NYISO Billing & Accounting Working Group
September 27, 2000
NYISO Report

<u>Known Billing Code Problems</u>

1. A billing code error exists involving the megawatthours [MWh] reported on customer statements as billing codes 600 & 800, upon which ancillary services are billed. The error is isolated to the treatment of curtailed import bilateral transactions, where the point of withdrawal is any NYCA bus except the NYISO LBMP reference bus.

    When import bilateral transactions are scheduled at a value less than what was bid, the Point of Withdrawal should always receive the bilateral at the "bid" amount, because curtailed or non-scheduled imports are only curtailed physically, not financially. The code that computes the MWh for curtailed import bilateral transactions used in the LBMP energy settlement uses the "bid" amount of the bilateral, versus the "scheduled" amount, which is correct. The code that computes the MWh used for ancillary services settlements for transmission customers uses the "scheduled" amount of the curtailed import bilateral, instead of the "bid" amount.

    This code error will be corrected beginning with the October 1, 2000 billing date. Retroactively, the decision was made not to "re-bill" previous months because the true-up process, which uses actual metered energy amounts, inherently adjusts the billing to correct values.

2. A billing code error exists with the real time bid production cost guarantee payments. This error was discovered when it was observed that the MIS was not passing bid curves to the billing system for generators that did not have an accepted day-ahead [SCUC] or hour-ahead [BME] schedule. When units that had no accepted day-ahead [SCUC] or hour-ahead [BME] schedule, but were dispatched out of economic merit for either local or NY control area reliability, the bid curves in billing system were nulls, effectively a bid cost of zero. The solution to this problem is to change the MIS code that creates the "view" that passes MIS data to the billing system to pass the most recent unit bid curves to the billing system. This code is currently under development.

    In addition to this code error, it was observed that the methods in which Operations was committing generators out of economic merit was having a significant impact on billing treatment. Operations has been committing generation out of merit per transmission owner direction, regardless of whether the unit that is requested by the transmission owner to be dispatched has a valid bid curve submitted. In some instances, even a unit that was in the outage scheduler was requested dispatched out of economic merit. Operations dispatched the unit per the transmission owner's direction and as a result there is no basis to pay the unit anything other than at the LBMP. The solution to this problem is to require Operations to use the "SRE" display to commit units out of economic merit. This display only contains generators that have valid bid curves. If a transmission owner requests a specific unit be dispatched out of economic merit, Operations should suggest an alternative unit from the SRE display list.

    Grouped generators have also been impacted by the out of merit commitment methods being used. Operations can change the stated operating limits of units in order to dispatch them above their submitted bid curves. When grouped generators are dispatched economically by Security Constrained Dispatch [SCD], each individual unit within the group receives a single base point, bounded by the submitted bids & operating limits of the unit. If Operations commits a grouped unit by changing the operating limit of one of the individual units within the group, the base points issued can exceed the actual operating capacity of the unit. Fortunately, the owners of these units see this base point and operate the appropriate number of units comprising the group to achieve the dispatched output. Unfortunately, the billing system saw that the submitted bid curve for the unit had a megawatt value considerably less than the base point the unit received and capped any bid production cost guarantee to the highest MW point on the bid curve submitted. To get around this problem, the cap was removed from the billing system code.

    Once the cap was lifted in the bid production cost guarantee computation, it was observed that grouped units were being paid excessively. An additional code error exists involving the computation of the LBMP energy revenue for individual units of a grouped generator. The bid production cost

guarantee for grouped generators is computed at the individual unit level. For each individual unit of the group, the basic formula is: Unit bid production cost plus unit minimum generation cost plus unit start-up cost less ancillary services margins less LBMP energy market revenue. This formula is applied at the SCD interval level and time weighted to arrive at an hourly value. A positive value result indicates an hour in which the unit lost money. Conversely, a negative value is indicative of a profitable hour of operation. In order to compute any bid production cost guarantee payment due the unit at the end of the day, the hourly values are totaled to arrive at a daily BPCG value. In the case of an individual unit comprising a group, if the daily total results in a negative value, the result is zero'd out. All positive BPCG values are totaled for the individual units to arrive at the daily BPCG payment due the grouped unit.   Since the LBMP market revenue for a grouped unit is computed at the group level because the output of the group is metered in total, the computed LBMP revenue of the individual units within the group is effectively zero. The result is that the LBMP revenue realized by the grouped unit is not backed out of the BPCG computation.

