SIBR Interface Specification for Bidding Services

(Business Rules v 9.x(Fall 2017) or later)

Version: 12.3.1

October 12, 2017

Revision History

Date	Version	By	Description
10/12/2017	12.3.1	WT	Updated example for submitting EIM GHG 'CASupplyIndicator' version SIBR 20171001.
10/4/2017	12.3	WT	Minor change to v4 adding additional element for EIM GHG 'CASupplyIndicator' version SIBR 20171001.
9/15/2016	12.2	WT	Document clean up to remove old URL references with current URL references.
4/23/2015	12.1	WT	URL name changes (same locations)
4/8/2015	12	WT	Update for v4 for Fall 2015 with Year 1 EIM Enhancement (GHG hourly Bid) and Wheeling Resource (hourly). Added BSAP and EF matrix. See section 1.3 for a list of changes.
10/8/2014	11.5	WT	Minor edits and added reference examples for Wheeling differences between v2 and v3 services.
7/2/2014	11.4	WT	Updates for sample xml and correction to data elements regarding Transaction based bids. Added BSAP endpoints for BaseSchedule.
6/3/2014	11.3	WT	Updates to the CB artifacts and Base Schedule artifacts.
5/8/2014	11.2	WT	Update based on newest design schema changes. Updated section 1.3 with these changes. (Base Schedule, Base Schedule Results)
3/31/2014	11.1	WT	Update based on newest design schema changes. Updated section 1.3 with these changes. (Base Schedule, Bid Results)
2/27/2014	11.0	WT	Initial Draft for Fall 2014 Web Service changes.

			EIM and Scheduling Point submission changes. **See section 1.3**
2/20/2014	10.4	WT	Added sample Request xml for Energy Forecast per method and for bid retrieval per method.
1/23/2014	10.3	WT	Added Enumeration values for the Bid Option. Seperated the submitRawBid BidResults and CleanBidSet for both v1 and v2 versions for clarity. Moved table for Energy Product with Self-Schedule to come after the SubmitRawBid Element tables. Added Appendices for xml examples for submitting Bids / EnergyForecast.
12/17/2013	10.2	WT/	Updated to return the Ramp Rate attribute and elements to the xsds for RawBid, CurrentBid and CleanBid.
11/22/2013	10.1	WT/	Removed 'Draft' language, and updated order for attributes and elements (alphabetical).
10/28/2013	10	WT/	Update Clean Bid, Bid Results, and Raw Bid for new elements to show the . Dispatch Options for FERC 764, Capacity Limit at plant level and introduced new Energy Forecasting submission and requests. Removed deprecated services for CleanBid,BidResults, and RawBid. Also removed Ramp Rate bid components.
1/17/2013	9.2	WT/	Update Section 2.9.1 and 3.22.1 for content related to the Opportunity Cost in the Regulation Component. (y2AxisData)
1/14/2013	9.1	WT/	Update Section 1.3 for content related to the Opportunity Cost in the Regulation Component.
12/11/2012	9	WT/	Update Clean Bid, Bid Results, and Raw Bid for new element to show the Opportunity Cost. Removed deprecated services for CleanBid,BidResults, and RawBid.
12/08/2011	8	WT/	Update Clean Bid, Bid Results, and Raw Bid for new element to show the Charge Limit Component. Removed deprecated services for CleanBid,BidResults, and RawBid.

7/1/2011	7	WT/	Update Clean Bid and Bid Results for new element to show the Open Tie Status. Removed deprecated services for CleanBid and BidResults.
2/1/2011	6.2	WT/	Update to bidCreditStatus pg. 96.
6/11/2010	6.1	WT/	Update to bidStatus and bidCreditStatus pg. 96.
3/25/2010	6	WT/	DRAFT version for the CB related web services.
3/1/2010	5	WT/	DRAFT version for the MSG related web services.
2/19/2010	4	WT/	Updated to include all supported versions of the web services related to SIBR. (Go-live and SCP)
9/22/09	3.2	WT/	This is Final, changed from DRAFT state.
9/22/09	3.1	WT/	Modified Namespace for RawBidSet, BidResults, and CleanBidSet XSD and associated WSDLs (versioning in namespace)
9/14/09	3	WT/	New Namespace for RawBidSet, BidResults, and CleanBidSet XSD and associated WSDLs Added Capacity Limit, and Capacity Limit Ind
10/14/08	2.3	WT/	New Namespace for RawBidSet, BidResults, and CleanBidSet XSD and associated WSDLs Added Bid Status' "S" and "SO"
10/1/08	2.2	WT/ DC	New Namespace for RawBidSet, BidResults, and CleanBidSet XSD and associated WSDLs Enumeration added for 'RMT' ReferenceType Removed ETP/TOP SelfSchedule Types Updated Contingency Flag Element Description
9/11/08	2.1.1	WT/ DC	Updates to the Element tables associated with the RawBidSet. Bid Limit notation added for the SIBR application, not specific to any XSD limit. BidResults.xsd [Added escape character to pattern for BidPriceCurve/CurveScheduleDatas/y1AxisData
9/11/08	2.1.2	WT	Updated namespace for retrieveCurrentBidResults.wsdl and retrieveCleanBidSet.wsdl
8/19/08	2.1	WT	Update to: (these can only be used with SIBR BR set 3.9.14.3 or higher (SIBR CR4+ release) submitRawBidSet.wsdl RawBidSet.xsd

			retrieveCurrentBidResults.wsdl retrieveCurrentBidResults_DocAttach.wsdl RequestBidResults.xsd BidResults.xsd retrieveCleanBidSet.wsdl retrieveCleanBidSetDocAttach.wsdl RequestCleanBidSet.xsd CleanBidSet.xsd Element data and example xml files updated with new versions. All xml examples for bid submission and retrieves will be placed into a reference file separate from this specification. It will be enhanced to include more examples and specific products in relation to schedule types.
4/2/08	1.9.2	WT	Update to Submit Raw Bid Set Element table, Example RawBidSet.xml files, WSDL retrieveCleanBidSet.wsdl, RequestCleanBidSet.xsd, CleanBidSet,xsd, Example CleanBidSet.xml, Example BidResults.xml
2/29/08	1.9.1	WT	Added comment to “IFM” Self-Sched Type in the CleanBidSet.xsd for internal use SIBR -> RTM
1/25/08	1.9	WT	Added Section 1.3 for Release notes for xsd wsdl changes Updated BidResults.xsd, RawBidSet.xsd, CleanBidSet.xsd,
11/20/07	1.8	WT	Updated for IMS Update 2, WSDL and XSD changes.
10/18/07	1.7	WT	This version provided for IMS R3 Update 1 posting. SIBR BR (3.9.11.5)
9/28/07	1.6	WT	Updated date formats in examples for RTM and GMT offsets that were not correct.
8/29/07	1.5	WT	Updated LOF, LFD/U information in examples
7/20/07	1.4	WT	Added some clarity to bidding ProdType – SSType, and RetrieveCleanBid, RetrieveCurrentBidResult Web service
2/23/07	1.3	WT	Updated for Release 5 WSDLs and XSDs (see Appendix – Changes to XSD Files – ver 1.3)
12/20/06	1.2	DC	Updated for Release 4 WSDLs and XSDs (see Appendix - Changes to XSD Files – ver 1.2)
6/30/06	1.1	PM VM	Updated for Release 3 WSDLs and XSDs (see Appendix – Changes to XSD Files – ver 1.1).
5/31/06	1.0	PM	1st released version.

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1 Introduction

1.1 *Purpose*

This document describes the Market Participant interface to CAISO's Nodal Market Bidding Services. It provides the WSDL, XSD, and XML information required by application programmers to create and send messages and to process response messages.

1.2 *Contact Information*

For any questions regarding this document or technical questions related to integrating applications with CAISO's Nodal Market web services, please send email to wtamblyn@caiso.com or dcerillo@caiso.com

1.3 *Release Notes for Web Services version 12*

Note: This single document will be used for both the Physical Bids,Convergence Bids and also the Energy Forecast the Base Schedules are removed as they have there own Technical Specification.

Only two versions of a web service will be supported at a given time. All services will either have a namespace of v1, v2 vX etc… the most recent service will be the next incremental version, there could be minor version changes which will be indicated by the date such as 20151001. The version element within the schema will define which release it is associated with.

Previous Technical Specifications may be requested if needed by contacting the individuals listed above.

Version 12.3 changes include EIM Green House Gas (GHG) additional element. These changes impacted all the SIBR bid submission and retrieval services (submitRawBid, retrieveCurrentBid, retrieveCleanBid.

There are no changes to Convergence Bid, Trades, or Energy Forecast web services for Fall 2017.

1.4 *Namespace Matrix for Web Services*

The sections below provide a matrix for Bidding, Convergence Bids, Energy Forecast and Base Schedules. Currently there is only 1 service for Energy Forecast and Base Schedules.

1.4.1 Namespace Matrix for Bidding Services

Supported Bidding services are v3 and v4 starting in Fall 2017.

TargetNamespace (wsdl)	Xmlns (xsd)
/submitRawBidSet_v4.wsdl	/RawBidSet_v4.xsd
	2008-05-21/RequestBidResults.xsd
	2006-06-13/StandardAttachmentInfor.xsd
	2006-06-13/StandardOutput.xsd
/retrieveCurrentBidResults_v4.wsdl	/BidResult_v4.xsd
	2008-05-21/RequestBidResults.xsd
	2006-06-13/StandardAttachmentInfor.xsd
	2006-06-13/StandardOutput.xsd
/retrieveCleanBidSet_v4.wsdl	/CleanBidSet_v4.xsd
	2008-05-21/RequestCleanBidSet.xsd
	2006-06-13/StandardAttachmentInfor.xsd
	2006-06-13/StandardOutput.xsd

Supported web services in addition to the new version.

