low temperature Economizer that preheats condensate prior to entering the deaerator system.

The HRSGs are equipped with selective catalytic reduction (SCR) units, where aqueous ammonia is injected for NOx reduction. Flue gases exiting the HRSGs are continually monitored by way of the continuous emissions monitoring system (CEMS). The CEMS monitors compliance with environmental regulations.

The HRSGs are supported by a deaerator system, boiler feed water pumps, two blowdown drums, and a water analysis panel.

HP steam produced is transferred to the U740 Steam Turbine Generator (STG).

LP steam is sent to several places, including the deaerator and a series of desuperheaters for distribution. Any remaining LP steam is transferred to the STG. In addition, a small amount of saturated LP steam (≈3.5 barg) is produced from the LP steam drum, known as pegging steam, is sent to the deaerator.

5. Auxiliary Boiler Area

The Auxiliary Boiler, U790, is a Rentech shop assembled package type unit. It has a

HP steam capacity of 72,560 kg/hr. (45 barg & 400 o C). It is subsequently combined with HP steam from the HRSGs before being transferred to the Steam Turbine Generator.

The auxiliary boiler normally operates at turndown so it can ramp up quickly when required.

The auxiliary boiler area is equipped with a Superheater, Boiler, Economizer, forced draft fan, stack, low-NOx burners, and a selective catalytic reduction (SCR) unit required to reduce NOx emissions by way of aqueous ammonia injection. Flue gases exiting the boiler are continually monitored to ensure environmental limits are being met.

6. Steam Turbine Package

The Siemens SST400 type Steam Turbine Package is a two-pressure, condensing type generator designed to produce approximately 20MW of electricity. The Brush generator receives high-pressure (HP) steam from the HRSGs and Auxiliary Boiler @ 45 barg and 400 o C. The HP steam flow at design is 93,264 kg/hr. The IP steam is inducted at 3.49 barg and 260°C. The IP steam design flow is 10,256 kg/hr. (22,600lbs/hr.). At full load the turbine-generator gross output is 24,560 KW at the generator terminals.

The normal operating case generates 20,580 KW at the generated terminals. It is based on an HP steam flowrate of 74,286 kg/hr. and an IP steam flowrate of 10, 256 kg/hr.

The Steam Turbine is rated for a minimum turndown of 2.2 MW

7. Steam Turbine Surface Condenser

The Tema Steam Turbine Surface Condenser condenses exhaust steam exiting the steam turbine generator. It also condenses steam from the generator emergency bypass. This is a non-contact, shell-and-tube heat exchanger with steam in the shell side and cooling water in the tube side. Condensate collects in the bottom of the shell. Non-condensable gases collect in the top and are vented to atmosphere. Condensate in the shell bottom is pumped by the condensate pumps to either the pre-heat in the HRSGs to the deaerator, or a bypass of pre-heat. Demineralized make-up water can be added to the BFW system at the condenser.

The condenser operates at vacuum utilizing two Liquid Ring Vacuum Pump Packages. The condenser back pressure is approximately 2.0 inches Hg vac (absolute).

8. Electrical

Each system will be electrically isolated using the MEFW Lock Out Tag Out procedure at the source of supply, proven dead at the field terminals and all cabling removed from said terminals.

Control cabinets and junction boxes attached to each system will remain in place.

Wiring internal to each system will remain in place.

9. Instrumentation & Control

Directly cabled instruments on each system will be isolated and disconnected at the field terminals. Instruments cabled via internally mounted junction boxes will remain in place with the multi-core cables to the junction boxes isolated at source and removed.

10. Safety Considerations

All items will be de-inventoried and electrically disconnected.

All safety issues including, but not limited to, permits to work, equipment, scaffolding, cranage, road vehicle safety, etc. are the purchaser’s responsibility.

Air Products operate to the highest safety standards and the purchaser must follow all relevant local/international safety standards and good practices.

11. Cranage, Packing and Transport

Cranage and packing for transport are all within the purchaser’s scope.

The weights and dimensions can be provided upon request. All weights must be confirmed with Solar and other relevant parties. A number flatbed trailers will be required for transport.