

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR (ISO)  
Specification for  
Settlement Statement Files**

**November 15~~October 17~~, 2000  
Version 13~~2.0~~af**

**TABLE OF CONTENTS**

<b>1</b>	<b>PURPOSE:</b> .....	<b>22</b>
<b>2</b>	<b>GENERAL NOTES:</b> .....	<b>22</b>
<b>3</b>	<b>SETTLEMENT STATEMENT FILE</b> .....	<b>33</b>
3.1	HEADER RECORD.....	33
3.2	SUMMARY RECORDS.....	44
3.3	SETTLEMENT DETAIL RECORDS.....	44
3.4	MANUAL LINE ITEM RECORDS.....	88
3.5	TRAILER RECORD.....	99
<b>4</b>	<b>GMC &amp; WHEELING DETAIL FILE</b> .....	<b>101012</b>
4.1	HEADER RECORD.....	101012
4.2	<del>INTERTIE</del> <b>GMC</b> DETAIL RECORDS.....	101013
4.3	LOAD MEASUREMENT RECORDS.....	14
4.4	INTER-ZONAL RECORDS.....	14
4.5	HOURLY AGGREGATE GMC RECORDS.....	15
4.6	TRAILER RECORD.....	121215
<b>5</b>	<b>GROSS INTERTIE SCHEDULE FILE</b> .....	<b>171713</b>
5.1	HEADER RECORD.....	171713
5.2	DETAIL RECORDS.....	171713
5.3	ADJUSTMENT RECORDS.....	191915
5.4	TRAILER RECORD.....	191915
<b>6</b>	<b>ANCILLARY SERVICE DETAIL FILE</b> .....	<b>212117</b>
6.1	HEADER RECORD.....	212117
6.2	ZONE/REGION CROSS REFERENCE.....	212117
6.3	OPERATING RESERVE REQUIREMENT COMPONENTS.....	222218
6.4	A/S ALLOCATION BASED ON METERED DEMAND.....	222218
6.5	REPLACEMENT RESERVE.....	242420
6.6	TRAILER RECORD.....	262622
<b>7</b>	<b>IMBALANCE ENERGY/NO PAY SETTLEMENT DETAIL FILE</b> .....	<b>272723</b>
7.1	HEADER RECORD.....	272723
7.2	INSTRUCTED AND UNINSTRUCTED ENERGY DETAIL RECORDS.....	272723
7.3	OOS DETAIL RECORDS.....	303026
7.4	NO PAY DETAIL RECORDS.....	303026
7.5	UFE DETAIL RECORDS.....	323228
7.6	TRAILER RECORD.....	333329
<b>8</b>	<b>ZONAL MARKET CLEARING PRICES FILE</b> .....	<b>343430</b>
8.1	HEADER RECORD.....	343430
8.2	DETAIL RECORD.....	343430
8.3	TRAILER RECORD.....	353531

**Appendix A: Matrix showing the populated data fields for the settlement detail records.**

**Appendix B: Matrix showing the populated data fields for the Manual Line Item records**

**Appendix C: Revision Log (Changes made to Appendices A and B)**

## 1 Purpose:

This document describes the format of the Settlement Statement Files which are issued by the California Independent System Operator (ISO) to its market participants. The content of these files are subject to change as the California Independent System Operator refines its business requirements. Permission to copy this document is hereby granted for purposes of interfacing with the California Independent System Operator (ISO)..

The Settlement Statement File contains the charge information for a market participant. Its data are mostly for a particular trading date, but it may also contain missing charges from prior trading dates. It has a summary section that aggregates the charges by Charge Type and Trade Date. There is also a detail line item section that contains a detail breakdown of the charges. There are several companion files issued with the Statement File. These currently include:

- GMC Detail File;
- Gross Intertie Schedule File;
- Ancillary Service Detail File;
- Imbalance Energy/No Pay Settlement Detail File; and
- Zonal Market Clearing Prices File.

The Imbalance Energy/No Pay Detail File contains a detail breakdown by resource location and trading interval of the ex post deviations of the market participant's generation, load, and intertie schedules. It also contains the parameters that are used to derive the participant's Unaccounted for Energy (UFE) and No Pay charges. The GMC Detail File contains a detail breakdown by resource location and trading interval of the grid management charges associated with the market participant's load and export schedules for a given trade date. The Gross Intertie Schedule File contains the market participant's individual import and export schedules from the forward and real-time markets along with the real-time intertie operational adjustments. The Ancillary Service Detail File contains the detail supporting data that are used to derive the corresponding Ancillary Services charges shown in the Statement File. The Zonal Market Clearing Prices File contains a list of the MCPs by trading hour (or trading interval) for energy and Ancillary Services.

## 2 General Notes:

Some general notes about the Statement Files are listed below:

- Market participants will download both files through the ISO Scheduling Infrastructure interface.
- Each weekday, the ISO Settlement System will generate two different types of settlement statements. One type is the preliminary statements for a trading day; the other is the final statements for a different trading day. Currently, the preliminary statement will normally be issued the evening of the 47<sup>th</sup> day after the trading day. The final will be issued the evening of the 61<sup>st</sup> day after the trading day. If the issuing day happens to be a weekend day or a holiday, the statement will be delayed until the following business day. Customers may download their own statement files after they are generated.
- The companion files are issued at the same time as the Statement Files. Thus, each Preliminary or Final Statement set will contain 4 files.
- Charge amounts due ISO will be positive numbers.
- Refund amounts due market participants will be negative numbers.
- All Statement Files are plain ASCII files with data fields delimited by the 'pipe' symbol (|). Two consecutive rows (or records) are separated by a line feed character. It should be noted that when such files are downloaded, some client systems may also insert a carriage return between the rows.

### 3 Settlement Statement File

There are two statements (preliminary and final) issued for a given trading date. Currently, the preliminary and final statements for a given trading date are issued 14 days apart. Both statements have the same statement number, but they are identified by the statement type.

Each preliminary statement file contains the best available listing of settlement detail and manual line items for the trading date being settled. Also included in the file may be new settlement line items that are for days prior to the trading date being settled but have not been included on any previous preliminary statement. No settlement detail line items for prior dates can be included if the final statement for those days have been issued. However, this rule does not apply to manual line items.

Each final statement file contains the best available settlement line items which have appeared on the preliminary statement for the corresponding trading date. The quantities in these line items may have been revised though.

There are five different types of data records in a Settlement Statement file. These include:

- Header – This is the first record of the file that provides the information such as the file type, market participant ID, statement number, trading day and an indicator to show whether it is the preliminary statement or final statement for that date.
- Summary – These are summary records that show the dollar amounts due aggregated by charge type and trade day.
- Detail Line Items – These are detailed records of charges by trading interval, location, zone and charge type as appropriate. These records contain the Billable Quantity, Price and Amount Due as well as a number of other fields which uniquely identify the charge (such as location, zone, trading interval) or represent the terms used in the deriving the charge. In a data field where an attribute is not relevant, this field will be left empty between its delimiters. For example, “Zone 1||10|2|-20” indicates a ‘null’ field between ‘Zone 1’ and the value ‘10’.
- Manual Line Items – These are detailed records of charges entered manually by ISO Settlement Analysts. These items may be adjustments to previous charges as a result of dispute resolution or other charge items allowed in the ISO tariff, but whose charge calculation are not yet automated in the Settlement System.
- Trailer – This is the last record of the file. It contains the record count and a validation total which is the total of the Amount Due fields in the file.

The following is a detailed description of the data fields in the Statement File.

#### 3.1 Header Record

This record will supply information which can be used to identify the contents of the file.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'H'	Indicates the type of record
Customer Number	Number	15		The customer's unique identifier
Statement Number	Number	12		The number of the statement
File Type	Varchar	2	'ST'	Indicates the file is a Statement file
Statement Type	Varchar	1	'P', 'F'	Indicates the type of statement as either preliminary or final.
Trading Date	Date			The specific trading date for which the statement is being created.

Software Version	Varchar	255		The software version for which the statement is being created. (Used for reference by ISO.)
Statement Version	Varchar	255		The statement format specification version for which the statement is being created..

### 3.2 Summary Records

These records provide a summary of all settlement detail and manual line item records in the file. One record is included for each combination of date and charge type existing in the line item records.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'S'	Indicates the type of record
Charge Type	Number	4		Code indicating the type of settlement (see charge matrix)
Charge Type Description	Varchar	100		A brief description of the charge type (see charge matrix)
Trading Date	Date			The specific trading date for which settlements are being summarized
Settlement Total	Number	11,2		Net amount of settlements for the indicated charge type and trading date

### 3.3 Settlement Detail Records

These records provide the details of each individual settlement line item which is created by the system for the customer. The trading date of each charge will not always match the trading date of the header record, as new settlement details for prior trading dates are included on the preliminary statement and subsequently on a final statement if they have not previously appeared on a statement. The fields which are populated for each record will be based upon the charge type (settlement type) of the record. Some of the data field may have different meanings when used in different Charge Types.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'D'	Indicates the type of record
Charge Type	Number	4		Code indicating the type of settlement (see charge matrix)
Line Item Number	Number	12		Unique identifier for the settlement record
Trading Date	Date			The trading date of the settlement
Trading Hour	Number	2		The trading hour of the settlement
Trading Interval	Number	2	0,1,2,3,4,5,6	For Charge Types that are processed at 10-minute intervals: the trading interval of the settlement For Charge Types that are settled hourly, this field will be 0.
Billable Quantity	Number	11,2		The quantity billed
Price	Number	10,5		The rate at which the quantity is billed