TargetNamespace (wsdl)	Xmlns (xsd)
/submitRawBidSet_v3.wsdl	/RawBidSet_v3.xsd
	2008-05-21/RequestBidResults.xsd
	2006-06-13/StandardAttachmentInfor.xsd
	2006-06-13/StandardOutput.xsd

/retrieveCurrentBidResults_v3.wsdl	/BidResult_v3.xsd
	2008-05-21/RequestBidResults.xsd
	2006-06-13/StandardAttachmentInfor.xsd
	2006-06-13/StandardOutput.xsd
/retrieveCleanBidSet_v3.wsdl	/CleanBidSet_v3.xsd
	2008-05-21/RequestCleanBidSet.xsd
	2006-06-13/StandardAttachmentInfor.xsd
	2006-06-13/StandardOutput.xsd

The following Bid web services will no longer be supported (deprecated) when the Fall 2017 version is released. (N/A for this release)

TargetNamespace (version)
N/A submitRawBidSet
N/A BidResults
N/A CleanBidSet

1.4.2 Namespace Matrix for Convergence Bids (CB)

To be used in conjunction with the CB elements for Convergence Bids. Since there are only 2 existing versions of the services there will be no deprecated services for CB web services.

TargetNamespace (wsdl)	Xmlns (xsd)
2010-03-01/submitCBRawBidSet_v20100301.wsdl	2010-03-01/CB_RawBidSet_v20100301xsd
	2006-06-13/StandardAttachmentInfor.xsd
	2010-03-01/SubmitStandardOutput_v20100301.xsd
	2006-06-13/StandardOutput.xsd
2010-03-01//retrieveCBCurrentBidResults_v20100301	2010-03-01/CB_BidResult_v20100301.xsd
	2010-03-01/RequestCBBidResults.xsd
	2006-06-13/StandardAttachmentInfor.xsd
	2006-06-13/StandardOutput.xsd
2010-03-01/retrieveCBCleanBidSet_v20100301.wsdl	2010-03-01/CB_CleanBid_v20100301.xsd
	2010-03-01/RequestCBCleanBidSet.xsd
	2006-06-13/StandardAttachmentInfor.xsd
	2006-06-13/StandardOutput.xsd

TargetNamespace (wsdl)	Xmlns (xsd)
/submitCBRawBidSet_v1.wsdl	/CB_RawBidSet_v1xsd
	2006-06-13/StandardAttachmentInfor.xsd
	/SubmitStandardOutput_v1.xsd
	2006-06-13/StandardOutput.xsd
/retrieveCBCurrentBidResults_v1	/CB_BidResult_v1.xsd
	2010-03-01//RequestCBBidResults.xsd
	2006-06-13/StandardAttachmentInfor.xsd
	2006-06-13/StandardOutput.xsd
/retrieveCBCleanBidSet_v1.wsdl	/CB_CleanBid_v1.xsd
	2010-03-01//RequestCBCleanBidSet.xsd
	2006-06-13/StandardAttachmentInfor.xsd

	2006-06-13/StandardOutput.xsd

1.4.3 Namespace Matrix for Energy Forecast (EF)

To be used in conjunction with the Energy Forecast services (EF). Since there is only 1 version of these services there will be no deprecated services. EF does not have a Market Close so there will be no 'Clean' services for EF. A retrieve will show what was used for the 5 minute data sent to the market application.

TargetNamespace (wsdl)	Xmlns (xsd)
submitSCVERForecast_v1.wsdl	ExternalEnergyForecast_v1.xsd
	2006-06-13/StandardAttachmentInfor.xsd
	2006-06-13/SubmitStandardOutput.xsd
	2006-06-13/StandardOutput.xsd
retrieveSCVERForecast_v1.wsdl	
	RequestEnergyForecast_v1.xsd#
	2006-06-13/StandardAttachmentInfor.xsd
	2006-06-13/StandardOutput.xsd

1.5 *SIBR End Points*

Please refer to the System Access Information for Market Participants document that is posted at the below location:

http://www.caiso.com/Documents/SystemAccessInformation_MarketParticipants.pdf

1.6 *Related Documents*

CAISO's Nodal Market has produced a set of documents describing its web services architecture and associated interfaces to the Bidding, Market Results, and Sandbox Services. Market

Participants and their application programmers should read this document to gain an overall understanding of CASIO's web services architecture prior to reading any of the detailed documents shown below.

The CAISO Web Services Interface Specification Document Set is available online at the locations indicated below.

Doc. No.	Document Name	Location
1	B2B Security Specification	Must have a valid certificate to retrieve from the Market Participant Portal (MPP). https://mpp.caiso.com/Information%20Security/ISO%20B2B%20Security%20Specification.pdf
2	ISO System Access and Security Information	http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx
3	SIBR Technical Specifications located in : Scheduling Infrastructure Business Rules (SIBR) – Bidding	http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx

2 Submit Raw Bid (includes CB)

2.1 *Business Scenario*

Scheduling Coordinators submit bid data, trading and scheduling activity data on behalf of market participants who wish to participate in the CAISO Day Ahead, Real Time, and Convergence Bidding markets. SIBR also supports the Energy Forecast Submission and Base Self-Schedule submissions. While some Scheduling Coordinators submit their bid data through the SIBR portal manually, most Scheduling Coordinators submit their bid data in batch mode through an automated process.

To meet the needs for submission of raw bid data from Scheduling Coordinators, two processes can be followed for manual and batch mode, respectively:

1) Portal Process

   In this process the submission is made via a CAISO Web Portal. Scheduling Coordinators submit bid data through the portal automatically using a proxy application implemented at the portal. The proxy will send the data to SIBR for submission. Using the SIBR portal, Scheduling Coordinators can upload XML files, submit bids, and submit bids via portfolios, which is a collection of bids created by the user and saved for submittal at a later time.

2) Direct Link Process

   In this case, a Scheduling Coordinator directly invokes the submitRawBidSet service or the submitCBRawBidSet service that resides in CAISO domain using a security mechanism. This process involves submitting raw bid xml payloads via the CAISO web service interface, but does not preclude the use of a client application for automating the process of invoking the web service

   The direct link can only be established if a Scheduling Coordinator application knows the concrete information to invoke the SIBR raw bid submit Web services. Since a Scheduling Coordinator application is usually outside of the CAISO firewall, a certain security mechanism shall be implemented for the process. The Scheduling Coordinator applications shall be also responsible for an XML validation prior to a data submission.

2.2 *Service Level Agreement*

The following service level agreement defines the business and technical requirements for service availability and performance.

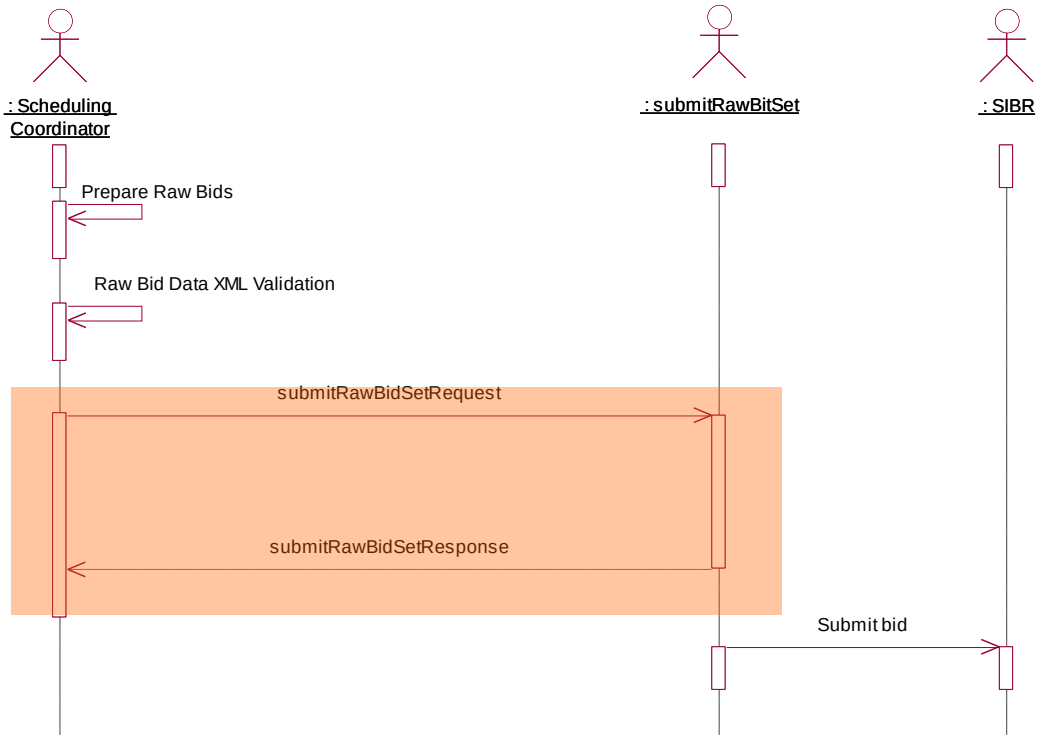
Service availability	Service level goal is 99.9%.
Expected size of payload (average and maximum)	(AVG # of bids) to (500+ maximum bids) times size of one bid.
Expected frequency (average and maximum)	At least once an hour per Schedule Coordinator utilizing the service for RTM, and several times prior to DAM closing 10:00 AM per SC.
Longest time the service can be unavailable before business is impacted	[to be determined]
Business impact if is unavailable	Schedule Coordinators utilizing the service may not complete submitting all their bids
Expected response time for the service	[to be determined]
Expected time to exchange	[to be determined]

2.3 *Use Model*

The sequence diagram below describes the service interactions between Scheduling Coordinators and SIBR system in a direct link submission process. The data exchange follows CAISO SOA Submit messaging pattern. In this pattern, the data source system is the Scheduling Coordinator who initiates a data transaction by invoking a submitRawBidSet service provided by SIBR. The consumer of the Web service is Scheduling Coordinator or a Web portal. The consumer makes request to SIBR with raw bid data by invoking the submit Web service. The SIBR system is the provider of the Web service.