The correction of this code will be to prorate the LBMP energy revenue of the group unit across the individual units comprising the at the ratio of the individual units' base points to the total of all the individual units' SCD base points for each SCD interval. This code shall be deployed in late October. Retroactively, staff are investigating a process to re-bill all affected generators.

3.   A third problem is more so a problem between SCD & the Performance Tracking System [PTS]. When SCD creates a dispatch of system generation, it essentially taps LBMPCalc & PTS on the shoulder signaling the end and start of an SCD interval. LBMPCalc averages the 6 second prices to arrive at a SCD interval LBMP and PTS averages the unit outputs, etc. to arrive at an SCD interval output. The problem is when the communication between SCD & PTS fails and PTS is not aware that a new SCD interval exists and it should average system performance values, nor is it receiving the 6 second time stamps. The result is more SCD interval prices posted to the web than SCD intervals present in PTS. When this occurs, the billing system ignores the extra SCD intervals and uses only those present in the performance tracking system.

Billing Related Projects

1.   Code changes providing for the OATT Schedule 1 tariff change to clear residual accounts and bid production costs guarantee costs in the month incurred is complete. Staff are currently testing the code to ensure accuracy and consistency with the tariff provisions. Deployment will begin with the October 1 billing data. A revised billing code data dictionary and billing code reconciliation have been posted on the web.

2.   The code & process to post hourly ancillary services and hourly residual account billing determinants is in development and is scheduled for deployment with the November 1 billing date.

3.   Grid Accounting staff will be proposing a project to change the way the NYISO renders invoices. Through the Billing & Accounting Working Group, NYISO customers have expressed their desire for a single monthly invoice with fixed dates for rendering and payment. The products/services offered by the NYISO can be categorized by the periodicity of their invoicing. Invoicing is rendered (1) upon request, such as in the purchase of NYISO developed reports/studies; (2) monthly, as is done for the Location-Based Marginal Pricing [LBMP] market settlements; (3) semi-annually, as is done for the Installed Capacity Market [ICAP]; and (4) on a varied cycle basis, as will be done for the Transmission Congestion Contact auction process [TCC]. The mediums by which invoices are rendered encompass all forms: electronic posting, facsimile, email, United Parcel Service, Federal Express, and U.S. Mail Service. All products/services invoiced by the NYISO have a common point, the journal entry to record the receivable or payable; therefore, Staff are proposing a project that will enhance the Oracle Financials package to accommodate the wide range of NYISO invoicing requirements and the modification of those systems that generate the invoiced products/services to interface with the enhanced Oracle Financial package. The result of the project will be a fully integrated, automated solution to efficiently & effectively invoice all NYISO products/services with a single, electronic invoice rendered by the NYISO on, or about the same business date, each month.

It is possible to further classify LBMP market settlements as: (1) regular, current month transaction settlements; (2) prior period adjustments, such as re-billing for billing code errors or settlement of dispute resolutions; and (3) billing quality metering true-ups, which are rendered at 3-, 6-, 12-, & 24-month intervals after initial invoicing of a billing month. The LBMP Market products/services purchased by market participants through the NYISO include LBMP spot market energy, transmission service, and ancillary services. It is staff's contention that, although the ISO industry is indeed in its infancy and the products/services offered by the NYISO are unique, the financial accounting process required to book sales/purchases are no different than that of any industry that transacts sales of services or widgets.

