

MEMORANDUM

DATE: December 6, 2002
TO: Jim Savitt, Steve Balsler, Ibrahim Mqasqas
FROM: Andrew Hartshorn, Keith Collins
RE: Long Island Bid Production Cost Guarantee Analysis
CC: Bill Young, Liz Grisaru, Mollie Lampi

1 Overview

LECG, LLC analyzed Bid Production Cost Guarantee (BPCG) payments to Long Island (LI) units between September 30th, 2001 and November 12th, 2002.

Specifically, LECG, LLC analyzed the impact of mitigated minimum load block offer prices and start-up offer prices on the Bid Production Cost Guarantees (BPCGs) payable to Long Island (LI) units that offered operating reserves and were committed by SCUC in hours during which LI locational reserve constraints were binding.

A number of conduct and impact standards, including those approved by the Commission as part of the NYISO Market Mitigation Measures (MMM), were applied to the minimum load block offer prices and the start-up offer prices of the LI units providing reserves and the change in BPCG was analyzed.

2 Methodology – Conduct and Impact

First, the conduct test was applied to each LI unit. Second, if a unit fails a conduct test, the offer submitted by the market participant is replaced by the reference offer for that unit and then tested for impact on BPCG payments. Third, if the offer price fails the conduct and impact test the BPCG is recalculated using the reference minimum load block offer prices and start-up offer prices. Mitigation only occurs if both the conduct and impact tests are failed.

The minimum load block offer price conduct test as described by the MMM requires that the reference minimum load block offer price for the unit be tested if the market participant minimum load block offer price is more than \$100/MW or 300% higher than the reference minimum load block offer price.

The start-up offer price conduct test as described by the MMM requires that the reference start-up offer price for the unit be tested if the market participant start-up offer price is more than 200% higher than the reference start-up offer price.

The impact test associated with the start-up and minimum load block offer prices is based on a comparison of the BPCG payment calculated using market participant offer prices and the BPCG payment that would be made with reference offers substituted for any offer price that failed the conduct test.

We analyzed a number of different conduct and impact scenarios:

- MMM approved conduct and impact thresholds
- Conduct and impact thresholds at one half of the MMM approved levels
- Conduct and impact thresholds at one quarter of the MMM approved levels
- No conduct threshold and an impact threshold at MMM approved levels

3 Data

As part of the day-ahead market price verification work that LECG performs for the NYISO, LECG receives the offers, schedules and prices for all units. This provides all the necessary information to calculate each unit's BPCG payment. Each day, as part of the price verification process, LECG develops a revenue and cost statement for each unit that includes a calculated BPCG payment.

The NYISO provided LECG with data from the Billing And Settlement (BAS) system that indicated the set of LI units that received BPCGs between September 30th, 2001 and November 12th, 2002.

LECG was able to verify the BPCGs determined in BAS within reasonable tolerances using the BPCGs calculated in the price verification process. LECG then used the LECG revenue and cost statement with reference offers substituted for market participant offers whenever conduct thresholds were violated.

LECG filtered the list of LI units provided by the NYISO to exclude any units that were committed but did not offer reserves, and exclude any days when no LI reserve requirements were binding constraints in the day-ahead market solution. In both these cases the commitment decisions are unaffected by LI locational reserve requirements.

Additionally, LECG excluded LI units that were not committed in the bid load pass in any hour of a unit-day. Any unit committed completely outside the bid load pass would not have been committed to meet LI locational reserve requirements as those requirements must already have been met at the conclusion of the bid load pass.

LECG performed the various conduct and impact test evaluations on this reduced set of observations.

Reference offers for the LI units were provided by the NYISO on a periodic basis. Typically, we had two data points within each month. LECG used the reference offer prices from the NYISO data that was closest by date to the day that was being evaluated.¹

¹ In cases of a tie the reference bids from the earlier date were used

4 Results

Four conduct and impact scenarios were tested:

- MMM approved conduct and impact thresholds
- Conduct and impact thresholds at one half of the MMM approved levels
- Conduct and impact thresholds at one quarter of the MMM approved levels
- No conduct threshold and MMM approved impact threshold

The results of the conduct and impact scenarios are detailed in Appendix A.

There were 615 unit-day² observations that passed the initial filtering of BPCG observations described in Section 3.

4.1 MMM Approved Conduct and Impact Thresholds

In this scenario, a unit fails the conduct test on the minimum load block offer prices if the market participant minimum load block offer price is more than \$100/MW or 300% higher than the reference minimum load block offer price. The unit fails the conduct test on the start-up offer price if the market participant start-up offer price is more than 200% higher than the reference start-up offer price. The conduct tests are evaluated independently.

In this scenario, a unit fails the impact test if the BPCG calculated with market participant offers is more than 200% higher than the BPCG calculated with reference offers substituted for offers that failed conduct.

There are no observations that fail the conduct test in this scenario.

4.2 Conduct and Impact Thresholds at One Half of the MMM Approved Levels

In this scenario, a unit fails the conduct test on the minimum load block offer price if the market participant minimum load block offer price is more than \$50/MW or 150% higher than the reference minimum load block offer price. The unit fails the conduct test on the start-up offer price if the market participant start-up offer price is more than 100% higher than the reference start-up offer price. The conduct tests are evaluated independently.

In this scenario, a unit fails the impact test if the BPCG calculated with market participant offers is more than 100% higher than the BPCG calculated with reference offers substituted for offers that failed conduct.

There are no observations that fail the conduct test in this scenario.

² A unit-day is used as BPCGs are calculated across a day. Even if the LI reserve constraints are only binding in one hour it is the impact on the BPCG across the day that must be investigated.

4.3 Conduct and Impact Thresholds at One Quarter of the MMM Approved Levels

In this scenario, a unit fails the conduct test on the minimum load block offer price if the market participant minimum load block offer price is more than \$25/MW or 75% higher than the reference minimum load block offer price. The unit fails the conduct test on the start-up offer price if the market participant start-up offer price is more than 50% higher than the reference start-up offer price. The conduct tests are evaluated independently.

In this scenario, a unit fails the impact test if the BPCG calculated with market participant offers is more than 50% higher than the BPCG calculated with reference offers substituted for offers that failed conduct.

A total of 4 unit-days failed both the conduct and impact tests.

The total difference between the BPCGs calculated with market participant offers and with reference offers was \$31,400.

Of this total:

- BPCGs greater than \$1,000/unit-day accounted for \$31,400.
- BPCGs greater than \$5,000/unit-day accounted for \$26,300.
- BPCGs greater than \$10,000/unit-day totaled \$20,300.
- BPCGs greater than \$20,000/unit-day totaled \$20,300.

4.4 No Conduct Threshold and MMM Approved Impact Threshold

In this scenario, every unit is assumed to have failed the conduct test on both the start-up offer price and minimum load block offer prices.

In this scenario, a unit fails the impact test if the BPCG calculated with market participant offers is more than 200% higher than the BPCG calculated with reference offers substituted for offers that failed conduct.

A total of 335 unit-days failed both the conduct and impact tests.

The total difference between the BPCGs calculated with market participant offers and with reference offers was \$2.4 million.

Of this total:

- BPCGs greater than \$1,000/unit-day accounted for \$2.3 million.
- BPCGs greater than \$5,000/unit-day accounted for \$2.0 million.
- BPCGs greater than \$10,000/unit-day totaled \$1.3 million.
- BPCGs greater than \$20,000/unit-day totaled \$527k.