The following steps are involved in the submission process:

1) Scheduling Coordinator has the raw bid data set ready in XML format
2) Scheduling Coordinator validates the data set based on the XML schema
3) Scheduling Coordinator invokes the submitRawBidSet Web service or the submitCBRawBidSet Web service directly to send a request to SIBR with the raw bid data set
4) SIBR returns an acknowledge message back to Scheduling Coordinator.



2.4 *Operation Details*

The Physical bid service has one operation with three message types. All input and output messages are in XML format.

Operation	Message Types	Message	WSDL	XSD
submitRawBidSet	Input	SubmitRawBidSet Request	submitRawBidSet_v3.wsdl submitRawBidSet_v4.wsdl	RawBidSet_v3.xsd RawBidSet_v4.xsd
	Output	SubmitRawBidSet Response		SubmitStandardOutput.xsd
	Fault	faultReturnType		StandardOutput.xsd

The Convergence Bid service has one operation with three message types. All input and output messages are in XML format

Operation	Message Types	Message	WSDL	XSD

submitCBRawBidSet	Input	SubmitCBRawBidSet Request	submitCBRawBidSet_v20100301.wsdl submitCBRawBidSet_v1.wsdl	CB_RawBidSet_v20100301.xsd CB_RawBidSet_v1.xsd
	Output	SubmitCBRawBidSet Response		SubmitStandardOutput_v20100301.xsd
	Fault	faultReturnType		StandardOutput.xsd

2.5 *WSDL (submitRawBidSet_v4.wsdl) (this has version 20171001 –used with EIM Enhancements GHG CASupply Flag)*

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references. Pre Production Release date
http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx

2.6 *WSDL* (submitRawBidSet_v3.wsdl) (this has version 20141001)

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx

2.7 *WSDL* (submitCBRawBidSet_v1.wsdl) (CB)

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx WSDL *(submitCBRawBidSet_v1.wsdl) (CB) (this has version 20141001 – this version has changes to align with new CIM schema generation to be consistent with the RawBidSet)* **(not supported for FALL 2014 release.)**

2.8 *WSDL* (submitCBRawBidSet_v20100301.wsdl) (CB)

This is the current supported version

2.9 *http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx Date Time Data Type Format*

The dateTime data type is used to specify a date and a time on the SIBR web services.

The dateTime is specified in the following form "YYYY-MM-DDThh:mm:ss"
where:

YYYY indicates the year
MM indicates the month
DD indicates the day
T indicates the start of the required time section
hh indicates the hour
mm indicates the minute
ss indicates the second

Note: All components are required.

To specify a time zone, you can either enter a dateTime in Universal Time Coordinate (UTC) time by adding a "Z" behind the time, for example:

<startdate>2002-05-30T07:00:00Z</startdate>

Or

<startTime>2011-03-14T07:00:00.000-00:00</startTime>
<stopTime>2011-03-15T07:00:00.000-00:00</stopTime>
<marketType>DAM</marketType>

or you can specify an offset from the UTC time by adding a positive or negative time behind the time, for example:

With 7 hour off-set for PDT
<startTime>2011-03-14T00:00:00.000-07:00</startTime>
<stopTime>2011-03-15T00:00:00.000-07:00</stopTime>
<marketType>DAM</marketType>

<BidSchedule> (same logic applies to the timeIntervalStart and End).
<timeIntervalStart>2011-05-14T07:00:00.000-00:00</timeIntervalStart>
<timeIntervalEnd>2011-05-15T07:00:00.000-00:00</timeIntervalEnd>

Or an offset can be applied

With 8 hour off-set for PST.
<startTime>2011-12-14T00:00:00.000-08:00</startTime>
<stopTime>2011-12-15T00:00:00.000-08:00</stopTime>
<marketType>DAM</marketType>

Offset of the UTC time is useful when coordinating Daylight Saving Time (DST) changes.

2.10 Standard Attachment Information

The attachment information schema, StandardAttachmentInfor.xsd, is used to provide general information for an SOAP attachment. The root element in the schema is *standardAttachmentInfor*, which can contain one or more attachment elements.

2.10.1 Element table

Element	Data Description	Type	Req'd
id	Globally unique identifier.	string	No
name	Attachment filename.	string	No
description	Description of attachment.	string	No
version	Version ID of attachment file	string	No
sequenceNumber	Sequence number if there are multiple attachments.	string	No

Element	Data Description	Type	Req'd
type	Attachment file type, such as zip or jpeg.	string	No
size	Size of attachment file.	string	No
source	Source of attachment file.	string	No
tool	Tool used to generate attachment.	string	No
creationTime	Time attachment file was created.	dateTime	No
compressFlag	Indicates whether or not attachment has been compressed (YES or NO).	string	No
compressMethod	Compress method used (if attachment file compressed).	string	No
AttributeList.Sequence	Attribute list sequence number.	string	No
AttributeList.Name	Name of an attribute	string	No
AttributeList.Value	Value of an attribute	string	No

2.10.2 Schema (StandardAttachmentInfor.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx
http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Convergence Bidding under Current Initiatives)

2.10.3 Example XML File (StandardAttachmentInfor.xml)

```
<?xml version="1.0" encoding="UTF-8" ?>
<!--
Sample XML file generated by XMLSpy v2006 U (http://www.altova.com)
-->
<standardAttachmentInfor xmlns="http://www.caiso.com/soa/2006-06-
   13/StandardAttachmentInfor.xsd"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.caiso.com/soa/2006-06-
   13/StandardAttachmentInfor.xsd">
   <Attachment>
      <id> 15798563(assigned by SIBR)</id>
      <name>GWED_11</name>
      <description>BID_ATTACHEMENT</description>
      <version>1.1</version>
      <sequenceNumber>12</sequenceNumber>
      <type>ZIP</type>
      <size>180</size>
      <source>GWED</source>
      <tool>GZIP</tool>
      <creationTime>2006-06-17T09:30:47.0Z</creationTime>
```

```
    <compressFlag>yes</compressFlag>
    <compressMethod>ZIP</compressMethod>
    <AttributeList>
      <Sequence>2</Sequence>
      <Name>GWED</Name>
      <Value>1</Value>
    </AttributeList>
  </Attachment>
</standardAttachmentInfor>
```

2.11 SubmitRawBidSet

2.11.1 Element Table (v3 service existing service to encorporate the FNM changes.)

Element	Data Description	Type	Req'd
Message Header (header is optional)			
TimeDate	The dateTime, in GMT, when the payload is published.	dateTime	Yes
Source	The source of published data.	String	Yes
Version	Defined version for the xsd. Default is defined as: 'v20141001' for v3.	String	Yes
IncPayloadFlag	(these elements will not be utilized in SIBR, they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	Yes/No	No
lastBroadcasted	(these elements will not be utilized in SIBR) they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	dateTime	No
BroadcastSequenceNum	(these elements will not be utilized in SIBR) they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	integer	No
Message Payload			
GeneratingBid			
description	Description of generating bid. (1-32 characters)	string	No
mrid	Unique identifier for transaction – *not used in submission, this identifier is returned in the response file for bids submitted through the API.*	String	No
name	Unique name for generating bid. (1-32 characters)	string	No
marketType	The market type, DAM or RTM.	String	Yes
startTime	Start time and date of the trading period for which bid applies.	dateTime	Yes
stopTime	Stop time and date of the trading period for which bid applies.	dateTime	Yes

Element	Data Description	Type	Req'd
HourlyParameters.biddableCapacityLimit	This is a MW quantity that limits the capacity to be used during optimization. SIBR rules inforce submitted quantity, if none submitted default will be used.	String	No
HourlyParameters.biddableCapacityLimitType	Enumerations are: GEN_CAPACITY_LIMIT (used for Generators and NGR resources under Gen condition) LOAD_CAPACITY_LIMIT (used for **NGR** resources in Load Condition)	String	No
HourlyParameters.resourceBidOption *RTM Only* *Note: Bid Option is for TG (Tie-Gen) in GeneratingBid* *Resources registered with Hourly flag must use Hourly or Once.* *Resources registered as Dynamic must use Dynamic.*	If no data is submitted, the default will be used. **For Real Time Market only:** Valid values are: HOURLY (default for Hourly Pre-dispatch) ONCE 15MIN (default for non-Hourly Pre-dispatch) DYNAMIC (default for Dynamic resources)	String	No
HourlyParameters.timeIntervalEnd	End of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
HourlyParameters.timeIntervalStart	Start of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.BidDistributionFactor	This element is only applicable to Aggregate resource submitting a GDF.	string	No
ProductBid.BidDistributionFactor.description	Description of Bid Distribution Factor. (1-32 characters)	string	No
ProductBid.BidDistributionFactor.timeIntervalEnd	End of the time interval of the operating hour for which the GDF applies. The start and end time must be aligned with the start and end time specified for the Energy Bid.	dateTime	Yes
ProductBid.BidDistributionFactor.timeIntervalStart	Start of the time interval of the operating hour for which the GDF applies. The start and end time must be aligned with the start and end time specified for the Energy Bid.	dateTime	Yes
ProductBid.BidDistributionFactor.PnodeDistributionFactor	Required element if Distribution Factor is included in the bid.		Yes

