

Sub: Comments regarding Technical Query on reduction in Fuel Oil consumption of a Partially Loaded DG set

I have gone through the query and the possible solution provided for the same.

I have certain apprehensions regarding the same.

- ◆ Fuel consumption in a DG Set depends primarily upon the power output of the set and the inherent losses (including cooling losses)
- ◆ Other factor affecting the fuel consumption is improper combustion on any or a combination of these accounts:
  - Fuel – Air ratio
  - Improper atomization of the fuel
  - rpm of the engine
  - Ambient conditions
- ◆ Fuel consumption also depends upon the type of coupling between engine and the generator
- ◆ Having taken care of other factors, fuel consumption can only be reduced by reducing inherent losses i.e. properly maintained DG set, proper lubrication and optimum cooling
- ◆ As far as tampering with the Fuel – Air ratio is concerned
  - Blocking the 2 out of 8 injection points will not serve the purpose rather it will result in engine output power with missing or reduced power intervals.
  - Providing a recirculation line in the fuel supply system will only reduce the supply pressure to the cylinder, which in any case has to be more than the pressure inside the cylinder at the time of injection. Reduced pressure means less supply and thereby less power or else no supply and no power stroke.
- ◆ It would rather be prudent to go in for one or two lower capacity & efficient DG sets, as per requirement after cost – benefit analysis of the replacement option.

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