1.7.3 No Load Cost

N**o-load cost** – has been defined as the calculated cost per hour to run at zero net output. However, the calculated no-load cost may have to be adjusted higher to ensure that the slope of the Generator Offer Curve is monotonically increasing. Therefore, the No-Load cost is the cost needed to create the starting point of a monotonically increasing incremental cost curve.

– is the calculated cost per hour to run at zero net output.

2.5 No-Load

2.5.1 No-Load Definitions

No-load cost is the hourly fixed cost, expressed in $/hr, needed to create the starting point of a monotonically increasing incremental cost curve. It has been defined as the cost to run the generating unit at zero MW output.

2.5.2 No-Load Fuel

All PJM members shall use no-load fuel to develop no-load costs for their units. Since generating units cannot normally be run stable at zero net output, the the no-load heat input may be determined by collecting heat input values as a function of output and performing a regression analysisextrapolating the total heat input-output curve to zero net output. The heat input values as a function of output may be either created from empirical data or be the initial design heat input curve for an immature unit.

Insert example heat input curve with trend line equation here.

Therefore, No-load fuel consumed shall be the theoretical value of fuel consumed at zero net output from test data or through extrapolation of the theoretical regression analysis of the input-output curve. The minimum number of points to develop a heat input curve shall be 2 points for a dispatchable unit with a variable output and 1 point for a unit with a fixed output. All PJM Members shall use no-load fuel consumed to develop no-load costs for their units.

No-load fuel value shall be the value used to develop no-load costs. The fuel associated with unit no-load may be a theoretical value extrapolated from other unit operating data, or may be the result of a specific test performed to document the no-load fuel consumed. Sufficient documentation for each generating unit's no-load point in MBTUs (or fuel) per hour shall consist of a single contact person and/or document to serve as a consistent basis for scheduling, operating and accounting applications. The MMU can verify calculation methods used subject to the Cost Methodology and Approval Process.

As unit types are added to M15, no load will be addressed in the appropriate sections.

2.5.2 3 No Load Calculation

The initial estimate of **a unit's** **No-Load Cost ($/Hr)** is the No-Load fuel Cost multiplied by the performance factor, multiplied by the (Total Fuel-Related Cost (TFRC))

$$No\ Load\ Cost(\$ / Hour) =$$

$$(No\ Load\ Fuel * Performance\ Factor * TFRC)$$

The calculated no-load cost can be adjusted higher to allow for the first incremental point of the unit's generator offer curve to comply with PJM's monotonically increasing curve requirement. **No-Load Fuel (MBTU/hour)** is the total fuel to sustain zero net output MW at synchronous generator speed.

6.5 No Load Cost Calculation for CTs

> **Note:** The information in Section 2.5 contains basic Start Cost information relevant for all unit types. The following additional information only pertains to CT and diesel engine units.

> **Note:** CT Maintenance Adder is included directly in start, no-load and peak segment components.

7.5 No Load

Hydro Units have do not have No Load costs.