Day-Ahead Demand Reduction Program

Performance and Payment Examples

---

1) Economic "Incentivized" Curtailment of Load

For Load scheduled to economically curtail Day-Ahead, and that actually does curtail in Real-Time, the LSE would be paid ~~the higher of its Price-Cap Curtail Bid or~~ Day-Ahead LBMP and~~which~~ would include a supplement, if needed, to allow full recovery of the "Curtailment Initiation Cost". Also, the LSE would be charged for that curtailed Load, but then would receive a rebate for this charge as the "Incentive".

As an example, assume:

a) A 10 MW Load bids 10~~7~~ MW fixed Load and bids to curtail 3 MW of Load at a Price Cap of $100/Mwh plus $2,000 for "Curtailment Initiation Costs" for a continuous time strip of 6 hours. This amounts to a total curtailment bid of $3,800 = (3 MW x $100/MWh x 6 hours) plus $2,000.
b) That Load is scheduled Day-Ahead for a 3 MW curtailment for 6 hours.
c) Day-Ahead LBMP is $250/MWh for those 6 hours.
d) Real-Time LBMP is $275/MWh for those 6 hours.
~~d)~~e) The Load actually consumes 7 MW and curtails 3 MW over those 6 hours.

The resulting payments and charges would be as follows:

a) The LSE/CSP would be paid $4,500 = $250/MWh LBMP x 3 MW x 6 hours for the curtailment.
b) No supplemental "Uplift" payment for a "Bid Curtailment Cost Guarantee" would be needed since the $4,500 LBMP payment would exceed the $3,800 total curtailment bid.
c) The LSE/CSP would be charged $15,000 = $250/MWh LBMP x 10~~7~~ MW x 6 hours for the fixed Load~~ plus $250/MWh LBMP x 3 MW x 6 hours for the curtailed Load.~~
d) The LSE/CSP would then also receive a rebate of $4,500 = $250/MWh LBMP x 3 MW x 6 hours for the curtailed Load as an "Incentive".
e) The LSE/CSP would be charged $4,950 = $275/MWh * 3 MW * 6 hours for the curtailed load as a Load Balance.
f) The LSE/CSP would receive a rebate of $4,950 = $275/MWh * 3 MW * 6 hours for the balancing of their Day-Ahead energy purchase.

2) Economic Selection of Small Generators for Self-Supply

For Load scheduled to economically curtail Day-Ahead and which continues to consume, but self-supplies the "curtailed" Load with a "behind-the-fence" small generator, the LSE would be paid ~~the higher of its Price-Cap Curtail Bid or~~ Day-Ahead LBMP for the self-supply. This payment would include a supplemental payment, if needed, to allow full recovery of the "Curtailment Initiation Cost" (or "Start-Up and Min Gen Costs" in the case of a self-supplying small Generator). Also, the LSE would be charged for the full amount of Energy that the load consumes (i.e., no rebate would be paid for the "curtailed" Load as an "Incentive").

Consequently, a Load that "curtails" through self-supply would not be (and specifically is not intended to be) treated exactly the same way as a Load that "curtails" through an actual reduction in consumption. The self-supplied Load is not eligible for the "Incentive". However, this does provide a mechanism for small Generators to bid into the market without the more rigorous requirements of large Generators. For the purposes of billing, a Load and its "behind-the fence" small Generator would be treated as two separate entities under this program.

As an example, assume:

a) A 10 MW Load bids 10~~7~~ MW of fixed Load and bids to curtail 3 MW of Load through self-supply via a "behind-the-fence" small generator at a Price Cap of $100/MWh plus $2,000 for "Curtailment Initiation Costs" (or "Start-up and Min Gen Costs") for a continuous time strip of 6 hours. This amounts to a total curtailment bid of $3,800 = (3 MW x $100/MWh x 6 hours) plus $2,000.
b) That load is scheduled Day-Ahead for a 3 MW curtailment for 6 hours.
c) Day-Ahead LBMP is $250/MWh for those 6 hours.
d) Real-Time LBMP is $275/MWh for those 6 hours.
~~d)~~e) The Load actually consumes 10 MW, but self-supplies 3 MW of that 10 MW over those 6 hours (i.e., it has a net consumption of 7 MW).

The resulting charges and payments would be as follows:

a) The LSE/CSP would be paid $4,500 = $250/MWh LBMP x 3 MW x 6 hours for the self-supplied "curtailed" Load.
b) No supplemental "Uplift" payment for a "Bid Production Cost Guarantee" would be needed since the $4,500 LBMP payment would exceed the $3,800 total curtailment bid.
c) The LSE/CSP would be charged $15,000 = $250/MWh LBMP x 10 MW x 6 hours for its total consumption even though a portion is self-supplied.
d) The LSE/CSP would not receive a rebate for the curtailed Load (i.e., no "Incentive" payment would be paid for the 3 MW of self-supplied "curtailed" Load).
e) The LSE/CSP would be charged $4,950 = $275/MWh * 3 MW * 6 hours for the curtailed load as a Load Balance.
f) The LSE/CSP would receive a rebate of $4,950 = $275/MWh * 3 MW * 6 hours for the balancing of their Day-Ahead energy purchase.

The difference, obviously, between "#1" and "#2" above is that under "#1", the LSE would be charged $4,500 less for Energy -- i.e., the "Incentive".

3) Uplift Example

An LSE will be paid ~~the higher of its Price-Cap Curtail Bid or~~ Day-Ahead LBMP for the self-supply and~~which~~ would include a supplement, if needed, for "Bid Curtailment Cost Guarantee" to allow full recovery of the "Curtailment Initiation Cost" (in the case of a small self-supplying generator, this would be identical to a "Bid Production Cost Guarantee" to allow full recovery of start-up and min gen costs).