Element	Data Description	Type	Req'd
ProductBid.BidDistributionFactor. PnodeDistributionFactor.factor	Used to calculate "participation" of Pnode in an AggregatePnode. For example, for regulation region this factor is 1 and total sum of all factors for a specific regulation region does not have to be 1. For pricing zone the total sum of all factors has to value must be => 0 and <= 1	float	Yes
ProductBid.BidDistributionFactor. PnodeDistributionFactor. IndividualPnode.mrid	Individual Pnode name (1-32 characters) (these are CNODE names associated with the aggregate resource to determine which set will be used for the aggregate to determine the distribution factor.	String	Yes
ProductBid.BidSchedule	Energy Bid Component is optional.	string	No
ProductBid.BidSchedule. description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule. timeIntervalEnd	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSchedule. timeIntervalStart	Start of the time interval for the operating hour for the which the bid is being submitted.	dateTime	Yes
ProductBid.BidSchedule. BidPriceCurve	Used when submitting an Economic Bid for a resource.		No
ProductBid.BidSchedule. BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule. BidPriceCurve.mrid	Unique identifier for price curve	String	No
ProductBid.BidSchedule. BidPriceCurve.CurveScheduleDatasCurveScheduleDatas.xAxisData	The MW value specified on the price curve. Or MW AS Capacity for AS.	float	No Yes for EN and AS
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatasCurveScheduleDatas. y1AxisData	The dollar ($) value specified on the price curve.. A price curve segment consist of both the Mw value and the dollar value. Pattern value = [-+]?[\d]+\.?\d?\d?	float	Yes
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatasCurveScheduleDatas. y2AxisData	The Opportunity Cost associated with Regulation (both RU and RD).	float	No Yes for RU RD
ProductBid.BidSelfSched	Self Schedule Bid Component is optional.		No
ProductBid.BidSelfSched. description	Description of Bid Self Sched. (1-32 characters)	string	No
ProductBid.BidSelfSched. timeIntervalEnd	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes

Element	Data Description	Type	Req'd
ProductBid.BidSelfSched. timeIntervalStart	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSelfSched. pumpSelfSchedMw	Pumping self schedule quantity. If this value is not null, then the unit is considered to be in pumping mode.	Float	No
ProductBid.BidSelfSched. selfSchedMw	MW value for the specified Self Schedule Product Types other than Pumping Self Schedule Type (PT, ETC, TOR, LSS, GSS, LSG or LSS.	float	No
ProductBid.BidSelfSched.selfSchedSptResource	Generating Resource named in the PT Export that supplies non-RA energy for Export.	String	No
ProductBid.BidSelfSched.wheelingTransactionReference	A unique identifier of a Wheeling Transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources (Resources must be registered with an Energy Type of "WHL" in order to submit a Wheeling Transaction. All Wheeling Transactions must be accompanied by either an Energy Bid or Self-Schedule [PT, LPT, ETC, TOR]) (For v3 service this element is ignored, wheeling in v3 service uses the WheelingResource element. Due to the CIM this is retained beause it is used in the retrieves to be backward compatible to be able to use the v3 retrieve and pull back bids submitted with v2 services or through UI.	String	No
ProductBid.BidSelfSched. ContractRight	Required for Self Schedule type ETC, TOR, RMT		No
ProductBid.BidSelfSched. ContractRight.description	Description of Contrac tRight. (1-32 characters)	string	No
ProductBid.BidSelfSched. ContractRight.mrid	Contract Reference Name (CRN) (1-32 characters)	string	Yes
ProductBid.MarketProduct. description	Description of Market Product. (1-32 characters)	string	No

Element	Data Description	Type	Req'd
ProductBid.MarketProduct. marketProductType *RC product is for DAM bids only.*	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment RMU - Regulation Mileage Up (v1 only) RMD - Regulation Mileage Down (v1 only) LFU – Load Following Up LFD – Load Following Down Please refer to section 2.11 for appropriate combination of Product Type and SelfSchedule Type	string	Yes
ProductBid.MarketProduct. selfSchedType *LSG is for LSG resource only* *LPT is export only* *RA is not recognized on submitted bids. (This would be a returned value in a retrieve for an Import that has RA.)*	Self schedule bid contract type. Valid values are: PT – Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take SP – Self Provision (AS only) LOF – Lay Off Self Schedule WHL – Wheeling Transaction LSG – Load Serving Generator (Partial QF initiative) RA – Resource Adequacy (not a submitted element) LPT – Lower Price Taker (Export only)IFM – DA AS for RTM (not a submitted element) GSS – Generating Self Schedule (NGR) (future use, currently not recognized) LSS – Load Self Schedule (NGR) (future use)	string	No
ProductBid.UnitSchedule	Needed when submitting Pumping Level, Pumping Cost, Pumping Shutdown Cost		No

Element	Data Description	Type	Req'd
ProductBid.UnitSchedule. parameterID *NERC_TAG and SCHEDULING_POINT are reserved for future use and serve no functional use at this time. These would be for Intertie bids.*	Parameter ID. Valid values are: PUMPING_LEVEL PUMPING_COST PUMPING_SHUTDOWN_COST NERC_TAG SCHEDULING_POINT	string	Yes
ProductBid.UnitSchedule. parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO. This should be used if the parameter type is STRING	string	No
ProductBid.UnitSchedule. parameterType	Indication of the type of parameter being defined (STRING or FLOAT) which should be used in conjunction with the parameterID chosen. PUMPING_LEVEL (FLOAT) PUMPING_COST (FLOAT) PUMPING_SHUTDOWN_COST (FLOAT)	string	Yes
ProductBid.UnitSchedule. parameterValue	Parameter value to be used with associated parameterType which replaces corresponding default values from input bid data. This 29hould be used if the parameter type is FLOAT	float	No
ProductBid.UnitSchedule. timeIntervalEnd	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.UnitSchedule. timeIntervalStart	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
SchedulingCoordinator.mrid	Scheduling Coordinator Identifier. (1-32 characters)	string	Yes
contingencyAvailFlag *DAM bids only* *required when submitting Day Ahead Ancillary Service bid** *Note for MSG, this flag needs to be on all configurations and must be consistent (it is validated at the resource level).*	Contingent operating reserve availiability. Valid value = YES or NO. Resource is available to participate with capacity only in contingency dispatch.	YesNo	No Yes*
energyMaxDay *DAM bids only*	Maximum amount of energy per day which can be produced during the trading period in MWh.	Float	No

Element	Data Description	Type	Req'd
energyMinDay *DAM bids only*	Minimum amount of energy per day which has to be produced during the trading period in MWh.	Float	No
curtailmentEnergyLimit	Maximum energy (MWh) left can be curtailed for the Dispatchable Demand Resource (this element is a place-holder for future use)	Float	No
greenHouseGasAdder *This is a **daily** value. If provided in DAM bid, RTM bids will use the curve from the DAM Clean Bid where the adder was applied.*	Green House Gas adder for EIM participating resources.	Float	No
lowerChargeLimit	Lowest stored energy (MWh) that should be maintained in the LESR device	Float	No
noLoadCost	Resource fixed no load cost.	Float	No
startUpRampTime	Start Up Ramp Time	Float	No Yes if used with MSG
stateOfCharge	Actual stored Energy (MWh) that should be allowed in the LESR device (this element is a place-holder for future use)	Float	No
upperChargeLimit	Highest stored energy (MWh) that should be allowed in the LESR device	Float	No
RampRateCurve	Curve for Ramp (based on type of Ramp)		No
RampRateCurve.description	Description of the object.		No
RampRateCurve.CurveScheduleDatas.	The data point values for a Ramp Curve		No
RampRateCurve.CurveScheduleDatas.xAxisData	Operational Level	Float	No Yes if Ramp data is supplied
RampRateCurve.CurveScheduleDatas.y1AxisData	Ramp Rate	Float	No Yes if Ramp data is supplied

Element	Data Description	Type	Req'd
RampRateCurve.rampRateType	Type of Ramp, Operational, Operating Reserve or for Regulation. Enumerations: (**OP, OP_RES, REG**.) Not currently used: INTERTIE, LD_DROP, LD_PICKUP	String	No Yes if Ramp data is supplied
RegisteredGenerator.mrid	Name of the registered Generating Resource(1-32 characters)	string	Yes
RegisteredGenerator.Configuration	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate.	string	No Yes if used with MSG
RegisteredGenerator.Configuration.mrid	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate.	string	No Yes if used with MSG
StartUpCostCurve			No
StartUpCostCurve.description	Description of Start Up Cost Curve. (1-32 characters)	string	No
StartUpCostCurve.CurveSchedDatas.xAxisData	The data value of the X-axis variable is represented as Cooling time in minutes.	float	Yes
StartUpCostCurve.CurveSchedDatas.y1AxisData	The data value of the Y-axis variable, is represented as the Cost ($) value.	float	Yes
StartUpTimeCurve			No
StartUpTimeCurve.description	Description of Start Up Time Curve. (1-32 characters)	string	No
StartUpTimeCurve.CurveSchedDatas.xAxisData	The data value of the X-axis variable is represented as Cooling time in minutes.	float	Yes
StartUpTimeCurve.CurveSchedDatas.y1AxisData	The data value of the Y-axis variable is represented as Startup time in minutes	float	Yes
Transition			
Transition.notificationTime *MSG bids only*	Time in minutes the 'To-Configuration ID' requires before deployment. Notification time includes transition ramp time	float	No Yes if used with MSG