The Oracle-based billing system that generates the settlements for LBMP market transactions is not capable of providing appropriate sub-ledger accounting of those settlements. The basis and intent of its design was not to provide journal capability for multiple periods of settlement receivables & payables, but to generate the settlement amounts comprising those receivables & payables. The billing system is resource intensive, requiring essentially all available server power & capacity to merely generate settlement balances at the Security Constrained Dispatch [SCD] {nominally in five minute intervals}, hourly, daily, and month-to-date interval levels. The inability of the billing system to accommodate retention, in a production environment, of multiple versions of a single month's transactions was evidenced when the NYISO was faced with the "re-billing" of previous months' settlements to adjust for billing code errors. In order to accommodate this problem, staff developed a short-term solution to compute adjustments to previously settled months' transactions in an off-line, spreadsheet computation and render invoices from the spreadsheet data. This process of invoicing LBMP market settlements, whether current month transaction settlements, adjustments to prior months' settlements, or billing quality metering true-ups, requires significant, undesirable manual intervention which has resulted in an inefficient process that is fraught with potential for error.

Staff suggests that the Oracle Financials package be tailored to provide sub-ledger detail for all monthly LBMP market, ICAP, and TCC auction settlement balances. Currently, LBMP market settlement details are totaled for each billing organization and passed to the financial accounting system as a single, net balance where it is recorded as either a receivable or payable. Any interest due on the balance passed to the financial accounting system requires manual intervention by Grid Accounting staff in order to apply the interest amount to the invoice, which is generated by Grid Accounting staff. Staff contends that it is inefficient, inappropriate, and undesirable from the standpoint of consistent and effective process control, for Grid Accounting staff to manually generate LBMP market invoicing in this manner.

Maintaining the appropriate sub-ledger detail of LBMP market, ICAP, and TCC Auction settlements in the Oracle Financials package will enable financial accounting staff to compute and apply interest to customer accounts and generate invoices under an automated, controlled environment. The general ledger capability of Oracle Financials should easily accommodate the additional sub-ledger detail. The Oracle Financials package should be investigated for its ability to provide for the computation & invoicing of prior period adjustments for LBMP market transactions requiring subsequent re-billing. By moving financial accounting processes out of the Grid Accounting sector and into financial accounting, Grid Accounting staff will be able to concentrate their focus on ensuring the consistency of LBMP market settlements with respect to the NYISO tariffs and the technical accuracy of the underlying logic & computations of those settlements. In addition to the benefits derived from the aforementioned enhancements, billing determinant data may be more readily available for use in FERC proceedings, financial reports, and market analysis. Through the automation of the current invoicing process, substantial improvements in efficiency and accuracy will be realized by Grid Accounting & Accounts Receivable/Payable processes.

Staff has developed a functional specification for consideration as a starting point for this project. A meeting is scheduled next week with staff involved in the ICAP & TCC Auction processes, appropriate IS staff, Grid Accounting staff, and Financial Accounting staff to ensure that all affected by such a project have input to its merit & development.

4. Code is being developed to accommodate billing quality metering true-ups after the 3-month true-up has been rendered.

5. Code is being developed to provide for 10 minute non-synchronous reserve lost opportunity cost recovery by units scheduled to provide 10 minute non-sync.

NYISO Process Issues

1. The NYISO has observed that not all transmission owners are following established procedures to deliver tie-line, generator, and LSE load data to the NYISO for use in the billing process. The NYISO has been working with the metering sub-group of the BAWG to work through known issues with the process. The problem is that not all transmission owners are providing representation at these meetings. ConEd & O&R have not participated in any discussions conducted by the group to date and have proven to be a significant source of data transmission problems resulting in delays in the true-up process.

    The NYISO worked with the transmission owners participating in these discussions and established what was believed to be an acceptable, accelerated schedule to render billing quality metering true-ups, in order to get onto a 3-, 6-, 12-, & 24-month true-up schedule. Due to the problems experienced by the NYISO to render "re-billings", the process has been further delayed; however, the NYISO is poised to proceed with the process.

    The NYISO offers the following schedule for consideration. Meeting this schedule will put the NYISO on schedule with billing quality meeting true-ups by year's end.