Settlement Amount	Number	11,2		The total amount of the settlement
Zone ID	Varchar	12		<p>The zone to which the settlement applies.</p> <p>For Charge Type 256: this is used to indicate the direction of the congestion flow. It contains a concatenated string of the source zone ID and the destination zone ID separated by a comma (e.g. "NP15,SP15").</p> <p>For Charge Types 111, 112, 114, 115 and 116, in addition to the regular Zone IDs, a pseudo ID, "XXXX", may be used when the SC's reserve obligation cannot be allocated to any specific zone.</p> <p>For Charge Type 401, if the Location ID is an intertie, this is the ID of the external congestion zone at the remote end of the intertie.</p>
Location ID	Varchar	32		The location to which the settlement applies
Inc/Dec Indicator	Varchar	1	'I', 'D'	Indicates whether the bid was an inc or dec bid
Total Congestion Settlement Amount	Number	11,2		<p>Sum of all congestion settlements for the trading interval and zone.</p> <p>For Charge Type 256: Hourahead TO congestion debit amount.</p>
Total Load/Export	Number	11,2		<p>Sum of all load and export quantities for the trading interval and zone.</p> <p>For Charge Type 354: Total wheeling amount of export or non-PTO load at the given location.</p> <p>For Charge Type 1061 to 1066: Total load and export in the A/S procurement region..</p>
Day Ahead Allocation Quantity / DA Self Provision	Number	11,2		<p>Sum of SC's day ahead scheduled load and export quantities for the trading interval and zone.</p> <p>For Charge Type 256: Total dayahead path utilization.</p> <p>For Charge Types 204, 254, 255: Day Ahead New Firm Use Capacity of the subject path in the direction of congestion.</p> <p>For Charge Types 71 to 86 (RMR pre-emption charges): DA AS self provision quantity.</p>
Hour Ahead Allocation Quantity / HA Self Provision	Number	11,2		<p>Sum of SC's hour ahead scheduled load and export quantities for the trading interval and area.</p> <p>For Charge Type 256: Total hour ahead path utilization.</p> <p>For Charge Types 61 to 86 (RMR pre-emption</p>

				charge): HA AS self provision quantity.
Day AheadQuantity/DA Mrkt Capacity	Number	11,2		Day ahead ancillary service quantity.  For Charge Types 204, 254 and 255: Total day ahead congestion path utilization.  For Charge Type 253: SC's dayahead congestion path utilization.  For Charge Types 71 to 86 (RMR pre-emption charge): DA AS market quantity.
Hour Ahead Quantity/HA Mrkt Capacity	Number	11,2		Hour ahead ancillary service quantity.  For Charge Types 254 and 255: Total hour ahead congestion path utilization.  For Charge Type 253: SC's hour ahead congestion path utilization.  For Charge Type 502, 503, and 505: Final hour ahead energy schedule.  For Charge Types 61 to 86 (RMR pre-emption charge): HA AS market quantity.  For Charge Type 410: Hour Ahead energy schedule.
Zone/Path Price	Number	10,5		Market clearing price for the zone or congestion path.  For Charge Type 410: Uninstructed Energy Zonal MCP.
Bid Price	Number	10,5		Submitted bid price for the service.  For Charge Types 410, 502, 503, and 505: Effective price for instructed energy for the location.
Per Unit Charge ID	Varchar	10		Unique identifier of the per unit charge calculation
Total Charge/ Refund Amount	Number	11,2		Total amount to be charged or refunded through an allocation process
Allocation Base/Metered Quantity	Number	11,2		Total quantity used to calculate the rate for allocation process.  For Charge Type 256: Total day ahead path utilization in the direction of congestion.  For Charge Type 502, 503, and 505: metered quantity for the location.  For Per Unit Charges: Allocation base for the

				per unit allocation.  For Charge Type 410: Unit's metered output.
Bid ID	Number	4		Identifier of the bid for which a settlement is being created
Pmax	Number	11,2		The Pmax of an RMR unit. This is used in pre-emption calculation
RMR Energy	Number	11,2		RMR dispatch energy amount for an unit in the given trading period.
Replacement Reserve Undispatched Quantity	Number	11,2		Total quantity of undispatched replacement reserves
Individual Allocation Quantity	Number	11,2		For Charge Types 303, 304: Quantity of replacement reserve requirement not being self provided by the business associate.  For Charge Types 204, 254, 255: MW rights for the Firm Transmission Rights (FTR) owner.  For Charge Types 111, 112, 114, 115, 116: Zonal metered load/demand for a business associate.
Total Allocation/ NSP/FTRQuantity	Number	11,2		For Charge Types 303, 304: Total quantity of replacement reserve requirement not met by the customers' self provision.  For Charge Types 204, 254, 255: MW rights for all FTR owners.  For Charge Types 111, 112, 114, 115, 116: Regional metered load/demand for a business associate.
HA Pre-empted Capacity	Number	11,2		For Charge Types 61 to 86 (RMR pre-emption charges): HA pre-empted capacity for an unit in the given trading hour.
RT Pre-empted capacity	Number	11,2		For Charge Types 71 to 86 (RMR pre-emption charge): The amount of RT pre-empted capacity service for an unit in the given trading interval. (MW-hr).
Percent Entitlement/GMMf	Number	13,4		Customer's percentage share of the subject revenue/debit.  For Charge Type 410: Unit's forecast GMM.
Instructed Energy	Number	11,2		For Charge Type 410: Instructed Energy amount of the unit.
/Uninstructed Energy	Number	11,2		For Charge Type 410: Uninstructed Energy amount of the unit.
Total Forward Market Settlement	Number	10,5		Total amount of replacement reserve settlements calculated for the forward markets
Total Forward	Number	11,2		Total quantity of replacement reserve capacity

Market Quantity				reservation
Region ID	Number	3		Region ID associated with a particular zone.
Interchange ID	Varchar	32		ID used by the SC to identify an intertie schedule. This field is only populated for intertie records only.
Energy Type	Varchar	5	<p>'CSPN', 'CNSPN', 'CRPLC';</p> <p>'FIRM', 'NFRM', 'WHEEL', 'DYN'; Null</p>	<p>Identifies the Intertie energy type. This field is only used in intertie records.</p> <p>For records related to A/S Settlement, the following energy types are used: CSPN – spinning capacity; CNSPN – non-spinning capacity; CRPLC – replacement reserve capacity.</p> <p>For Charge Type 352, the following are used: FIRM – Firm energy; NFRM – non firm energy; WHEEL – part of a wheel through energy schedule; DYN – dynamic schedule Null – A/S or supplemental energy export that has no associated forward market schedules.</p>
Operational Adjustments	Number	11,2		Operational adjustments made to the schedule in real-time.
A/S and Supplemental energy	Number	11,2		Amount of dispatched ancillary services and supplemental energy associated with the schedule.
Contract Amount	Number	11,2		Effective amount of MWh in the schedule that is covered by Existing Contract.
TO Percent Ownership /Percent Exemption/ GMMa	Number	13,4		<p>For Charge Types 204, 254, 255: Percentage ownership for a Transmission Owner (TO)</p> <p>For Charge Type 352: Percent Exemption to be applied to the Contract Amount</p> <p>For Charge Type 410: Unit's actual GMM in real time.</p>
Contract Reference ID	Varchar	35		String of contract reference IDs applied to the schedule. Each contract reference id segment is preceded by 'E_'. The different segments are separated by commas. The number of contracts displayed is limited to 35 characters. (e.g. 'E_ABC,E_XYZL,E_IJK')
Location Price Type	Varchar	1	'F'	Indicates whether the resource is under FERC jurisdiction. This is only used for charges related to A/S. For FERC locations, this field will be populated with 'F'.

### 3.4 Manual Line Item Records

These records identify each individual manual line item which has been entered for the customer. Manual line items will be included in the statement if the affected date is the trading date of the statement or if the affected date is less than the trading date of the statement.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'A'	Indicates the type of record
Charge Type	Number	4		Code indicating the type of settlement
Adjustment ID	Number	12		Unique identifier for the adjustment record
Affected Date	Date			Trading date which was affected by the line item
Trading Hour	Number	2		The trading hour which was affected by the line item
Trading Interval	Number	2	0 or 1- 6	The trading interval which was affected by the line item. For a hourly adjustment, this field is 0. For sub-hourly adjustment, this is the trading interval number (1 – 6).
Billable Quantity	Number	11,2		The quantity billed for the affected line item.
Price	Number	10,5		The rate at which the quantity is billed for the affected line item
Amount	Number	11,2		Net amount of the line item
Zone ID	Varchar	12		The zone to which the affected line item applies
Location ID	Varchar	32		The location to which the affected line item applies
Interchange ID	Varchar	32		ID used by the SC to identify an intertie schedule. This field is only populated for intertie records only.
Creation Date	Date			Date the line item was created
Reference ID	Number	12		An reference ID for why an line item may have been made
Comment	Varchar	256		Brief explanation of the line item

### 3.5 Trailer Record

This record is included to signal the end of the file as well as provide information to validate the file.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'Z'	Indicates the type of record
Record Count	Number			Number of records contained in the file including the header and trailer records
Amount Total	Number			Sum of the following fields: summary record - settlement total, settlement detail record - settlement amount, manual line item record - amount

## 4 GMC Detail File

The GMC Detail File is a companion file issued with the Statement File. It contains a detail breakdown by resource location and trading interval of the grid management charges associated with the market participant's load and export schedules.

There are three different types of data records in a GMC Detail File. These include:

- Header— This is the first record of the file that provides the information such as the file type, market participant ID, and an indicator to show whether it is the preliminary statement or final statement for that date.
- GMC Detail Line items— Detailed records of the grid management charges by location, trading interval, trading hour, trading minute as appropriate. These records contain the Billable Quantity, Price and Amount Due as well as a number of other fields which uniquely identify the grid management charge or represent the terms used in the calculation. Where an attribute is not used to support a charge, this field will be left empty between its delimiters. For example, “Zone 1||10|2|20” indicates a ‘null’ field between ‘Zone 1’ and the value ‘10’.
- Trailer— File trailer record contains the record count.

### 4.1 Header Record

This record will supply information which can be used to identify the contents of the file.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'H'	Indicates the type of record
Customer Number	Number	15		The customer's unique identifier
Statement Number	N/A		NULL	This field is not used and left as null
File Type	Varchar	2	'GM'	Indicates the file is a GMC file
Statement Type	Varchar	1	'P' or 'F'	Indicates the type of the file as either preliminary or final
Trading Date	Date			The specific trading date for which the statement is being created.
Software Version	Varchar	255		The software version for which the statement is being created.
Statement Version	Varchar	255		The statement version for which the statement is being created..

### 4.2 GMC Detail Records

These records provide the Business Associate's location level grid management charge details which are part of the grid management settlement charges created by the system for the customer. An individual record will provide the location's grid management quantity or billable quantity and the corresponding components used in calculating this value. In addition, the appropriate price for this location is applied. For intertie locations, the detail is provided for the individual export schedules (identified by the distinct trading interval, intertie location, interchange ID and energy type).

