

Appendix 2

INTENDED SCOPE OF WORKS FOR HOT GAS PATH INSPECTION

MOBILIZE

- Move on job site one (1) day prior outage start date.
- Orientation and Job briefing
- Locate lay down blocking and bring to lay down area.
- Record baseline operating data.
- Before proceeding with the inspection ensure the gas turbine is shut down and cooled to allow work to be performed on the unit, Electrical System and the CO2 System is locked and tagged out.

GT DISASSEMBLY

- Remove compartment roof section & enclosure panels as required
- Remove instrumentation from inlet duct (as required)
- Remove roof electrical wiring to nearest pull box
- Remove turbine roof vent fans
- Remove turbine compartment roof
- Remove exhaust and inlet access panels as required
- Remove liquid fuel piping
- Remove purge air piping
- Remove cooling and sealing air piping
- Remove ring headers as required
- Remove compressor bleed/extraction piping
- Remove fire protection piping (as required)
- Remove flame detectors
- Remove spark plugs
- Remove fuel nozzles
- Remove inner crossfire tubes & liners
- Remove combustion cans/outer crossfire tubes
- Remove transition pieces
- Remove access hatch
- Remove flex seals
- Install casing support jacks/remove casing bolts
- Remove turbine casing upper half
- Measure thrust clearance, nozzle concentricity and turbine clearances

- Remove the lower halves of the first and second stage nozzle segments
- Remove the upper halves of the first and second stage nozzle segments
- Remove the lower halves of the first and second stage shroud blocks
- Remove the upper halves of the first and second stage shroud blocks
- Remove the first and second stage turbine buckets

Clean & Inspection

- Visually inspect outer combustion system components
- Visually inspect and record the condition of flame detectors
- Visually inspect and record the condition of spark plugs
- Visually inspect and record the condition of fuel nozzles
- Visually inspect and record the condition of end covers
- Visually inspect inner combustion system components
- Visually inspect and record the condition of inner crossfire tubes & liners
- Visually inspect and record the condition of combustion cans/outer crossfire tubes
- Visually inspect and record the condition of transition pieces
- Visually inspect and record the condition of turbine buckets and check dovetail rock
- Visually inspect and record the condition of all nozzles
- Visually inspect and record the condition of rotor
- Perform 1st stage nozzle ellipticity checks
- Visually inspect and record the condition of diaphragms
- Visually inspect and record the condition of shroud segments
- Clean and inspect inlet guide vanes
- Check and record each guide vane bushing clearance and backlash:
- Clean and visually inspect liquid fuel piping
- Clean and visually inspect purge air piping
- Clean and visually inspect cooling and sealing air piping
- Clean and visually inspect compressor bleed/extraction piping/bleed valves
- Clean and visually inspect check valves and drains
- Clean and visually inspect all removed bolts and studs
- Clean and inspect turbine and compressor casings
- Visually inspect exhaust thermocouple wells
- Visually inspect exhaust plenum insulation panels
- Visually inspect exhaust frame forward seals
- Visually inspect exhaust thermocouples

Inspection of Auxiliaries

- Perform overhaul of the Accessory Gear Box
- Perform visual inspection on Accessory Coupling and lubricate if needed
- Perform visual inspection of Load Gear Box via inspection hatch

GT REASSEMBLY

- Install the lower halves of the first, second, and third stage nozzles segments.
- Install the upper halves of the first, second, third stage nozzles segments
- Install the lower halves of the first, second, and third stage Shroud Blocks.
- Install the upper halves of the first, second, third stage Shroud Blocks.
- Install first, second, and third stage Turbine Buckets
- Install Transition Pieces
- Install turbine casing upper half
- Install wheel space thermocouple wiring and conduit.
- Install casing bolts/remove casing support jacks after bolting is complete
- Install access hatch
- Install flex seals
- Install transition pieces
- Install combustion cans/outer crossfire tubes
- Install inner crossfire tubes & liners
- Install end covers
- Install fuel nozzles
- Install spark plugs
- Install flame detectors
- Install ring headers as required
- Install cooling and sealing air piping
- Install liquid fuel piping
- Install purge air piping
- Install compressor bleed/extraction piping
- Install fire protection piping (as required)
- Install load compartment piping, duct, roof
- Install turbine compartment roof
- Install roof electrical wiring
- Install inlet duct instrumentation

Check out / start-up

- Contractor will provide start-up support to assist JPS with troubleshooting if needed.

Demobilize

- Mobilize / Move off site
- Load and ship tools
- Verify site and equipment are orderly
- Move off site
- Furnish inspection report within two (2) weeks of Unit start up