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June 16, 2003

Hon. Magalie Roman Salas, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, D.C. 20426

**Re: *San Diego Gas & Electric Company v. California Independent System Operator Corporation, Docket No. EL03-131***  
Answer of the California Independent System Operator Corporation to  
Complaint of San Diego Gas & Electric Company

Dear Secretary Salas:

Enclosed for filing are one original and fourteen copies of the Answer of the California Independent System Operator Corporation to Complaint of San Diego Gas & Electric Company, submitted in the above-captioned proceeding.

Also enclosed are two extra copies of the answer to be time/date stamped and returned to us by the messenger. Thank you for your assistance. Please contact the undersigned if you have any questions regarding this filing.

Respectfully submitted,



Julia Moore

Counsel for the California Independent  
System Operator Corporation

Enclosure

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

San Diego Gas & Electric Company	)	Docket No.	EL03-131-000
Complainant	)		
	)		
v.	)		
	)		
California Independent System Operator	)		
Corporation	)		
	)		
Respondent	)		

**ANSWER OF THE CALIFORNIA INDEPENDENT  
SYSTEM OPERATOR CORPORATION TO  
COMPLAINT OF SAN DIEGO GAS & ELECTRIC COMPANY**

Pursuant to Rules 206(f) and 213 of the Commission’s Rules of Practice and Procedure, 18 C.F.R. §§ 385.206(f) and 385.213 (2003), the California Independent System Operator Corporation (“ISO”) submits this Answer to the Complaint and Request for Fast Track Processing of San Diego Gas & Electric Company (“SDG&E”) filed on June 2, 2003 (“Complaint”).<sup>1</sup> SDG&E seeks an exemption for SDG&E’s ‘self-provision of Imbalance Energy’ on behalf of volumes transmitted over the Southwest Powerlink (*i.e.*, on behalf of “SWPL Energy”), from the Market Operations Charge (for 2001) and the Ancillary Services and Real-Time Energy Operations Charge (“ASREO”) (for 2002 to the present), both elements of the ISO’s Grid Management Charge (“GMC”).<sup>2</sup>

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<sup>1</sup> Because the Complaint lacks page numeration, the ISO has manually numbered the pages starting with 1 on the first page of text, to allow for coherent citation.

<sup>2</sup> Capitalized terms not otherwise defined herein are defined in the Master Definitions Supplement, ISO Tariff, Appendix A, as filed August 15, 1997 and subsequently revised.

SDG&E seeks refunds plus interest for the amounts paid to the ISO since January 2001. SDG&E further seeks reimbursement for its costs incurred in pursuing this matter.

As described below, the manner in which the ISO assesses the MO/ASREO charge to SDG&E for SWPL Energy comports with the ISO's filed rate; thus, neither an exemption nor refunds are appropriate. Moreover, no conduct of the ISO justifies sanctions in the form of reimbursement of SDG&E's costs, which, as discussed below, would be a sanction so rare as to be novel. For these reasons, the ISO respectfully requests that the Complaint be rejected and sanctions be denied.

It is important to recognize that what SDG&E is really seeking is an exemption from paying the GMC – not the total exemption which it sought (and failed to secure) in the 2001 GMC proceeding, but a partial exemption that SDG&E alleges it deserves as a result of incorrect statements of the ISO. As discussed below, SDG&E has not demonstrated in its Complaint that such an exemption is justified, any more than it did so in the 2001 proceeding.

## **I. BACKGROUND**

### **A. Preface**

The Southwest Power Link, or "SWPL," is a 500 kV transmission line from SDG&E's Miguel Substation to the Palo Verde Nuclear Power Plant switchyard in Arizona. At one time SWPL was owned entirely by SDG&E, but in the early 1980s SDG&E transferred portions of SWPL to Arizona Public Service Company ("APS") and Imperial Irrigation District ("IID"), so that SWPL is now jointly owned by SDG&E,

APS, and IID.<sup>3</sup> SDG&E serves as Scheduling Coordinator (“SC”) for the entire SWPL line, submitting schedules to the ISO for SWPL transactions. The portion of the energy flowing over SWPL to which the non-SDG&E joint-owners have Entitlement has been described in these proceedings as “SWPL Energy.”<sup>4</sup>

The ISO is sympathetic to any frustration with the specific circumstances that may have contributed to confusion concerning its application of the MO/ASREO Charge to SWPL Energy. The ISO’s erroneous characterization of the application of the MO/ASREO Charge to SWPL Energy, and any delay in correcting that characterization, were the result of mistake and miscommunication, not calculation or untoward intent. A fuller explanation of those circumstances, and the facts underlying the mistake and miscommunication, is found in sections II(D)(1) and II(A)(1)(a) of this Answer and in the Affidavit of Kyle Hoffman (Attachment A).

Although it regrets these circumstances, the ISO does not believe they justified SDG&E’s filing of this Complaint. The ISO respectfully submits that the Complaint should be rejected and SDG&E’s request for sanctions should be denied.

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<sup>3</sup> The segment of SWPL from Palo Verde to North Gila is owned by SDG&E, APS and IID in shares of 76.22%, 11% and 12.78%, respectively. The North Gila to Imperial Valley segment is owned by SDG&E and IID in shares of 85.64% and 14.36%. The remaining segment from Imperial Valley to Miguel is owned solely by SDG&E. The entire line is in the ISO Control Area.

<sup>4</sup> The term SWPL Energy in the GMC proceedings primarily refers to Energy that SDG&E is obligated to schedule on behalf of APS and IID, and for which they contend they are unable to recover GMC costs associated with such schedules from APS and IID. Complaint at 6. The load accommodation arrangement, described *infra* in section II(A)(1)(a), may be differentiated as being Energy scheduled by SDG&E for SDG&E’s own benefit – specifically to mitigate SDG&E’s costs in the real time Imbalance Energy market to offset Energy required for losses associated with such transactions; costs which, again, SDG&E presumably cannot recover from APS and IID.

**B. Procedural History**

2001 Proceeding

The ISO filed its initial unbundled GMC on November 1, 2000 (Docket No. ER01-313-000), and filed specific figures to which the rate structure would be applied on December 15, 2000 (Docket No. ER01-313-001) (together, “the 2001 proceeding”). One element of the 2001 GMC was the Market Operations (“MO”) Charge. The Tariff sheets submitted with the filing described the MO Charge as follows:

The Market Operations Charge for each Scheduling Coordinator is calculated as the product of the rate for the Market Operations Charge and the Scheduling Coordinator's *total purchases and sales* of Ancillary Services, Supplemental Energy, and Imbalance Energy (both instructed and uninstructed).

ISO Tariff, § 8.3.3 (emphasis added).

In cross-answering testimony filed on August 17, 2001, SDG&E witness Ali Yari raised the issue of the assessment of the MO Charge on SDG&E “as it relates to coordination of energy schedules” for the non-SDG&E owned elements of SWPL. Ex. SDO-1 at 3. Mr. Yari argued that assessing the MO Charge on SDG&E on behalf of SWPL Energy was inappropriate. Mr. Yari based this position primarily on the argument that the SWPL transactions did not take place on the ISO Controlled Grid (Ex. SDO-1 at 8-9); that the rejection of Amendment No. 2 by the Commission prevent the ISO from assessing entities that do not use the ISO Controlled Grid (Ex. SDO-1 at 10-11); that the ISO’s past treatment of SWPL Energy indicates that the ISO did not consider the non-SDG&E portions of SWPL to be part of the ISO Controlled Grid (Ex. SDO-1 at 11-12);

and that the principle of reciprocity should prevent the ISO from assessing the GMC on entities in other Control Areas (Ex. SDO-1 at 7:11-24). Mr. Yari also suggested application of the MO Charge was inappropriate under an arrangement between SDG&E and the ISO enabling SDG&E to schedule additional Energy to cover estimated line losses on SWPL. Ex. SDO-1 at 9.

The ISO responded to SDG&E's testimony in rebuttal testimony filed on September 27, 2001, addressing Mr. Yari's arguments and explaining that SDG&E was being assessed the MO charge on behalf of SWPL Energy due to the fact that transmission losses on SWPL resulted in purchases and sales of Imbalance Energy. Ex. ISO-34 at 15-16.

One week prior to the commencement of the hearing, the parties submitted to the Presiding Judge a Joint Stipulation of Issues to be decided in the hearing. The issue related to SWPL Energy reads as follows: "Is it Just and Reasonable to Assess Components of the GMC on SWPL Energy?"

During the hearing in the 2001 proceeding, ISO witness Deborah A. Le Vine was cross-examined about the manner in which the ISO assesses charges to SDG&E with regard to SWPL. In this cross-examination, Ms. Le Vine primarily discussed whether the non-SDG&E elements of SWPL were part of the ISO Controlled Grid or under ISO Operational Control (Tr. 1861-62; 1865-72), how the GMC was assessed under the settlement that pre-dated the 2001 GMC (Tr. 1855-65), and whether assessing the non-SDG&E elements of SWPL violated principles of reciprocity between Control Areas (Tr. 1875-80). In addition, in response to questioning, Ms. Le Vine briefly addressed the

assessment of SWPL Energy for the Imbalance Energy associated with line losses, and the fact that SDG&E estimates its losses ahead of schedule using a special load ID (Tr. 1902-04).<sup>5</sup>

In its post-hearing briefs, the ISO addressed SDG&E's arguments concerning whether it is just and reasonable to assess components of the GMC on SWPL Energy. In a footnote, the ISO described (as it turned out, incorrectly) how such assessment was made – *i.e.*, that it was assessing the MO charge on SWPL Energy only for the portion of Imbalance Energy necessary to cover line losses above the amount of energy pre-scheduled by SDG&E. ISO Initial Brief at 45 n.27; ISO Reply Brief at 63 n.3.

The Initial Decision (“ID”) was issued on May 10, 2002.<sup>6</sup> The ID stated that the discussion of issues contained therein was conformed to the Joint Stipulation of Issues. ID at 65,073. Thus, the relevant issue for resolution was “Is it Just and Reasonable to Assess Components of the GMC on SWPL Energy?” As described more fully below in section II(A)(2)(a), the Initial Decision held that assessing the MO Charge on SWPL Energy was just and reasonable. *Id.* at 65,136. The Initial Decision also repeated the

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<sup>5</sup> The relevant passage of Ms. Le Vine's testimony reads:

What ends up happening is let's say that SDG&E for APS as an example, they have 100 megawatts that comes in at Palo Verde and they want to take 100 megawatts out of Imperial interchange, what happens at those two ends, there are losses associated with that, my understanding, for 100 megawatts there are about 13 megawatts of losses. What you are doing now is scheduling a 13-megawatt load doing an inter-SC trade from SDG&E to that transaction of 13 megawatts. So when we get all the meter reads, there is no load and the 13 megawatts that is transferred in goes ahead and credits the losses that are accumulated in that transaction. So there's no Imbalance Energy charge.

Tr. 1903:5-17.

<sup>6</sup> *California Independent System Operator Corporation*, 99 FERC ¶ 63,020 (2002) (“ID”).

ISO's incorrect description of how much SDG&E was assessed in MO Charges. *Id.* at 65,136 n.130.

Briefs on Exceptions were filed on June 10, 2002, and Briefs Opposing Exceptions were filed on July 1, 2002. In its Brief on Exceptions, SDG&E again argued that SWPL Energy should not be assessed any MO Charge for SWPL Energy, based largely on its previous arguments concerning whether the non-SDG&E elements of SWPL were a part of the ISO Controlled Grid, whether the Commission's rejection of Amendment No. 2 demonstrated that the ISO could not assess entities not on the ISO Controlled Grid, and whether the ISO's assessment of these facilities violated principles of Control Area reciprocity. In a footnote, SDG&E indicated that it was not being credited for self-provision of Imbalance Energy, and argued (for the first time) that if it must pay the Market Operations Charge for imbalances, the self-provided amounts ought to be credited against the Market Operations Charge. SDG&E Brief on Exceptions at p. 37 n.41.

Since the Initial Decision upheld the ISO's authority to assess the MO Charge to SDG&E with respect to SWPL Energy, the ISO did not address any issue with respect to SWPL Energy in its Brief on Exceptions or in its Brief Opposing Exceptions. SDG&E did not file a Brief Opposing Exceptions.

On August 8, 2002, the ISO filed a Motion to Correct the Record in the 2001 proceeding. In this Motion (described more fully below in section II(A)(2)(b)), the ISO acknowledged that, in effect and absent the proposed correction, inaccuracies existed in the record with regard to *how* the ISO assesses SDG&E the MO Charge for SWPL Energy: the ISO explained that, contrary to statements in the ISO's briefs to the



Presiding Judge (or implications in cross-examination testimony, *see* Motion to Correct at 4) that the ISO assessed the MO Charge only on any real-time Imbalance Energy necessary to cover line losses, the ISO actually assessed the charge on Energy scheduled by SDG&E to cover line losses, as well. The ISO noted, however, that it did not believe the Initial Decision's fundamental holding that the ISO has the authority to assess SWPL transactions the MO Charge under the ISO Tariff was affected by the ISO's correction to the record. Motion to Correct at 1.

On August 23, SDG&E filed an Answer to the Motion to Correct. SDG&E *agreed* that the record should be corrected as the ISO proposed. Answer at 2. SDG&E also argued, however, that the ISO should either lose its ability to assess SDG&E for SWPL Energy transactions altogether, (that is, provide SDG&E with a complete exemption from the MO Charge with regard to SWPL Energy) or, in the alternative, be required to assess SDG&E the MO Charge in the manner erroneously described in the *uncorrected* record (that is, provide SDG&E with a partial exemption from the MO Charge with regard to SWPL Energy). *Id.* In addition, SDG&E argued both that the crediting *was not a part of the ISO's Section 205 rate filing* (*Id.* at 12), and that it is a part of the ISOs filed rate. *Id.* at 15. SDG&E did not explain this apparent paradox.

No party other than SDG&E filed any response to the ISO's Motion to Correct. Thus, since SDG&E in its Answer agreed that the record should be corrected, the ISO's Motion to Correct was *unopposed*.

On May 2, 2003, the Commission issued its order<sup>7</sup> on the ID in the ER01-313 proceeding (“Opinion No. 463”). Opinion No. 463 did not separately address the issue of assessment of the MO Charge on SWPL Energy, or the ISO’s Motion to Correct the Record or SDG&E’s Answer thereto. Based on the Commission’s statement that it was affirming all aspects of the Initial Decision that it did not specifically discuss, it appears the Commission upheld the ID finding on this issue, *i.e.*, that it is just and reasonable to assess the MO Charge to SWPL Energy.

On June 2, 2003, SDG&E filed both a Request for Rehearing of Opinion No. 463, to the extent that opinion upheld the ISO’s authority to assess the MO Charge to SWPL Energy, and the Complaint at issue here.

#### 2002 Proceeding

The ISO filed its 2002 GMC on November 2, 2001(ER02-250-000). This filing was amended on December 7, 2001 (ER02-527-000) (together, “the 2002 proceeding”). In the 2002 filing, the name of the MO Charge was changed to the Ancillary Services and Real Time Energy Operations (“ASREO”) Charge. No change in the method in which SDG&E would be assessed the re-named charge on behalf of SWPL Energy was proposed in the 2002 filing.

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<sup>7</sup> *California Independent System Operator Corporation*, 103 FERC ¶ 61,114 (2003), Opinion No. 463.

The Commission ordered that issues raised in the 2002 proceeding that also had been raised in the 2001 proceeding “were pending before the Commission” and would “be subject to the outcome of the administrative proceeding in the 2001 proceeding.”<sup>8</sup>

At a pre-hearing conference on May 30, 2002, the Presiding Judge instructed the parties to file a revised Preliminary Joint Stipulation of Issues that reflected rulings made by the Presiding Judge at that pre-hearing conference regarding what issues remained in the 2002 case. Among these rulings was that the issue of whether the ISO was crediting SDG&E for self-provision of Energy to cover line losses, on behalf of SWPL Energy, would remain in the proceeding. ER02-250 Tr. 151. The ISO, on behalf of all the parties, submitted a revised Preliminary Joint Stipulation of Issues (“Joint Stipulation”) to the Presiding Judge on June 6, 2002, which was consistent with her ruling on SWPL Energy.

