

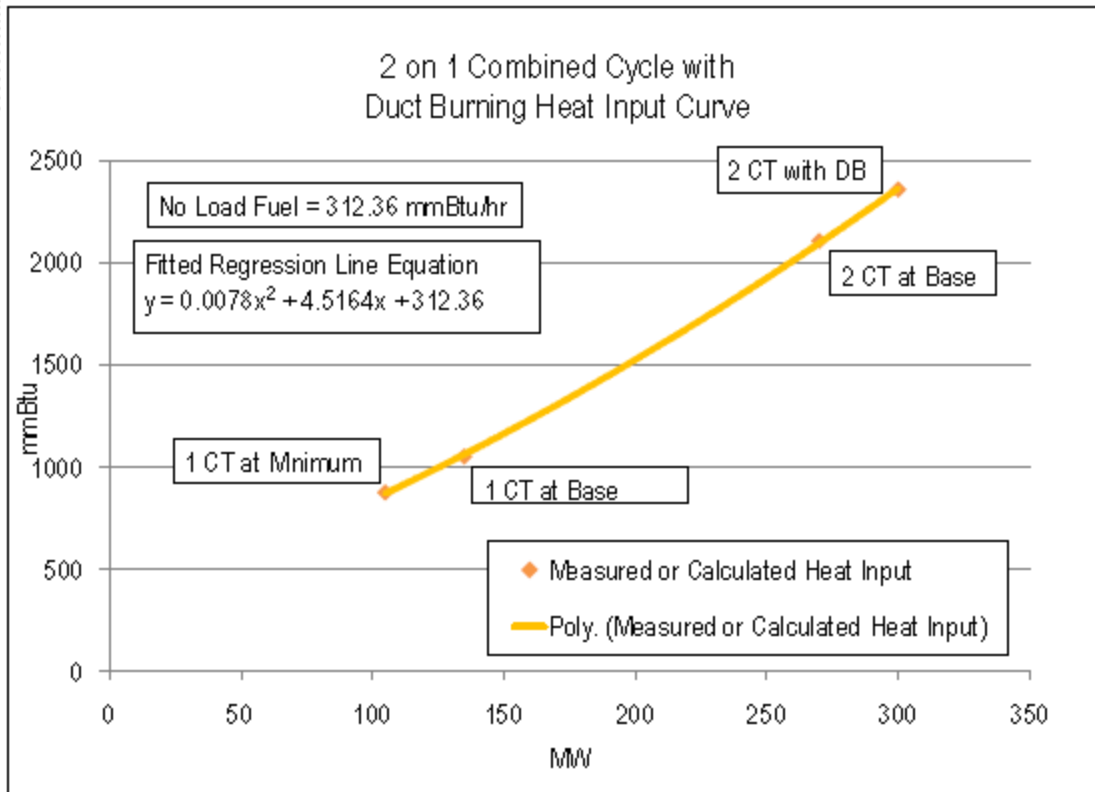
Combined Cycle Modeling Options



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- Using adjusted No-load to create a CC offer curve
- Segmented ramp rate for modeling the timing of configuration changes
- Changing Eco Min hourly to indicate available configurations
- Pseudo Model to separate configurations into separate market units

- The No-load can be adjusted to create a monotonically increasing offer curve (See Example B.4 in Manual 15)



- Segmented ramp rates can be used to model:
 - Starting of additional CTs
 - Starting Duct Burners
 - However there are no minimum run times and the offer segment could be dispatched down in the next SCED case.

| MW | Segments | Ramp Rate | |
|-----|----------|------------|----------------------|
| 150 | 250 | 10 MW/Min | Eco Min to Base Load |
| 250 | 300 | 0.1 MW/Min | Duct Burner |

- CC Owners could update Eco Min hourly to hourly specify whether the unit is in a 1 X 1 or 2 X 1 configuration.

| Hour | Eco Min | Configuration |
|------|---------|---------------------|
| 8 | 100 | 1 x 1 Configuration |
| 9 | 200 | 2 x 1 Configuration |
| 10 | 200 | 2 x 1 Configuration |
| 11 | 100 | 1 x 1 Configuration |

- Split Combined Cycle into a separate market units that contain 1 CT and a portion of the steam turbine.
 - Requires changes to EMS Model and telemetry
 - Separate Markets Gateway input for each unit
 - Power Meter submittals for each market unit must include their portion of ST MWs

2X1 Combined Cycle Unit Modeled as 2 Market Units