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'D'	Indicates the type of record
Charge Type	Number	4	351	Charge Type for GMC
Line Item Number	N/A			Not used. It serves as a space holder so that the record structure more closely resembles that of the Statement Detail record.
Trading Date	Date			The trading date of the settlement
Trading Hour	Number	2		The trading hour of the settlement
Trading Minute	Number	2	0	Not used.
Billable Quantity	Number	11,2		The quantity billed
Price	Number	10,5		The rate at which the quantity is billed
Amount Due	Number	11,2		The total amount of the settlement
Zone ID	N/A			Not used. It serves as a space holder so that the record structure more closely resembles that of the Statement Detail record.
Location ID	Varchar	32		The location to which the GMC applies
Interchange ID	Varchar	32		ID used by the SC to identify an intertie schedule. This field is populated for intertie records only.
Energy Type	Varchar	5	'FIRM', 'NFERM', 'WHEEL', 'DYN', Null	The energy type as provided in the scheduling template. This field is populated for intertie records only. FIRM—Firm energy; NFERM—non firm energy; WHEEL—part of a wheel through energy schedule; DYN—dynamic schedule Null—A/S or supplemental energy export that has no associated forward market schedules.
Scheduled/ Metered Quantity	Number	11,2		The hour ahead schedule quantity for intertie locations. The metered quantity for load locations.
Operational Adjustments	Number	11,2		Adjustments made to the meter in real time.
A/S and Supplemental energy	Number	11,2		For intertie locations, this is the dispatched ancillary services and any supplemental energy in the real time. For load locations, this field is null.
Contract Amount	Number	11,2		Effective amount of MWh in the schedule that is exempted from GMC due to an Existing Contract.
Percentage Exemption	Number	5,3		No longer in use.
Contract Reference ID	Varchar	35		String of contract reference IDs applied to the schedule. Each contract reference id segment is preceded by 'E_'. The different segments are separated by commas. The number of contracts displayed is limited to 35 characters. (e.g. 'E_ABC,E_XYZL,E_IJK')

### 4.3 Trailer Record

This record is included to signal the end of the file as well as provide information to validate the file.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'Z'	Indicates the type of record
Record Count	Number			Number of records contained in the file including the header and trailer records

## 4 GMC & Wheeling Detail File

The Grid Management Charge (GMC) & Wheeling Detail File is a companion file issued with the Statement File. It provides detail information related to a Business Associate's GMC and Wheeling charges incurred on a particular trade date. The GMC and Wheeling charges are assessed monthly and the charge records normally appears in the statement for the last day of the trade month. The components that make up the monthly charges, due to their sheer volume, are provided daily in this file. In accordance to the Unbundled GMC scheme (effective 1/1/2001), there are three GMC charge types:

1. [Control Area Services Charge due ISO \(Charge Type 521\)](#)
2. [Inter-Zonal Scheduling Charge due ISO \(Charge Type 522\)](#)
3. [Market Operations Charge due ISO \(Charge Type 523\)](#)

There are six different types of data records in a GMC & Wheeling Detail File. These include:

- [Header](#) – This is the first record of the file that provides the information such as the file type, market participant ID, and an indicator to show whether it is the preliminary statement or final statement for that date.
- [Intertie Detail](#) – These are detailed records of the Business Associate's intertie schedules. This section provide intertie information related to GMC and Wheeling charges.
- [Load Measurement](#) – These are records showing the Business Associate's load measurements used for calculating the control area services charge.
- [Inter-Zonal Flow](#) – These are records showing the Business Associate's inter-zonal flows used for calculating the inter-zonal scheduling charge.
- [Hourly Aggregate GMC](#) – This is a listing of the sums of the billable quantities of the three different grid management charge types at an hourly interval.
- [Trailer](#) - File trailer record contains the record count.

If a data field is not applicable in the context of a data record, this field will be left empty between its delimiters. For example, "Zone 1||10|2|-20" indicates a 'null' field between 'Zone 1' and the value '10'.

### 4.1 Header Record

This record will supply information which can be used to identify the contents of the file.

Field	Type	Max Field Length	Domain	Description
-------	------	------------------	--------	-------------

<u>Record Type</u>	<u>Varchar</u>	<u>1</u>	<u>'H'</u>	<u>Indicates the type of record</u>
<u>Customer Number</u>	<u>Number</u>	<u>15</u>		<u>The customer's unique identifier</u>
<u>Statement Number</u>	<u>N/A</u>		<u>NULL</u>	<u>This field is not used and left as null</u>
<u>File Type</u>	<u>Varchar</u>	<u>2</u>	<u>'GM'</u>	<u>Indicates the file is a GMC file</u>
<u>Statement Type</u>	<u>Varchar</u>	<u>1</u>	<u>'P' or 'F'</u>	<u>Indicates the type of the file as either preliminary or final</u>
<u>Trading Date</u>	<u>Date</u>			<u>The specific trading date for which the statement is being created.</u>
<u>Software Version</u>	<u>Varchar</u>	<u>255</u>		<u>The software version for which the statement is being created.</u>
<u>Statement Version</u>	<u>Varchar</u>	<u>255</u>		<u>The statement version for which the statement is being created..</u>

## 4.2 Intertie Detail Records

These records provide the Business Associate's location level grid management & wheeling charge details created by the system for the Business Associate's export schedule. A record is provided for each distinct export schedule. Each record contains the schedule's identifier (date, hour, location ID, interchange ID and energy type), its export quantity and the corresponding components used in calculating this value. In addition, the appropriate wheeling prices for this location are shown. These records pertain only to interties and are only involved with GMC & wheeling.

<u>Field</u>	<u>Type</u>	<u>Max Field Length</u>	<u>Domain</u>	<u>Description</u>
<u>Record Type</u>	<u>Varchar</u>	<u>1</u>	<u>'I'</u>	<u>Indicates the type of record</u>
<u>Trading Date</u>	<u>Date</u>			<u>The trading date of the settlement</u>
<u>Trading Hour</u>	<u>Number</u>	<u>2</u>		<u>The trading hour of the settlement</u>
<u>GMC Quantity</u>	<u>Number</u>	<u>11.2</u>		<u>The export quantity which is subjected to Control Area Services Charge.</u>
<u>Wheeling Quantity</u>	<u>Number</u>	<u>11.2</u>		<u>The export quantity which is subjected to Wheeling Access Charge.</u>
<u>HV Wheeling Rate</u>	<u>Number</u>	<u>10.5</u>		<u>The High Voltage Wheeling Access rate at the intertie location.</u>
<u>LV Wheeling Rate</u>	<u>Number</u>	<u>10.5</u>		<u>The Low Voltage Wheeling Access rate at the intertie location.</u>
<u>Location ID</u>	<u>Varchar</u>	<u>32</u>		<u>The intertie location of the schedule.</u>
<u>Interchange ID</u>	<u>Varchar</u>	<u>32</u>		<u>ID used by the SC to identify an intertie schedule.</u>
<u>Energy Type</u>	<u>Varchar</u>	<u>5</u>	<u>'FIRM', 'NFRM', 'WHEEL', 'DYN', Null</u>	<u>The energy type as provided in the SC's scheduling template. FIRM – Firm energy; NFRM – non firm energy; WHEEL – part of a wheel through energy schedule; DYN – dynamic schedule Null – A/S or supplemental energy export that has no associated forward market schedules.</u>
<u>Scheduled</u>	<u>Number</u>	<u>11.2</u>		<u>The hour ahead schedule quantity for the</u>

<a href="#">Quantity</a>				<a href="#">intertie schedule.</a>
<a href="#">Operational Adjustments</a>	<a href="#">Number</a>	<a href="#">11.2</a>		<a href="#">Adjustments made to the intertie schedule in real-time.</a>
<a href="#">A/S and Supplemental energy</a>	<a href="#">Number</a>	<a href="#">11.2</a>		<a href="#">this is the dispatched ancillary services and any supplemental energy in the real-time.</a>
<a href="#">Contract Reference ID</a>	<a href="#">Varchar</a>	<a href="#">35</a>		<a href="#">String of contract reference IDs applied to the schedule. Each contract reference id segment is preceded by 'E '. The different segments are seperated by commas. The number of contracts displayed is limited to 35 characters. (e.g. 'E ABC,E XYZLE IJK')</a>
<a href="#">Contract Amount</a>	<a href="#">Number</a>	<a href="#">11.2</a>		<a href="#">Effective amount of MWh in the schedule that is exempted from Wheeling Access Charge due to an Existing Contract.</a>

### 4.3 [Load Measurement Records](#)

[These records show the load measurements for the Business Associate. All loads are assessed Control Area Services Charge. The Non-PTO loads, which are loads served by Distribution Companies associated with non-Participating Transmission Owners, are assessed Wheeling charge \(unless they are exempted under certain Existing Transmission Contracts\). A record is provided for each load in each hour.](#)

<a href="#">Field</a>	<a href="#">Type</a>	<a href="#">Max Field Length</a>	<a href="#">Domain</a>	<a href="#">Description</a>
<a href="#">Record Type</a>	<a href="#">Varchar</a>	<a href="#">1</a>	<a href="#">L</a>	<a href="#">Indicates the type of record.</a>
<a href="#">Trading Date</a>	<a href="#">Date</a>			<a href="#">The trading date of the settlement.</a>
<a href="#">Trading Hour</a>	<a href="#">Number</a>	<a href="#">2</a>		<a href="#">The trading hour of the settlement.</a>
<a href="#">Location ID</a>	<a href="#">Number</a>	<a href="#">32</a>		<a href="#">The location to which the Billable Quantity applies</a>
<a href="#">Non-PTO Flag</a>	<a href="#">Varchar</a>	<a href="#">1</a>	<a href="#">'Y' or 'N'</a>	<a href="#">Flag which specifies if the load is served by distribution companies associated with non-Participating Transmission Owners. If 'Y', Wheeling charges are assessed.</a>
<a href="#">Metered Qty</a>	<a href="#">Number</a>	<a href="#">11.2</a>		<a href="#">Metered quantity for the load.</a>

### 4.4 [Inter-Zonal Flow Records](#)

[The information provided in this section shows the inter-zonal New Firm Use flows for the Business Associate. A record is provided for the Business Associate's utilization of each path in each hour. New Firm Use refers to transmission path utilization that is not scheduled under Existing Transmission Contracts. Inter-zonal Scheduling Charges are applied to inter-zonal flows.](#)

<a href="#">Field</a>	<a href="#">Type</a>	<a href="#">Max Field Length</a>	<a href="#">Domain</a>	<a href="#">Description</a>

<u>Record Type</u>	<u>Varchar</u>	<u>1</u>	<u>'C'</u>	<u>Indicates the type of record</u>
<u>Trading Date</u>	<u>Date</u>			<u>The trading date of the settlement</u>
<u>Trading Hour</u>	<u>Number</u>	<u>2</u>		<u>The trading hour of the settlement</u>
<u>Path ID</u>	<u>Varchar</u>	<u>32</u>		<u>The path to which the Billable Quantity applies</u>
<u>Flow Quantity</u>	<u>Number</u>	<u>11.2</u>		<u>Net inter-zonal flow quantity in the given path under New Firm Use. A sign is used to indicate the direction of the flow, but its absolute magnitude determines the Inter-zonal Scheduling Charge.</u>

#### **4.5 Hourly Aggregate GMC Records**

Listing of the sums of the billable quantities of the three different grid management charge types at an hourly interval. This record provides the BA's with aggregated GMC charge details for all three types of GMC charges for the control area.