On August 6, 2002, due to success in the settlement process, the ISO filed a Joint Motion for Suspension of the Procedural Schedule and Withdrawal of Request for a Settlement Judge. In this Motion, the ISO indicated that it anticipated that the SDG&E issue would be resolved on a separate track.

On September 10, after the ISO had filed its Motion to Correct the Record in the 2001 GMC proceeding, SDG&E filed a Motion for Summary Disposition in the 2002 GMC proceeding. In this Motion, SDG&E sought to have the ISO refund, with interest, all ASREO paid by SDG&E apart from that portion associated with any imbalances not

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<sup>8</sup> *California Independent System Operator Corporation*, 97 FERC ¶ 61,303 (December 20, 2001) at 62,422.

covered by SDG&E's 'self-provision'. In an order issued September 25, 2002, the Presiding Judge dismissed SDG&E's Motion as improperly filed in the 2002 GMC docket, but stated that she was doing so without prejudice to SDG&E's right to re-file it with the Commission in the 2001 GMC docket. September 25 Order at P 4. In a letter to the Commission dated September 26, 2002, SDG&E stated that it would not refile its Motion in the 2001 GMC proceeding, but would rest on its Answer to the ISO's Motion to Correct the record in that proceeding.

On October 17, the 2002 Settlement was filed. This Settlement resolved all issues in the 2002 proceeding apart from that relating to the assessment of SWPL Energy.

The Settlement was certified to the Commission on November 12, and was approved by letter order dated December 26, 2002.

## **II. ARGUMENT**

SDG&E's allegation that the ISO has failed to follow its filed rate is based on three premises: 1) the ISO incorrectly described how SDG&E was assessed the MO Charge in cross-examination testimony and briefs to the Presiding Judge; 2) the Presiding Judge relied on this incorrect description in finding the ISO's assessment to be just and reasonable; and 3) Opinion No. 463 upheld the Initial Decision on this issue.

As explained below, SDG&E's premises do not hold up and do not support its allegation.

**A. The ISO Has Not Violated Its Filed Rate**

Under Section 205(c) of the Federal Power Act,

every public utility shall file with the Commission . . . schedules showing all rates and charges for any transmission or sale subject to the jurisdiction of the Commission, and the classification, practices, and regulations affecting such rates and charges . . . classifications, and services.

16 U.S.C § 824d(c). *See also* 18 C.F.R. § 35.1(a).

A public utility's "filed rate" is the rate that it filed with the Commission and that the Commission approved. *In Kentucky West Virginia Gas Company, et al., v. Pennsylvania Public Utility Commission.*, 837 F.2d 600 (3rd Cir. 1988), the court explained that the filed rate doctrine means that "the rate filed with and approved by the Federal Power Commission (FERC's predecessor), is the only legitimate rate." 837 F.2d at 606, *Citing Montana-Dakota Utilities Co. v. Northwestern Public Service Company*, 341 US 246 (1951).

The ISO's filed rate is its Tariff, including any provisions in that Tariff that indicate the manner in which it assesses the MO/ASREO Charge.– The ISO's filed rate is not changed by its description of this assessment during litigation, whether a footnote in a brief or in an arguably ambiguous passage of cross-examination testimony – and assuredly not when the ISO has corrected its erroneous description in an unopposed motion. The ISO's "practice," as that term is used in Section 205, is what it actually does and what its filed Tariff says it does – not what it mistakenly said it does. SDG&E effectively acknowledged this fact in its Answer to the ISO's Motion to Correct in the

2001 proceeding, when it described as the ISO's "current practices" the ISO's assessment of the MO Charge to SDG&E for the amounts of Energy SDG&E schedules to cover line losses on SWPL, and when it acknowledged that the so-called "crediting" of that energy for purposes of the MO Charge *was not part of the ISO's GMC filing under Section 205..* Answer of SDG&E to Motion to Correct at 2, 12.

The ISO did not file a rate designed to 'credit' SDG&E for 'self-provision' of Energy on behalf of SWPL. Such a rate would, effectively, have been one that specifically exempted SDG&E from the ISO's consistent application of the MO Charge to others. Nor did the Commission approve such a rate.

**1. The ISO Did Not Violate the Rate it Proposed**

**a. The Rate and Charge Proposed by the ISO in its Tariff Filings is that Applied to SDG&E and to All Other Scheduling Coordinators**

The ISO's filed rate with regard to the MO Charge and the ASREO Charge is contained in the Tariff sheets filed in the 2001 and 2002 proceedings, respectively:

In the November 1, 2000 GMC filing (for the 2001 GMC), the proposed ISO Tariff sheets described the assessment of the MO Charge as follows:

The Market Operations Charge for each Scheduling Coordinator is calculated as the product of the rate for the Market Operations Charge and the Scheduling Coordinator's *total purchases and sales* of Ancillary Services, Supplemental Energy, and Imbalance Energy (both instructed and uninstructed).

ISO Tariff, § 8.3.3 (emphasis added).

In the November 2, 2001 GMC filing (for the 2002 GMC), the proposed ISO Tariff sheets described the assessment of the ASREO Charge as follows:

The Ancillary Services and Real-Time Energy Operations Charge for each Scheduling Coordinator or Other Appropriate Party is calculated as the product of the rate for the Ancillary Services and Real-Time Energy Operations Charge and the Scheduling Coordinators or Other Appropriate Party's ***total purchases and sales*** (including out-of-market transactions) of Ancillary Services, Supplemental Energy, and Imbalance Energy (both instructed and uninstructed), plus 50% of effective self-provision of Ancillary Services.<sup>9</sup>

ISO Tariff, § 8.3.3 (emphasis added).

The manner in which the charge is described in the filed tariff sheets is precisely the same as how the ISO has assessed the MO/ASREO Charges since January 1, 2001.

Ironically, it was an effort on the part of the ISO to be accommodating towards SDG&E in its role as SC for SWPL Energy that gave rise to the confusion on this issue in the record of the 2001 proceeding. As described in the Affidavit of Kyle Hoffman, included with this Answer as Attachment A, SDG&E approached the ISO to determine how it might reduce its exposure for required purchases and sales of Energy from the ISO's markets. As described in the Affidavit, this was in the context of purchases and sales of Imbalance Energy as a Market Settlement cost (*i.e.*, for Energy as a commodity), not for the administrative costs of such purchases and sales, which are recovered through the MO Charge (for 2001) and the ASREO (for 2002 through today). Attachment A..

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<sup>9</sup> It is important to differentiate the 50% assessment for self-provision of Ancillary services from any concept of a discount for self-provision of Imbalance Energy. There is no special arrangement for self-provision of Imbalance Energy.

The ISO determined that, as an accommodation to SDG&E, it would assign a separate load takeout point (*i.e.*, a new load ID) to SDG&E, so that SDG&E would be able to schedule Energy against a load accommodation (load for which Energy was not actually required) in order to cover its transmission line losses. This arrangement was tailored to SDG&E's specific needs, at its request, to facilitate its Energy portfolio management and desire to self-provide its own Transmission Loss energy.<sup>10</sup> Attachment A.

This arrangement was beneficial to SDG&E because it allowed SDG&E to self-provide Energy to cover its anticipated line losses. Because each entity's schedule must be balanced between Energy supply and Load, in order for SDG&E to schedule Energy to cover its estimated losses, it must have Load scheduled to match. With the load accommodation the ISO provided, Load that did not actually require Energy could be balanced against the Energy earmarked as self-provided Energy. In real time, of course, the Load from the load accommodation did not show up on the system, and self-provided Energy was free to offset the actual transmission line losses that occurred. The failure of the Load from the load accommodation to show up on the system resulted in a positive deviation from the Energy schedule SDG&E had submitted in the Day-Ahead or Hour-Ahead markets. A positive deviation from the schedule results in a sale of the excess

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<sup>10</sup> In fact SDG&E's SWPL cost concerns did not start with either administrative charges or Imbalance Energy costs. Prior to those issues, SDG&E's concern was that it not be liable for Transmission Loss assessments under Section 7.4.2 of the ISO Tariff. That position, and the subsequent disputed issues related more specifically to Imbalance Energy and MO/ASREO, have all the same root – a desire by SDG&E not to be liable for any SWPL Energy charges, based on its view that the ISO lacks operational control of the non-SDG&E portions of that single transmission facility.



Energy in the ISO's real time Energy market. The transmission line losses are a negative deviation from the Energy schedule, resulting in a purchase of Energy from the real time Energy market. In the ISO's Market Settlement system, these positive and negative deviations from the schedule net out from an Energy standpoint. *See Attachment A.* Therefore, because purchases and sales of Energy are computed on a net basis for Energy *settlement* purposes, the load accommodation and accompanying Generation can offset actual Energy required for transmission line losses, resulting in a lower exposure to the spot or Real Time market for SDG&E. By allowing SDG&E a load accommodation, the ISO in charging for Imbalance Energy gives full credit to SDG&E for its "self-provision" of Imbalance Energy. Attachment A.

Although the ISO has facilitated this means for SDG&E to manage its own Transmission Losses, and to track, estimate, and balance self-provision of Imbalance Energy, the ASREO and MO Charge are designed to recover the *administrative* costs related to the ISO's costs of operating the Real Time Market, and not the actual balancing energy itself, which is a Market Settlement. Attachment A.

In the case of the MO/ASREO Charge, the sale to the market resulting from the positive deviation from the schedule (due to the failure of the accommodation load to show up) is not netted against the purchase from the market resulting from the negative deviation (resulting from the line losses). Attachment A. Instead, the MO/ASREO is assessed based on the total purchases and sales – that is, the absolute value of all

purchases and all sales, with no netting between the categories.<sup>11</sup> Attachment A. The requirement that the MO/ASREO be assessed for both the positive and negative sides of the Imbalance Energy equation for SDG&E, including its load accommodation schedules used to off-set imbalances associated with SWPL Energy line losses, is found in Section 8.3.3 of the ISO Tariff, quoted above, which states that the MO/ASREO Charge is assessed on the “total purchases and sales” of Imbalance Energy.<sup>12</sup>

This methodology is applied consistently to *all* SCs. The load accommodation with regard to Market Settlements presents no basis for providing an exemption for SDG&E from its rightful share of the MO/ASREO Charge. Despite the confusion in the record of the 2001 proceeding, what the ISO actually does is follow the dictates of its Tariff, and treat SDG&E in precisely the same manner that it treats all other SCs.

**b. The ISO’s Testimony and Briefs Are Not a Part of Its Filed Rate**

SDG&E alleges that the ISO has violated its filed rate because the manner in which the ISO assesses SDG&E became confused as the result of a single instance of less than clear testimony on the stand and a footnote in a brief. Complaint at 1.

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<sup>11</sup> In the stakeholder process to design the GMC for 2004, three proposals have emerged, none of which will retain application of the administrative charge to both the positive and negative deviations in these circumstances. Therefore, rather than using the absolute value of the deviations, any ISO rate filing for 2004 will provide for netting of such purchases and sales. The ISO will file an appropriate amendment to the ISO Tariff and to Appendix F to establish this change in the calculation and assessment of the charge.

<sup>12</sup> The fact that the absolute value of purchases and sales is used for the MO Charge is illustrated further in the 2001 Settlement Charge Matrix, which is discussed in the Affidavit and included as an exhibit thereto.

One can perhaps debate whether the ISO's cross-examination testimony was accurate, in that it referred to the "Imbalance Energy charge," *i.e.*, the charge for the energy as a commodity, or ambiguous in that the reference could have been understood to refer to the administrative or MO Charge, *i.e.*, the subject of the proceeding (although not specifically referred to in the questioning at that point).<sup>13</sup> Even if one assumes for purposes of this proceeding that the testimony referred to the MO Charge, any error was a result of miscommunication between ISO personnel, which also led to the incorrect statements about the MO Charge in the footnotes to the ISO's briefs; the record was permitted to remain unclarified for a period of time before the error fully was recognized, and then it was corrected. Such an error, however, whether just in the briefs or even in the testimony, cannot be construed as altering the ISO's filed rate.

Under Commission precedent, testimony is not a part of a public utility's "filed rate". This is evidenced by case law in which the Commission or ALJ required a public utility to file in its tariff certain provisions that had been previously found only in testimony, before those provisions would become part of its filed rate. For example, in *Florida Power & Light Company*, 9 FERC ¶ 61,366 (1979), the Commission ordered the company (Florida Power & Light or "FPL") to file a tariff including policy regarding wheeling arrangements described in the rebuttal testimony of one of its witnesses. Had the Commission considered the testimony to constitute part of the company's filed rate, no such additional filing would have been required.

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<sup>13</sup> The text of the relevant answer is quoted in footnote 5, *supra*.

Significantly, on appeal, FPL protested the requirement that it should file the provision in question, because it did not desire to include a general wheeling provision in its service – that is, it disagreed with the practice described in its testimony. The Court ruled that FERC had no authority to order such policy to be filed, or require the company to provide such service. *Florida Power & Light Company v. FERC*, 660 F.2d 668 (5<sup>th</sup> Cir. 1981). The court’s holding reinforces the point that testimony does not establish a “filed rate” – it remained in the company’s discretion whether to adopt the policy described in the testimony as its filed rate.

In *Panhandle Eastern Pipe Line Company*, 71 FERC ¶ 61,228 (1995), Panhandle had originally included certain purchased gas expenses in its rate filing. During the course of the hearing, Panhandle had occasion to submit revised figures in testimony. The Commission noted that the revised figures contained in the testimony “never became part of the filed rate and so were never effective.” 71 FERC at 61,858.

Moreover, in the 2001 GMC proceeding itself, intervenors complained that an estimate utilized by the ISO to calculate the portion of a rate that should be assessed on certain load was contained only in testimony. They contended that this violated the filed rate doctrine. The Presiding Judge agreed, and ordered the estimate to be included in ISO Tariff language on compliance. ID at 65,130. Clearly, neither the judge nor the intervenors believed that testimony, even pre-filed testimony included with the ISO’s rate case, constituted part of the ISO’s filed rate.<sup>14</sup>

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<sup>14</sup> Even if it were possible to construe disavowed testimony as constituting part of the ISO’s filed rate, this “rate” could only be considered to have been in effect for the period prior to the ISO’s filing of

If testimony cannot be considered a part of a utility's filed rate, it should go without saying that briefs cannot be, either. Briefs are of course designed to draw together the evidence in a proceeding in such a way that it supports the arguments of the party sponsoring the brief. Briefs cannot create new evidence, nor can they influence the filed rate. As litigation tools, they can have no part in filing a rate. Since arguments on brief cannot rise even to the level of testimony (*see Kootenai Electric Cooperative Inc., et al. v. Public Utility District No. 2 of Grant County, Washington*, 77 FERC ¶ 63,019, 65,103 (1996)), by no stretch can they be considered a part of a utility's filed rate.

**2. The ISO Has Not Violated the Rate Approved by the Commission**

**a. The Holding of the Initial Decision that It is Just and Reasonable for the ISO to Assess the GMC on SWPL Energy is Not Materially Impacted by the Incorrect Description**

The relevant issue in the 2001 proceeding, as memorialized in the Joint Stipulation of Issues, is "Is it just and reasonable to assess components of the GMC on SWPL Energy?" The Initial Decision found that such assessment is just and reasonable.<sup>15</sup>

SDG&E makes much of the Presiding Judge's statements at the May 30, 2002 conference and in her September 24 Order dismissing SDG&E's Motion for Summary

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its Motion to Correct the Record. Clearly, at that point, no one could have understood the crediting mechanism as being a part of the rate the ISO proposed for 2001 or 2002. Under this scenario, the ISO could be viewed as having violated its rate only until August 8, 2002

<sup>15</sup> *California Independent System Operator Corp., et al.*, 99 FERC ¶ 63,020 at 65,136 ("ID").

Judgement in the ER02-250 proceeding, to the effect that she relied on the ISO's description of how it assessed SDG&E. Complaint at 13, 19, 22. These statements, however, as noted by the Judge herself with regard to statements made at the pre-hearing conference,<sup>16</sup> are *dicta*.