Element	Data Description	Type	Req'd
Transition.transitionCost *MSG bids only*	Cost of moving from 'From-Configuration ID' to 'To-Configuration ID'	float	No Yes if used with MSG
Transition.transitionRampTime *MSG bids only*	Time in minutes it takes to ramp from 'From-Configuration ID' to 'To-Configuration ID'	float	No Yes if used with MSG
Transition.FromConfiguration *MSG bids only*	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate. (currently in)	string	No Yes if used with MSG
Transition.ToConfiguration *MSG bids only*	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate. (going to)	string	No Yes if used with MSG
InterTieBid			
description	Description of intertie bid. (1-32 characters)	string	No
mrid	Unique identifier for transaction – *not used in submission, this identifier is returned in the response file for bids submitted through the API.*	String	No
name	Unique name of intertie bid. (1-32 characters)	string	No
marketType	The market type, DAM or RTM.	string	Yes
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
HourlyParameters.resourceBidOption *RTM Only* *Resources registered with Hourly flag must use Hourly or Once.* *Resources registered as Dynamic must use Dynamic.*	If no data is submitted, the default will be used. **For Real Time Market only:** HOURLY (default for Hourly Pre-dispatch) ONCE 15MIN (default for non-Hourly Pre-dispatch) DYNAMIC (default for Dynamic resources)	String	No

Element	Data Description	Type	Req'd
HourlyParameters.timeIntervalEnd	End of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
HourlyParameters.timeIntervalStart	Start of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
ProductBid.description	Description of product bid. (1-32 characters)	string	No
ProductBid.BidSchedule	Energy Bid Component is optional		No
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval for the operating hour for which the bid is being submitted..	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve	Used when submitting an Economic Bid for a resource.		No
ProductBid.BidSchedule.BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.xAxisData	The MW value specified on the price curve.	float	Yes
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.y1AxisData	The dollar ($) value specified on the price curve. A price curve segment consist of both the Mw value and the dollar value. Pattern value = [-+]?[\d]+\.?\d?\d?	float	Yes
ProductBid.BidSelfSched	Self Schedule Bid Component is optional		No
ProductBid.BidSelfSched.description	Description of bid self schedule (1-32 characters)	string	No
ProductBid.BidSelfSched.timeIntervalEnd	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSelfSched.timeIntervalStart	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSelfSched.selfSchedMw	Self Schedule MW for the referenced commodity.	float	No

Element	Data Description	Type	Req'd
ProductBid.BidSelfSched.wheelingTransactionReference	A unique identifier of a Wheeling Transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources (Resources must be registered with an Energy Type of "WHL" in order to submit a Wheeling Transaction.) All Wheeling Transactions must be accompanied by either an Energy Bid or Self-Schedule [PT, LPT, ETC, TOR]) (For v3 service this element is ignored, wheeling in v3 service uses the WheelingResource element. Due to the CIM this is retained beause it is used in the retrieves to be backward compatible to be able to use the v3 retrieve and pull back bids submitted with v2 services or through UI.	String	No
ProductBid/BidSelfSched/selfSchedSptResource	Valid Generating Resource specified in the PT Export Self Sched as the Support Resource	String	No
ProductBid.BidSelfSched.ContractRight	Required for Self Schedule type ETC, TOR, RMT		No
ProductBid.BidSelfSched.ContractRight.description	Description of contract right. (1-32 characters)	string	No
ProductBid.BidSelfSched.ContractRight.mrid	Contract Reference Name (CRN) (1-32 characters)	string	Yes
ProductBid.MarketProduct.description	Description of market product. (1-32 characters)	string	No
ProductBid.MarketProduct.marketProductType *EN is currently the only support Product type for Intertie bids.* *System Resources that are registered as TG are considered as a Generating Bid.)* *RC is not a biddable type for Interties.*	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR - Non-spinning reserve RC – Residual Unit Commitment Please refer to section 2.11 for appropriate combination of Product Type and SelfSchedule Type	string	Yes

Element	Data Description	Type	Req'd
ProductBid.MarketProduct. selfSchedType *Note:* *LPT is export only* *SP is not supported currently for Interties.* *RA is not recognized on submitted bids. (This would be a returned value in a retrieve for an Import that has RA.)* *IFM is a returned value in Real-Time Clean bids for any Day-Ahead Award.*	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker (Export only) ETC – Existing transmission contract TOR – Transmission ownership right LOF – Lay Off Self Schedule WHL – Wheeling Transaction (For v3 service this element is ignored, wheeling in v3 service uses the WheelingResource element. Due to the CIM this is retained beause it is used in the retrieves to be backward compatible to be able to use the v3 retrieve and pull back bids submitted with v2 services or through UI. RA – Resource Adequacy (not a submitted element) IFM – DA AS for RTM (not a submitted element) SP – Self Provision (AS only) RMT – Regulatory Must Take LSG – Load Serving Generator (Partial QF initiative) GSS – Generating Self Schedule (NGR) (future use, currently not recognized) LSS – Load Self Schedule (NGR) (future use)	string	No
ProductBid.UnitSchedule	Needed when submitting Pumping Level, Pumping Cost, Pumping Shutdown Cost		No
ProductBid.UnitSchedule. parameterID *NERC_TAG and SCHEDULING_POINT are reserved for future use and serve no functional use at this time.*	*For Interties, currently no UnitSchedule is needed as part of the bid. The IDs below are support in the xsd for possible future use.* NERC TAG SCHEDULING POINT PUMPING_LEVEL PUMPING_COST PUMPING_SHUTDOWN_COST	string	Yes

Element	Data Description	Type	Req'd
ProductBid.UnitSchedule. parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO. This should be used if the parameter type is STRING	string	No
ProductBid.UnitSchedule. parameterType	Indication of the type of parameter being defined (STRING or FLOAT) which should be used in conjunction with the parameterID chosen. PUMPING_LEVEL (FLOAT) PUMPING_COST (FLOAT) PUMPING_SHUTDOWN_COST (FLOAT) NERC TAG (STRING) SCHEDULING POINT (STRING)	Parameter Type	Yes
ProductBid.UnitSchedule. parameterValue	Parameter value to be used with associated parameterType which replaces corresponding default values from input bid data. This 36hould be used if the parameter type is FLOAT	float	No
ProductBid.UnitSchedule. timeIntervalEnd	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.UnitSchedule. timeIntervalStart	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
SchedulingCoordinator.mrid	Scheduling Coordinator Identifier. (1-32 characters)	string	Yes
contingencyAvailFlag *DAM bids only* *Note:* *This is not supported currently for Intertie bids.*	Contingent operating reserve availiability. Valid value = YES or NO. Resource is availiable to participate with capacity only in contingency dispatch. This is an optional element, but required when submitting Day Ahead Ancillary Service bid.	string	No
MinHourlyBlock	The Registered upper bound of MHB for an Inter-Tie Resource (1 to 24 can be used, 1 being the most flexible) (if not specified a value of 1 is set)	integer	No
RampRateCurve *This is not supported currently for Intertie bids.* *reserved for future use and serves no functional use at this time.*	Curve for Ramp (based on type of Ramp)		No
RampRateCurve.description	Description of the object.		No
RampRateCurve.CurveSchedule Datas.	The data point values for a Ramp Curve		No

Element	Data Description	Type	Req'd
RampRateCurve.CurveScheduleDatas.xAxisData	Operational Level	Float	No Yes if Ramp data is supplied
RampRateCurve.CurveScheduleDatas.y1AxisData	Ramp Rate	Float	No Yes if Ramp data is supplied
RampRateCurve.rampRateType	Type of Ramp, Operational, Operating Reserve or for Regulation. Enumerations: (INTERTIE, LD_DROP, LD_PICKUP, **OP, OP_RES, REG**.)	String	No Yes if Ramp data is supplied
RegisteredInterTie.mrid *For a registered Intertie with Master File, the mrid is required in the bid.* *For a Transaction based (non-registered resource) the mrid is not required and will be generated by SIBR dependent upon the components selected for the bid.*	Registered name of the Intertie Resource. (1-32 characters) Only for registered Interties.	string	No
RegisteredInterTie.SecondaryFlowGate *Note: For Transaction based bids not for Registered resources.*	The Flowgate translates to Tie Name where the Transaction is scheduled.	String	No
RegisteredInterTie.SecondaryFlowGate.mrid *Note: For Transaction based bids not for Registered resources.*	For resources where an alternative path is registered . An alternative path can be specified.	String	No
RegisteredInterTie.AggregatedPnode RegisteredInterTie.AggregatedPnode.mrid	These are the Scheduling points for Transaction based bids. It will be either a Aggregated Pnode or an Individual Pnode.	String	no
RegisteredInterTie.IndividualPnode RegisteredInterTie.IndividualPnode.mrid	These are the Scheduling points for Transaction based bids. It will be either a Aggregated Pnode or an Individual Pnode.	String	no

