

# Renewable Energy (Refused Derived Fuel to Energy)

## REFUSED DERIVED FUEL GASIFICATION PLANT

**Client** - Solena Group, Inc.

**Project Location** – Melaka, Malaysia

Melaka WtE IPGCC Project (Phase I) entails the design of an (IPGCC) integrated plasma gasification combined cycle plant for the generation of electricity for supply to Malaysian electrical grid. The plant design involved the use of RDF (refused derived fuel) as feedstock in the gasification process.

Integrity Engineers provided electrical instrumentation and control system engineering for the Plasma Island subsystem of the plant. Design activities entailed the development of process and instrumentation diagrams, control system hardware and software. Additional design activities included the selection and specification of process instrumentation (pressure, temperature, level, and gas analysis). Completion of instrument installation details, control panel details, junction box details, and development of subsystem's instrumentation and control requirements. Integrity Engineers developed custom Multiple-Input-Multiple-Output (MIMO) Model-based process controller to remedy gasification process multiple interacting primary process variables resulting in improved stability of control and uniformity of resultant product syngas.



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