<u>Field</u>	<u>Type</u>	<u>Max Field Length</u>	<u>Domain</u>	<u>Description</u>
<u>Record Type</u>	<u>Varchar</u>	<u>1</u>	<u>'A'</u>	<u>Indicates the type of record</u>
<u>Trading Date</u>	<u>Date</u>			<u>The trading date of the settlement</u>
<u>Trading Hour</u>	<u>Number</u>	<u>2</u>		<u>The trading hour of the settlement</u>
<u>Load SUM</u>	<u>Number</u>	<u>11.2</u>		<u>The sum of metered quantities for load locations per control area</u>
<u>Export SUM</u>	<u>Number</u>	<u>11.2</u>		<u>The sum of all export quantities for load locations per control area</u>
<u>NFU SUM</u>	<u>Number</u>	<u>11.2</u>		<u>The sum of the absolute values of all inter-zonal flows, netted per path, per control area</u>
<u>AS Purchases SUM</u>	<u>Number</u>	<u>11.2</u>		<u>The sum of the absolute values of ancillary services purchased per control area</u>
<u>AS Sales SUM</u>	<u>Number</u>	<u>11.2</u>		<u>The sum of the absolute values of ancillary services sold per control area</u>
<u>Instructed Energy SUM</u>	<u>Number</u>	<u>12.4</u>		<u>The sum of the absolute values of all Instructed Energy for the hour netted per location</u>
<u>Uninstructed Energy SUM</u>	<u>Number</u>	<u>12.4</u>		<u>The sum of the absolute values of all Uninstructed Energy (not Uninstructed Deviation) for the hour.</u>

#### **4.6 Trailer Record**

This record is included to signal the end of the file as well as provide information to validate the file.

<u>Field</u>	<u>Type</u>	<u>Max Field Length</u>	<u>Domain</u>	<u>Description</u>
<u>Record Type</u>	<u>Varchar</u>	<u>1</u>	<u>'Z'</u>	<u>Indicates the type of record</u>

<a href="#">Record Count</a>	<a href="#">Number</a>			<a href="#">Number of records contained in the file including the header and trailer records</a>

## 5 Gross Intertie Schedule File

The Gross Intertie Schedule File is another companion file issued with the Statement File. It contains the market participant's individual import and export energy schedules from the hourahead market. It will also contain the market participant's operational adjustments made in the real-time market. Only intertie energy schedules are included in this file. Thus, capacity schedules are excluded. Each schedule will be identified by a distinct trading interval, market type, location ID, interchange ID and energy type.

There are four different types of data records in a Gross Intertie Schedule File. These include:

- Header – This is the first record of the file that provides the information such as the file type, market participant ID, statement number, and an indicator to show whether it is the preliminary statement or final statement for that date.
- Detail Line items - Detailed records of the individual intertie schedules by location, trading date and trading hour. Where an attribute is not used to support a schedule, this field will be left empty between its delimiters. For example, “Zone 1||10|2|-20” indicates a ‘null’ field between ‘Zone 1’ and the value ‘10’.
- Adjustment Line Items – Real-time operational adjustments to the individual intertie schedules by location, trading date, trading hour, trading interval as appropriate. Where an attribute is not used to support a schedule, this field will be left empty between the delimiters.
- Trailer - File trailer record contains the record count.

### 5.1 Header Record

This record will supply information which can be used to identify the contents of the file.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'H'	Indicates the type of record
Customer Number	Number	15		The customer's unique identifier
Statement Number	Number	12		The number of the statement
File Type	Varchar	2	'GI'	Indicates the file is a Statement file
Statement Type	Varchar	1	'P', 'F'	Indicates the type of statement as either preliminary or final.
Trading Date	Date			The specific trading date for which the statement is being created.
Software Version	Varchar	255		The software version for which the statement is being created.
Statement Version	Varchar	255		The statement version for which the statement is being created..

### 5.2 Detail Records

These records provide the Business Associate's individual intertie schedule details which are used either individually or in combination to create the various charges by the system for the customer.

Field	Type	Max Field Length	Domain	Description
-------	------	------------------	--------	-------------

		Length		
Record Type	Varchar	1	'D'	Indicates the type of record
Trading Date	Date			The trading date of the settlement
Trading Hour	Number	2		The trading hour of the settlement
Trading Minute	Number	2	0	Not used.
Location ID	Varchar	32		The location to which the schedule applies
Interchange ID	Varchar	32		ID used by the SC to identify an intertie schedule.
Energy Type	Varchar	5	'FIRM', 'NFRM', 'WHEEL', 'DYN',	Energy Type of the intertie schedule.  The following are used: FIRM – firm energy; NFRM – non firm energy; WHEEL – part of a wheel through energy schedule; DYN – dynamic schedule.
Market Type	Varchar	1	'H'	The market type of the schedule
Import Export Flag	Varchar	32	'I', 'E'	Flag to indicate whether the schedule was an import (I) or export (E)
Scheduled Quantity	Number	11,2		The scheduled quantity (MWh).
Contract Amount	Number	11,2		No longer in use
Contract Reference ID	Varchar	35		String of contract reference IDs applied to the schedule. Each contract reference id segment is preceded by 'E_'. The different segments are separated by commas. The number of contracts displayed is limited to 35 characters. (e.g. 'E_ABC,E_XYZL,E_IJK').
Valid Contract Flag	Varchar	1	'Y', 'N'	No longer in use
Amount Due	Number	11,2		Not used.

### 5.3 Adjustment Records

These records provide the real time operational adjustments made to the Business Associate’s individual intertie schedules. Adjustments may be made to existing schedules or created as new real time schedules. It should also be noted that operational adjustments do not include dispatching of energy from Ancillary Services or Supplemental Energy.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	‘A’	Indicates the type of record
Trading Date	Date			The trading date of the settlement
Trading Hour	Number	2		The trading hour of the settlement
Trading Interval	Number	2	1 – 6	The trading interval of the adjustment.
Location ID	Varchar	32		The location to which the adjustments applies
Interchange ID	Varchar	32		ID used by the SC to identify an intertie schedule being adjusted.
Energy Type	Varchar	5	‘FIRM’, ‘NFRM’, ‘WHEEL’, ‘DYN’,  LOSS	Energy Type of the intertie adjustment.  When the adjustment is made to an existing hourahead schedule, this field will be the same as that of the hourahead schedule. Thus, the following types are used: FIRM – firm energy; NFRM – non firm energy; WHEEL – part of a wheel through energy schedule; DYN – dynamic schedule.  When the adjustment is made to account for transmission loss that is not captured in the tie loss factor, this field will contain ‘LOSS’.
Market Type	Varchar	1	‘E’	The market type of the schedule
Import Export Flag	Varchar	32	‘I’ or ‘E’	Flag to indicate whether the schedule adjustment will be considered as an import (I) or an export (E) adjustment.
Adjustment Quantity	Number	11,2		The adjustment quantity (MWh) in the trading interval.

### 5.4 Trailer Record

This record is included to signal the end of the file as well as provide information to validate the file.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	‘Z’	Indicates the type of record
Record Count	Number			Number of records contained in the file

				including the header and trailer records

## 6 Ancillary Service Detail File

The Ancillary Service Details File is a companion file issued with the Statement File. It contains the detail supporting data that are used to derive the A/S service charges shown in the Statement File. These charges include A/S costs allocated based on metered demand and Replacement Reserve cost.

There are different types of data records in a Ancillary Service Details File. These include:

- Header – This is the first record of the file that provides the information such as the file type, market participant ID, statement number, and an indicator to show whether it is the preliminary statement or final statement for that date.
- Zone Region Cross Reference – This provides a cross reference between a zone and the region it is associated to by trading hour and ancillary service type.
- Operating Reserve Requirement Components – The component information that are used in calculating the operating reserve requirement by zone and trading hour.
- A/S Cost Allocation Based On Metered Demand - Detailed records of ancillary service charges by business associate, trading date, trading hour, region and ancillary service type as appropriate. These records contain the Billable Quantity, Price and Amount Due as well as a number of other fields which uniquely identify the allocation (region, trading interval) or represent the terms used in the calculation.
- Replacement Reserve Allocation - Detailed records of this charge by business associate, trading date, trading hour, region and ancillary service type as appropriate. These records contain the Billable Quantity, Price and Amount Due as well as a number of other fields which uniquely identify the allocation (region, trading interval) or represent the terms used in the calculation.
- Trailer - File trailer record contains the record count.

### 6.1 Header Record

This record will supply information which can be used to identify the contents of the file.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'H'	Indicates the type of record
Customer Number	Number	15		The customer's unique identifier
Statement Number	Number	12		The number of the statement
File Type	Varchar	2	'AS'	Indicates the file is an Ancillary Service Details file
Statement Type	Varchar	1	'P', 'F'	Indicates the type of statement as either preliminary or final.
Trading Date	Date			The specific trading date for which the statement is being created.
Software Version	Varchar	255		The software version for which the statement is being created.
Statement Version	Varchar	255		The statement format version for which the statement is being created.

### 6.2 Zone/Region Cross Reference

These records provide the mapping of a zone to its associated A/S day ahead procurement region for each trading interval and ancillary service type.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'X'	Indicates the type of record
Trading Date	Date			The trading date of the settlement
Trading Hour	Number	2		The trading hour of the settlement
Trading Minute	Number	2	0	Not used.
Zone ID	Varchar	12		A congestion zone.
Ancillary Service Type	Varchar	8	'SPIN', 'NSPIN', 'REG UP', 'REG DOWN', 'REPL'	Ancillary service type
Region ID	Number	3		The A/S procurement region to which the zone belongs.