Element	Data Description	Type	Req'd
RegisteredInterTie.PrimaryFlowGate *Note: For Transaction based bids not for Registered resources.* *Must be submitted for external locations.*	The Flowgate translates to Tie Name where the Transaction is scheduled.	String	No
RegisteredInterTie.PrimaryFlowGate.mrid *Note: For Transaction based bids not for Registered resources.*	Tie name for Transaction based bids. This must be supplied for all Transaction based bids.	String	Yes
RegisteredInterTie.SchedulingCoordinator *Note: For Transaction based bids not for Registered resources.*	Scheduling Coordinator for Transaction based bid.	String	No
RegisteredInterTie.SchedulingCoordinator.mrid *Note: For Transaction based bids not for Registered resources.*	Scheduling Coordinator for Transaction based bid. This must be supplied for all Transaction based bids.	String	Yes
RegisteredInterTie.direction *Note: For Transaction based bids not for Registered resources.*	Indicator for direction of an Intertie. Can be either I or E. This must be supplied for all Transaction based bids.	InterTieDirection	No
RegisteredInterTie.energyProductType *Note: For Transaction based bids not for Registered resources.*	Product type of an Intertie related to Tagging. Can be: DYN, FIRM, NFRM, UCTG, WHL This must be supplied for all Transaction based bids.	EnergyProductType	No
RegisteredInterTie.purchaseServiceEntity	PSE identifier forTransaction based bids. This is a string registered in MF that will be used.	String	No

Element	Data Description	Type	Req'd
RegisteredInterTie_wheeling.WheelingResource *Note: For Transaction based bids not for Registered resources.*	Used in wheeling transactions where EnergyProductType is WHL.	String	No
RegisteredInterTie_wheeling.WheelingResource.mrid *Note: This is not a submitted value* *For Transaction based bids not for Registered resources.*	Wheeling Transaction name. This will be generated by SIBR once the Transaction is submitted.	String	No
RegisteredInterTie_wheeling.WheelingResource.SecondaryFlowGate *Note: For Transaction based bids not for Registered resources.*	Alternate Scheduling Point (if registered) for a Transaction based bid.		No
RegisteredInterTie_wheeling.WheelingResource.SecondaryFlowGate.mrid *Note: For Transaction based bids not for Registered resources.*	Alternate Scheduling Point	String	No
RegisteredInterTie_wheeling.WheelingResource.AggregatedPnode RegisteredInterTie_wheeling.WheelingResource.AggregatedPnode.mrid *Note: For Transaction based bids not for Registered resources.*	These are not submittable, will be inserted based on Master File data in SIBR.	String	no
RegisteredInterTie_wheeling.WheelingResource.IndividualPnode RegisteredInterTie_wheeling.WheelingResource.IndividualPnode.mird *Note: For Transaction based bids not for Registered resources.*	These are not submittable, will be inserted based on Master File data in SIBR.	String	no

Element	Data Description	Type	Req'd
RegisteredInterTie_wheeling.WheelingResource.PrimaryFlowGate *Note: For Transaction based bids not for Registered resources.*	Primary Scheduling Point for Wheeling.	String	No
RegisteredInterTie_wheeling.WheelingResource.PrimaryFlowGate.mrid *Note: For Transaction based bids not for Registered resources.*	Primary Scheduling Point for Wheeling.	String	No
RegisteredInterTie_wheeling.WheelingResource.SchedulingCoordinator *Note: For Transaction based bids not for Registered resources.*	Scheduling Coordinater for Wheeling.		No
RegisteredInterTie_wheeling.WheelingResource.SchedulingCoordinator.mrid *Note: For Transaction based bids not for Registered resources.*	Scheduling Coordinater for Wheeling.	String	No
RegisteredInterTie_wheeling.WheelingResource.direction *Note: For Transaction based bids not for Registered resources.*	Indicator for direction of an Intertie. Can be either I or E. This must be supplied for all Transaction based bids.	InterTieDirection	No
RegisteredInterTie_wheeling.WheelingResource.energyProductType *Note: For Transaction based bids not for Registered resources.*	Product type of an Intertie related to Tagging. Can be: DYN, FIRM, NFRM, UCTG, WHL This must be supplied for all Transaction based bids.	EnergyProductType	No
RegisteredInterTie_wheeling.WheelingResource.purchaseServiceEntity	PSE identifier forTransaction based bids.	String	No

Element	Data Description	Type	Req'd
LoadBid			
description	Description of Load Bid. (1-32 characters)	string	No
mrid	Unique transaction identification	String	No
name	Unique name of Load Bid. (1-32 characters)	string	No
marketType	The market type, DAM or RTM.	string	Yes
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.BidSchedule	Energy Bid Component is optional		No
ProductBid.BidSchedule. description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule. timeIntervalEnd	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSchedule. timeIntervalStart	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSchedule. BidPriceCurve	Used when submitting an Economic Bid for a resource.		No
ProductBid.BidSchedule. BidPriceCurve.description	Description of Bid Price Curve.	string	No
ProductBid.BidSchedule. BidPriceCurve.CurveScheduleDatas.xAxisData	The Mw value specified on the price curve.	float	Yes
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas. y1AxisData	The dollar ($) value specified on the price curve. A price curve segment consist of both the Mw value and the dollar value. Pattern value = [-+]?[\d]+\.?\d?\d?	float	Yes
ProductBid.BidSelfSched	Self Schedule Bid Component is optional		No
ProductBid.BidSelfSched. description	Description of Bid Self Schedule. (1-32 characters)	string	No
ProductBid.BidSelfSched. timeIntervalStart	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSelfSched. timeIntervalEnd	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes

Element	Data Description	Type	Req'd
ProductBid.BidSelfSched. selfSchedMw	Self Schedule MW value for the referenced commodity.	float	No
ProductBid.BidSelfSched. ContractRight	Required for Self Schedule type ETC, TOR	string	No
ProductBid.BidSelfSched. ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched. ContractRight.mrid	Contract Reference Name (CRN). (1-32 characters)	string	Yes
ProductBid.MarketProduct. description	Description of Market Product. (1-32 characters)	string	No
ProductBid.MarketProduct. marketProductType	Market product type. Valid values are: EN, LFD, LFU, NR, RC, RD, RU, SR,	string	Yes
ProductBid.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Take ETC – Existing transmission contract TOR – Transmission ownership right	string	No
ProductBid.UnitSchedule *This is not supported currently for Load bids.*	Needed when submitting Pumping Level, Pumping Cost, Pumping Shutdown Cost		No
ProductBid.UnitSchedule. parameterID	Parameter ID. Valid values are: PUMPING_LEVEL PUMPING_COST PUMPING_SHUTDOWN_COST	string	Yes
ProductBid.UnitSchedule. parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO. This should be used if the parameter type is STRING	string	No
ProductBid.UnitSchedule. parameterType	Indication of the type of parameter being defined (STRING or FLOAT) which should be used in conjunction with the parameterID chosen. PUMPING_LEVEL (FLOAT) PUMPING_COST (FLOAT) PUMPING_SHUTDOWN_COST (FLOAT)	string	Yes
ProductBid.UnitSchedule. parameterValue	Parameter value to be used with associated parameterType which replaces corresponding default values from input bid data. This 42hould be used if the parameter type is FLOAT	float	No

Element	Data Description	Type	Req'd
ProductBid.UnitSchedule. timeIntervalEnd	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.UnitSchedule. timeIntervalStart	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
SchedulingCoordinator.mrid	Scheduling Coordinator Identifier. (1-32 characters)	string	Yes
contingencyAvailFlag *This is not supported currently for Load bids.*	Contingent operating reserve availiability. Valid value = YES or NO. Resource is availiable to participate with capacity only in contingency dispatch. This is an optional element, but required when submitting Day Ahead Ancillary Service bid.	string	No
RegisteredLoad.mrid	Name of the Registered Load Resource. (1-32 characters)	string	Yes

2.11.2 Element Table (v4 service, for EIM Enhancements)

Element	Data Description	Type	Req'd
Message Header (header is optional)			
TimeDate	The dateTime, in GMT, when the payload is published.	dateTime	Yes
Source	The source of published data.	String	Yes
Version	Defined version for the xsd. Default is defined as: 'v20171001' for v4.	String	Yes
IncPayloadFlag	(these elements will not be utilized in SIBR, they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	Yes/No	No
lastBroadcasted	(these elements will not be utilized in SIBR) they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	dateTime	No
BroadcastSequenceNum	(these elements will not be utilized in SIBR) they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	integer	No

Element	Data Description	Type	Req'd
Message Payload			
GeneratingBid			
description	Description of generating bid. (1-32 characters)	string	No
mrid	Unique identifier for transaction – *not used in submission, this identifier is returned in the response file for bids submitted through the API.*	String	No
name	Unique name for generating bid. (1-32 characters)	string	No
marketType	The market type, DAM or RTM.	String	Yes
startTime	Start time and date of the trading period for which bid applies.	dateTime	Yes
stopTime	Stop time and date of the trading period for which bid applies.	dateTime	Yes
HourlyParameters.biddableCapacityLimit	This is a MW quantity that limits the capacity to be used during optimization. SIBR rules inforce submitted quantity, if none submitted default will be used.	String	No
HourlyParameters.biddableCapacityLimitType	Enumerations are: GEN_CAPACITY_LIMIT (used for Generators and NGR resources under Gen condition) LOAD_CAPACITY_LIMIT (used for **NGR** resources in Load Condition)	String	No
HourlyParameters.resourceBidOption *RTM Only* *Note: Bid Option is for TG (Tie-Gen) in GeneratingBid* *Resources registered with Hourly flag must use Hourly or Once.* *Resources registered as Dynamic must use Dynamic.*	If no data is submitted, the default will be used. **For Real Time Market only:** Valid values are: HOURLY (default for Hourly Pre-dispatch) ONCE 15MIN (default for non-Hourly Pre-dispatch) DYNAMIC (default for Dynamic resources)	String	No
HourlyParameters.timeIntervalEnd	End of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
HourlyParameters.timeIntervalStart	Start of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.BidDistributionFactor	This element is only applicable to Aggregate resource submitting a GDF.	string	No

