

Plant Design Expert (PDE)

- Developed by Thermoflow, Inc.
- Primary use: Preliminary design/screening of industrial cogeneration applications using gas turbines
- Provides baseline comparison (grid electricity and separate boiler)
- *Very* limited user input; most selections made by program
- Equipment data library: Gas turbine performance data
- CHP applications: Process steam, hot water
- Analysis duration/time step: unknown; annual
- Economic analyses: Simplistic IRR only
- Cost: \$3,000. (<http://www.thermoflow.com/>)
- Demo CD available

PDE Input Is Through On-Screen Windows

PDE - Input Screen 3 of 10

File Options About PDE

Power and Fuel Requirements

Power plant type

Pure Power
 Cogeneration

Principal fuel type

Natural gas
 Distillate oil

Is there a limit on fuel supply rate?

Yes
 No

Limiting fuel supply rate (LHV basis) MMBTU/hr

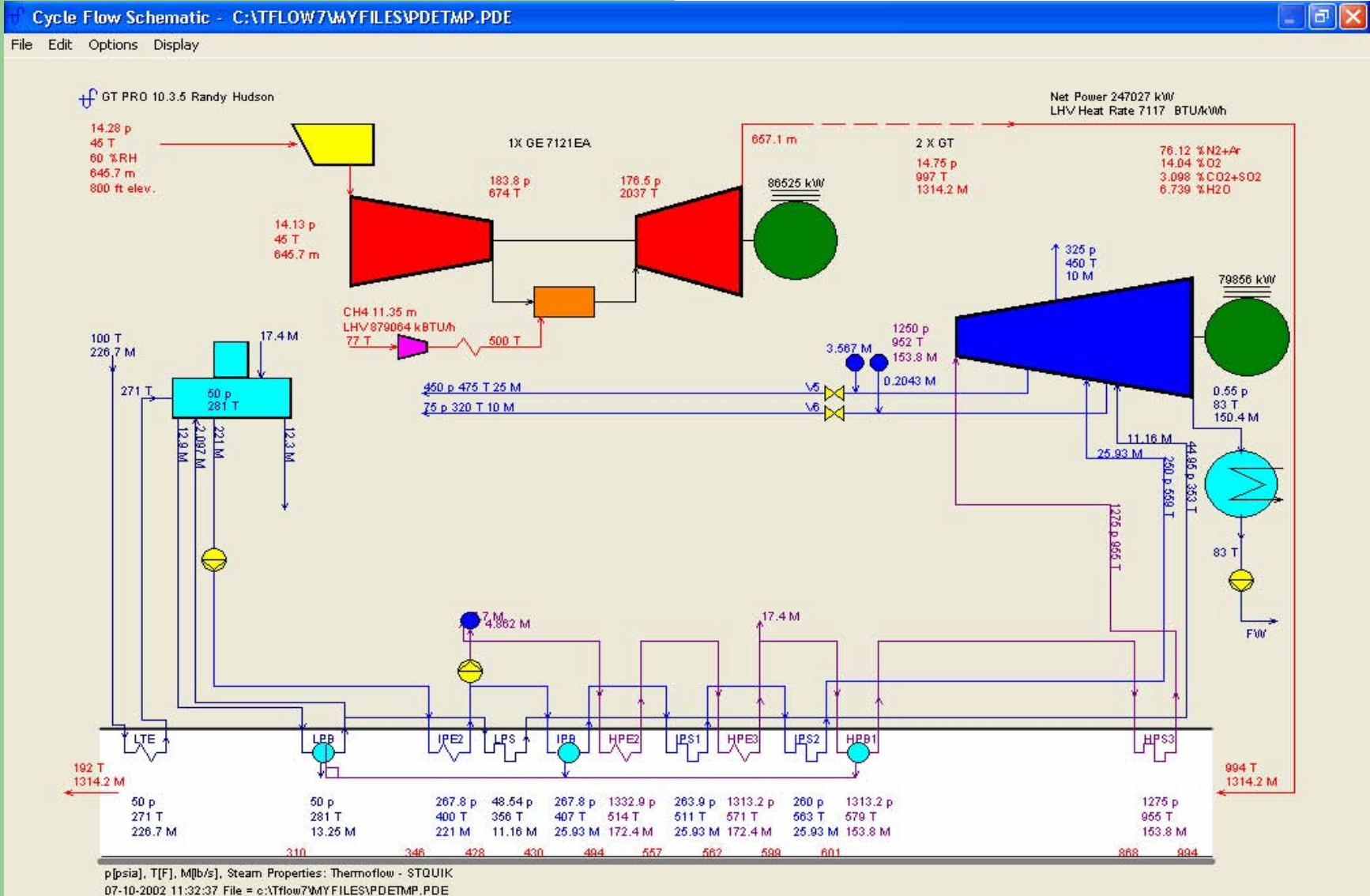
Plant electric capacity

Desired MWe
 Based on maximum available fuel

Demonstration Copy For Evaluation Only

start | Eudora - [In] | Microsoft PowerP... | Microsoft Excel - ... | Plant Design Exp... | PDE - Input Scr... | 1:19 PM

PDE Provides Text and Graphical Output



PDE Output

- Preliminary conceptual plant design
- Heat balance
- Power and energy output capacities
- Internal rate of return based on user-supplied cost data