### 6.3 Operating Reserve Requirement Components

These records provide the zonal metered and intertie schedule quantities which are used in calculating the SC's operating reserve requirement.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'O'	Indicates the type of record
Trading Date	Date			The trading date of the settlement
Trading Hour	Number	2		The trading hour of the settlement
Trading Minute	Number	2	0	Not used.
Zone ID	Varchar	12		A congestion zone.
Load Quantity	Number	11,2		SC's metered load in the zone.
Firm Export Quantity	Number	11,2		SC's real-time firm intertie export schedules out of the zone.
Firm Import Quantity	Number	11,2		SC's real-time firm intertie import schedules into the zone.
Non-Firm Import Quantity	Number	11,2		SC's real-time non-firm intertie import schedules into the zone.
Hydro Generation Quantity	Number	11,2		SC's metered hydro generation in the zone.

### 6.4 A/S Allocation Based On Metered Demand

These records provide the Business Associate's regional level details which are part of the settlement charges created by the system for the customer. An individual record will provide the region's billable quantity and the corresponding components used in calculating this value. Allocation is performed for each day ahead A/S procurement region.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'A'	Indicates the type of record
Trading Date	Date			The trading date of the settlement
Trading Hour	Number	2		The trading hour of the settlement
Trading Minute	Number	2	0	Not used.
Region ID	Number	3		The region to which the settlement applies
Ancillary Service Type	Varchar	8	'SPIN', 'NSPIN', 'REG UP', 'REG DOWN'	Ancillary service type
Day ahead self provision	Number	11,2		The amount of self provision in SC's day ahead schedule for a region and interval.
Hour ahead self provision	Number	11,2		The amount of self provision in SC's hour ahead schedule for a region and interval.
Inter SC sold quantity	Number	11,2		Amount of capacity SC sold through inter SC trades
Inter SC bought quantity	Number	11,2		Amount of capacity SC bought through inter SC trades
Measured quantity	Number	11,2		Reg Up/Reg Down: SC's metered load in region. Spin/NSpin: SC's operating reserve requirement in region
On demand obligation	Number	11,2		SC's on demand obligation for a region
Scheduled self provision	Number	11,2		The maximum of the day ahead and hour ahead self provision
Allowable self provision	Number	11,2		The amount of self provision ISO will accept based on its incremental needs.
Unqualified self provision	Number	11,2		The difference between the scheduled self provision and the allowable self provision.
Effective self provision	Number	11,2		The amount of self provision the SC will receive credit for
Base obligation	Number	15,5		The amount of adjusted requirement allocated to the SC- percent obligation * total adjusted requirement
Percent Obligation	Number	10,5		SC's measured quantity divided by the total measured quantity
Adjusted obligation	Number	15,5		Base obligation + on demand obligation + inter SC sold quantity – inter SC bought quantity
Net obligation	Number	11,2		The difference between adjusted obligation and effective self provision
Price	Number	10,5		The total payments by the ISO for the ancillary service type procured in the day ahead and hour ahead markets divided by the total MW procured in both markets
Settlement Amount	Number	11,2		Net obligation * price
Total Day Ahead Ancillary Service Procured Amount	Number	11,2		Total ancillary service amount (in MW) procured in the region in the day ahead market
Total Hour Ahead	Number	11,2		Total additional ancillary service amount (in

Ancillary Service Procured Amount				MW) procured in the region in the hour ahead market
Day Ahead MCP	Number	10,5		Day ahead market clearing price for the region and service type
Hour Ahead MCP	Number	10,5		Weighted average Hour ahead market clearing price of the zones in the region and service type.
Total Effective Self Provision	Number	11,2		Total effective self provision for the region
Total On Demand Obligation	Number	11,2		Total on demand obligation for the region
Total measured quantity	Number	11,2		Reg Up/Reg Down: Total metered load in region. Spin/NSpin: Total operating reserve requirement in region

## 6.5 Replacement Reserve

These records provide the Business Associate's regional level details which are part of the settlement charges created by the system for the customer. An individual record will provide the region's billable quantity and the corresponding components used in calculating this value. Allocation is performed for each day ahead A/S procurement region.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'R'	Indicates the type of record
Trading Date	Date			The trading date of the settlement
Trading Hour	Number	2		The trading hour of the settlement
Trading Minute	Number	2	0	Not used.
Region ID	Number	3		The region to which the settlement applies
Ancillary Service Type	Varchar	8	'REPL'	Ancillary service type
Day ahead Self Provision	Number	11,2		SC's day ahead scheduled self provision for the region
Hour ahead Self Provision	Number	11,2		SC's hour ahead scheduled self provision for the region
Generation Deviation Quantity	Number	11,2		SC's generation deviation megawatt in the region
Load Deviation Quantity	Number	11,2		SC's load deviation megawatt in the region
Inter SC Sold Quantity	Number	11,2		Amount of capacity SC sold through inter SC trades
Inter SC Bought Quantity	Number	11,2		Amount of capacity SC bought through inter SC trades
Measured Quantity				The SC's metered load in a region excludes exports.
Scheduled Self Provision	Number	11,2		The maximum of the day ahead and hour ahead self provision.
Deviation Requirement	Number	11,2		The SC's total deviation (from generation and load) that contributes to the reduction of system reserve.

Adjusted Deviation Requirement	Number	11,2		Deviation Requirement further adjusted by inter-SC trades.
Normal Self Provision	Number	11,2		The normal component of an SC's self provision. It is the lesser of the SC's hour-ahead self provision and his Adjusted Deviation Requirement.
Remaining Self Provision	Number	11,2		The difference between the Scheduled Self Provision and the Normal Self Provision.
Effective Remaining Self Provision	Number	11,2		The portion of the SC's Remaining Self Provision that is considered effective.
Effective self Provision	Number	11,2		The portion of the SC's Scheduled Self Provision which ISO considers effective.
Base Percentage	Number	10,5		SC's percentage of the Total Deviation Requirement for the region.
Base Obligation	Number	15,5		SC's Base Obligation is his Deviation Requirement unless ISO's total reserve available is less than the sum of the SCs' Deviation Requirements, in which case, this will be a prorata share of total.
Remaining Percentage	Number	10,5		Percentage of SC's metered load compared to the total region metered load
Remaining Obligation	Number	15,5		The excess reserve (over the Total Deviation Requirements) multiplied by the SC's Remaining Percentage.
Net Obligation	Number	11,2		SC's net reserve obligation (with trades and self provision taken into account).
Price	Number	10,5		Average procurement price for the ancillary service
Settlement Amount	Number	11,2		SC's settlement for the ancillary service obligation
Total Normal Self Provision	Number	11,2		Sum of all SCs' Normal Self Provision for the region.
Total Self Provision	Number	11,2		Sum of SC's Self Provision for the region
Total Deviation Requirement	Number	11,2		Sum of SC's Deviation Requirements for the region
Total Day Ahead Ancillary Service Amount	Number	11,2		Total ancillary service amount (in MW) procured in the region in the day ahead market
Total Hour Ahead Ancillary Service Procured Amount	Number	11,2		Total additional ancillary service amount (in MW) procured in the region in the hour ahead market
Day Ahead MCP	Number	10,5		Day ahead Replacement Reserve market clearing price for the region
Hour Ahead MCP	Number	10,5		Weighted average Hour ahead Replacement Reserve market clearing price of the zones in the region
Total Effective Self Provision	Number	11,2		The portion of the Total Self Provision that ISO considers effective.
Total Effective Remaining Self Provision	Number	11,2		Total Effective Self Provision less Total Normal Self Provision for the region.
Total Measured	Number	11,2		Total metered load in the region.

Quantity				
Total Base Obligation	Number	15,5		Sum of SCs' Base Obligations for the region.
Total Remaining Obligation	Number	15,5		Total reserve available to ISO less Total Base Obligation for the region.

## 6.6 Trailer Record

This record is included to signal the end of the file as well as provide information to validate the file.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'Z'	Indicates the type of record
Record Count	Number			Number of records contained in the file including the header and trailer records

## 7 Imbalance Energy/No Pay Settlement Detail File

The Imbalance Energy/No Pay Settlement Detail File is a companion file issued with the Statement File. It contains the detail supporting data that are used to derive certain charges shown in the Statement File. These charges include Instructed Energy Settlement, Uninstructed Energy Settlement, Unaccounted For Energy Settlement, and No Pay Settlement.

There are six different types of data records in this file. These include:

- Header – This is the first record of the file that provides the information such as the file type, market participant ID, statement number, and an indicator to show whether it is the preliminary statement or final statement for that date.
- Zonal Market Clearing Prices
- Instructed and Uninstructed Energy Detail Records
- OOS Detail Records
- No Pay Detail Records
- UFE Detail Records
- Trailer- File trailer record contains the record count

### 7.1 Header Record

This record will supply information which can be used to identify the contents of the file.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'H'	Indicates the type of record.
Customer Number	Number	15		The customer's unique identifier.
Statement Number	Number	12		The number of the statement.
File Type	Varchar	2	'IE'	Indicates the file is an Imbalance Energy/No Pay Detail file.
Statement Type	Varchar	1	'P', 'F'	Indicates the type of statement as either Preliminary or Final.
Trading Date	Date			The specific trading date for which the statement is being created.
Software Version	Varchar	255		The software version for which the statement is being created.
Statement Version	Varchar	255		The statement format version for which the statement is being created.

### 7.2 Instructed and Uninstructed Energy Detail records

Each record in this section shows the Instructed and Uninstructed Energy for a given resource in a trading interval (10-minute currently). Intertie resources are identified by the Location ID/Interchange ID pair. Instructed Energy may come from a variety of explicit and implicit dispatch instructions. The explicit

instructions may include Out of Stack (OOS), Supplemental Energy, A/S dispatch and operational adjustments. The implicit instructions may include Ramping and Residual Energy.

