

SIMULATION PROGRAMS FOR THE PROPRIETARY POWER PLANT

UTILITY PLANT WITH STEAM DISTRIBUTION – AUDY™ 5590

The utility plant is a typical representation of a utility power plant, which includes cogeneration. The program includes boilers (one in detail), turbine generator sets (one in detail) and a steam distribution system.

GAS TURBINE GENERATOR – AUDY™ 5640

Includes: 12MW generator, gas turbine combustor, compressor, turbine and diesel starter, lube oil system, oil or gas fired waste heat recovery boiler.

COAL FIRED - CONTROLLED CIRCULATION – AUDY 5710

Includes: pulverized coal; CE drum; forced circulation boiler; Westinghouse cross compound turbine; balanced draft furnace; 340MW, 2000 psi.

GAS FIRED - CONTROLLED CIRCULATION – AUDY™ 5730

Includes: natural gas; CE drum; forced circulation boiler; GE tandem compound turbine; forced draft furnace with gas circulation; 340MW, 2000 psi.

GAS FIRED - UNIVERSAL PRESSURE – AUDY™ 5740

Includes: natural gas; B&W supercritical boiler; GE tandem compound turbine; forced draft furnace with gas recirculation; 340MW, 3500 psi.

COAL FIRED - UNIVERSAL PRESSURE – AUDY™ 5750

Includes: pulverized coal; CE supercritical boiler; GE tandem compound turbine; forced draft furnace; 700MW, 3500 psi.

PROPRIETARY POWER PLANT continued.....

COAL FIRED - UNIVERSAL PRESSURE – AUDY™ 5760

Includes: pulverized coal; CE supercritical boiler; GE tandem compound turbine; balanced draft furnace; 700MW, 3500 psi.

COAL FIRED - NATURAL CIRCULATION – AUDY™ 5770

Includes: coal; CE cyclone furnace; CE drum; natural circulation boiler; Westinghouse cross compound turbine; balanced draft furnace; 340MW, 2000 psi.

COAL FIRED - CONTROLLED CIRCULATION – AUDY™ 5780

Includes: pulverized coal; CE drum, forced circulation boiler; Brown Boveri tandem compound turbine; balanced draft furnace; 420MW, 2400 psi.

OIL/GAS FIRED - NATURAL CIRCULATION – AUDY™ 5790

Includes: oil and/or natural gas; Mitsui drum; natural circulation boiler; Brown Boveri tandem compound turbine; forced draft furnace; 150MW, 2000 psi.

OIL/GAS FIRED - FORCED CIRCULATION – AUDY™ 5800

Includes: oil and/or natural gas; CE drum; forced circulation boiler; GE tandem compound turbine; forced draft furnace; 350MW, 2000 psi.

OIL/GAS/COAL FIRED - NATURAL CIRCULATION – AUDY™ 5810

Includes: oil, natural gas and/or pulverized coal; B&W drum, natural circulation boiler; GE tandem compound turbine; balanced draft furnace; 350MW, 2000 psi.

OIL/GAS FIRED - NATURAL CIRCULATION – AUDY™ 5820

Includes: oil and/or natural gas; Mitsui drum, natural circulation boiler; Brown Boveri tandem compound turbine; forced draft furnace; 150MW, 2000 psi.

COAL FIRED - FORCED CIRCULATION – AUDY™ 5830

Includes: pulverized coal; CE drum, forced circulation boiler; GEC tandem compound turbine; balanced draft furnace; 410MW, 2500 psi.

PROPRIETARY POWER PLANT continued.....

OIL/GAS/COAL FIRED - FORCED CIRCULATION – AUDY™ 5840

Includes: oil, natural gas, and/or pulverized coal; forced circulation boiler; GE tandem compound turbine; balanced draft furnace; 350MW, 2000 psi.

OIL/GAS/COAL FIRED - FORCED CIRCULATION – AUDY™ 5850

Includes: oil, natural gas, and/or pulverized coal; forced circulation boiler; GE tandem compound turbine; balanced draft furnace; 350MW, 2000 psi.

DESALINATION BY MULTI_STAGE FLASH (MSF) – AUDY™ 5870

The multi-stage flash (MSF) desalination plant depicts the operation of a conventional MSF desalination plant consisting of two (2) parallel trains, each with deaerator, vacuum system and brine heater. The desalting system is a cross-tube multi-stage flashing type evaporator with recirculating brine. The evaporator shell contains twenty-one (21) stages with the first eighteen (18) stages in the heat recovery section and the last three (3) stages in the heat rejection section. Total potable water production of the two (2) trains is 3800 m³/hr (equivalent to 20 million imperial gallons per day).

DESALINATION BY REVERSE OSMOSIS (RO) – AUDY™ 5880

The reverse osmosis (RO) desalination plant depicts the operation of a conventional RO desalination plant consisting of seawater intake systems, pre-treatment chemical injection, filtration, fifteen (15) parallel RO membranes, product treatment and product storage. The simulated RO membranes are representative of two (2) different designs. With all membranes in operation, the plant will produce 3800 m³/hr of potable water (equivalent to 20 million imperial gallons per day).