Moreover, SDG&E's arguments in the 2001 GMC proceeding centered on the issue of whether the ISO could impose GMC charges on SWPL Energy at all, and not on the "crediting" issue. For example, in its initial post-hearing brief, SDG&E raised arguments about whether the ISO could assess the GMC on transmission facilities that are not a part of the ISO Controlled Grid (Initial Brief at 7-20); the reciprocal nature of control area services (Initial Brief at 21); whether ISO services benefits retail load of SDG&E's partners on SWPL (Initial Brief at 23); and whether the ISO's assessment of the GMC on SWPL Energy was discriminatory (Initial Brief at 24-26). In its Reply Brief, SDG&E raised similar arguments to those in its Initial Brief; it discussed the crediting issue briefly, describing it as an "evidentiary loose end" that the Presiding Judge *need not reach* in order to determine whether the ISO could impose the MO charge on SWPL. Reply Brief at 13. SDG&E argued expressly that "imposition of the [MO Charge] is improper *without regard* to whether SDG&E is permitted to self-provide the

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<sup>16</sup> At the May 30 pre-hearing conference, the Presiding Judge noted, with regard to an argument regarding the 2001 ID counsel for SDG&E attempted to raise, "I think that it strengthens your position not to have me issue what would essentially be *dicta* in this proceeding relative to the language contained in that ID. It is what it is and it has to be interpreted by the Commission in the context of the record." ER02-250 Tr. 144 at ll. 19-24. Of course, at that point, the ISO had not filed its Motion to Correct the Record; by the time the Commission considered the Initial Decision, however, the ISO had filed its *unopposed* Motion, and so the Commission could consider the ID "in the context of" the *corrected* record. See section II(A)(2)(b), *infra*.

imbalances and to whether the ISO in fact credits SDG&E's self-provision." *Id.* (emphasis added).

The issue, therefore, was one of the ISO's jurisdiction to assess SWPL Energy in any manner, not whether "crediting" of self-provision ought to be an element of such assessment. The ISO's incorrect description of how SWPL Energy was being assessed did nothing to prejudice SDG&E's jurisdictional arguments concerning SWPL, which were fully presented to, and found unpersuasive by, the Presiding Judge.

**b. The Commission Upheld the Finding of the Initial Decision that It is Just and Reasonable for the ISO to Assesses the GMC on SWPL Energy With the Corrected Record Before It**

As noted above, the Commission affirmed the ID's finding that it is just and reasonable to assess the GMC to SDG&E on behalf of SWPL Energy. Opinion No. 463 at P 7. The ISO filed its unopposed Motion to Correct the record between the time the ID was issued and the issuance of Opinion No. 463.

Motion to Correct the Record

The ISO filed the motion with the Commission to correct the record in the 2001 proceeding to remove the discrepancy between the its previous characterization of how SWPL Energy for transmission line losses was assessed the MO Charge in 2001, and the manner in which such assessment actually takes place pursuant to the ISO Tariff. The Motion to Correct acknowledged that the Initial Decision recited the ISO's incorrect description of how SDG&E was assessed the MO Charge for SWPL Energy, and that the Presiding Judge stated that "it is just and reasonable for SWPL Energy schedules to be

assessed a share of the MO charge in this manner,” but also presented the ISO’s view that the affirmative holding of the ID on the issue actually presented in the 2001 proceeding, whether the ISO possesses the authority to assess the MO Charge on SWPL transactions at all, was unaffected by the correction of the record. Motion to Correct at 6.<sup>17</sup>

The information contained in the Motion to Correct, *i.e.*, the fact that the ISO was *not* “crediting” SDG&E for the SWPL Energy self-provision for line losses in assessing the MO Charge, and that it never has done so under the unbundled GMC, is undisputed. *See, e.g.*, Complaint at 19. No party – including SDG&E – opposed the Motion to Correct, which indicates it should be granted.. *See Williams Natural Gas Company*, 43 F.E.R.C. ¶ 61,227 (1988) at n. 56. It is clear the Commission had the accurate facts before it, and had the correct description of the ISO’s filed rate to bring to bear in considering whether it was just and reasonable for the ISO to assess SDG&E the MO Charge on behalf of SWPL Energy – again, the only relevant issue of the 2001 proceeding. The Commission therefore must have found that the manner in which the ISO actually assesses SDG&E, *i.e.*, the ISO’s filed rate, was not material to affirming the ID finding that assessment of the MO Charge with regard to SWPL Energy is just and reasonable.<sup>18</sup>

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<sup>17</sup> SDG&E accuses the ISO of “falsely alleging that the 2001 Initial Decision did not rely on the ISO’s [incorrect] evidence in this regard.” SDG&E Motion at 3. For the reasons stated in section (ID)(A)(2)(a) above, and in the Motion to Correct, the ISO firmly denies that it made any false statements in the Motion to Correct.

<sup>18</sup> As noted in the text above, the result of the 2001 proceeding is controlling on the 2002 case, as well.



SDG&E's repeated assertions that the Commission decision affirmed the Initial Decision, and somehow this means the ISO is required to exempt SWPL Energy from its share of the MO Charge, (*see, e.g.*, Complaint at 10, 15, 24) are nonsensical. The Commission knew the ISO did not credit SDG&E, and that it was undisputed that the ISO never had done so, when it issued its decision. Indeed, as noted previously, SDG&E did not oppose the ISO's Motion to Correct the Record explaining how the assessment was actually accomplished. For the Commission's silence on the issue of SWPL Energy to be construed as requiring the ISO to charge SDG&E in a manner never intended under its filed rate, and based, in SDG&E's own words, on "false" testimony (Complaint at 22), simply strains credulity.

Instead, the fact that the Commission found the ISO's assessment of the MO Charge to SWPL Energy to be just and reasonable, with the correct description before it of how the ISO applies the MO Charge to SWPL Energy, demonstrates that the Commission considered the ISO's correction of the description of the application to have no effect on the ID (or the Commission's own) upholding of the assessment to SWPL Energy.

It is clear from the above discussion that the ISO has not violated its filed rate, and thus no refunds are justified.

#### **D. Costs Are Not Warranted in this Matter**

In its Complaint, SDG&E is seeking an award of its costs, including its legal expenses. Complaint at 26. The sanction sought by SDG&E is extraordinary in

Commission practice, indeed, so extraordinary that it appears the Commission has never imposed such sanctions on a party that did not volunteer for its imposition. The only case cited by SDG&E in support of its request, *Connecticut Yankee Atomic Power Company*, 81 FERC ¶ 63,006 (1997), saw the award of sanctions by a Presiding Administrative Law Judge where the company incurring the monetary sanction actually *did not oppose* the sanction. 81 FERC at 65,039. The ISO emphatically *does* oppose such a sanction in this case.<sup>19</sup>

The *Connecticut Yankee* case cited by SDG&E appears to be the *one and only* instance in FERC and Federal Power Commission reported opinions in which monetary sanctions have been awarded in a proceeding. The party bringing the complaint in *Connecticut Yankee* could identify no other case in which attorney's fees had been awarded. The Presiding Judge in *Connecticut Yankee* discussed earlier cases that had *denied* an award of monetary sanctions: the first case stated that "Relief so extraordinary in character can be granted only in the clearest of cases," *Pennsylvania Power Company*, 21 FERC ¶ 61,313 (1982) (denying costs despite "foot dragging" and "indifference" to a discovery order), and the other two repeated that "clearest of cases" standard and found it not met. *See Central Illinois Public Service Co.*, 27 FERC ¶ 61,079 (1984) (denying costs of responding to a complaint that was "not well founded"); *K.N. Energy, Inc.*, 25 FERC ¶ 63,007 (1983) (denying sanctions for failure to comply with discovery requests).

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<sup>19</sup> Moreover, although the Presiding Judge in *Connecticut Yankee* did not specifically rely on this fact, the party seeking monetary sanctions did so as a "'symbolic remedy' . . . against Connecticut Yankee's equity owners." 81 FERC at 65,037. In this case, of course, the ISO is a non-profit organization and does not have "equity owners." Any monetary remedy in favor of SDG&E would be at

The ALJ in *Connecticut Yankee* found that the “clearest of cases” rule had been satisfied, but also expressly relied on the acquiescence of the party agreeing to pay the monetary penalty. 81 FERC at 65,038.

Further, while requests for attorney’s fees have become a boiler-plate item in complaints filed with the Commission, it is not clear that the Commission possesses the statutory authority to award attorney’s fees. As noted above, the monetary penalty in *Connecticut Yankee* was purportedly based on attorney’s fees. That sanction, however, was not opposed or tested before the Commission or the federal courts. Where the Commission has spoken, it has pointed to federal precedent that puts the ability of the Commission to assess attorney’s fees as a sanction in doubt. See *Columbia Gas Transmission Co.*, 53 FERC ¶ 61,169 (1990), noting that, as a general matter, “[t]he award of attorney’s fees is exceptional” and citing *Alaska Pipeline Service Co. v. Wilderness Society*, 421 U.S. 240 (1975) (holding that attorney’s fees are not ordinarily permitted for a prevailing party in federal litigation in the absence of statutory authority).

As the statutory basis for the sanctions it is requesting, SDG&E cites only the Commission’s “broad powers to adopt procedures appropriate to carrying out its statutory responsibilities,” under Section 309 of the Federal Power Act (16 U.S.C. § 825h). Complaint at 26. This provision does not provide a proper basis for imposing the cost sought by SDG&E. While it conveys broad powers to the Commission, Section 309 is used primarily as authority for substantive actions taken by the Commission in order to

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the expense of the ISO’s other rate-payers (*i.e.*, the Scheduling Coordinators); there simply is no other source for such monies.

carry out the provisions of the Federal Power Act, not for sanctions for procedural conduct. In fact, the first case cited by SDG&E as support for the premise that Section 309 provides the Commission with broad powers deals with the Commission's ability to issue licenses for hydro-electric projects, rather than anything to do with sanctions. *See Niagara Mohawk Power Corp. v. FPC*, 379 F.2d 153, 157 (D.C. Cir. 1967).

Even if the Commission determines that it does possess the authority to award monetary sanctions in the form of costs, the ISO respectfully submits that this is not the "clearest of cases" described by the Commission in *Pennsylvania Power Co.* As discussed in this pleading, the ISO believes that its actions did not prejudice SDG&E, because, as noted above, SDG&E's position before the Presiding Judge was that the ISO lacked authority to impose the MO Charge on SWPL Energy *whether or not* the ISO "credited" SDG&E's self-provision of Imbalance Energy. See section II(A)(2)(a), *supra*; SDG&E Reply Brief at 13; and because, once the ISO confirmed that it had made an error, the ISO brought the erroneous description to the attention of the Commission and corrected the record, thus allowing the Commission to determine whether the misstatement had any material impact on the holding that SWPL transactions may be assessed the MO Charge.

**1. The ISO's Actions Do Not Rise To a Level That Would Justify Imposition of Costs**

As noted above, in the 2001 GMC proceeding, the specific issue, as indicated on the 2001 Joint Stipulation of issues, was "Is it just and reasonable to assess components of the GMC on SWPL Energy?" The ISO's testimony on this issue was accurate in

detailing that it has such authority. Where the record became inaccurate, however, was in the ISO's explanation of how, exactly, the ISO assesses the MO Charge to SDG&E.

At page 9, footnote 20 of its Complaint, SDG&E alleges that the ISO provided an incorrect answer to one of its data requests in the ER01-313 proceeding; this data request was included with the record in that proceeding as Exh. No. SDO-10, and SDG&E includes it with its Complaint as Attachment V.<sup>20</sup> The ISO denies this allegation. The data response describes the special arrangement between SDG&E and the ISO with regard to SDG&E's separate load I.D. used in scheduling Imbalance Energy for SWPL. It says nothing about the assessment of the GMC. This answer is correct.

SDG&E's main allegation is that ISO witness Deborah Le Vine provided testimony on cross-examination that described the ISO's policy of "crediting" SDG&E for its self-provision. *See, e.g.*, Complaint at 8, 11, and 25. In that testimony, Ms. Le Vine described how losses create the need for Imbalance Energy. Ms. Le Vine stated that

What ends up happening is let's say that SDG&E for APS as an example, they have 100 megawatts that comes in at Palo Verde and they want to take 100 megawatts out of Imperial interchange, what happens at those two ends, there are losses associated with that, my understanding, for 100 megawatts there are about 13 megawatts of losses. What you are doing now is scheduling a 13-megawatt load doing an inter-SC trade from SDG&E to that transaction of 13 megawatts.

So when we get all the meter reads, there is no load and the 13 megawatts that is transferred in goes ahead and credits the losses that are accumulated in that transaction. So there's no Imbalance Energy charge.

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<sup>20</sup> SDG&E continues its allusions to incorrect ISO discovery in the 2001 proceeding at page 11 of the Complaint. Nowhere does SDG&E allege that any 2001 discovery, apart from SDO-10, was inaccurate; the ISO denies that any of its final discovery responses in that proceeding were inaccurate, and specifically denies that its response to SDO-10 as included as Attachment V to the Complaint, is inaccurate.

Tr. 1903:5-17. This description is accurate in the context of purchases and sales of the commodity of Imbalance Energy, which is the normal meaning of the term “Imbalance Energy charge.” The description is not accurate if one interprets the term “Imbalance Energy charge” to include the administrative costs, which are the costs recovered through the MO/ASREO Charge.<sup>21</sup> Whether one should interpret the term that broadly in the context of the questioning is debatable.

SDG&E further alleges that the ISO continued its characterization of the MO Charge as including a “credit” to SDG&E for self-provision in the ISO’s briefs. Complaint at 9 and 11. It is true, as noted earlier, that footnotes in the ISO’s Initial Brief and its Reply Brief incorrectly described the application of the MO Charge to SWPL Energy. ISO Initial Brief at 45; ISO Reply Brief at 63, n. 3.

SDG&E goes on to allege that the ID relied on the ISO’s incorrect information regarding application of the MO Charge. Complaint at 2, and 9- 10. As described above in section II(A)(2)(a), although the Initial Decision may have relied on the incorrect description in discussing the assessment of SWPL, the details of how SWPL is assessed were not material to the ID conclusion that it is just and reasonable to assess components of the GMC on SWPL Energy. Moreover, the incorrect description certainly had no bearing on the final outcome of the ER01-313 proceeding, as the correct information was

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<sup>21</sup> Ms. Le Vine further stated her belief, based on consultation with other ISO personnel, that to the extent that SDG&E schedules the proper amount to offset its losses, “an Imbalance Energy charge is not being accrued to that transaction.” Tr. 1904:7-11. Again, this is accurate with respect to the charge for Imbalance Energy as a commodity, but not with respect to the administrative charge collected through the MO portion of the GMC.

presented to the Commission in the form of the ISO's Motion to Correct the record prior to the issuance of Opinion No. 483.

SDG&E appears to criticize the ISO for filing a Motion to Correct at all. Complaint at 15. It would appear that, despite its lack of opposition to the Motion to Correct, SDG&E would prefer for the ISO to leave uncorrected what SDG&E itself characterizes as "false" testimony (Complaint at 22). SDG&E overlooks the fact, as noted above, that the information contained in the Motion to Correct is undisputed. *See, e.g.,* Complaint at 19.

With regard to the 2002 proceeding, SDG&E alleges that the ISO was informed of the fact that it was not "crediting" SDG&E for self-provision at least as early as March 15, 2002, and took no remedial action until it filed its Motion to Correct on August 8. Complaint at 13-14, n. 34.<sup>22</sup> The ISO acknowledges that the miscommunications it experienced prevented the correct information from reaching the personnel and counsel involved in the 2001 and 2002 proceedings in a timely manner.