A record will be included in this section if at least one of the Instructed or Uninstructed Energy terms is non-zero:

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'E'	Indicates the type of record.
Trading Date	Date			The trading date of the settlement.
Trading Hour	Number	2		The trading hour of the settlement.
Trading Interval	Number	2	1-6	The real time interval of the settlement
Location ID	Varchar	32		The location to which this record applies.
Interchange ID	Varchar	32		The interchange ID to which this record applies.
Location Type	Varchar	1	'G', 'L', 'C',	The location type associated with the location; Generation (G), Load (L), or Intertie (C)
Import/Export Flag	Varchar	1	'I', 'E'	The flag used to indicate whether this record is an import (I) or an export (E). Only used when the Location Type is 'C'.
Zone ID	Varchar	12		The ID of the congestion zone in which the resource resides. For intertie resources, this is the external congestion zone in which the remote end of the intertie resides.
Region ID	Number	3		The ID of congestion region in which the subject congestion zone is.
S	Number	11,4		Hourahead Final scheduled Quantity (MWh). A positive value is used for all resource types.
M	Number	11,4		Metered Quantity (MWh). Used only for generator and load records.
Gmma	Number	8,6		Actual Generator Meter Multiplier. Used only for generators and imports.
Gmmf	Number	8,6		Forecast Generator Meter Multiplier. Used only for generators and imports.
R	Number	11,4		Ramping Energy- The amount of ramping energy deemed delivered (MWh). Null for intertie resources.
OOS+	Number	11,4		Total acknowledged positive Out of Stack energy of a resource (MWh). Null for export resources.
OOS-	Number	11,4		Total acknowledged negative Out of Stack energy of a resource (MWh). Null for export resources.
ESE+	Number	11,4		Acknowledged INC Supplemental Energy (MWh). Null for export resources.
ESE-	Number	11,4		Acknowledged DEC Supplemental Energy (MWh). Null for export resources.
ERR	Number	11,4		Acknowledged Interval Imbalance Energy from Replacement Reserve (MWh). Null for export resources.
ENS	Number	11,4		Acknowledged Interval Imbalance Energy

				from Non-spinning Reserve (MWh). Null for export resources.
ESR	Number	11,4		Acknowledged Interval Imbalance Energy from Spinning Reserve (MWh). Null for load and export resources.
RIE	Number	11,4		Residual Imbalance Energy based on acknowledged instructions (MWh). Null for intertie resources.
Price Reference Interval	Varchar	32		An interval constant used to determine the associated price for Residual Imbalance Energy. This is shown as a numeric string 'YYYYMMDDHHI' where YYYY is the year, MM is the month, DD is the day, HH is the hour and I is the interval of the hour. Null for intertie resources.
OOS'+	Number	11,4		Total actual positive Out of Stack energy of a resource (MWh). Null for export resources.
OOS'-	Number	11,4		Total actual negative Out of Stack energy of a resource (MWh). Null for export resources.
ESE'+	Number	11,4		Actual INC Supplemental Energy(MWh). Null for export resources.
ESE'-	Number	11,4		Actual DEC Supplemental Energy (MWh). Null for export resources.
ERR'	Number	11,4		Actual Interval Imbalance Energy from Replacement Reserve (MWh). Null for export resources.
ENS'	Number	11,4		Actual Interval Imbalance Energy from Non-spinning Reserve (MWh). Null for export resources.
ESR'	Number	11,4		Actual Interval Imbalance Energy from Spinning Reserve (MWh). Null for export load and resources.
RIE'	Number	11,4		Actual Residual Imbalance Energy (MWh). Null for intertie resources.
OA	Number	11,4		Operational energy adjustment of an intertie resource. A positive value indicate an increase in import or a decrease in export. (MWh). Note that this is different from the intertie scheduling convention.
UD	Number	11,4		Uninstructed Deviation of a resource (MWh).
UE	Number	11,4		Uninstructed Energy of a resource (MWh). This is equal to the Uninstructed Deviation less any Unavailable Capacity under the No Pay condition.
\$OOS+	Number	11,2		Settlement Amount for positive Out of Stack energy (\$).
\$OOS-	Number	11,2		Settlement Amount for negative Out of Stack energy (\$).
\$ESE+	Number	11,2		Settlement Amount for imbalance energy from Supplemental Energy (\$). Null for export resources.
\$ESE-	Number	11,2		Settlement Amount imbalance energy from Supplemental Energy (\$). Null for export resources.

\$ERR	Number	11,2		Settlement Amount for imbalance energy from Replacement Reserve (\$). Null for export resources.
\$ENS	Number	11,2		Settlement Amount for imbalance energy from Non-spinning Reserve (\$). Null for export resources.
\$ESR	Number	11,2		Settlement Amount for imbalance energy from Spinning Reserve (\$). Null for load and export resources.
\$RIE	Number	11,2		Settlement Amount for Residual Imbalance Energy (\$). Null for inertie resources.

### 7.3 OOS Detail Records

This section provides the individual Out of Stack (OOS) instructions for a given resource in a trading interval. A resource may receive multiple OOS instructions in the same interval.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'O'	Indicates the type of record.
Trading Date	Date			The trading date of the settlement.
Trading Hour	Number	2		The trading hour of the settlement.
Trading Interval	Number	2	1-6	The real time interval of the settlement.
Location ID	Varchar	32		The location to which the instruction applies.
Interchange ID	Varchar	32		The interchange ID to which the instruction applies.
Location Type	Varchar	1	'G', 'L', 'C'	The location type associated with the location; Generation (G), Load (L), or Intertie (C).
Zone ID	Varchar	12		The ID of the congestion zone in which the resource resides..
Region ID	Number	3		The ID of the congestion region ID in which the resource resides.
L	Number	5		Chronological order of the OOS instruction in the trading interval. The sequence is maintained across all system resources in the trading hour. For a given SC, the sequence may not be consecutive numbers.
OOS	Number	11,4		Acknowledged OOS Energy of a resource (MWh).
OOS'	Number	11,4		Actual OOS Energy of a resource (MWh).
Price	Number	10,5		

### 7.4 No Pay Detail Records

This section contains the supporting details for No Pay charges. A resource will occur No Pay charges under 3 different conditions: (1) Unavailable Capacity, (2) Declined Instruction or (3) Undelivered Energy.

Distinction should be made between two engineering units: MW and MW-hr. MW is used to measure electric capacity, operating limit or target. MW-hr is used to measure the volume of capacity service over a period of time. For example, an unit having 60 MW of capacity over a 10-minute interval is providing 10 MW-hr of service.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'N'	Indicates the type of record.
Trading Date	Date			The trading date of the settlement.
Trading Hour	Number	2		The trading hour of the settlement.
Trading Interval	Number	2	1-6	The real time interval of the settlement.
Location ID	Varchar	32		The location to which this record applies.
Interchange ID	Varchar	32		The interchange ID to which this record applies.
Location Type	Varchar	1	'G', 'L', 'C'	The location type associated with the location; Generation (G), Load (L), or Intertie (C)
Zone ID	Varchar	12		The ID of the congestion zone in which the resource resides.
Region ID	Number	3		The ID of the congestion region in which the resource resides.
Service Type	Varchar	5	'S', 'N', 'R'	The A/S service type associated with the record: Spin (S), Non-spin (N), Replacement Reserve (R).
UD	Number	11,4		Uninstructed Deviation of a resource (MWh). Not used for intertie locations.
M	Number	11,4		Metered Quantity (MWh). Not used for intertie locations.
Gmma	Number	8,6		Actual Generator Meter Multiplier. Not used for intertie locations.
Pmax	Number	8,2		Maximum capacity of a resource (MW). Only used for generator locations.
ERR'	Number	11,4		Actual Interval Imbalance Energy from Replacement Reserve (MWh). Not used for intertie locations.
ENS'	Number	11,4		Actual Interval Imbalance Energy from Non-spinning Reserve (MWh). Not used for intertie locations.
ESR'	Number	11,4		Actual Interval Imbalance Energy from Spinning Reserve (MWh). Not used for load and intertie locations.
DA Self Provision	Number	11,4		Day-Ahead Self Provision for the service type (MW)
DA Market Capacity	Number	11,4		Day-Ahead Market Capacity for the service type (MW)
Total DA Capacity	Number	11,4		DA Self Provision + DA Market Capacity (MW)
HA Self Provision	Number	11,4		Hour-ahead Self Provision for service type (MW)
HA Market Capacity	Number	11,4		Hour-ahead Market Capacity for the service type (MW)
HA RMR Capacity	Number	11,4		Hour-ahead RMR dispatched capacity (MW)
RT RMR Capacity	Number	11,4		Real-time RMR dispatched capacity for the

				service type (MW)
Total HA Capacity	Number	11,4		HA Self Provision + HA Market Capacity + HA RMR + RT RMR (MW)
DA Percent Allocation	Number	13,4		Fraction of No Pay Capacity charged back at DA price.
HA Percent Allocation	Number	13,4		Fraction of No Pay Capacity charged back at HA price.
AR	Number	11,4		Acknowledged A/S instructed target for the service type (MW).
IR	Number	11,4		A/S instructed target for the service type (MW).
ER	Number	11,4		Acknowledged interval Imbalance Energy for the service type (MWh) . Not used for intertie locations.
UC	Number	11,4		Total unavailable reserve capacity for all service types in the given interval due to Uninstructed Deviation of resource (MW-hr). Not used for intertie locations.
NPR1	Number	11,4		No Pay reserve amount for the service type due to Unavailable Capacity (MW-hr). Not used for intertie locations.
NPR2	Number	11,4		No Pay reserve amount due to Declined Instruction (MW-hr).
NPR3	Number	11,4		No Pay reserve amount due to Undelivered Energy (MW-hr). Not used for intertie locations.

## 7.5 UFE Detail Records

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'U'	Indicates the type of record
Location ID	Varchar	32		The location (Resource ID for load point and Tie point ID for exports) to which this UFE applies.
Zone ID	Varchar	12		Zone ID for the Location ( ex. congestion zones NP15 or SP15)
UDC	Varchar	12		The UDC service territory for the Location (Physical UDC).
Trading Date	Date			The trading date of the settlement
Trading Hour	Number	2		The trading hour of the settlement
Trading Interval	Number	2	1-6	The trading interval
UFE Quantity	Number	11,4		Business Associate's (SC's) <b>UFE Quantity</b> (MWh) in the trading interval – UFE allocated to the Business Associate (SC) at the demand point or tie point Location.
Measured Quantity	Number	11,4		Measurement for the Location (MWh) in the trading interval – Demand point's (Load or Export) quantity for the Business Associate. Load may be metered or profiled, Export is

				the deemed (scheduled) quantity.
UDC Load	Number	12,4		UDC's total load (MWh) in the trading interval – Combination of Real-Time Metering (RTM) and Load Profile Metering (LPM) of all loads within the UDC.
UDC Export	Number	12,4		UDC's total Exports (MWh) in the trading interval – Combination of metered exports at the UDC tie points, including ties with UDCs inside California.
UDC Import	Number	12,4		UDC's total Imports (MWh) in the trading interval – Combination of metered imports at the UDC tie points, including ties with UDCs inside California.
UDC Generation	Number	12,4		UDC's total Generation (MWh) in the trading interval – Total of metered generation within the physical UDC.
UDC ATL	Number	12,4		UDC's Actual Transmission Loss (MWh) in the trading interval – This equals the Control Area ATL multiplied by the ratio of the UDC Branch Losses to the Control Area Branch Losses.
Control Area ATL	Number	12,4		Total Actual Transmission Loss (MWh) in the trading interval based on measurements for the entire control area. Control Area ATL = $\sum Ga*(1-GMMa) + \sum Ia*(1-TMMa)$
UDC Branch Losses	Number	12,4		UDC's Branch Losses (MWh) in the trading interval based on final schedules – Sum of all branch losses for a UDC.
Control Area Branch Losses	Number	12,4		Sum of UDC branch losses (MWh) in the trading interval based on final schedules for the entire control area.
UDC UFE	Number	15,5		UDC's total UFE (MWh) for the interval (hour)
Settlement Amount	Number	11,4		UFE charge for the interval.

