

Gas turbine outage

- Scheduled date
- When do you start to prepare for scope (12 to 18 months)
- How well do you know your machines:
 - a- Operations history
 - b- Mechanical history
 - c- Parts life
 - d- Parts upgrades from original installation.
- Expectations after start up:
 - a- HP output (MW) @ XX ambient F
 - b- Emissions
 - c- Vibrations
 - d- oil leaks before and after

T/C's and Guaranties

Gas turbine outage

- Scope preparation
 - Who is the lead person: team
 - Mech scope, Instrument, electrical, Operations and inspection
 - Gas turbine, generator, Waste heat boiler
 - Mech inventory of spare parts:
 - a- Verify that parts are repaired (report)
 - b- Identify major parts needed (New, need repairs)
 - c- Get quotes for new / availability
 - d- Must be on hand before outage starts.
 - Instrument and Electrical:
 - a- same as above
- Planner scheduler - who is keeping track of parts ordered

Gas turbine outage

- Scope preparation

- Team:

 - a- details of scope and reviews

 - b- approve scope

 - c- Agree on who the bidders

 - d- Mech only?

 - e- Mech , Instrument and Electrical

- What is acceptable outage time:

- What are rates \$/hr for the different disciplines

- What is the work schedule 7 x 12, days,/? And nights

- Ask the bidder to submit a schedule time table for outage

Gas turbine outage

- Schedule 1 day with all bidders:
 - Set expectations
 - Review scope
 - Field walk through
 - Date you want bid back (4 weeks)
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- Questions back:
 - How are they communicated with team and all bidders

Gas turbine outage

- Bid evaluation
- Hits:** minimize outage time
- Exchange rotor
- Miss: Internal alignment our machine base \$ vs unknowns optical , laser- shroud blocks S1, 2 and 3 must be in**
- Hi speed balance of generator rotor
- Generator field Rewind shop work, where to send?
- GE drawings?143D7377 CL of #2 Bearing bore to be located horizontally in line with and vertically .018 to -.022 above machine Axis
- GE drawing 151D8742 note #17 No2 bearing to be positioned vertically so that the 1st stage buckets are centered vertically with the machine axis with in +.004/-.000 taking in account any out of roundness

Gas turbine outage

- Items that need attention:
- Stop Ratio Valve
- Torque Converter-Parts and delivery 365 days
- Starting Diesel
- Turbo Charger – Hydraulic hoses new SS braiding
- Old Flame scanners – water wash
- Mark 5 or 6 TUV SIL 3 certificate?