Further, SDG&E alleges that in the 2002 proceeding, the ISO provided an inaccurate response to SDG&E on March 28, 2002 to data request SDG&E-ISO-3(a), included in Attachment W to SDG&E's Complaint. The ISO admits that its initial response was incorrect. The March 28 response indicated that Imbalance Energy that

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<sup>22</sup> SDG&E contends that the testimony of its witness, Sohrab A. Yari, filed on August 17, 2001 pointed out that the ISO had not credited SDG&E for its self-provision. Complaint at 10. The ISO disagrees that Mr. Yari's testimony can be interpreted in that manner, but the point is that SDG&E's own argument indicates it knew the facts as early as the date of that testimony. SDG&E then waited nearly two years before filing its Complaint. Therefore, under the principle of "laches" SDG&E can be viewed as having waived its rights for retroactive relief at this late date – any relief granted to such a delayed

SDG&E self-provides will not be subject to the ASREO. This response was corrected by the ISO, however, in an Amended Response provided to SDG&E on August 8. The Amended Response refers SDG&E to the Motion to Correct the Record in the 2001 proceeding, filed with the Commission that same day.

As the Commission is likely all too aware, data requests often need to be corrected during the course of a proceeding, as additional information or data is uncovered. Therefore, it is patently obvious that an incorrect data response, corrected while the record in the proceeding remained open, does not rise to the level of conduct that warrants sanctions in the form of costs to the opposing party. SDG&E contends that the silence of ISO personnel and counsel at the pre-hearing conference in the face of allegations that it was not crediting SDG&E “admits of no proper explanation.” Complaint at 14, n. 34. In fact, the ISO personnel and counsel present were not cognizant at that time that the ISO had described its assessment of SWPL Energy incorrectly in the 2001 proceeding – it’s that simple. Following the pre-hearing conference, a careful examination of ISO practices was undertaken, and it was discovered that the ISO had, in fact, made errors on the record of the 2001 proceeding. In light of this discovery, the ISO filed its Motion to Correct the Record.

Therefore, the sum total of the ISO’s alleged misconduct in the 2001 proceeding was to allow an incorrect characterization of the application of its rate to SWPL Energy to be included in cross-examination and in footnotes in its briefs, and to correct the record

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complaint should be prospective only. *See, e.g., Powell v. Zuckert*, 366 F.2d 634, at 635 (D.C. Cir. 1966), and *Northwest Pipeline Co.*, 56 FERC P 61,231, 61,890 (1991).



with regard to that characterization. In the 2002 proceeding, the sum total of the ISO's alleged misconduct was to answer a data request incorrectly, and later correct it, and to fail to "confess" at a pre-hearing conference when those present on behalf of the ISO were still under the impression that the testimony and briefs in the 2001 proceeding were correct.

Nowhere in its allegations does SDG&E indicate a *reasonable* motive on the part of the ISO to perpetrate these errors intentionally. The ISO has gained nothing by its actions; quite the contrary – as a result of its misstatements, the ISO finds itself embroiled in unwonted litigation that should never have occurred.

In any event, the ISO's actions cannot reasonably be construed as warranting the penalty of reimbursing SDG&E's costs -- a penalty, as discussed above, so unusual as to be novel in FERC precedent.

## **2. The ISO Did Not Act With Wrongful Intent**

SDG&E provides no support for its allegations of wrongful intent on the part of the ISO and its counsel, and the ISO vigorously denies any such wrongful intent. What happened was a regrettable, extended miscommunication within the ISO and among ISO personnel and ISO counsel.

SDG&E accuses the ISO of using the "timing and substance" of its Motion to Correct the Record in the 2001 proceeding "to abet an effort ...to prevent the Presiding Judge from resolving the matter" in the 2002 case. Complaint at 16, n. 40. Further, SDG&E claims that the ISO's delay was "calculated to obtain for the ISO a conclusive

procedural advantage on this issue.” This allegation is facially unsound, as the SWPL Energy issue was specifically reserved for resolution after the settlement stipulation was filed in the 2002 proceeding, and after the Settlement of all other issues was filed on October 17, 2002.

The ISO did not intentionally mislead SDG&E regarding the assessment of SWPL Energy. The ISO never acted with the intent to mislead, nor did the timing of the ISO’s correction in any manner reflect, as SDG&E would have it, a desire on the part of the ISO “to prevent the Presiding Judge from resolving the matter in the 2002 case.” The fact of the matter is that the erroneous statements regarding the method by which GMC is assessed to SWPL transactions were an honest mistake. If the ISO personnel and counsel involved in these proceedings had realized sooner that SDG&E’s claims that the ISO was not crediting SDG&E for self-provision on behalf of SWPL Energy were correct, they would have corrected the record in the 2001 case as soon as this fact was clear. The ISO notes, again, that it certainly was not to the ISO’s advantage to have the matter come to light at the late date it did.

The ISO respectfully submits that its course of actions in this matter did not rise to the level – the “clearest of cases” –that might justify sanctions.

### III. Conclusion

Wherefore, the ISO requests that the Commission reject SDG&E's Complaint and deny SDG&E's request for sanctions.

Respectfully submitted,



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Dated: June 16, 2003

## ATTACHMENT A

**THE UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

San Diego Gas & Electric Company	)	
Complainant	)	
	)	
v.	)	Docket No. EL03-131-000
	)	
California Independent System	)	
Operator Corporation	)	
Respondent	)	

**AFFIDAVIT OF KYLE HOFFMAN ON BEHALF OF THE CALIFORNIA  
INDEPENDENT SYSTEM OPERATOR CORPORATION**

1. My name is Kyle Hoffman, and I am currently employed by the California Independent System Operator (ISO) as Manager, Client Account Management. My business address is 151 Blue Ravine Road, Folsom, California 95630.
  
2. Within Client Relations, the Account Management group serves as the primary point of interface with the ISO's Market Participants. We represent all of the ISO's functional departments to our customers. As Manager of this group, I also serve as an Account Manager with responsibility for interfacing with our business associates, transmission owners, and scheduling coordinators (SCs) -- the ISO's clients. An Account Manager's primary duty involves facilitation and resolution of issues involving the scheduling, dispatch, and settlement of power flow on the California electric transmission grid and within the ISO Control Area. The Client

Relations department facilitates training sessions for our clients on use of the ISO Scheduling, Metering, and Settlements systems. Account Managers actually present the ISO settlements training sessions. As such, we have extensive knowledge of the ISO's Settlements systems, Tariff settlement equations, and rate design construct.

3. Prior to joining the ISO, I was an Executive Consultant with Resource Management International, Inc. (RMI, now Navigant) and Utility Management Solutions (UMS). While with Pacific Gas and Electric Company (PG&E), I held various natural gas and electric engineering and management positions with direct responsibility for marketing/sales, community and governmental relations, customer service, engineering, maintenance, operations, and construction. I received my Bachelor of Science degree in Mechanical Engineering from the University of California, at Davis.

**Market Settlements and Administrative Settlements are  
Handled Differently by the ISO**

4. The ISO issues two separate sets of settlement invoices per month. The first is the Market invoice (both a Preliminary and a Final), which reconciles all "Market" related settlements for each SC that participated in the ISO Markets for the month. Market settlements relate to the purchase or sale of energy and Ancillary Services (A/S), transmission usage, and related charges for SCs scheduling power flows within the ISO Control Area. In each ISO Market transaction, typically one SC

sells energy or A/S to another SC or other SCs, which purchase the service at a price based on the clearing price in the respective ISO Market. The resulting ISO settlements reflect the financial exchanges between Market Participants.

5. An invoice to support ISO Administrative activities (both Preliminary and Final) is also issued to SCs. These invoices bill SCs for the Grid Management Charge (GMC). The GMC recovers the cost of operating the ISO.
  
6. At present there are three categories of GMC charges: the Control Area Services Charge (CAS), the Congestion Management Charge (CONG) and the Market Operations Charge (MO, now called ASREO). The first category recovers the cost of the ISO's provision of traditional control area operations and scheduling services. The second relates to management of transmission access/usage and operation of the congestion mitigation markets. The third category, the MO/ASREO Charge, is designed to recover the ISO's costs of operating the Real Time Energy and Ancillary Services Markets, or otherwise procuring energy and Ancillary Services for the benefit of all Market Participants.
  
7. The "Market" settlements and the "Administrative" settlements are separate and distinct. As noted above, they appear on separate invoices. Imbalance Energy is settled as a Market charge. The GMC associated with any Market energy transaction is collected as an Administrative charge.

8. The former Market Operations Charge, and current Ancillary Services and Real Time Energy Operations (ASREO) Charge, treats each negative or positive energy deviation as a separate transaction, a purchase or sale of Imbalance Energy respectively, with each transaction subject to the Market Operations/ASREO Charge. This construct resulted from a stakeholder process.
  
9. It is important to remember that each entity's schedule must be balanced between energy supply and load. The positive and negative energy deviations described above occur in the following manner for each schedule: When an entity provides more energy in real time than it has scheduled with the ISO in order to balance its anticipated load, this is a positive deviation from its schedule, and results in a sale of the "extra" energy into the Real Time Energy Market. (The same sale of "extra" energy occurs when the entity withdraws less energy to serve load in real time than it has scheduled; this is a "positive" deviation from its scheduled load. When an entity does not provide all of the energy in real time as was scheduled, this is a negative deviation from its energy schedule, and results in that entity purchasing energy from the Real Time Energy Market to meet that "shortfall." (The same purchase of "shortfall" energy occurs when an entity withdraws more energy in real time to meet load than it had scheduled; this is a "negative" deviation from scheduled load. The energy purchased or sold as a result of individual schedule deviations is called "balancing energy", as it is used to balance the entity's schedule; under the ISO Tariff, it is referred to as Imbalance



Energy (because it is used to meet “imbalances” between supply and demand for energy in real time).

### **San Diego Gas & Electric Company**

10. San Diego Gas & Electric Company (SDG&E) has a special arrangement for the settlement of its Market charge for Imbalance Energy with regard to the APS/IID (*i.e.*, Arizona Public Service and Imperial Irrigation District) power schedules on the SWPL. This arrangement developed in late 2000 and early 2001, when energy prices became very high as a result of the energy crisis in California. It is important to note that although SDG&E disputed its GMC charges prior to this time, alleviating these Administrative charges was not the purpose of the special arrangement. SDG&E was being charged quite a bit of money for the transmission losses assessed to their APS/IID wheel-through transactions (that is, power schedules on the portion of SWPL not owned by SDG&E) with regard to Market energy settlement. SDG&E was looking for any way to manage its Imbalance Energy price exposure. (Indeed, prior to that, SDG&E challenged the assessment of transmission line loss charges, which are applied to all parts of the ISO Controlled Grid.) After several discussions with SDG&E about this issue, we resolved to provide SDG&E with a load ID (*i.e.*, an identification number) as an “accommodation” to SDG&E, so that SDGE could schedule additional energy using the load ID accommodation. SDG&E’s scheduling of this additional load, and its scheduling of the additional energy needed to keep its schedule in balance, would create a positive energy deviation in the ISO's settlement system that

would offset the negative energy deviation resulting from the application of transmission losses to the wheel-through schedules. The offset would be either total or partial, depending on how closely the amount of additional scheduled energy matched the amount of actual transmission losses. This strategy was received kindly by SDG&E and it produced the intended effect, *i.e.*, it reduced SDG&E's Imbalance Energy price exposure.

11. The load ID given to SDG&E was an accommodation made to SDG&E by the ISO. SDG&E did not have a Meter Data Acquisition System, and, therefore, was incapable of submitting meter data to the ISO. The ISO set up this load ID so that the ISO could automatically write a zero into its system for load associated with this load ID, purely as an accommodation to SDG&E.
  
12. SDG&E prefers to self-provide energy from its own sources to cover the Transmission Loss (TL) allocation that accrues to the import side of a “wheel through” transaction (even when that wheel through is transacted under an Existing Transmission Contract (ETC)). SDG&E’s practice is to estimate its TL allocation in MWs, then procure and schedule this amount of energy in the forward market, along with offsetting load using the accommodation load ID, in order to, in effect, “self-provide” its own Transmission Losses. SDG&E must schedule this energy to load (although the energy is actually intended to offset its TLs) due to the ISO system requirement for balanced forward market schedules. Since the load does not actually exist, a zero meter read for the hour is reported

and the ISO's settlement system credits SDG&E for this excess energy. Thus, this excess energy appears as if it were a sale to the ISO's Real Time Energy Market. Conversely, the Transmission Losses appear as a purchase from the ISO's Real Time Energy Market.

13. The excess energy (energy credit) SDG&E scheduled to serve load offsets the Transmission Losses (energy debit) that accrue to the import side of the wheel-through transaction. If SDG&E is very accurate in its TL estimates, its portfolio energy transactions, which are settled as "market" charges, may net out and offset each other, credit and debit. In that case, the result is no Real Time balancing energy "Market" settlement.
14. However, "Administrative" charges, which are separate and distinct from the "Market" charges, as described above, still accrue to SDG&E in the above scenario. Thus, the Market energy settlement may be relatively small, if SDG&E closely manages its Real Time energy deviations. The ISO Administrative settlements system, however, treats the two Real Time transactions involved in this arrangement as a separate purchase and a separate sale; *i.e.*, the sale of Real Time energy due to the overscheduled load and the purchase of Real Time energy due to the Transmission Losses assessed on the import side of the wheel-through transaction. For this reason, two Administrative charges (the MO or ASREO Charges) accrue under the present Administrative charge construct, consistent with the present Tariff equations (*i.e.*, "total purchases and sales of Imbalance

Energy”): one on the load deviation for the extra scheduled energy and one on the import deviation for Transmission Losses.

15. The fact that both Real Time transactions get charged the Administrative charge is made clear in Section 8.3.3 of the ISO Tariff, which states that the MO/ASREO Charge is assessed on the “total purchases and sales” of Imbalance Energy. The charging of both transactions was also made clear in the 2001 Settlement Charge Matrix, which was distributed to Market Participants in November of 2000 to prepare them for the 2001 GMC, and which is included as Exhibit 1 to this Affidavit. On page 7 of the matrix, it is indicated that for charge type 0523 (the MO Charge) the billable quantity would be the “Aggregate of the absolute values of the hourly purchases/sales of Ancillary Services and 10-Minute Imbalance Energy.”

**All Scheduling Coordinators are Treated the Same**

16. All ISO Scheduling Coordinators are subject to the same MO/ASREO Charge construct. Any SC that elects to cover its own Transmission Loss allocation or performs load following by managing its own deviations in Real Time, thus intentionally deviating from its final Hour Ahead load or generation schedules, will incur the MO/ASREO Charge for participation in the ISO Real Time Energy Market. To the extent that an SC successfully matches Real Time energy deviations or offsets its TL allocation, it will incur no charge in the “Market” Energy settlement. However, these equal and offsetting managed energy deviations appear as independent Real Time Energy Market transactions – a sale

to the Market for excess energy provided in Real Time or a purchase from the Market for energy deficiencies, *e.g.*, Transmission Loss accrual. Both transactions in the Real Time Energy Market receive the MO/ASREO Charge for Market participation, consistent with the present ISO Tariff and the Tariff-based settlement equations for the GMC.

17. Energy deviations within an SC portfolio are netted each hour in the Market settlements system because system energy settlements must balance out, with all metered energy onto the grid (Generation and Imports), reconciling with all metered energy off the grid (Loads and Exports). To do otherwise would result in Unaccounted for Energy (UFE), a double counting of actual grid power flow. This netting of the actual Market energy settlement is consistent with the present Tariff equations and rate design.
  
18. It is recognized that the two design constructs – Market charges and Administrative charges – do not align. But each has its internal logic, and both follow the current ISO Tariff and the Tariff-based equations used in the Market and Administrative settlements. To repeat, the billing determinant for the MO/ASREO Charge was determined to be, and is stated in the ISO Tariff to be, each MW of energy deviation by resource – the “total purchases and sales” of Imbalance Energy (Section 8.3.3 of the Tariff). Thus, if an SC chooses to “self-provide” its own energy to cover its Transmission Loss obligation, the energy deviation attributable to the Transmission Loss and the excess energy procured

and scheduled as load by the SC to cover this deviation appear as two separate Real Time Energy Market transactions, both subject to the MO/ASREO Charge.