## 7.6 Trailer Record

This record is included to signal the end of the file as well as provide information to validate the file.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'Z'	Indicates the type of record
Record Count	Number			Number of records contained in the file including the header and trailer records

## 8 Zonal Market Clearing Prices File

The Zonal Market Clearing Prices File is a companion file issued with the Statement File. It contains the detail supporting data that are used to derive certain charges shown in the Statement File. These charges include Instructed Energy Settlement, Uninstructed Energy Settlement, Unaccounted For Energy Settlement, and No Pay Settlement.

There are different types of data records in this file. These include:

- Header – This is the first record of the file that provides the information such as the file type, trading date, and software version.
- Detail- Zonal Market Clearing Prices for a trading date.
- Trailer- File trailer record contains the record count

### 8.1 Header Record

This record will supply information which can be used to identify the contents of the file.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'H'	Indicates the type of record.
File Type	Varchar	2	'ZP'	Indicates the file is Zonal MCP price and can be viewed by all market participants
Statement Type	Varchar	1	'P', 'F'	Indicates the type of statement as either Preliminary (P) or Final (F).
Trading Date	Date			The specific trading date for which the statement is being created.
Software Version	Varchar	255		The software version for which the statement is being created.
Statement Version	Varchar	255		The statement format version for which the statement is being created.

### 8.2 Detail Record

This section provides the zonal Market Clearing Prices for both capacity and energy services.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'D'	Indicates the type of record.
Trading Date	Date			The trading date of the settlement.
Trading Hour	Number	2		The trading hour of the settlement.
Trading Interval	Number	2	0-6	For hourly records, this field is 0. For sub-hourly records, this is the interval ID (1 – 6).
Zone ID	Varchar	12		The zone to which this record applies.
Region ID	Number	3		The region to which this record applies: Congestion region ID for Energy price records;

				A/S Procurement region ID for A/S price records.
Market Type	Varchar	1	'D', 'H', 'E'	The market type associated with the price; Day-ahead (D), Hour-ahead (H), or Ex-post (E).
Price Type	Varchar	5	'S', 'N', 'R', 'AU', 'AD', 'EI', 'ED', 'E', 'C'	The price type associated with this record : Spin (S), Non-spin (N), Replacement Reserve (R), AGC/Regulation Up (AU), AGC/Regulation Down (AD), Incremental Energy (EI), Decremental Energy (ED), Hourly Expost Energy (E), and Shadow Congestion Price (C).
Price	Number	10,5		

### 8.3 Trailer Record

This record is included to signal the end of the file as well as provide information to validate the file.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'Z'	Indicates the type of record
Record Count	Number			Number of records contained in the file including the header and trailer records







**Appendix B: Matrix showing the populated data fields for the Manual Line Item records**

Charge Type ID	Charge Type Description	Charge Type	Adjustment ID	Affected Date	Trading Hour	Trading Interval	Billable Quantity	Price	Settlement Amount	Zone ID	Location ID	Interchange ID	Create Date	Reference ID*	Comment*
1	Day Ahead Spinning Reserve due SC	X	X	X	X	X	X	X	X	X	X	X	X		
2	Day Ahead Non-Spinning Reserve due SC	X	X	X	X	X	X	X	X	X	X	X	X		
3	Day Ahead AGC/Regulation due SC	X	X	X	X	X	X	X	X	X	X	X	X		
4	Day Ahead Replacement Reserve due SC	X	X	X	X	X	X	X	X	X	X	X	X		
5	Day Ahead Regulation Up due SC	X	X	X	X	X	X	X	X	X	X	X	X		
6	Day Ahead Regulation Down due SC	X	X	X	X	X	X	X	X	X	X	X	X		
51	Hour-Ahead Spinning Reserve due SC	X	X	X	X	X	X	X	X	X	X	X	X		
52	Hour-ahead Non-Spinning Reserve due SC	X	X	X	X	X	X	X	X	X	X	X	X		
53	Hour-Ahead AGC/Regulation Reserve due SC	X	X	X	X	X	X	X	X	X	X	X	X		
54	Hour-Ahead Replacement Reserve due SC	X	X	X	X	X	X	X	X	X	X	X	X		
55*	Hour Ahead AGC/Regulation Up due SC	X	X	X	X	X	X	X	X	X	X	X	X		
56*	Hour Ahead AGC/Regulation Down due SC	X	X	X	X	X	X	X	X	X	X	X	X		
61	Hour Ahead RMR Preemption of Spinning Reserve (HA Price)	X	X	X	X	X	X	X	X	X	X		X		
62	Hour Ahead RMR Preemption of Non-Spinning Reserve (HA Price)	X	X	X	X	X	X	X	X	X	X		X		
64	Hour Ahead RMR Preemption of Replacement Reserve (HA Price)	X	X	X	X	X	X	X	X	X	X		X		
65	Hour Ahead RMR Preemption of Regulation Up (HA Price)	X	X	X	X	X	X	X	X	X	X		X		
66	Hour Ahead RMR Preemption of Regulation Down (HA Price)	X	X	X	X	X	X	X	X	X	X		X		
71	Real Time RMR Preemption of Spinning Reserve (DA Price)	X	X	X	X	X	X	X	X	X	X		X		
72	Real Time RMR Preemption of Non-Spinning Reserve (DA Price)	X	X	X	X	X	X	X	X	X	X		X		
74	Real Time RMR Preemption of Replacement Reserve (DA Price)	X	X	X	X	X	X	X	X	X	X		X		
75	Real Time RMR Preemption of Regulation Up (DA Price)	X	X	X	X	X	X	X	X	X	X		X		
76	Real Time RMR Preemption of Regulation Down (DA Price)	X	X	X	X	X	X	X	X	X	X		X		
81	Real Time RMR Preemption of Spinning Reserve (HA Price)	X	X	X	X	X	X	X	X	X	X		X		
82	Real Time RMR Preemption of Non-Spinning Reserve (HA Price)	X	X	X	X	X	X	X	X	X	X		X		
84	Real Time RMR Preemption of Replacement Reserve (HA Price)	X	X	X	X	X	X	X	X	X	X		X		
85	Real Time RMR Preemption of Regulation Up (HA Price)	X	X	X	X	X	X	X	X	X	X		X		
86	Real Time RMR Preemption of Regulation Down (HA Price)	X	X	X	X	X	X	X	X	X	X		X		
101	Day Ahead Spinning Reserve due ISO	X	X	X	X	X	X	X	X	X			X		
102	Day Ahead Non-Spinning Reserve due ISO	X	X	X	X	X	X	X	X	X			X		
103	Day Ahead AGC/Regulation due ISO	X	X	X	X	X	X	X	X	X			X		
111	Spinning Reserve due ISO	X	X	X	X	X	X	X	X	X			X		
112	Non-Spinning Reserve due ISO	X	X	X	X	X	X	X	X	X			X		
114	Replacement Reserve due ISO	X	X	X	X	X	X	X	X	X			X		
115	Regulation Up due ISO	X	X	X	X	X	X	X	X	X			X		

Charge Type ID	Charge Type Description	Charge Type	Adjustment ID	Affected Date	Trading Hour	Trading Interval	Billable Quantity	Price	Settlement Amount	Zone ID	Location ID	Interchange ID	Create Date	Reference ID*	Comment*
116	Regulation Down due ISO	X	X	X	X	X	X	X	X	X			X		
130	Insufficient Energy in Response to ISO Instructions	X	X	X	X	X	X	X	X	X	X		X		
131	Reduction in Available Capacity due to Uninstructed Deviation due ISO	X	X	X	X	X	X	X	X	X	X		X		
151	Hour-Ahead Spinning Reserve due ISO	X	X	X	X	X	X	X	X	X			X		
152	Hour-Ahead Non-Spinning Reserve due ISO	X	X	X	X	X	X	X	X	X			X		
153	Hour-Ahead AGC/Regulation Reserve due ISO	X	X	X	X	X	X	X	X	X			X		
201	Day-Ahead Intra-Zonal Congestion Incs/Decs Settlement	X	X	X	X	X	X	X	X	X	X		X		
202	Day-Ahead Intra-Zonal Congestion Charge/Refund	X	X	X	X	X	X	X	X	X			X		
203	Day Ahead Inter-Zonal Congestion Settlement	X	X	X	X	X	X	X	X	X			X		
204	Day-Ahead Inter-Zonal Congestion Refund	X	X	X	X	X	X	X	X		X		X		
251	Hour-Ahead Intra-Zonal Congestion Incs/Decs Settlement	X	X	X	X	X	X	X	X	X	X		X		
252	Hour-Ahead Intra-Zonal Congestion Charge/Refund	X	X	X	X	X	X	X	X	X			X		
253	Hour-Ahead Inter-Zonal Congestion	X	X	X	X	X	X	X	X	X			X		
254	Hour-Ahead Inter-Zonal Congestion Refund	X	X	X	X	X	X	X	X		X		X		
301	Ex-Post A/S Energy due SC	X	X	X	X	X	X	X	X	X	X		X		
302	Ex-Post Supplemental Reactive Power due SC	X	X	X	X	X	X	X	X	X	X		X		
303	Ex-Post Replacement Reserve due ISO (dispatched)	X	X	X	X	X	X	X	X	X			X		
304	Ex-Post Replacement Reserve due ISO (undispatched)	X	X	X	X	X	X	X	X	X			X		
354	Monthly Grid Management Charge	X	X	X	X	X	X	X	X				X		
352	Wheeling Out/Wheeling Through	X	X	X	X	X	X	X	X		X	X	X		
354	Wheeling Refund due TO	X	X	X	X	X	X	X	X		X		X		
401	Instructed Energy	X	X	X	X	X	X	X	X	X	X		X		
402	Generation Deviation	X	X	X	X	X	X	X	X	X			X		
403	Load Deviation	X	X	X	X	X	X	X	X	X			X		
404	Export Deviation	X	X	X	X	X	X	X	X	X			X		
405	Import Deviation	X	X	X	X	X	X	X	X	X			X		
406	UFE Settlement	X	X	X	X	X	X	X	X	X			X		
410	Unscheduled RMR Energy	X	X	X	X	X	X	X	X	X					
451	Real-Time Intra-Zonal Congestion Incs/Decs Settlement	X	X	X	X	X	X	X	X	X	X		X		
452	Real-Time Intra-Zonal Congestion Charge/Refund	X	X	X	X	X	X	X	X	X			X		
502	Generation Deviation from Instructed Energy	X	X	X	X	X	X	X	X	X	X				
503	Load Deviation from Instructed Energy	X	X	X	X	X	X	X	X	X	X				
505	Import Deviation from Instructed Energy	X	X	X	X	X	X	X	X	X	X				
521	Unbundled GMC – Control Area Service Charge	X	X	X	X	X	X	X	X	X	X		X		
522	Unbundled GMC – Inter-Zonal Scheduling Charge	X	X	X	X	X	X	X	X		X	X	X		
523	Unbundled GMC – Market Operations Charge	X	X	X	X	X	X	X	X	X	X		X		
1011	Ancillary Service Rational Buyer Adjustment	X	X	X	X	X	X	X	X						
1012	RMR Preemption Revenue Allocation	X	X	X	X	X	X	X	X						