Element	Data Description	Type	Req'd
ProductBid.BidDistributionFactor.description	Description of Bid Distribution Factor. (1-32 characters)	string	No
ProductBid.BidDistributionFactor.timeIntervalEnd	End of the time interval of the operating hour for which the GDF applies. The start and end time must be aligned with the start and end time specified for the Energy Bid.	dateTime	Yes
ProductBid.BidDistributionFactor.timeIntervalStart	Start of the time interval of the operating hour for which the GDF applies. The start and end time must be aligned with the start and end time specified for the Energy Bid.	dateTime	Yes
ProductBid.BidDistributionFactor.PnodeDistributionFactor	Required element if Distribution Factor is included in the bid.		Yes
ProductBid.BidDistributionFactor.PnodeDistributionFactor.factor	Used to calculate "participation" of Pnode in an AggregatePnode. For example, for regulation region this factor is 1 and total sum of all factors for a specific regulation region does not have to be 1. For pricing zone the total sum of all factors has to value must be => 0 and <= 1	float	Yes
ProductBid.BidDistributionFactor.PnodeDistributionFactor.IndividualPnode.mrid	Individual Pnode name (1-32 characters) (these are CNODE names associated with the aggregate resource to determine which set will be used for the aggregate to determine the distribution factor.	String	Yes
ProductBid.BidSchedule	Energy Bid Component is optional.	string	No
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval for the operating hour for the which the bid is being submitted.	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve	Used when submitting an Economic Bid for a resource.		No
ProductBid.BidSchedule.BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.mrid	Unique identifier for price curve	String	No
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatasCurveScheduleDatas.xAxisData	The MW value specified on the price curve. Or MW AS Capacity for AS.	float	No Yes for EN and AS

Element	Data Description	Type	Req'd
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatasCurveScheduleDatas.y1AxisData	The dollar ($) value specified on the price curve.. A price curve segment consist of both the Mw value and the dollar value. Pattern value = [-+]?[\d]+\.?\d?\d?	float	Yes
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatasCurveScheduleDatas.y2AxisData	The Opportunity Cost associated with Regulation (both RU and RD).	float	No Yes for RU RD
ProductBid.BidSelfSched	Self Schedule Bid Component is optional.		No
ProductBid.BidSelfSched.description	Description of Bid Self Sched. (1-32 characters)	string	No
ProductBid.BidSelfSched.timeIntervalEnd	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSelfSched.timeIntervalStart	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSelfSched.pumpSelfSchedMw	Pumping self schedule quantity. If this value is not null, then the unit is considered to be in pumping mode.	Float	No
ProductBid.BidSelfSched.selfSchedMw	MW value for the specified Self Schedule Product Types other than Pumping Self Schedule Type (PT, ETC, TOR, LSS, GSS, LSG or LSS.	float	No
ProductBid.BidSelfSched.selfSchedSptResource	Generating Resource named in the PT Export that supplies non-RA energy for Export.	String	No
~~ProductBid.BidSelfSched.wheelingTransactionReference~~ Deleted in v4 replaced with optional tags for each component.	~~A unique identifier of a Wheeling Transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources~~ ~~(Resources must be registered with an Energy Type of "WHL" in order to submit a Wheeling Transaction. All Wheeling Transactions must be accompanied by either an Energy Bid or Self-Schedule [PT, LPT, ETC, TOR])~~ ~~(For v3 service this element is ignored, wheeling in v3 service uses the WheelingResource element.~~ ~~Due to the CIM this is retained beause it is used in the retrieves to be backward compatible to be able to use the v3 retrieve and pull back bids submitted with v2 services or through UI.~~	String	No
ProductBid.BidSelfSched.WheelingTransactionReference.mrid	For Registered resources, this would be the name of the resource as it is registered in Master File. If this is a Transaction submission, this will not be provided, it will be generated by the separated components supplied for the transaction based Wheel.	String	No

Element	Data Description	Type	Req'd
ProductBid.BidSelfSched. WheelingTransactionReference. AggregatedPnode.mrid	Either the AggregatedPnode or the IndividualPnode must be supplied but not both. This is the Scheduling Point.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference.I ndividualPnode.mrid	Either the AggregatedPnode or the IndividualPnode must be supplied but not both. This is the Scheduling Point.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. PrimaryFlowgate.mrid	This is the Tie Point associated to a Scheduling Point for the Transaction.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. SchedulingCoordinator.mrid	This is the SC for the Wheeling Reference (counter resource) that was submitted.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. SecondaryFlowgate.mrid	Currently there are no Alternate Ties associated with Scheduling Points. This would be used if there was a defined Alternate Tie in Master File for a Scheduling Point.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. direction	This will be either an Import or an Export which is an enumerated value : 'I' or 'E' .	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. energyProductType	This will be one of the enumerated values : DYN, FIRM, NFRM, UCTG, WHL For a Wheel, it must be WHL.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. purchaseServiceEntity	This is one of the registered PSE that is provided by Master File.	String	No
ProductBid.BidSelfSched. ContractRight	Required for Self Schedule type ETC, TOR, RMT	string	No
ProductBid.BidSelfSched. ContractRight.description	Description of Contrac tRight. (1-32 characters)	string	No
ProductBid.BidSelfSched. ContractRight.mrid	Contract Reference Name (CRN) (1-32 characters)	string	Yes
ProductBid.MarketProduct. description	Description of Market Product. (1-32 characters)	string	No
ProductBid.MarketProduct. CASupplyIndicator	**Flag indicating Green House Gas (GHG) MW is fully committed to CA supply. (EIM) YES or NO enumeration.**	**YesNo**	**No**

Element	Data Description	Type	Req'd
ProductBid.MarketProduct. marketProductType *RC product is for DAM bids only.*	Market product type. Valid values are: EN – Energy type GHG – Green House Gas (new v4) RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment RMU - Regulation Mileage Up (v1 only) RMD - Regulation Mileage Down (v1 only) LFU – Load Following Up LFD – Load Following Down Please refer to section 2.11 for appropriate combination of Product Type and SelfSchedule Type	string	Yes
ProductBid.MarketProduct. selfSchedType *LSG is for LSG resource only* *LPT is export only* *RA is not recognized on submitted bids. (This would be a returned value in a retrieve for an Import that has RA.)*	Self schedule bid contract type. Valid values are: PT – Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take SP – Self Provision (AS only) LOF – Lay Off Self Schedule WHL – Wheeling Transaction LSG – Load Serving Generator (Partial QF initiative) RA – Resource Adequacy (not a submitted element) LPT – Lower Price Taker (Export only)IFM – DA AS for RTM (not a submitted element) GSS – Generating Self Schedule (NGR) (future use, currently not recognized) LSS – Load Self Schedule (NGR) (future use)	string	No
ProductBid.UnitSchedule	Needed when submitting Pumping Level, Pumping Cost, Pumping Shutdown Cost		No

Element	Data Description	Type	Req'd
ProductBid.UnitSchedule. parameterID *NERC_TAG and SCHEDULING_POINT are reserved for future use and serve no functional use at this time. These would be for Intertie bids.*	Parameter ID. Valid values are: PUMPING_LEVEL PUMPING_COST PUMPING_SHUTDOWN_COST NERC_TAG SCHEDULING_POINT	string	Yes
ProductBid.UnitSchedule. parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO. This should be used if the parameter type is STRING	string	No
ProductBid.UnitSchedule. parameterType	Indication of the type of parameter being defined (STRING or FLOAT) which should be used in conjunction with the parameterID chosen. PUMPING_LEVEL (FLOAT) PUMPING_COST (FLOAT) PUMPING_SHUTDOWN_COST (FLOAT)	string	Yes
ProductBid.UnitSchedule. parameterValue	Parameter value to be used with associated parameterType which replaces corresponding default values from input bid data. This 49hould be used if the parameter type is FLOAT	float	No
ProductBid.UnitSchedule. timeIntervalEnd	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.UnitSchedule. timeIntervalStart	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
SchedulingCoordinator.mrid	Scheduling Coordinator Identifier. (1-32 characters)	string	Yes
contingencyAvailFlag *DAM bids only* *required when submitting Day Ahead Ancillary Service bid** *Note for MSG, this flag needs to be on all configurations and must be consistent (it is validated at the resource level).*	Contingent operating reserve availiability. Valid value = YES or NO. Resource is available to participate with capacity only in contingency dispatch.	YesNo	No Yes*
energyMaxDay *DAM bids only*	Maximum amount of energy per day which can be produced during the trading period in MWh.	Float	No

Element	Data Description	Type	Req'd
energyMinDay *DAM bids only*	Minimum amount of energy per day which has to be produced during the trading period in MWh.	Float	No
curtailmentEnergyLimit	Maximum energy (MWh) left can be curtailed for the Dispatchable Demand Resource (this element is a place-holder for future use)	Float	No
greenHouseGasAdder *This is a **daily** value. If provided in DAM bid, RTM bids will use the curve from the DAM Clean Bid where the adder was applied.*	Green House Gas adder for EIM participating resources.	Float	No
lowerChargeLimit	Lowest stored energy (MWh) that should be maintained in the LESR device	Float	No
noLoadCost	Resource fixed no load cost.	Float	No
startUpRampTime	Start Up Ramp Time	Float	No Yes if used with MSG
stateOfCharge	Actual stored Energy (MWh) that should be allowed in the LESR device (this element is a place-holder for future use)	Float	No
upperChargeLimit	Highest stored energy (MWh) that should be allowed in the LESR device	Float	No
RampRateCurve	Curve for Ramp (based on type of Ramp)		No
RampRateCurve.description	Description of the object.		No
RampRateCurve.CurveScheduleDatas.	The data point values for a Ramp Curve		No
RampRateCurve.CurveScheduleDatas.xAxisData	Operational Level	Float	No Yes if Ramp data is supplied
RampRateCurve.CurveScheduleDatas.y1AxisData	Ramp Rate	Float	No Yes if Ramp data is supplied