**Construct for Charging MO To Be Changed in 2004**

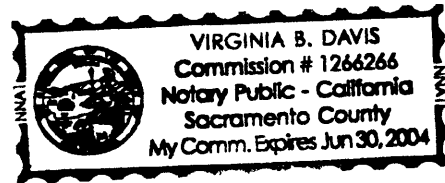
19. The construct of recognizing that each deviation is a separate Real Time transaction whenever an entity purposely over-schedules energy (by using accommodation load) to cover line losses is eliminated in the proposed 2004 GMC rate design. Of the three proposals resulting from the ongoing stakeholder process to design the 2004 GMC, none retains this construct. At stakeholder request, the two transactions in Real Time resulting from self-provision of energy to cover Transmission Losses will be cumulative and offsetting: The MO/ASREO Charge (however it is named in the 2004 GMC filing) will be applied to “net” portfolio energy deviations, as is presently done for the Market energy settlement.

Further affiant sayeth not.

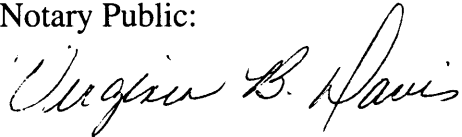
I swear that the facts contained in the affidavit provided above are true to the best of my knowledge, information, and belief.

  
\_\_\_\_\_  
Kyle Hoffman

Subscribed and sworn to before  
me on this 13<sup>th</sup> day of June, 2003.



Notary Public:



My Commission Expires: 6-30-04

**Exhibit 1**  
to the Affidavit of Kyle Hoffman

The 2001 Settlement Charge Matrix



# ISO Settlement Charge Matrix - Automated Charge Types Exhibit 1 to the Affidavit of Kyle Hoffman

Chrg REF	Charge Name	KEY PARAMETERS			Units	Price	Due ISO Positive	Due SC Negative	Charge Granularity	Effective Trade Period	
		Billable Quantity	Units	Price						Start	End
<b>Ancillary Service Capacity Reservation Settlements (Amount Due = -Billable Quantity * Price)</b>											
1	Day Ahead Spinning Reserve due SC	Spinning Reserve Accepted Bid Quantity [per SC, per location]	MW-hr	Non-FERC Locations: Zonal Spinning Reserve Capacity Market Clearing Price for Trading Interval / FERC Locations: Spinning Reserve Capacity Price for generation unit	\$/MW-hr	N/A	Capacity bought by ISO	Hourly	04/01/98	Open	
2	Hour Ahead Spinning Reserve due SC	Hour-Ahead additional Spinning Reserve accepted bid quantity [per SC, per location]	MW-hr	Non-FERC Locations: Zonal Spinning Reserve Capacity Market Clearing Price for Trading Interval / FERC Locations: Spinning Reserve Capacity Price for generation unit	\$/MW-hr	A/S buy back	Capacity bought by ISO	Hourly	04/01/98	Open	
3	Spinning Reserve due ISO	Net Reserve Obligation [per SC, per zone]	MW-hr	Average of DA and HA Rational Buyer MCPs weighted by MW requirements from the initial DA and HA auctions	\$/MW-hr	SC has net positive obligation	SC has a negative obligation due to surplus self provision	Hourly	08/18/99	Open	
<b>Net Zonal Obligation = Net Regional obligation * (Zonal SC Metered Demand / Regional SC Metered Demand)</b>											
Ref 010	Day Ahead Spinning Reserve due ISO	Non Self-Provided Spinning Reserve Requirement [per SC, per zone]	MW/trading interval	$\text{Average MCP} = \frac{\sum (\text{MCP} * \text{Billable Quantity Non-FERC}) + (\text{Bid Price} * \text{Billable Quantity FERC})}{\sum (\text{Non Self-Provided Spinning Reserve Requirement})}$	\$/MW	SC requirement due to NSP	N/A	Hourly	04/01/98	08/17/99	
Ref 0151	Hour Ahead Spinning Reserve due ISO	Hour-Ahead additional Non-Self Provided Spinning Reserve requirement [per SC, per zone]	MW/trading interval	$\text{Average MCP} = \frac{\sum (\text{MCP} * \text{Billable Quantity Non-FERC}) + (\text{Bid Price} * \text{Billable Quantity FERC})}{\sum (\text{Hour-Ahead additional Non-Self-Provided Spinning Reserve Requirement})}$	\$/MW	Increase in SC's DA requirement	Decrease in SC's DA requirement	Hourly	04/01/98	08/17/99	
4	Day Ahead Non-Spinning Reserve due SC	Non-Spinning Reserve Accepted Bid Quantity [per SC, per location]	MW-hr	Non-FERC Locations: Zonal Non-Spinning Reserve Capacity Market Clearing Price for Trading Interval / FERC Locations: Non-Spinning Reserve Capacity Price for generation unit	\$/MW-hr	N/A	Capacity bought by ISO	Hourly	04/01/98	Open	
5	Hour Ahead Non-Spinning Reserve due SC	Hour-Ahead additional Non-Spinning Reserve accepted bid quantity [per SC, per location]	MW-hr	Non-FERC Locations: Zonal AGC/Regulation Capacity Market Clearing Price for Trading Interval / FERC Locations: AGC/Regulation Capacity Price for generation unit	\$/MW-hr	A/S buy back	Capacity bought by ISO	Hourly	04/01/98	Open	
6	Non-Spinning Reserve due ISO	Net Reserve Obligation [per SC, per zone]	MW-hr	Average of DA and HA Rational Buyer MCPs weighted by MW requirements from the initial DA and HA auctions	\$/MW-hr	SC has net positive obligation	SC has a negative obligation due to surplus self provision	Hourly	08/18/99	Open	
<b>Net Zonal Obligation = Net Regional obligation * (Zonal SC Metered Demand / Regional SC Metered Demand)</b>											
Ref 010	Day Ahead Non-Spinning Reserve due ISO	Non Self-Provided Non-Spinning Reserve Requirement [per SC, per zone]	MW/trading interval	$\text{Average MCP} = \frac{\sum (\text{MCP} * \text{Billable Quantity Non-FERC}) + (\text{Bid Price} * \text{Billable Quantity FERC})}{\sum (\text{Non Self-Provided Non-Spinning Reserve Requirement})}$	\$/MW	SC requirement due to NSP	N/A	Hourly	04/01/98	08/17/99	
Ref 0151	Hour Ahead Non-Spinning Reserve due ISO	Hour-Ahead additional Non-Self Provided Non-Spinning Reserve requirement [per SC, per zone]	MW/trading interval	$\text{Average MCP} = \frac{\sum (\text{MCP} * \text{Billable Quantity Non-FERC}) + (\text{Bid Price} * \text{Billable Quantity FERC})}{\sum (\text{Hour-Ahead additional Non-Self-Provided Non-Spinning Reserve Requirement})}$	\$/MW	Increase in SC's DA requirement	Decrease in SC's DA requirement	Hourly	04/01/98	08/17/99	

# ISO Settlement Charge Matrix - Automated Charge Types

REF	Chrg ID	Charge Name	KEY PARAMETERS			Due ISO Positive	Due SC Negative	Charge Granularity	Effective Trade Period	
			Billable Quantity	Units	Price				Start	End
Ret	0003	Day Ahead AGC/Regulation due SC	AGC/Regulation Accepted Bid Quantity [per SC, per location] (Sum of Absolute Positive & Negative Bid Qty)	MW/trading interval	Non-FERC Locations: Zonal AGC/Regulation Capacity Market Clearing Price for Trading Interval / FERC Locations: AGC/Regulation Capacity Price for generation unit	N/A	Capacity bought by ISO	Hourly	04/01/98	08/17/99
Ret	0055	Hour Ahead AGC/Regulation due SC	Hour Ahead additional AGC/Regulation accepted bid quantity [per SC, per location] (Sum of Absolute Positive & Negative Bid Qty)	MW/trading interval	Non-FERC Locations: Zonal AGC/Regulation Capacity Market Clearing Price for Trading Interval / FERC Locations: AGC/Regulation Capacity Price for generation unit	A/S buy back	Capacity bought by ISO	Hourly	04/01/98	08/17/99
Ret	0103	Day Ahead AGC/Regulation due ISO	Non-Self Provided AGC/Regulation requirement [per SC, per zone] (Sum of Absolute Positive & Negative Bid Qty)	MW/trading interval	Average MCP = $\frac{\sum (\text{MCP} * \text{Billable Quantity Non-FERC})}{\sum (\text{Billable Quantity FERC})}$ (Non-Self Provided AGC/Regulation requirement)	SC requirement due to NSP	N/A	Hourly	04/01/98	08/17/99
Ret	0153	Hour Ahead AGC/Regulation due ISO	Hour Ahead Non-Self Provided additional AGC/Regulation requirement [per SC, per zone] (Sum of Absolute Positive & Negative Bid Qty)	MW/trading interval	Average MCP = $\frac{\sum (\text{MCP} * \text{Billable Quantity Non-FERC})}{\sum (\text{Billable Quantity FERC})}$ (Hour Ahead additional Non-Self Provided AGC/Regulation requirement)	Increase in SC's DA requirement	Decrease in SC's DA requirement	Hourly	04/01/98	08/17/99
7	0004	Day Ahead Replacement Reserve due SC	Replacement Reserve Accepted Bid Quantity [per SC, per location]	MW-hr	Non-FERC Locations: Zonal Replacement Reserve Capacity Market Clearing Price for Trading Interval / FERC Locations: Replacement Reserve Capacity Price for generation unit	N/A	Capacity bought by ISO	Hourly	04/01/98	Open
8	0054	Hour Ahead Replacement Reserve due SC	Hour Ahead additional Replacement Reserve accepted Bid Quantity [per SC, per location]	MW-hr	Non-FERC Locations: Zonal Replacement Reserve Capacity Market Clearing Price for Trading Interval / FERC Locations: Replacement Reserve Capacity Price for generation unit	A/S buy back	Capacity bought by ISO	Hourly	04/01/98	Open
9	0114	Replacement Reserve due ISO	Net Reserve Obligation [per SC, per zone]	MW-hr	Average of DA and HA Rational Buyer MCPs weighted by MW requirements from the initial DA and HA auctions	SC has net positive obligation	SC has a negative obligation due to surplus self provision	Hourly	08/18/99	Open
<p>Net Zonal Obligation = Net Regional obligation * (Zonal SC Metered Load / Regional SC Metered Load)                      Net Regional Obligation = Base Obligation + Remaining Obligation + Inter SC Trades - Effective Self Provision                      Base Obligation = Min ( Deviation Requirement, Prorata share based on SC's Deviation Requirements of Reserve Available to ISO )                      Deviation Requirement = Overscheduled Generation + Underscheduled Load                      Remaining Obligation = ( Reserve Available to ISO - <math>\sum</math> Base Obligation ) * (SC Regional Metered Load / Total Regional Metered Load)</p>										
Ret	0103	Replacement Reserve due ISO (Dispatched)	R.R. (Dispatched)	MW/trading interval	Average MCP = $\frac{\sum (\text{Capacity MCP} * \text{Capacity Billable Quantity Non-FERC}) + (\text{Capacity Bid Price} * \text{Capacity Billable Quantity FERC})}{\sum (\text{Capacity Billable Quantity Non-FERC}) + \sum (\text{Capacity Billable Quantity FERC})}$	SC requirement due to NSP	N/A	Hourly	04/01/98	08/17/99
Ret	0103	Replacement Reserve due ISO (Dispatched)	R.R. (Dispatched)	MW/trading interval	Average MCP = $\frac{\sum (\text{Capacity MCP} * \text{Capacity Billable Quantity Non-FERC}) + (\text{Capacity Bid Price} * \text{Capacity Billable Quantity FERC})}{\sum (\text{Capacity Billable Quantity Non-FERC}) + \sum (\text{Capacity Billable Quantity FERC})}$ (SC Non-Self Provided Replacement Reserve) + $\frac{\sum (\text{SC Metered Load} * \text{Replacement Reserve})}{\sum (\text{SC Non-Self Provided Replacement Reserve})}$	SC requirement due to NSP	N/A	Hourly	04/01/98	08/17/99

# ISO Settlement Charge Matrix - Automated Charge Types

REF	Chrg ID	Charge Name	KEY PARAMETERS			Units	Price	Due ISO Positive	Due SC Negative	Charge Granularity	Effective Trade Period Start	Effective Trade Period End
			Billable Quantity	Units	Units							
10	0005	Day Ahead Regulation Up due SC	Day Ahead Regulation Up Accepted Bid Quantity [per SC, per location]	MW-hr	Zonal Regulation Up Capacity MCP for Trading Interval	\$/MW-hr	N/A	Capacity bought by ISO	Hourly	08/18/99	Open	
11	0055	Hour Ahead Regulation Up due SC	Hour Ahead Regulation Up Accepted Bid Quantity [per SC, per location]	MW-hr	Zonal Regulation Up Capacity MCP for Trading Interval	\$/MW-hr	A/S buy back	Capacity bought by ISO	Hourly	08/18/99	Open	
12	0115	Regulation Up Due ISO	Net Reserve Obligation [per SC, per zone]	MW-hr	Average of DA and HA Rational Buyer MCPs weighted by MW requirements from the initial DA and HA auctions	\$/MW-hr	SC has net positive obligation	SC has a negative obligation due to surplus self provision	Hourly	08/18/99	Open	
<p style="text-align: center;">Total SC scheduled non-self provided Replacement Reserve Requirement</p>												
13	0006	Day Ahead Regulation Down due SC	Day Ahead Regulation Down Accepted Bid Quantity [per SC, per location]	MW-hr	Net Zonal Obligation = Net Regional obligation * (Zonal SC Metered Load / Regional SC Metered Load)	\$/MW-hr	N/A	Capacity bought by ISO	Hourly	08/18/99	Open	
14	0056	Hour Ahead Regulation Down due SC	Hour Ahead Regulation Down Accepted Bid Quantity [per SC, per location]	MW-hr	Zonal Regulation Down Capacity MCP for Trading Interval	\$/MW-hr	A/S buy back	Capacity bought by ISO	Hourly	08/18/99	Open	
15	0116	Regulation Down Due ISO	Net Reserve Obligation [per SC, per zone]	MW-hr	Average of DA and HA Rational Buyer MCPs weighted by MW requirements from the initial DA and HA auctions	\$/MW-hr	SC has net positive obligation	SC has a negative obligation due to surplus self provision	Hourly	08/18/99	Open	
<p style="text-align: center;">Net Zonal Obligation = Net Regional obligation * (Zonal SC Metered Load / Regional SC Metered Load)</p>												
<b>Rational Buyer Settlement</b>												
16	1011	Ancillary Service Rational Buyer Adjustment	SC's user payment for Ancillary Services [per control area]	\$	Per Unit Price = Total overcollected or undercollected revenue / Total collected user payments for Ancillary Services	\$/	ISO undercollects A/S costs	ISO overcollects A/S costs	Hourly	08/18/99	Open	
<b>RMR Preempted Ancillary Service Capacity Settlements (Amount Due = -Billable Quantity * Price)</b>												
17	0061	Hour Ahead RMR Preemption of Spinning Reserve (HA Price)	Amount of Spinning Reserve Pre-empted before close of HA Market [per SC, per location]	MW-hr	Zonal Spinning Reserve Capacity Hour Ahead Market Clearing Price for Trading Interval	\$/MW-hr	A/S Preempted	N/A	Hourly	01/01/00	Open	
18	0062	Hour Ahead RMR Preemption of Non-Spinning Reserve (HA Price)	Amount of Non-Spinning Reserve Pre-empted before close of HA Market [per SC, per location]	MW-hr	Zonal Non Spinning Reserve Capacity Hour Ahead Market Clearing Price for Trading Interval	\$/MW-hr	A/S Preempted	N/A	Hourly	01/01/00	Open	