Rebill Schedule

Billing Month	Rebill Completed	Rebill Analysis Completed	Rebill CSV's Posted	Rebill Invoiced	Payment Due To NYISO	Payments Due From NYISO
Nov-99	25-Aug-00	29-Aug-00	01-Sep-00	06-Sep-00	**12-Sep-00**	**15-Sep-00**
Dec-99	14-Sep-00	15-Sep-00	02-Sep-00	18-Sep-00	**25-Sep-00**	**29-Sep-00**
Jan-00	15-Sep-00	16-Sep-00	19-Sep-00	26-Sep-00	**02-Oct-00**	**06-Oct-00**
Feb-00	16-Sep-00	17-Sep-00	18-Sep-00	29-Sep-00	**10-Oct-00**	**13-Oct-00**
Mar-00	19-Sep-00	20-Sep-00	22-Sep-00	29-Sep-00	**16-Oct-00**	**20-Oct-00**
Apr-00	21-Sep-00	22-Sep-00	25-Sep-00	02-Oct-00	**23-Oct-00**	**27-Oct-00**
May-00	25-Sep-00	27-Sep-00	29-Sep-00	02-Oct-00	**30-Oct-00**	**03-Nov-00**
June 2000 through August 2000 TBA						

Accelerated True-up Schedule

Billing Month	True-up Completed	True-up Analysis Completed	True-up CSV's Posted	True-up Invoiced	Payment Due To NYISO	Payments Due From NYISO
Nov-99	25-Aug-00	29-Aug-00	01-Sep-00	06-Sep-00	**12-Sep-00**	**15-Sep-00**
Dec-99	28-Aug-00	30-Aug-00	13-Sep-00	18-Sep-00	**25-Sep-00**	**29-Sep-00**
Jan-00	02-Oct-00	04-Oct-00	06-Oct-00	09-Oct-00	**16-Oct-00**	**20-Oct-00**
Feb-00	16-Oct-00	18-Oct-00	20-Oct-00	23-Oct-00	**30-Oct-00**	**03-Nov-00**
Mar-00	30-Oct-00	01-Nov-00	03-Nov-00	06-Nov-00	**13-Nov-00**	**17-Nov-00**
Apr-00	13-Nov-00	15-Nov-00	17-Nov-00	20-Nov-00	**27-Nov-00**	**01-Dec-00**
May-00	27-Nov-00	29-Nov-00	01-Dec-00	04-Dec-00	**18-Dec-00**	**20-Dec-00**
June 2000 through August 2000 TBA						

	3-month True-up Schedule		6-month True-up Schedule		12-month True-up Schedule	
Billing Month	Payment Due To NYISO	Payments Due From NYISO	Payment Due To NYISO	Payments Due From NYISO	Payment Due To NYISO	Payments Due From NYISO
May-00			18-Dec-00	20-Dec-00	18-Jun-01	20-Jun-01
Jun-00			16-Jan-01	22-Jan-01	16-Jul-01	20-Jul-01
Jul-00			16-Feb-01	20-Feb-00	16-Aug-01	20-Aug-01
Aug-00	18-Dec-00	20-Dec-00	16-Mar-01	20-Mar-01	17-Sep-01	20-Sep-01
Sep-00	16-Jan-01	22-Jan-01	16-Apr-01	20-Apr-01	16-Oct-01	22-Oct-01
Oct-00	16-Feb-01	20-Feb-00	16-May-01	21-May-01	16-Nov-01	20-Nov-01
Nov-00	16-Mar-01	20-Mar-01	18-Jun-01	20-Jun-01	17-Dec-01	20-Dec-01
Dec-00	16-Apr-01	20-Apr-01	16-Jul-01	20-Jul-01	16-Jan-02	21-Jan-02

2. The zonal proxy bus LBMP's have not been corrected when the LBMP generator bus prices have been corrected. The proxy generator bus prices are correct as posted. The zonal proxy bus prices have not been updated. The NYISO intends to copy the generator proxy bus prices into the zonal proxy bus prices in order to correct this posting error.