1030	No Pay Provision Market Refund	X	X	X	X	X	X	X	X	X						
1004	Overgeneration Payment Due SC	X	X	X	X	X	X	X	X	X		X		X		
<b>Charge Type ID</b>	<b>Charge Type Description</b>	<b>Charge Type</b>	<b>Adjustment ID</b>	<b>Affected Date</b>	<b>Trading Hour</b>	<b>Trading Interval</b>	<b>Billable Quantity</b>	<b>Price</b>	<b>Settlement Amount</b>	<b>Zone ID</b>	<b>Location ID</b>	<b>Interchange ID</b>	<b>Create Date</b>	<b>Reference ID*</b>	<b>Comment*</b>	
	1061	Distribution of Preempted Spinning Reserve	X	X	X	X	X	X	X				X			
	1062	Distribution of Preempted Non-Spinning Reserve	X	X	X	X	X	X	X				X			
	1064	Distribution of Preempted Replacement Reserve	X	X	X	X	X	X	X				X			
	1065	Distribution of Preempted Regulation Up	X	X	X	X	X	X	X				X			
	1066	Distribution of Preempted Regulation Down	X	X	X	X	X	X	X				X			
	1104	Overgeneration Payment Due ISO	X	X	X	X	X	X	X				X			
	1010	Per Unit Charges:														
		Neutrality Adjustments	X	X	X	X	X	X	X	X				X		
	1302	Supplemental Reactive Energy due ISO	X	X	X	X	X	X	X	X				X		
	1303	Long Term Voltage Support due ISO	X	X	X	X	X	X	X	X				X		
	1353	Black Start Energy due ISO	X	X	X	X	X	X	X	X				X		
	1999	Rounding Adjustment	X	X	X	X	X	X	X	X				X		

Notes:  
The Reference ID and Comment fields are optional and may be populated as appropriate.

**Appendix C: Revision Log (Changes made to Appendices A and B)**

Date	Charge Type	Revision Made
/13/1998	n/a	This document is delivered by vendor.
/16/1998	301	Uncheck Price field as a result of change in BEEP pricing method.
/20/1998	1,2,3,4,51,52,53,54	A/S FERC Cap change and individual inertia schedules - added columns
1/24/1998	All	Add a sheet to describe the required fields for Manual Line Item records.
2/4/1998	352	Add columns for individual inertia schedules.
2/7/1998	255	Add charge to matrix.
		Day Ahead Quantity = day-ahead total path utilization
		Hour Ahead Quantity = hour-ahead total path utilization
		Percent Owned = TO percentage
		Price = day-ahead path congestion price
2/7/1998	256	Add charge to matrix.
		Billable Quantity = SC utilization for path
		Day Ahead Allocation Amount = day-ahead total path utilization
		Hour-Ahead Allocation Amount = hour-ahead total path utilization
		Zonal Price = hour-ahead path congestion price
		Total Congestion Settlement = TO Debit settlement amount
		Total Charge/Refund = Total dollar to be recovered in charge type 256
		Price = unit price for SC
2/7/1998	n/a	Rename the following column headings:
		Day Ahead Load/Export --> Day Ahead Allocation Quantity
		Hour Ahead Load/Export --> Hour Ahead Allocation Quantity
2/14/1998	n/a	Rename the following column headings:
		Total Congestion Stmt --> Total Congestion Stmt / Debit
		Price for Zone --> Zonal / Path Price
		Total Measured Quantity --> Allocation Base
2/14/1998	256	Add column for charge
		Allocation Base = Total utilization for path with congestion flow for all 'SC's
/4/1999	n/a	Remove unused columns: GEN_IMP_DEV, LOAD_EXP_DEV and BA_UFE.
		Switch column order for "Total Forward Market Settlement" and "Total Forward Market Quantity" (to be consistent with statement file layout).
/25/1999	256	Shorten Charge Type name.
/3/1999	n/a	Rename Percent Owned --> Percent Entitlement
	354	Additional columns are populated for charge
		Total Load/Export = Total load and export wheeled out at the given location
		Total Charge/Refund Amt = Total amount collected due to Wheeling Charges at the given location
		The Percentage Entitlement column now contains the TO's percentage revenue requirement.
	256	Zone ID is now used to indicate the direction of the congestion.
/3/1999	n/a	Rename the following column headings:

		Percentage Exemption --> TO Percent Ownership/Percent Exemption
		NSP Repl Reserve Qty --> BA NSP/FTR Quantity
		Tot NSP Repl Reserve Qty --> Total NSP/FTR Quantity
	204, 254, 255	Additional columns are populated for given charges:
		TO Percentage Ownership/Percentage Exemption = TO's Percentage Ownership of the given path
		BA NSP/FTR Quantity = The Business Associate's FTR amount
		Total NSP/FTR Quantity = MW Rights of all FTRs for the given path
		Percentage Entitlement contains the TO's or FTR holder's percentage share of the congestion revenue.
/26/1999	n/a	Rename the following column headings:
		BA NSP/FTR Quantity --> Individual Allocation Quantity
		Total BA NSP/FTR Quantity --> Total Allocation Quantity
/26/1999	5, 6, 55, 56 130, 131	Add new charge types to matrix. These charges are created as a result of A/S redesign
		Charge Type 5 - DA Regulation Up due SC
		Charge Type 55 - HA Regulation Up due SC
		Charge Type 6 - DA Regulation Down due SC
		Charge Type 56 - HA Regulation Down due SC
		Charge Type 130 - No pay adjustment due to insufficient energy in response to dispatched instruction
		Charge Type 131 - No pay adjustment due to reduction in available capacity as a result of uninstructed deviation
	111, 112, 114, 115, 116	Add new charge types to matrix. These charges are created as a result of A/S redesign
		Charge Type 111 - Spin reserve due ISO replaces existing charge types of 101 and 151.
		Charge Type 112 - Non-spin reserve due ISO replaces existing charge types of 102 and 152.
		Charge Type 114 - Replacement reserve due ISO replaces existing charge types of 303 and 304.
		Charge Type 115 - Regulation Up due ISO neutralizes new charge types 5 and 55
		Charge Type 116 - Regulation Down due ISO neutralizes new charge types 6 and 56
	1011, 1030	Add new charge types to matrix. These charges are created as a result of A/S redesign
		Charge Type 1011 - Rational Buyer Ancillary Service Neutrality Adjustment
		Charge Type 1030 - No Pay Provision Neutrality Adjustment
	502, 503, 505	Add new charge types to matrix. These charges are created as a result of A/S redesign (Effective Price scheme)
		Price = Effective Price - Expost Price
		Bid Price = Effective Price
		Zonal/ Path Price = Expost Price
		Total Metered Quantity = metered quantity
		Hour Ahead Quantity = final hour-ahead schedule
		Operational Adjustment = Gadj, Ladj, or ladj as appropriate
		A/S & Supplemental Energy = Dispatched Ancillary Service Energy (Ga/s, La/s, or Ia/s)
/10/1999	1011, 1030	Change Charge Type name.
/12/1999	Manual Line Item Details	Add new charge types for A/S Redesign and mark the retiring charge types.
0/20/1999	204, 254, 255	The data field "Dayahead Allocation Quantity" is now populated.

/17/2000	61,62,64,65,66,71,72,74,75,76,81,82,83,84,85,86,410,1061,1062,1064,1065,1066	New charge types for RMR work item.  61 to 66 – HA RMR Preemption of Ancillary Services using HA price 71 to 76 – RT RMR Preemption of Ancillary Services using DA price 81 to 86 – RT RMR Preemption of Ancillary Services using HA price  1061 to 1066 – Distribution of Preempted Ancillary Services  410 – Unscheduled RMR Energy
/29/2000	407, 141, 142, 144	New charge types for 10-minute Settlement work item.  407 – Uninstructed Energy 141 – No Pay Charge - Spinning Reserve 142 – No Pay Charge - Non Spinning Reserve 144 – No Pay Charge - Replacement Reserve
	301	Modify Charge Name
	410	Remove check mark for Replacement Reserve Undispatch Qty field.
	1010	Add Charge Type (existing) for clarity.
	130, 131	Mark Charge Types as retired.
	402, 403, 404, 405	Mark Charge Types as retired.
	502, 503, 505	Mark Charge Types as retired.
/13/2000	141, 142, 144	Check Location ID column.
/5/2000	301	Restore the old definition for CT 301.
	401	Create new CT 401 for Instructed Energy (which was previously shown as CT 301).
/30/00	141, 142, 144	Mark Interchange ID as populated field.
<a href="#">0/30/00</a>	<a href="#">351</a>	<a href="#">Mark Charge Type as retired.</a>
<a href="#">0/30/00</a>	<a href="#">521</a>	<a href="#">Add Charge Type</a>
<a href="#">0/30/00</a>	<a href="#">522</a>	<a href="#">Add Charge Type</a>
<a href="#">0/30/00</a>	<a href="#">523</a>	<a href="#">Add Charge Type</a>