# ISO Settlement Charge Matrix - Automated Charge Types

REF	Chrg ID	Charge Name	KEY PARAMETERS				Due ISO Positive	Due SC Negative	Charge Granularity	Effective Trade Period	
			Billable Quantity	Units	Price	Units				Start	End
19	0064	Hour Ahead RMR Preemption of Replacement Reserve (HA Price)	Amount of Replacement Reserve Pre-empted before close of HA Market [per SC, per location]	MW-hr	Zonal Replacement Reserve Capacity Hour Ahead Market Clearing Price for Trading Interval	\$/MW-hr	N/A	Hourly	01/01/00	Open	
20	0065	Hour Ahead RMR Preemption of Regulation Up (HA Price)	Amount of Regulation Up Pre-empted before close of HA Market [per SC, per location]	MW-hr	Zonal Regulation Up Capacity Hour Ahead Market Clearing Price for Trading Interval	\$/MW-hr	N/A	Hourly	01/01/00	Open	
21	0066	Hour Ahead RMR Preemption of Regulation Down (HA Price)	Amount of Regulation Down Pre-empted before close of HA Market [per SC, per location]	MW-hr	Zonal Regulation Down Capacity Hour Ahead Market Clearing Price for Trading Interval	\$/MW-hr	N/A	Hourly	01/01/00	Open	
22	0071	Real Time RMR Preemption of Spinning Reserve (DA Price)	Amount of Spinning Reserve Pre-empted after close of Hour Ahead Market at Day Ahead Price [per SC, per location]	MW-hr	Zonal Spinning Reserve Capacity Day Ahead Market Clearing Price for Trading Interval	\$/MW-hr	N/A	Hourly	1/1/2000	5/31/2000	
23	0072	Real Time RMR Preemption of Non-Spinning Reserve (DA Price)	Amount of Non-Spinning Reserve Pre-empted after close of Hour Ahead Market at Day Ahead Price [per SC, per location]	MW-hr	Zonal Non-Spinning Reserve Capacity Day Ahead Market Clearing Price for Trading Interval	\$/MW-hr	N/A	Hourly	1/1/2000	5/31/2000	
24	0074	Real Time RMR Preemption of Replacement Reserve (DA Price)	Amount of Replacement Reserve Pre-empted after close of Hour Ahead Market at Day Ahead Price [per SC, per location]	MW-hr	Zonal Replacement Reserve Capacity Day Ahead Market Clearing Price for Trading Interval	\$/MW-hr	N/A	Hourly	1/1/2000	5/31/2000	
25	0075	Real Time RMR Preemption of Regulation Up (DA Price)	Amount of Regulation Up Pre-empted after close of Hour Ahead Market at Day Ahead Price [per SC, per location]	MW-hr	Zonal Regulation Up Capacity Day Ahead Market Clearing Price for Trading Interval	\$/MW-hr	N/A	Hourly	1/1/2000	5/31/2000	
26	0076	Real Time RMR Preemption of Regulation Down (DA Price)	Amount of Regulation Down Pre-empted after close of Hour Ahead Market at Day Ahead Price [per SC, per location]	MW-hr	Zonal Regulation Down Capacity Day Ahead Market Clearing Price for Trading Interval	\$/MW-hr	N/A	Hourly	1/1/2000	5/31/2000	
27	0081	Real Time RMR Preemption of Spinning Reserve (HA Price)	Amount of Spinning Reserve Pre-empted after close of Hour Ahead Market at Hour Ahead Price [per SC, per location]	MW-hr	Zonal Spinning Reserve Capacity Hour Ahead Market Clearing Price for Trading Interval	\$/MW-hr	N/A	Hourly	1/1/2000	5/31/2000	
28	0082	Real Time RMR Preemption of Non-Spinning Reserve (HA Price)	Amount of Non-Spinning Reserve Pre-empted after close of Hour Ahead Market at Hour Ahead Price [per SC, per location]	MW-hr	Zonal Non-Spinning Reserve Capacity Hour Ahead Market Clearing Price for Trading Interval	\$/MW-hr	N/A	Hourly	1/1/2000	5/31/2000	

# ISO Settlement Charge Matrix - Automated Charge Types

REF ID	Chrg ID	Charge Name	KEY PARAMETERS		Due ISO Positive	Due SC Negative	Charge Granularity	Effective Trade Period	
			Billable Quantity	Units				Price	Units
29	0084	Real Time RMR Preemption of Replacement Reserve (HA Price)	Amount of Replacement Reserve Pre-empted after close of Hour Ahead Market at Hour Ahead Price [per SC, per location]	MW-hr	Zonal Replacement Reserve Capacity Hour Ahead Market Clearing Price for Trading Interval	N/A	Hourly	1/1/2000	5/31/2000
30	0085	Real Time RMR Preemption of Regulation Up (HA Price)	Amount of Regulation Up Pre-empted after close of Hour Ahead Market at Hour Ahead Price [per SC, per location]	MW-hr	Zonal Regulation Up Capacity Hour Ahead Market Clearing Price for Trading Interval	N/A	Hourly	1/1/2000	5/31/2000
31	0086	Real Time RMR Preemption of Regulation Down (HA Price)	Amount of Regulation Down Pre-empted after close of Hour Ahead Market at Hour Ahead Price [per SC, per location]	MW-hr	Zonal Regulation Down Capacity Hour Ahead Market Clearing Price for Trading Interval	N/A	Hourly	1/1/2000	5/31/2000
32	1061	Distribution of Preempted Spinning Reserve	Total Load + Export [per SC, per Zone]	MWh	Total Spinning Reserve Preemption Revenue / (Total Load + Export) [per A/S Region, per Trading Interval ]	Distribution of A/S Preemption Revenue	Hourly	06/01/00	Open
33	1062	Distribution of Preempted Non-Spinning Reserve	Total Load + Export [per SC, per Zone]	MWh	Total Non Spinning Reserve Preemption Revenue / (Total Load + Export) [per A/S Region, per Trading Interval ]	Distribution of A/S Preemption Revenue	Hourly	06/01/00	Open
34	1064	Distribution of Preempted Replacement Reserve	Total Load + Export [per SC, per Zone]	MWh	Total Replacement Reserve Preemption Revenue / (Total Load + Export) [per A/S Region, per Trading Interval ]	Distribution of A/S Preemption Revenue	Hourly	06/01/00	Open
35	1065	Distribution of Preempted Regulation Up	Total Load + Export [per SC, per Zone]	MWh	Total Regulation Up Preemption Revenue / (Total Load + Export) [per A/S Region, per Trading Interval ]	Distribution of A/S Preemption Revenue	Hourly	06/01/00	Open
36	1066	Distribution of Preempted Regulation Down	Total Load + Export [per SC, per Zone]	MWh	Total Regulation Down Preemption Revenue / (Total Load + Export) [per A/S Region, per Trading Interval ]	Distribution of A/S Preemption Revenue	Hourly	06/01/00	Open
<b>RMR Imbalance Energy Payment Withhold</b>									
37	0410	Unscheduled RMR Energy	Energy generated in excess of scheduled energy, up to RMR dispatched amount [per SC, per location, per Interval]	MWh	Price = Withhold Amount / Billable Quantity Withhold Amount is first taken from the Instructed Energy payment (at the Average Price for the instructed energy in the trading interval) and then from the Uninstructed Energy (at the Incremental MCP of the interval) of the unit.	N/A	Hourly	6/1/00	8/31/00
<b>Day-Ahead Zonal Congestion Settlements (Amount Due = Billable Quantity * Price)</b>									
						Final schedule less than RMR dispatch	Hourly	9/1/00	Open

# ISO Settlement Charge Matrix - Automated Charge Types

REF	Chrg ID	Charge Name	KEY PARAMETERS			Due ISO Positive	Due SC Negative	Charge Granularity	Effective Trade Period	
			Billable Quantity	Units	Price				Start	End
39	0201	Day-Ahead Intra-Zonal Congestion Incs/Deecs Settlement	Accepted Day-Ahead Incremental / Decremental Bid Quantity	MWh / trading interval	Bid Price	Dec Bid	Inc Bid	Hourly	Future	Open
40	0202	Day-Ahead Intra-Zonal Congestion Charge/Refund (DA Grid Operations Charge)	Sum of SC Scheduled Load & Export for Zone for Trading Interval	MWh / trading interval	Intra-Zonal Congestion Charge Price = Sum All SC's Day-Ahead Intra-Zonal Congestion Settlements (inc/decs) for Zone for Trading Interval / Total MW Load + Exports Energy in the Zone for Trading Interval	Inc Settlements + Dec Settlements is negative = ISO Cost which must be collected	Inc Settlements + Dec Settlements is positive = ISO revenues which must be distributed	Hourly	Future	Open
41	0203	Day-Ahead Intra-Zonal Congestion Settlement	SC Scheduled Energy Quantity [per SC] (Sum of Net Import into the Zone) = (L - G + Transfer)	MWh / trading interval	Zonal MCP (Reference Price, $\lambda$ )	SC's MW flow is in the direction of the congestion	SC's MW flow relieves congestion	Hourly	04/01/98	Open
42	0204	Day-Ahead Intra-Zonal Congestion Refund due TO	TO Percentage Ownership on Interface X Interface Loading [per SC, per Branch Group Location]	MW / trading interval	Day-Ahead Congestion Price of the branch group location (Shadow Price, $\mu$ )	N/A	ISO revenue from Day-Ahead Inter-zonal Congestion Settlement	Hourly	04/01/98	Open
<b>Hour-Ahead Zonal Congestion Settlements (Amount Due = Billable Quantity * Price)</b>										
43	0251	Hour-Ahead Intra-Zonal Congestion Incs/Deecs Settlement	Accepted Revised Hour-Ahead Incremental/Decremental Bid Quantity	MWh / trading interval	Bid Price	Dec Bid	Inc Bid	Hourly	Future	Open
44	0252	Hour-Ahead Intra-Zonal Congestion Charge/Refund (HA Grid Operations Charge)	Absolute difference between [(the Sum of Hour-Ahead Scheduled Load & Export) minus (the sum of Day-Ahead Scheduled Load & Export)]	MWh / trading interval	Intra-Zonal Congestion Charge Price = Sum All SC's Hour-Ahead Intra-Zonal Congestion Incs/Deecs Settlements for Zone for Trading Interval / The Sum of all SC's billable quantity (absolute differences)	Inc Settlements + Dec Settlements is negative = ISO Cost which must be collected	Inc Settlements + Dec Settlements is positive = ISO revenues which must be distributed	Hourly	Future	Open
45	0253	Hour-Ahead Intra-Zonal Congestion Refund	Hour-Ahead revised scheduled quantity minus Day-Ahead scheduled quantity [per SC] (Sum of Net Import into the Zone) = (L - G + Transfer)	MWh / trading interval	Zonal MCP (Reference Price, $\lambda$ )	SC's MW flow is in the direction of the congestion	SC's MW flow relieves congestion	Hourly	04/01/98	Open
46	0254	Hour-Ahead Intra-Zonal Congestion Refund due TO	TO Percentage Ownership on Interface * Increase in Interface Loading From Dayahead to Hourahead [per TO, per Branch Group Location]	MW / trading interval	Hour-Ahead Congestion Price of the branch group location (Shadow Price, $\mu$ )	N/A	ISO revenue to be refunded	Hourly	04/01/98	Open

# ISO Settlement Charge Matrix - Automated Charge Types

REF	Chrg ID	Charge Name	KEY PARAMETERS			Due ISO Positive	Due SC Negative	Charge Granularity	Effective Trade Period	
			Billable Quantity	Units	Price				Start	End
47	0255	Hour-Ahead Inter-Zonal Congestion Debit to TOs	Business Associate's Percentage Entitlement of the Path * Decrease in Path Loading From Dayahead to Hourahead [per BA, per Branch Group Location]	MW / trading interval	Day-Ahead Congestion Price of the branch group location (Shadow Price, m)	ISO revenue to be collected	N/A	Hourly	03/18/99	Open
48	0256	Hour-Ahead Inter-Zonal Congestion Debit to SCs	SC's Dayahead Path Utilization in the Congested Direction [per SC, per Branch Group Location]	MW / trading interval	{IDA Path Loading - HA Path Loading} * HA Congestion Price - TO Debit Amount for Path / Total DA Path Flow in the Congested Direction	ISO revenue to be collected	ISO revenue to be refunded	Hourly	03/18/99	Open
<b>ISO Administrative Charge (Amount Due = Billable Quantity * Price)</b>										
		Monthly Grid Management Charge due ISO	SC Metered Load plus Gross Export in the Control Area for the Month	MWh / Month	ISO Administrative Charge Price	ISO Costs to be collected	ISO revenue to be refunded	Monthly	04/01/98	12/31/00
49	0521	Control Area Services Grid Management Charge	SC metered Gross Load and Export [per BA, per month]	MWh / Month	Control Area Service Charge Price	ISO Costs to be collected	ISO revenue to be refunded	Monthly	01/01/01	Open
50	0522	Interzonal Scheduling Grid Management Charge	Aggregate of the absolute values of the hourly net scheduled inter-zonal New Firm Use flows [per BA, per month]	MWh / Month	Inter-Zonal Scheduling Charge Price	ISO Costs to be collected	ISO revenue to be refunded	Monthly	01/01/01	Open
51	0523	Market Operations Grid Management Charge	Aggregate of the absolute values of the hourly purchases/sales of Ancillary Services and 10-Minute Imbalance Energy [per BA, per month]	MW-hr / Month	Market Operations Charge Price	ISO Costs to be collected	ISO revenue to be refunded	Monthly	01/01/01	Open
<b>Wheeling (Amount Due = Billable Quantity * Price)</b>										
52	0352	Wheeling Out / Wheeling Through due ISO	Export Gross Export Schedule at an Exit Point	MWh / Month	TO Tariff at Exit Point or TO Weighted Tariff Rate at the Point (if Multiple Owners exist)	SC usage of TOs' transmiss'n line	N/A	Hourly	04/01/98	Open
53	0354	Wheeling Charge Refund due TO	Export Gross Export at the Exit Point for all BA * TO Percentage Revenue Requirement	MWh / Month	Individual TO Tariff Rate at the Exit Point	N/A	ISO revenue to be refunded	Hourly	04/01/98	Open
<b>Per Unit Charges</b>										
54	1010	Neutrality Adjustments	SC Demand Quantity (load & export) for the Control Area [Per SC, Per Interval]	MWh	Per Unit Price = Total Amount / Total load & Export in the Control Area	ISO costs to be collected	ISO revenue to be refunded	Hourly	4/1/98	8/31/00
55	1101	Black Start Capacity due ISO	SC's Metered Load in the Control Area	MWh / Month	Per Unit Price = Total Amount / Total Metered Load in the Control Area	ISO costs to be collected	N/A	Hourly	9/1/00	Open

# ISO Settlement Charge Matrix - Automated Charge Types

REF	Chrg ID	Charge Name	KEY PARAMETERS				Due ISO Positive	Due SC Negative	Charge Granularity	Effective Trade Period	
			Billable Quantity	Units	Price	Units				Start	End
56	1302	Long Term Voltage Support due ISO	SC Demand Quantity (load & export) for the Zone	MWh / trading interval	Per Unit Price = Total Amount / Total load & Export in the Zone	ISO costs to be collected	N/A	Hourly	04/01/98	Open	
57	1303	Supplemental Reactive Energy due ISO	SC Demand Quantity (load & export) for the Zone	MWh / Month	Per Unit Price = Total Amount / Total load & Export in the Zone	ISO costs to be collected	N/A	Hourly	04/01/98	Open	
58	1353	Black Start Energy due ISO	SC Demand Quantity (load & export) for the Control Area	MWh / trading interval	Per Unit Price = Total Amount / Total load & Export in the Control Area	ISO costs to be collected	N/A	Hourly	04/01/98	Open	
59	1999	Rounding Adjustment	SC Demand Quantity (load & export) for the Control Area	MWh / Adjustment interval	Per Unit Price = Total Amount / Total load & Export in the Control Area	ISO costs to be collected	ISO revenue to be refunded	Hourly	04/01/98	Open	

### Instructed Energy Settlements

REF	Chrg ID	Charge Name	Billable Quantity	Units	Price	Units	Due ISO Positive	Due SC Negative	Charge Granularity	Effective Trade Period
60	0401	AS Energy And Supplemental Energy due SC	Export AS (Bid in and self provided) Energy and Supplemental Energy Quantity (per SC per location)	MWh / trading interval	Effective Price = Settlement Amount / Billable Quantity	\$/MWh	Energy sold by ISO to reduce excess reserve	Energy bought by ISO to increase reserve	Hourly	04/01/98
		Instructed Energy	Energy delivered in excess of schedule in accordance with ISO instructions [per SC, Per Location/Interchange]. Instructed energy is settled in the following sequence: 1) Ramping Energy; 2) Negative Out of stack and Supplemental Energy; 3) Out of stack Energy in chronological order ( first-come, first-settled); 4) Supplemental Energy; 5) Energy out of Replacement Reserve; 6) Energy out of Non-Spinning Reserve; 7) Energy out of Spinning Reserve; 8) Residual Imbalance Energy.	MWh / trading interval	Price = Settlement Amount/Billable Quantity. Settlement Amount = (Ramping Energy * 0) + (+ve Suppl. Imbal. Energy * Incremental MCP) + (-ve Suppl. Imbal. Energy * Decremental MCP) + ((Imbal. Energy from Spin + Imbal. Energy from Non Spin + Imbal. Energy from Rpic.Rsrv.) * Incremental MCP) + (Out of stack Energy * Energy Price) + (Positive Residual Imbal Energy * Incremental MCP) + (Negative Residual Imbal. Energy * Decremental MCP). MCP <sub>r</sub> is the Market Clearing Price of the Price Reference Interval.	\$/MWh	Energy sold by ISO to reduce excess reserve	Energy bought by ISO to increase reserve	10-Minute	09/01/00

The following notations are used in the equations below.

