



**Mod 498
Downstream Gas Quality
User Concerns
Transmission Workgroup
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Mod 498 Gas Quality

Gas Turbine combustion dynamics, emissions and operability are impacted by total level of inerts

If the total level of inerts exceeds a set level the OEM warranty will become invalid. The increase in CO₂ could restrict the selection of future Gas Turbine manufacturer for new build sites as the increase to 4 mole % is above some OEM's limits when combined with other inerts within the gas supply.

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Questions

What is the limit on the total allowable inerts in the fuel specification when the CO₂ limit is lifted to 4 mole %.

Where is the level of inerts stated in the GSMR?

What is the expected normal future gas composition (including LHV, total inerts)

What is the expected Worst future gas composition and estimated durations when this worst case gas supply would be in use (including LHV ,total inerts)

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Varying gas specification leads to a requirement for frequent and unpredictable Gas Turbine re-tuning in order to maintain combustion stability and dynamics within OEMs spec.

Combustion dynamics are affected by gas quality changes which could lead to EA breaches if burners are not re-tuned.

Re-tuning of burners takes 4 hours and is costly and prevents flexible running during that period.

Changes in Gas Quality could result in Gas Turbine start up and transfer issues. This could represent a real risk in the future for stations operating in a cyclic mode.

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Questions

What is the anticipated rate of change of Wobbe that we can expect to see at an off take point

What is the expected profile of variations in gas supply quality at an take off point per hour / day / week / month / year.