

### LIFE ASSESSMENT OF TURBO GENERATORS

This report is a summary of the remaining life assessment of turbo generators conducted by me at M/s. KCP Sugars and Industries Corporation Limited, Vuyyuru, Andhra Pradesh.

#### Details of Turbo Generators assessed:

Serial No.	Capacity	Make	Year of Mfr	Type	Inlet steam
B55054	2.50 MW	Triveni Allahabad	1976	Back pressure	21.5 ATA, 340 deg.C
B550037	2.00 MW	Triveni Bangalore	1982NOV	Back pressure	21.5 ATA, 340 deg.C
B550012	2.50 MW	Triveni Bangalore	1978 JULY	Back pressure	21.5 ATA, 340 deg.C
B55022	1.50 MW	Triveni Bangalore	1973	Back pressure	21.5 ATA, 340 deg.C
B55053	1.50 MW	Triveni Allahabad	1976	Back pressure	21.5 ATA, 340 deg.C

#### Assessment Methodology:

The condition of the TG sets was assessed based on the following aspects:

- **Operation and Maintenance history of the TG sets:**  
Verified the concerned log books maintained for each of the TG sets that denote the operation maintenance history.
- **Effective running hours**  
The log sheets were maintained and recorded the actual running hours
- **Physical condition**  
The TG sets were out of service when the newly erected 12 MW and 3 MW TG sets were commissioned in 2005. The conditions of the above TG sets are satisfactory with an assessment that these TG sets can run for about another 60000 hrs.

#### Observations:

The TG sets being back-pressure type is possible for operation only during the sugar plant crushing season. The number of crushing season days (i.e., the TG sets operation days) was observed to be around 140 days, verified from the yearly manufacturing reports, which work out to a completed service life of around 70,000 to

100,000 hours. This could also be verified from the physical condition of the TG sets. At present, the TG sets idle at KCP Sugars, Vuyyuru.

**Conclusion:**

Serial No. of TG	Standard Life Time (Hours)	Hours in operation (Hours)	Estimated Remaining Life (Hours)
B55054	160,000	88787.00	71213.00
B550037	160,000	71214.00	88786.00
B550012	160,000	82518.00	77482.00
B55022	160,000	97339.00	62661.00
B55053	160,000	88787.00	71213.00

The above assessment of the remaining life of TG sets are subject to good operational practices /conditions and periodic maintenance. The results of the report are based on my observation of equipment condition, experience with similar equipments and standard industry practices, however, the life not guaranteed by me.

*A. V. Narayana Rao*

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C. Eng. (I) F.I.E.  
F 3214  
CHARTERED ENGINEER