- $i$  = Resource,  $h$  = Hour,  $k$  = Interval in an hour,  $l$  = Instruction sequence index,  $r$  = Congestion Region
- $+$  = Incremental,  $-$  = Decremental,  $\cdot$  = Delivered,  $\cdot$  = Metered Quantity;
- $S_{i,h,k}$  = Scheduled Energy;
- $RE_{i,h,k}$  = Ramping Energy; Ramping energy is only calculated for ISO Metered Entities.  $RE_{i,h,k} = 0$  for Non Metered Entities.
- $GMM_{i,h,k}$  = Actual Generator Meter Multiplier;  $GMM_{i,h,k}$  = Forecast Generator Meter Multiplier;
- $ESE^+_{i,h,k}$  = Acknowledged Incremental Supplemental Energy;  $ESE^-_{i,h,k}$  = Acknowledged Decremental Supplemental Energy;
- $ESE^+_{i,h,k}$  = Delivered Incremental Supplemental Energy;  $ESE^-_{i,h,k}$  = Delivered Decremental Supplemental Energy;



# ISO Settlement Charge Matrix - Automated Charge Types

REF	Chrg ID	Charge Name	KEY PARAMETERS				Due ISO Positive	Due SC Negative	Charge Granularity	Effective Trade Period	
			Billable Quantity	Units	Price	Units				Start	End
			<p> <math>ESR_{i,h,k}</math> = Acknowledged Energy from Spin Reserve;  <math>ENS_{i,h,k}</math> = Acknowledged Energy from Non Spin Reserve;  <math>ERR_{i,h,k}</math> = Acknowledged Energy from Repl. Reserve;  <math>RIE_{i,h,k}</math> = Residual Imbalance Energy of Resource;  <math>OOS^+_{i,h,k,l}</math> = Acknowledged Positive Out of Stack Energy;  <math>OOS^-_{i,h,k,l}</math> = Acknowledged Negative Out of Stack Energy;                 </p> <p>                     For Generator, the total generation deviation is:  <math>E_{i,h,k} = M_{i,h,k} * GMM_{a,i,b} - S_{i,h,k} * GMM_{f,i,b}</math>                      For Load, the total load deviation is:  <math>E_{i,h,k} = S_{i,h,k} - M_{i,h,k}</math>  <math>GMM_{a,b} = 1, ESR_{i,h,k} = 0, ESR_{i,h,k} = 0</math> </p> <p>                     For Import, <math>OOS^+_{i,h,b}, OOS^+_{i,h,b}, ESE^+_{i,h,b}, ESE^+_{i,h,b}, ERR_{i,h,b}, ENS_{i,h,k}</math> and <math>ESR_{i,h,k}</math> will be determined directly based on communications with the SC and the neighbor Control Areas.                      There is no Instructed Energy for Export resources.                 </p> <p> <math>E^{(0)}_{i,h,k} = E_{i,h,k} - RE_{i,h,k}</math>                      If <math>(\sum OOS^+_{i,h,k,l} + ESE^+_{i,h,k} + ESR_{i,h,k} + ENS_{i,h,k} + ERR_{i,h,k} &gt; 0)</math> and <math>(\sum OOS^-_{i,h,k,l} + ESE^-_{i,h,k} &lt; 0)</math> Then  <math>OOS^-_{i,h,k,l} = OOS^-_{i,h,k,l}</math>  <math>ESE^-_{i,h,k} = ESE^-_{i,h,k}</math>  <math>E^{(2)}_{i,h,k} = E^{(0)}_{i,h,k} - \sum OOS^-_{i,h,k,l} * GMM_{a,i,b} - ESE^-_{i,h,k}</math>  <math>E^{(2,0)}_{i,h,k} = E^{(2)}_{i,h,k}</math>  <math>OOS^+_{i,h,k,l} = \{ \min[OOS^+_{i,h,k,l} * GMM_{a,i,b}, \max(0, E^{(2,1)}_{i,h,k})] \} / GMM_{a,i,b}</math> for all OOS Instructions Sequence 1 through L  <math>E^{(2,1)}_{i,h,k} = E^{(2,1)}_{i,h,k} - OOS^+_{i,h,k,l} * GMM_{a,i,b}</math> for all OOS Instructions Sequence 1 through L  <math>E^{(2)}_{i,h,k} = E^{(2,1)}_{i,h,k}</math> for all OOS Instructions Sequence 1 through L                      Otherwise  <math>E^{(1,0)}_{i,h,k} = E^{(0)}_{i,h,k}</math>  <math>OOS^+_{i,h,k,l} = \{ \min[OOS^+_{i,h,k,l} * GMM_{a,i,b}, \max(0, E^{(1,1)}_{i,h,k})] \} / GMM_{a,i,b}</math> for all OOS Instructions Sequence 1 through L  <math>OOS^-_{i,h,k,l} = \{ \max[OOS^-_{i,h,k,l} * GMM_{a,i,b}, \min(0, E^{(1,1)}_{i,h,k})] \} / GMM_{a,i,b}</math> for all OOS Instructions Sequence 1 through L  <math>E^{(1,1)}_{i,h,k} = E^{(1,1)}_{i,h,k} - OOS^-_{i,h,k,l} * GMM_{a,i,b} - OOS^+_{i,h,k,l} * GMM_{a,i,b}</math> for all OOS Instructions Sequence 1 Through L  <math>E^{(2)}_{i,h,k} = E^{(1,1)}_{i,h,k}</math>  <math>ESE^-_{i,h,k} = \max\{ESE^-_{i,h,k}, \min(0, E^{(2)}_{i,h,k})\}</math> Instructed decremental Supplement Energy  <math>E^{(3)}_{i,h,k} = E^{(2)}_{i,h,k} - ESE^-_{i,h,k}</math> Instructed incremental Supplement Energy  <math>ESE^+_{i,h,k} = \min\{ESE^+_{i,h,k}, \max(0, E^{(3)}_{i,h,k})\}</math> Instructed Energy from Replacement Reserve  <math>E^{(4)}_{i,h,k} = E^{(3)}_{i,h,k} + ESE^+_{i,h,k}</math> Instructed Energy from Non Spin reserve  <math>ERR_{i,h,k} = \min\{ERR_{i,h,k}, \max(0, E^{(4)}_{i,h,k})\}</math> Instructed Energy from Spin Reserve  <math>E^{(5)}_{i,h,k} = E^{(4)}_{i,h,k} - ERR_{i,h,k}</math> Instructed Residual Imbalance Energy  <math>ENS_{i,h,k} = \min\{ENS_{i,h,k}, \max(0, E^{(5)}_{i,h,k})\}</math>  <math>E^{(6)}_{i,h,k} = E^{(5)}_{i,h,k} - ENS_{i,h,k}</math>  <math>ESR_{i,h,k} = \min\{ESR_{i,h,k}, \max(0, E^{(6)}_{i,h,k})\}</math>  <math>E^{(7)}_{i,h,k} = E^{(6)}_{i,h,k} - ESR_{i,h,k}</math>  <math>RIE_{i,h,k} = \min\{RIE_{i,h,k}, \max(0, E^{(7)}_{i,h,k})\}</math> if <math>RIE_{i,h,k} &gt;= 0</math> </p>								

# ISO Settlement Charge Matrix - Automated Charge Types

REF	Chrg ID	Charge Name	KEY PARAMETERS			Due ISO Positive	Due SC Negative	Charge Granularity	Effective Trade Period	
			Billable Quantity	Units	Price				Start	End
<b>Imbalance Energy (Non Instructed Deviations) Settlements</b> $RIE_{i,h,k} = \max(RIE_{i,h,k}^{(G)}, \min(0, E_{i,h,k}^{(L)}))$ if $RIE_{i,h,k} < 0$										
Ret	0402	Generation Deviation Zonal Generator Deviation Quantity [per SC, per Zone]	MWh / trading interval	Ex-Post Zonal MCP	\$/MWh	Positive Generation Deviation	Negative Generation Deviation	Hourly	04/01/98	08/31/00
Ret	0403	Generation Deviation Quantity = $(G_{i,h,k} * GMM_{i,h,k}) - [(G_{i,h,k} * GMM_{i,h,k} * G_{i,h,k} * Sign_{i,h,k})]$ Load Deviation [per SC, per zone]	MWh / trading interval	Ex-Post Zonal MCP	\$/MWh	Positive Load Deviation	Negative Load Deviation	Hourly	04/01/98	08/31/00
Ret	0405	Load Deviation Quantity = $(L_{i,h,k} * (L_{i,h,k} - Load)) + (L_{i,h,k} * Sign_{i,h,k})$ Import Deviation Quantity [per SC, per zone]	MWh / trading interval	Ex-Post Zonal MCP	\$/MWh	Positive Import Deviation	Negative Import Deviation	Hourly	04/01/98	08/31/00
Ret	0404	Import Deviation Quantity = $(I_{i,h,k} * GMM_{i,h,k}) - [(I_{i,h,k} * Sign_{i,h,k} * GMM_{i,h,k}) + (I_{i,h,k} * Sign_{i,h,k})]$ Export Deviation Quantity [per SC, per zone]	MWh / trading interval	Ex-Post Zonal MCP	\$/MWh	Positive Export Deviation	Negative Export Deviation	Hourly	04/01/98	08/31/00
61	0406	SC Unaccounted for Energy (UFE <sub>logical</sub> ) UFE Quantity [per SC, per Zone, per Interval]	MWh / trading interval	Price = Settlement Amount / Billable Qty	\$/MWh	Positive SC UFE	Negative SC UFE	Hourly 10-Minute	4/1/1998 9/1/2000	8/31/2000 Open
$SC\ UFE_{(Zone)} = \Sigma [SC\ UFE_{(Demand\ Point)}]$ $SC\ UFE_{(Demand\ Point)} = [SC\ Demand / (Total\ LoadUDC + Total\ ExportUDC)] * UDC\ UFE$ $UDC\ UFE = [(ImportsUDC - ExportsUDC) + GenerationUDC] - RTM\ LoadUDC - CM\ LoadUDC - ATL\ UDC$ $ATL\ UDC = \Sigma [Total\ TLRC * (UDC\ Branch\ Losses / Control\ Area\ Branch\ Losses)]$ $Control\ Area\ Branch\ Losses = \Sigma_{Control\ Area} [UDC\ Branch\ Losses]$ $Total\ TLRC = \Sigma_{Control\ Area} [Ga * (1 - GMMa)] + \Sigma [ImportInertia * (1 - TMMa)]$ $Settlement\ Amount = \Sigma_{Zone} [SC\ UFE_{(Demand\ Point)} * Price_{(Demand\ Point)}]$ $Price_{(Demand\ Point)} = Interval\ INC\ Price\ when\ UFE > 0;$ $Interval\ DEC\ Price\ when\ UFE < 0;$										
62	0407	Uninstructed Energy Sum of Uninstructed Energy [Per SC, per Congestion Region, per Interval]	MWh / trading interval	Price = Settlement Amount / Billable Qty	\$/MWh	Negative Uninstructed Energy	Positive Uninstructed Energy	10-Minute	09/01/00	Open
$UE_{i,h,k} = \text{Sum of Uninstructed Energy of all resources in congestion region } i$ $MCP_{i,h,k} = \text{Decremental Energy Price in region } i$ $Uninstructed\ Deviation, UD_{i,h,k} = E_{i,h,k}^{(U)}$ (For $E_{i,h,k}^{(U)}$ and $RIE_{i,h,k}$ refer to charge type 0401) For Generator: $UE_{i,h,k} = UD_{i,h,k} - UCNS_{i,h,k} - UCRR_{i,h,k}$ if $MCP_{i,h,k} > 0$ $UE_{i,h,k} = UD_{i,h,k}$ if $MCP_{i,h,k} \leq 0$ For Load: $UE_{i,h,k} = UD_{i,h,k} - UCNS_{i,h,k} - UCRR_{i,h,k}$ if $MCP_{i,h,k} > 0$ $UE_{i,h,k} = UD_{i,h,k}$ if $MCP_{i,h,k} \leq 0$ For Import: $UE_{i,h,k} = S_{i,h,k} * (GMM_{i,h,k} - GMM_{i,h,k}) + OA_{i,h,k} * GMM_{i,h,k} + ESE_{i,h,k} + ESR_{i,h,k} + ENS_{i,h,k} + ERR_{i,h,k} * (1 - GMM_{i,h,k})$ For Export: $UE_{i,h,k} = OA_{i,h,k}$ Where $UE_{i,h,k} = \text{Uninstructed Energy; } UD_{i,h,k} = \text{Uninstructed Deviation; } UCNS_{i,h,k} = \text{Unavailable Non Spin Reserve; } UCRR_{i,h,k} = \text{Unavailable Repl. Reserve; } ESR_{i,h,k} = \text{Delivered Energy from Spin Capacity; } ENS_{i,h,k} = \text{Delivered Energy from Non Spin Capacity; } UCRR_{i,h,k} = \text{Unavailable Spin Reserve}$										

