

Power Station Construction Supplementary Information Requirements

- Name of power station and total capacity.
- Type of power station (for example hydro, wind, coal fired, Combined Cycle Gas Turbine ('CCGT') etc.).
- Number of units and individual capacity.
- Name of manufacturer and country of manufacture for turbines, engines, boilers, generators & transformers.

For steam turbine power stations please provide the following:

- Details of the fuel(s) to be used including types and details of stock levels to be held.
- How will the quality of such fuel be monitored and how are checks carried out on incoming fuel supplies?
- How will fuel be delivered to site? What contingency arrangements are in place to deliver fuel by alternative means?
- Details of boiler design, supercritical, fluidised bed boiler. Please provide live and reheat steam pressures, temperatures and flows.
- Details of steam turbine design: live steam and exhaust steam conditions, number of cylinders, gross MW output and reference lists.
- Details of flue gas clean up plant – type of process.

For CCGT/OCGT please provide the following information:

- The precise gas turbine model number, the manufacturer, date of manufacture, version, and output at ISO conditions.
- Confirmation that the units have all the original equipment manufacturer's latest recommended improvements incorporated.
- Configuration for CCGT – 2+1 3+1, single shaft etc.
- Details of fuels to be used and the experience on running on these.
- Are any non-standard fuels to be used such as syngas, coke oven gas, blast furnace gas, mine gas or landfill gas?
- How will the quality of such fuel be monitored? Please provide details of gas chromatographs, slug catchers and so on to be incorporated.
- If a CCGT power station, is it possible to operate in Open Cycle Gas Turbine ('OCGT') mode? Please provide details of how this is to be done. Are there any licensing/contractual/environmental considerations that Insurers should know of with respect to OCGT operations?

For hydro stations please provide the following information:

- Breakdown of civil and mechanical/electrical sum insured.
- Type of hydro for example: run of river, upriver, traditional dam, pumped storage?
- Detailed design of dam structures, earth filled, arch, concrete etc.
- Cofferdam design. Return periods utilised in respect of coffer dam design. If return period is less than 20 years are the dams designed for overtopping?
- Turbine type: Francis, Kaplan or Pelton.
- Please note that the underwriting of heavily civil engineering biased hydro electric stations is not covered by this document.

Reciprocating Engines

- The precise model number, version, number of cylinders and output at ISO conditions.
- Type of fuel. What is the experience of the engines running on this fuel?
- How are checks carried out on incoming fuel supplies and is there in-line fuel monitoring immediately before the engines?

Wind energy

- Confirmation that location is onshore.
- Model number and output level of the wind turbine.
- Confirmation that turbine manufacture has at least 20 machines of this design which have been operational for a year.
- Details of major component manufacturer e.g. gearbox, blades, generators and transformers.

Where relevant please provide details of the following ancillary structures:

- Details of any gas and water pipelines with route maps and construction details.
- Details of any Transmission & Distribution lines, high voltage switchyards and substations. Who is responsible for commissioning these?
- Number of transformers. Please provide specifications including MVA, primary input voltage(s), output voltage, cooling method.
- Are any district heating or delivery pipelines to be insured?
- Is there a desalination plant included, if so please specify type plant e.g. multistage flash, reverse osmosis, multiple effect distillation? Capacity in MIGD or cubic metre per day. Number of trains/units and manufacturer.

Fire – please provide the following details:

- Details of any deviations from National Fire Protection Association ('NFPA') 850 revision 2006 guidelines "Fire Protection of Electrical Generating Stations". If the plant is not built in accordance with NFPA standards please provide details of the codes to which it is built and confirm any deviations therefrom.