Assume the same example for a curtailable Load Bid above (with and without the self-supplying small generator) except that the Load bids a Price-Cap of $150/MWh rather than $100/MWh, and continues to bid $2,000 for "Curtailment Initiation Costs". This amounts to a total curtailment bid of $4,700 = (3 MW x $150/MWh x 6 hours) plus $2,000.

For a Load without a self-supplying generator, the payments and charges would be as follows:

a) As in the previous example, the LSE/CSP would be paid $4,500 = $250/MWh LBMP x 3 MW x 6 hours for the curtailment.

b) The LSE/CSP would also be paid $200 = $4,700 - $4,500 as a supplemental payment for a "Bid Curtailment Cost Guarantee" since the total $4,700 curtailment bid exceeded the $4,500 LBMP payment (this is based upon the requirement that SCUC determines that the total bid production cost over the 24 hour Dispatch Day will be lower with this Load curtailed).

c) Also, as in the previous example, the LSE/CSP would be charged $15,000 for the fixed Load ~~plus the curtailed Load~~; and then would also receive a rebate of $4,500 as an "Incentive".

d) The LSE/CSP would be charged $4,950 = $275/MWh * 3 MW * 6 hours for the curtailed load as a Load Balance.

e) The LSE/CSP would receive a rebate of $4,950 = $275/MWh * 3 MW * 6 hours for the balancing of their Day-Ahead energy purchase.

The same example holds for Load that curtails through self-supply except that the "Incentive" rebate payment is not made.

This example is simplified somewhat because the bids and LBMPs in each hour were the same, but the principle remains that "Uplift" is paid if, over the course of the 24 hour Dispatch Day, bid costs are not fully recovered through LBMP.

If an LSE/CSP has an End-User scheduled for a Price-Cap curtailment that would have been eligible for the "Incentive" payment, and that subsequently fails to curtail, the LSE/CSP will be charged 110% of the higher of Day-Ahead or Real-Time LBMP for non-curtailed Load. A self-supplying on-site Generator is not eligible for the "Incentive", and also not subject to the 110% Performance Penalty; it is simply charged Real-Time LBMP for non-curtailed Load.

4) Economic "Incentivized" Curtailment of Load With Non-Performance Penalty for Failure to Reduce Consumption

As an example, assume:

a) A 10 MW Load bids 10~~7~~ MW fixed Load and bids to curtail 3 MW of Load by reducing consumption at a Price Cap of $100/MWh plus $2,000 for "Curtailment Initiation Costs" for a continuous time strip of 6 hours. This amounts to a total curtailment bid of $3,800 = (3 MW x $100/MWh x 6 hours) plus $2,000.
b) That Load is scheduled Day-Ahead for a 3 MW curtailment for 6 hours.
c) For those six hours, Day-Ahead LBMP is $250/MWh, and Real-Time LBMP is $300/MWh.
d) Over those six hours, the Load actually consumes 10 MW; it fails to curtail 3 MW.

The resulting payments and charges would be as follows:

a) The LSE/CSP would be paid $4,500 = $250/MWh LBMP x 3 MW x 6 hour for the curtailment~~is not paid for the curtailment since it didn't occur~~.
b) The LSE/CSP would be charged $15,000~~10,500~~ = $250/MWh Day-Ahead LBMP x 10~~7~~ MW x 6 hours for the fixed Load.
c) The LSE/CSP would also be charged $5,940 = 110% x $300/MWh Real-Time LBMP x 3 MW x 6 hours for the Load that failed to curtail.
d) The LSE/CSP also would not receive a rebate as an "Incentive" because it failed to curtail.

5) Self-Supply Curtailment of Load With Non-Performance Penalty for Failure to Curtail

As an example, assume:

a) A 10 MW Load bids 10~~7~~ MW fixed Load and bids to curtail 3 MW of Load through self-supply at a Price Cap of $100/MWh plus $2,000 for "Start-Up and Min Gen Costs" for a continuous time strip of 6 hours. This amounts to a total curtailment bid of $3,800 = (3 MW x $100/MWh x 6 hours) plus $2,000.
b) That Load is scheduled Day-Ahead for a 3 MW curtailment for 6 hours.
c) For those six hours, Day-Ahead LBMP is $250/MWh, and Real-Time LBMP is $300/MWh.
d) Over those six hours, the Load actually consumes 10 MW; it fails to self-supply 3 MW, and therefore fails to curtail.

The resulting payments and charges would be as follows:

a) The LSE/CSP would be paid $4,500 = $250/MWh LBMP x 3 MW x 6 hour for the curtailment~~is not paid for the curtailment since it didn't occur~~.
b) The LSE/CSP would be charged $15,000~~10,500~~ = $250/MWh Day-Ahead LBMP x 10~~7~~ MW x 6 hours for the fixed Load.
c) The LSE/CSP would also be charged $5,400 = $300/MWh Real-Time LBMP x 3 MW x 6 hours for the Load that failed to curtail (it is not subject to the 110% penalty since it bid to curtail through self-supply).
d) The LSE/CSP was not eligible for a rebate as an "Incentive" because it bid to self-supply rather than actually reduce consumption.

Additional Documentation

Documentation on the Day-Ahead Demand Response Program can be found in the following technical bulletins:

TB0 – DADRP Definitions
TB1 - Program Overview
TB2 - Registration Procedures
TB3 - Bidding Instructions
TB4 - Calculating Customer Baseline Load
TB5 - Reporting and Verifying Customer Baseline Load and Meter Data
TB6 - Incentive Credits, Demand Reduction Payments and Non-Performance Penalties
TB7 - Performance and Payment Examples
TB8 - Day-Ahead Load Curtailment Program Cost Allocation