# ISO Settlement Charge Matrix - Automated Charge Types

REF	Chrg ID	Charge Name	KEY PARAMETERS				Due SC Negative	Charge Granularity	Effective Trade Period			
			Billable Quantity	Units	Price	Units			Start	End		
			<p>ERR<sub>i,h,k</sub> = Delivered Energy from Repl. Reserve;                      OA<sub>i,h,k</sub> = Operational Adjustment (made by SC).</p> <p>To derive Total Unavailable Capacity, UC<sub>i,h,k</sub>:                      For Generator, <math>UC_{i,h,k} = \max\{0, \min\{UD_{i,h,k}, M_{i,h,k} * GMM_{a,i,h} - [P_{max,i} / 6 * GMM_{a,i,h} - \max(0, CSR_{i,h,k} - ESR_{i,h,k}) - \max(0, CNS_{i,h,k} - ENS_{i,h,k}) - \max(0, CRR_{i,h,k} - ERR_{i,h,k})]\}\}</math>                      For Load, <math>UC_{i,h,k} = \max\{0, \min\{UD_{i,h,k}, \max(0, CNS_{i,h,k} - ENS_{i,h,k}) + \max(0, CRR_{i,h,k} - ERR_{i,h,k}) - M_{i,h,k}\}\}</math>                      Where                      CSR<sub>i,h,k</sub> = Scheduled Spin capacity for the hour 'h' / 6                      CNS<sub>i,h,k</sub> = Scheduled Non Spin Capacity for the hour 'h' / 6                      CRR<sub>i,h,k</sub> = Scheduled Repl. Reserve for the hour 'h' / 6</p> <p>UCSR<sub>i,h,k</sub> = <math>\min\{UC_{i,h,k}, \max(0, CSR_{i,h,k} - ESR_{i,h,k})\}</math>                      UCNS<sub>i,h,k</sub> = <math>\min\{UC_{i,h,k} - UCSR_{i,h,k}, \max(0, CNS_{i,h,k} - ENS_{i,h,k})\}</math>                      UCRR<sub>i,h,k</sub> = <math>\min\{UC_{i,h,k} - UCSR_{i,h,k} - UCNS_{i,h,k}, \max(0, CRR_{i,h,k} - ERR_{i,h,k})\}</math></p>									
<b>No-Pay Provision Settlements</b>												
62	0130	Insufficient Energy in Response to ISO Instructions	Unavailable A/S Capacity [per SC, per location]	MW-hr	Pseudo Price = Settlement Amount / Billable Quantity	Billable Quantity	\$/MW-hr	Unit output is below dispatched instruction	N/A	Hourly	Not Used	Not Used
<p>Calculated only when Metered Output = Instructed Quantity.</p> <p>Unavailable A/S Capacity = Bid-in or Self Provided Capacity for resource + Metered Output</p> <p>Settlement Amount = Spin Adjustment + Non-Spin Adjustment + Replacement Reserve Adjustment</p> <p>Spin Adjustment = Unavailable Spin Capacity * SC DA &amp; HA Weighted Average Spin Rate</p> <p>Non-Spin Adjustment = Unavailable Non-Spin Capacity * SC DA &amp; HA Weighted Average Non-Spin Rate</p> <p>Replacement Adjustment = Unavailable Replacement Capacity * SC DA &amp; HA Weighted Average Replacement Rate</p> <p>Unavailable A/S Capacity [per SC, per location] = Pseudo Price = Settlement Amount / Billable Quantity</p>												
63	0131	Reduction in Available Capacity Due to Uninstructed Deviation	Unavailable A/S Capacity [per SC, per location]	MW-hr	Pseudo Price = Settlement Amount / Billable Quantity	Billable Quantity	\$/MW-hr	Actual unloaded capacity is less than required	N/A	Hourly	Not Used	Not Used
<p>Calculated only when actual unloaded capacity is less than required.</p> <p>Unavailable A/S Capacity = Required Unloaded Capacity - Actual Unloaded Capacity</p> <p>Required Unloaded Capacity = Committed Capacity - Instructed Quantity</p> <p>For generator, Actual Unloaded Capacity = Max Unit Capacity - Metered Output</p> <p>For load, Actual Unloaded Capacity = Metered Output</p> <p>Settlement Amount = Spin Adjustment + Non-Spin Adjustment + Replacement Reserve Adjustment + Energy Adjustment</p> <p>Spin Adjustment = Unavailable Spin Capacity * SC DA &amp; HA Weighted Average Spin Rate</p> <p>Non-Spin Adjustment = Unavailable Non-Spin Capacity * SC DA &amp; HA Weighted Average Non-Spin Rate</p> <p>Replacement Adjustment = Unavailable Replacement Capacity * SC DA &amp; HA Weighted Average Replacement Rate</p> <p>Energy Adjustment = Total Unavailable Capacity * Zonal Energy MCP</p>												
63	0141	No Pay Charge - Spinning Reserve	No Pay Spin Qty = $\max\{NPSR(1)_{i,h,k}, NPSR(2)_{i,h,k}, NPSR(3)_{i,h,k}\}$ [per SC, Per Location, per Interval]	MW-hr	Pseudo Price = Settlement Amount / Billable Quantity.	Billable Quantity. Settlement amount is calculated by prorating the billable quantity between DA and HA markets and multiplying with the corresponding MCP for the Spin Reserve.	\$/MW-hr	No Pay violation	N/A	10-Minute	09/10/00	Open
<p><math>NPSR_{i,h,k} = \max\{NPSR(1)_{i,h,k}, NPSR(2)_{i,h,k}, NPSR(3)_{i,h,k}\}</math></p>												

# ISO Settlement Charge Matrix - Automated Charge Types

REF	Chrg ID	Charge Name	KEY PARAMETERS			Due ISO Positive	Due SC Negative	Charge Granularity	Effective Trade Period	
			Billable Quantity	Units	Price				Start	End
			Where $NPSR_{i,h,k}^{(1)} = UC_{SR,i,h,k}$ $NPSR_{i,h,k}^{(2)} = (CSR_{i,h} - ASR_{i,h,k}) / 6$ $NPSR_{i,h,k}^{(3)} = 0$ $NPSR_{i,h,k}^{(4)} = [(CSR_{i,h} - (ESR_{i,h,k} / ESR_{i,h,k}) * ASR_{i,h,k}) / 6$ $NPSR_{i,h,k}^{(5)} = 0$ $ASR_{i,h,k}$ = Acknowledged Spinning Reserve dispatch target $ISR_{i,h,k}$ = Instructed Spinning Reserve dispatch target $ESR_{i,h,k}$ = Acknowledged Energy from Spinning Reserve $ESR'_{i,h,k}$ = Delivered Energy from Spinning Reserve $f$ = No Pay Relative Tolerance Factor (For definition of $UC_{SR,i,h,k}$ , refer to Charge Type 407.) if $ASR_{i,h,k} < ISR_{i,h,k}$ if $ASR_{i,h,k} = ISR_{i,h,k}$ if $(ESR_{i,h,k} > 0$ and $ESR'_{i,h,k} < f * ESR_{i,h,k}$ ), otherwise.							
64	0142	No Pay Charge - Non Spinning Reserve	No Pay Non Spin Qty = $\max[NPNS_{i,h,k}^{(1)}, NPNS_{i,h,k}^{(2)}, NPNS_{i,h,k}^{(3)}, NPNS_{i,h,k}^{(4)}, NPNS_{i,h,k}^{(5)}]$ [per SC, Per Location, per interval] The No Pay Non Spin billable quantity is calculated in a similar way as in Charge Type 0141.	MW-hr	Pseudo Price = Settlement Amount / Billable Quantity. Settlement amount is calculated by prorating the billable quantity between DA and HA markets and multiplying with the corresponding MCP for the Non Spin Reserve.	No Pay violation	N/A	10-Minute	09/10/00	Open
65	0144	No Pay Charge - Replacement Reserve	No Pay Repl. Reserve Qty = $\max[NPRR_{i,h,k}^{(1)}, NPRR_{i,h,k}^{(2)}, NPRR_{i,h,k}^{(3)}]$ [per SC, Per Location, per interval] The No Pay Replacement Reserve billable quantity is calculated in a similar way as in Charge Type 0141.	MW-hr	Pseudo Price = Settlement Amount / Billable Quantity. Settlement amount is calculated by prorating the billable quantity between DA and HA markets and multiplying with the corresponding MCP for the Replacement Reserve capacity.	No Pay violation	N/A	10-Minute	09/10/00	Open
66	1030	No Pay Provision Market Refund	SC's Metered Demand (Load & Export in Control Area) [Per SC, Per Interval] The No Pay Replacement Reserve billable quantity is calculated in a similar way as in Charge Type 0141.	MWh/trading interval	Per Unit Price = Total No Pay Revenue / Total Load & Export in the Control Area.	N/A	ISO Revenue to be distributed	10-Minute	09/10/00	Open
<b>Effective Price Settlements</b>										
Ref	050	Generation Deviation from Instructed Energy	Undelivered Instructed Energy (line or Dev)	MWh/Trade Interval	The difference between the resources Effective Price and the Hourly Export Price	On Price	N/A	Hourly	09/10/00	09/11/00
Ref	051	Load Deviation from Instructed Energy	Undelivered Instructed Energy (line or Dev)	MWh/Trade Interval	The difference between the resources Effective Price and the Hourly Export Price	On Price	N/A	Hourly	09/10/00	09/11/00
Ref	052	Import Deviation from Instructed Energy	Undelivered Instructed Energy (line or Dev)	MWh/Trade Interval	The difference between the resources Effective Price and the Hourly Export Price	On Price	N/A	Hourly	09/10/00	09/11/00

**NOTES:**

- This list contains only Charge Types that are generated automatically by the ISO Settlement System. Manual Charge Types are not included here.
- Automated Charge Types may also be used in Manual Line Item Entries. Charge Types 351, 352, 354, 451 and 452 are currently created as Manual Line Items.
- Indicates charge types that have been retired or marked for retirement.
- Shaded areas are future Charge Types that are inactive.
- Indicates charge types that are created/modified in this revision.
- Location may refer to a Generator, Load, Control Area Inter tie, or Branch Group.
- Capacity service is measured in MW-hr. MW-hr is different from MWh which is an unit for energy.
- The charge types 3030, 3040, 3510, and 4001 through 4099 are currently reserved for internal use and won't appear in Settlement Statements.

Revision Log

Revision Log	
Date	Charge Type
2/20/98	n/a
	201
	202
	251
	252
	405
3/5/98	451
	1010
	1101
	1303
	1999
	406
	351
	352
	354
3/16/98	352
	354
3/17/98	403
	3010
	3020
	3101
	3302
	3303
	3351
	3353
	n/a
3/18/98	n/a
	n/a
4/15/98	1101
	301
7/28/98	1003
	1004
	1104

Revision Log

12/24/98	406
	1001
	255
	256
	n/a
1/25/99	All
	255
	256
4/8/99	1302
	1303
4/21/99	n/a
4/22/99	n/a
	111, 112, 114
	5, 55, 115
	6, 56, 116
4/23/99	130, 131, 1030
	502, 503, 505
	1011
4/26/99	101, 151
	102, 152
	103, 153
	303, 304
	3, 53
4/28/99	n/a
5/11/99	111, 112, 114
	5, 55, 115
	6, 56, 116
	130, 131, 1030
10/20/99	406
10/27/99	354
2/18/00	61,62,64,65,66
	71,72,74,75,76
	81,82,84,85,86
	All
	130,131,1030
	n/a

Revision Log

2/28/00	1012
2/29/00	406
2/29/00	410
	301
	130, 131
	402, 403, 404, 405
	502, 503, 505
	407
	141
	142
	144
	1030
	1010
3/2/00	61,62
	1062, 1064, 1065, 1066
3/31/00	All
	451, 452
	451
4/26/00	407
5/1/00	301, 401
	n/a
5/4/00	All Manual Charges
5/8/00	All
	n/a
	410, 406, 1010
	451, 452
7/31/00	n/a
	401
	407
	141
	72 through 86
8/1/00	401

Revision Log

8/25/00	407
9/25/00	406
10/17/00	401,406,407
	141,142,144,1030
	402,403,404,405
	502,503,505
	410,1010
	302,451,452
10/30/00	351
	521
	522
	523



Revision Log

<b>Change Description</b>
Spell checked.
Put in shade to indicate Charge Type will be inactive for initial operation.
Put in shade to indicate Charge Type will be inactive for initial operation.
Put in shade to indicate Charge Type will be inactive for initial operation.
Put in shade to indicate Charge Type will be inactive for initial operation.
Correct typo mistake in deviation formula (move parenthesis at the end to exclude the last term ).
Add "Location" to the list of outputs.
Revise billable quantity unit to indicate daily line item.
Revise billable quantity unit to indicate monthly line item.
Revise billable quantity unit to indicate monthly line item.
Revise billable quantity unit to indicate monthly line item.
Revise billable quantity unit to indicate line item as needed.
Correct formula for Transmission Loss to include losses due to import.
Clarify the billable quantity is the gross hourahead export schedule plus metered load for the month.
Clarify the billable quantity is the gross hourahead export schedule and one line item per month.
Clarify the billable quantity is the gross hourahead export schedule and one line item per month.
Change billable quantity to use Export gross export schedule.
Change billable quantity to use Export gross export schedule.
Remove "per UDC" from the billable quantity description.
Add Charge Type.
Add Charge Type.
Add Charge Type.
Add Charge Type.
Add Charge Type.
Add Charge Type.
Add Charge Type.
Add Charge Type.
Add Notes (4)
Revise the "Due ISO" and "Due SC" columns for clarification.
Add Notes (5)
Revise billable quantity and price to reflect the new cost allocation method (based on metered load only).
Revise record to indicate that no unit price is provided. Only settlement amount is shown. (Change in BEEP pricing method.)
Add Charge Type.
Add Charge Type.
Add Charge Type.

Revision Log

Clarify formulation.
Add Charge Type.
Add Charge Type.
Add Charge Type.
Redo the reference numbers.
Remove the Output column. The output information is already contained in the Statement Format Specification.
Replace "TO Percentage Ownership" by "BA Percentage Entitlement" (to support the concept of FTR owners in future).
Shorten charge type name. Clarify billable quantity and price description.
Change Charge Type Name (Swap the names for charge types 1302 and 1303).
Change Charge Type Name (Swap the names for charge types 1302 and 1303).
Revise Notes (5) to include charge type 401 in the reserved list.
Rearrange charge types for Ancillary Services Settlement. Group CTs by Ancillary Services rather than Day Ahead/Hour Ahead Markets
Added new charge types for Ancillary Service Allocation.
Added new charge types for Ancillary Service Redesign.
Added new charge types for Regulation Up service.
Added Charge Types for No Pay.
Added Charge Types for Effective Price.
Added Charge Type Rational Buyer settlement.
Indicate A/S charge types to be retired.
Indicate A/S charge types to be retired.
Indicate A/S charge types to be retired.
Indicate A/S charge types to be retired.
Indicate A/S charge types to be retired.
Miscellaneous title changes.
Refine charge description.
Refine charge description.
Refine charge description.
Refine charge description.
Revise formulae for calculating Actual Transmission Loss.
Revised Billable Qty description to say "TO Percentage Revenue Requirement" instead of "TO Percentage Ownership".
Add new Charge Types.
Add new Charge Types.
Add new Charge Types.
Change the unit for capacity service to MW-hr.
Mark as future Charge Types
Revise Notes.

Revision Log

Add new Charge Type.
Modified to show that it is calculated on 10-min interval basis. Each demand point has its own price.
Modified to show that it is calculated on 10-min interval basis.
Modified the charge name and settlement calculations to show Instructed Energy settlement based on 10 min interval.
Indicate previously defined No Pay charge types as retired.
Indicate previous Uninstructed Deviation charge types as retired.
Indicate previous Effective Price charge types as retired.
Added new Charge type to calculate Uninstructed Energy settlement.
Added new charge type for No Pay Spinning Reserve Charge.
Added new charge type for No Pay Non Spinning Reserve Charge.
Added new charge type for No Pay Replacement Reserve Charge.
Made active and modified to reflect the No Pay Provision Market Refund based on 10-min Interval basis.
Modified to show that it may be calculated for a 10-minute interval.
Correct Price description.
Correct Price description.
Added the Settlement period column to the charge matrix.
Indicate charge will be calculated at 10-minute intervals.
Modified price description. The payment for intrazonal congestion relief has two components.
The energy component is paid or charged at the energy MCP in CT 301. The congestion relief service is paid in CT 451 at the difference between bid price and MCP.
Correct formula for import deviation. The sign for the term representing losses associated with A/S and S/E should be negative.
Restore the old CT 301 description, mark as retired and replace it with CT 401.
Revise Notes(9) to indicate that CT 1012 will be used through the end of May, 2000.
Charges Types used in Manual Line items are removed from this matrix. They are published separately in a different file.
Add Effective Period Columns.
Revise Notes.
Update Charge Granularity to indicate the migration from hourly to 10-min charge.
Update Charge Granularity to indicate the migration from hourly to 10-min charge.
Put version number in footer
In the formula section, add description for Ramping energy; clarify there is no Instructed Energy for Export and correct type errors.
In the formula section, add clarification for Export resources and correct typo mistake.
Correct typo mistake in formula section.
Correct effective start dates
In the formula section, correct typo error (ESP-->ESR); correct superscripts in the import description

Revision Log

In the formula section, added condition under which UC terms are not subtracted from UD to arrive at UE for generator and load locations.
In the formular section, correct the choice of INC/DEC price for UFE.
Correct effective start date.
Correct effective start date.
Correct effective end date.
Correct effective end date.
Correct effective trade dates.
Relocate to the Manual Charge Matrix.
Mark as retired and modify effective end date.
Add Charge Type.
Add Charge Type.
Add Charge Type.

## CERTIFICATE OF SERVICE

I hereby certify that I have caused the foregoing document to be served by first class mail, postage prepaid, upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, D.C. this 16<sup>th</sup> day of June, 2003.

A handwritten signature in black ink, appearing to read 'Julia Moore', is written over a horizontal line.

Julia Moore