

# ExxonMobil Baytown Frame 6B Outer IGV Bushing Clearance

Frame 6B User Group Meeting  
June 25-28, 2012  
Greg Polasek

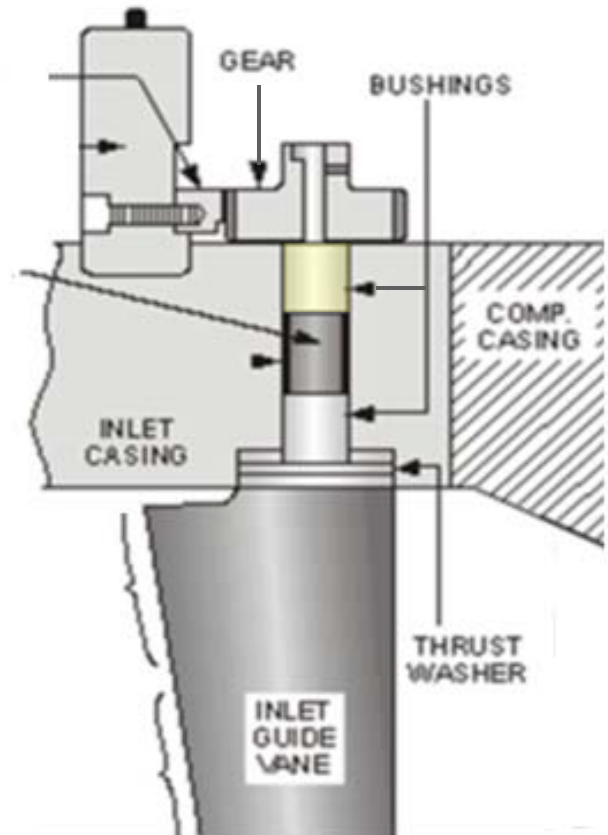
**ExxonMobil**  
*Chemical*

# Baytown Cogen Vital Stats

- Located in Baytown, TX (about 25 miles east of Houston)
- Supplies power & steam to Baytown Refinery & Chemical Complex
  
- 3 PG-6541 Units
- Commissioned in 1989
- Base load, NG fuel, NOx steam injection
- EOL Inspection at 180k fired hours

# Findings

- Unit 295362 (Train #3)– scheduled major inspection Fall 2011
- During IGV reassembly, mechanical first line supervisors note what appears to be excessive clearance in the newly assembled IGV (new bushings, gears, rack, IGV's)
- IGV shank OD measured, confirmed against GE drawings and in tolerance
- Outer bushings measured found too loose, confirmed against GE drawings and found to be out of tolerance when comparing required clearance (outer bushing ID to IGV shank OD)
- Verified outer bushing dimensions against GE supplier, found to be in tolerance to GE supplier drawings



# Investigation

- The original GE drawing indicated a clearance specification of 0.005” and the vendor drawing for the bushing, as calculated would indicate a clearance specification of 0.010”.
- Bushing spec is an off the shelf/vendor catalog component
- PAC / GE Engineering confirmed that the vendor drawings have not changed since the drawings were created
- GE Sourcing confirms vendor supplying correct parts
- GE design review confirms higher clearance is design intent, onsite measurements are indeed in-specification.
- GE factory inspections confirms higher clearance used on new unit assemblies across various frames
- GE Engineering confirms GE drawing discrepancy that leads to an incorrect expected clearance stack up

# Corrective Action

- Current/as-supplied bushings are acceptable for use
- NO Corrective Action for hardware required
- GE drawings being revised to correct bushing ID discrepancy
- IGV Backlash setting controlled by back-shimming the rack per standard assembly instructions