



Industry Case Study

# Oil & Gas



## Case Studies:

API based Steam Turbine for an Oil Refinery in India

API 612 based Steam Turbine Generator cum Compressor Drive for an Oil Refinery in India

API 611 for an Oil Refinery in North America



*The project is driven by 5\*12 MWe API based Steam Turbine for an Oil Refinery in India*

**Project Highlights:** Mustang Engineering and subsidiary of John Wood Group carried out front-end engineering design verification, detail engineering, procurement and construction management services for the project in Western India.

The facility includes water treatment and injection, gas production, power generation, fluid gathering and treatment and crude oil export. The project's flow assurance work is provided by Multiphase Solutions Inc. another Wood Group Company

#### **Solution:**

- Steam Turbine inlet steam 41.35 bara, 370 Deg C as per API 612
- Gear Boxes as per API 613
- Lube Oil System as per API 614
- Air cooled oil cooler as per API 661
- PLC with redundancy and SIL –3 rating
- Machine Monitoring System ( MMS ) Bentley Nevada model 350C series with system 1 analysis system
- 12MW AC Generator, IP54 Enclosure, Class F Insulation, Air cooled CACA, 50 Deg C Ambient



The project is driven by 1\*3.6 MWe API 612 based Steam Turbine Generator cum Compressor Drive for an Oil Refinery in India



### Project Highlights:

The steam turbine generator supplied successfully to the customer in India with TECHNIMONT as EPC and WORLEY as PMC. The steam turbine generator is tested at our state-of-the-art manufacturing facility and is driving an induction generator / motor supplied by BHEL and an air compressor of Atlas Copco make.

### Solution:

- The steam turbine generator is equipped with sophisticated governing & control systems such as Woodward FT 5009 TMR Governor, MOOG Hydraulic actuator
- Instrumentation is suitable for Zone 1, IIC, T3 and for high humidity atmosphere
- Common base frame as per API RP 686 for Steam turbine



*The project is driven by 12 No's of steam turbines for various pump units as per API 611 for an Oil Refinery in North America*



### **Project Highlights:**

The steam turbines generators of (2\*37 kW | 3\*200 kW | 3\*1300 kW | 2 \*1200 kW and 2\*110 kW) are executed with Flowserve as pump vendor, ICA FLUOR as EPC.

### **Solution:**

- API 611 Steam turbines generators supplied successfully to the customer in North America with Peak 200 governor & Pneumatic actuator



**Thank you.**