Element	Data Description	Type	Req'd
RampRateCurve.rampRateType	Type of Ramp, Operational, Operating Reserve or for Regulation. Enumerations: (**OP, OP_RES, REG**.) Not currently used: INTERTIE, LD_DROP, LD_PICKUP	String	No Yes if Ramp data is supplied
RegisteredGenerator.mrid	Name of the registered Generating Resource(1-32 characters)	string	Yes
RegisteredGenerator.Configuration	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate.	string	No Yes if used with MSG
RegisteredGenerator.Configuration.mrid	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate.	string	No Yes if used with MSG
StartUpCostCurve			No
StartUpCostCurve.description	Description of Start Up Cost Curve. (1-32 characters)	string	No
StartUpCostCurve.CurveSchedDatas.xAxisData	The data value of the X-axis variable is represented as Cooling time in minutes.	float	Yes
StartUpCostCurve.CurveSchedDatas.y1AxisData	The data value of the Y-axis variable, is represented as the Cost ($) value.	float	Yes
StartUpTimeCurve			No
StartUpTimeCurve.description	Description of Start Up Time Curve. (1-32 characters)	string	No
StartUpTimeCurve.CurveSchedDatas.xAxisData	The data value of the X-axis variable is represented as Cooling time in minutes.	float	Yes
StartUpTimeCurve.CurveSchedDatas.y1AxisData	The data value of the Y-axis variable is represented as Startup time in minutes	float	Yes
Transition			
Transition.notificationTime *MSG bids only*	Time in minutes the 'To-Configuration ID' requires before deployment. Notification time includes transition ramp time	float	No Yes if used with MSG

Element	Data Description	Type	Req'd
Transition.transitionCost *MSG bids only*	Cost of moving from 'From-Configuration ID' to 'To-Configuration ID'	float	No Yes if used with MSG
Transition.transitionRampTime *MSG bids only*	Time in minutes it takes to ramp from 'From-Configuration ID' to 'To-Configuration ID'	float	No Yes if used with MSG
Transition.FromConfiguration *MSG bids only*	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate. (currently in)	string	No Yes if used with MSG
Transition.ToConfiguration *MSG bids only*	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate. (going to)	string	No Yes if used with MSG
InterTieBid			
description	Description of intertie bid. (1-32 characters)	string	No
mrid	Unique identifier for transaction – *not used in submission, this identifier is returned in the response file for bids submitted through the API.*	String	No
name	Unique name of intertie bid. (1-32 characters)	string	No
marketType	The market type, DAM or RTM.	string	Yes
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
HourlyParameters.resourceBidOption *RTM Only* *Resources registered with Hourly flag must use Hourly or Once.* *Resources registered as Dynamic must use Dynamic.*	If no data is submitted, the default will be used. **For Real Time Market only:** HOURLY (default for Hourly Pre-dispatch) ONCE 15MIN (default for non-Hourly Pre-dispatch) DYNAMIC (default for Dynamic resources)	String	No

Element	Data Description	Type	Req'd
HourlyParameters.timeIntervalEnd	End of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
HourlyParameters.timeIntervalStart	Start of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
ProductBid.description	Description of product bid. (1-32 characters)	string	No
ProductBid.BidSchedule	Energy Bid Component is optional		No
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval for the operating hour for which the bid is being submitted..	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve	Used when submitting an Economic Bid for a resource.		No
ProductBid.BidSchedule.BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.xAxisData	The MW value specified on the price curve.	float	Yes
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.y1AxisData	The dollar ($) value specified on the price curve. A price curve segment consist of both the Mw value and the dollar value. Pattern value = [-+]?[\d]+\.?\d?\d?	float	Yes
ProductBid.BidSelfSched	Self Schedule Bid Component is optional		No
ProductBid.BidSelfSched.description	Description of bid self schedule (1-32 characters)	string	No
ProductBid.BidSelfSched.timeIntervalEnd	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSelfSched.timeIntervalStart	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSelfSched.selfSchedMw	Self Schedule MW for the referenced commodity.	float	No
ProductBid.BidSelfSched.WheelingTransactionReference.mrid	For Registered resources, this would be the name of the resource as it is registered in Master File. If this is a Transaction submission, this will not be provided, it will be generated by the separated components supplied for the transaction based Wheel.	String	No

Element	Data Description	Type	Req'd
ProductBid.BidSelfSched. WheelingTransactionReference. AggregatedPnode.mrid	Either the AggregatedPnode or the IndividualPnode must be supplied but not both. This is the Scheduling Point.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference.I ndividualPnode.mrid	Either the AggregatedPnode or the IndividualPnode must be supplied but not both. This is the Scheduling Point.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. PrimaryFlowgate.mrid	This is the Tie Point associated to a Scheduling Point for the Transaction.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. SchedulingCoordinator.mrid	This is the SC for the Wheeling Reference (counter resource) that was submitted.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. SecondaryFlowgate.mrid	Currently there are no Alternate Ties associated with Scheduling Points. This would be used if there was a defined Alternate Tie in Master File for a Scheduling Point.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. direction	This will be either an Import or an Export which is an enumerated value : 'I' or 'E' .	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. energyProductType	This will be one of the enumerated values : DYN, FIRM, NFRM, UCTG, WHL For a Wheel, it must be WHL.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. purchaseServiceEntity	This is one of the registered PSE that is provided by Master File.	String	No
ProductBid/BidSelfSched/selfSch edSptResource	Valid Generating Resource specified in the PT Export Self Sched as the Support Resource	String	No
ProductBid.BidSelfSched. ContractRight	Required for Self Schedule type ETC, TOR, RMT		No
ProductBid.BidSelfSched. ContractRight.description	Description of contract right. (1-32 characters)	string	No
ProductBid.BidSelfSched. ContractRight.mrid	Contract Reference Name (CRN) (1-32 characters)	string	Yes
ProductBid.MarketProduct. description	Description of market product. (1-32 characters)	string	No

Element	Data Description	Type	Req'd
ProductBid.MarketProduct. marketProductType *EN is currently the only support Product type for Intertie bids.* *System Resources that are registered as TG are considered as a Generating Bid.)* *RC is not a biddable type for Interties.*	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR - Non-spinning reserve RC – Residual Unit Commitment Please refer to section 2.11 for appropriate combination of Product Type and SelfSchedule Type	string	Yes
ProductBid.MarketProduct. selfSchedType *Note:* *LPT is export only* *SP is not supported currently for Interties.* *RA is not recognized on submitted bids. (This would be a returned value in a retrieve for an Import that has RA.)* *IFM is a returned value in Real-Time Clean bids for any Day-Ahead Award.*	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker (Export only) ETC – Existing transmission contract TOR – Transmission ownership right LOF – Lay Off Self Schedule WHL – Wheeling Transaction (For v3 service this element is ignored, wheeling in v3 service uses the WheelingResource element. Due to the CIM this is retained beause it is used in the retrieves to be backward compatible to be able to use the v3 retrieve and pull back bids submitted with v2 services or through UI. RA – Resource Adequacy (not a submitted element) IFM – DA AS for RTM (not a submitted element) SP – Self Provision (AS only) RMT – Regulatory Must Take LSG – Load Serving Generator (Partial QF initiative) GSS – Generating Self Schedule (NGR) (future use, currently not recognized) LSS – Load Self Schedule (NGR) (future use)	string	No

Element	Data Description	Type	Req'd
ProductBid.UnitSchedule	Needed when submitting Pumping Level, Pumping Cost, Pumping Shutdown Cost		No
ProductBid.UnitSchedule. parameterID *NERC_TAG and SCHEDULING_POINT are reserved for future use and serve no functional use at this time.*	*For Interties, currently no UnitSchedule is needed as part of the bid. The IDs below are support in the xsd for possible future use.* NERC TAG SCHEDULING POINT PUMPING_LEVEL PUMPING_COST PUMPING_SHUTDOWN_COST	string	Yes
ProductBid.UnitSchedule. parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO. This should be used if the parameter type is STRING	string	No
ProductBid.UnitSchedule. parameterType	Indication of the type of parameter being defined (STRING or FLOAT) which should be used in conjunction with the parameterID chosen. PUMPING_LEVEL (FLOAT) PUMPING_COST (FLOAT) PUMPING_SHUTDOWN_COST (FLOAT) NERC TAG (STRING) SCHEDULING POINT (STRING)	Parameter Type	Yes
ProductBid.UnitSchedule. parameterValue	Parameter value to be used with associated parameterType which replaces corresponding default values from input bid data. This 56hould be used if the parameter type is FLOAT	float	No
ProductBid.UnitSchedule. timeIntervalEnd	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.UnitSchedule. timeIntervalStart	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
SchedulingCoordinator.mrid	Scheduling Coordinator Identifier. (1-32 characters)	string	Yes

Element	Data Description	Type	Req'd
contingencyAvailFlag *DAM bids only* *Note:* *This is not supported currently for Intertie bids.*	Contingent operating reserve availiability. Valid value = YES or NO. Resource is availiable to participate with capacity only in contingency dispatch. This is an optional element, but required when submitting Day Ahead Ancillary Service bid.	string	No
MinHourlyBlock	The Registered upper bound of MHB for an Inter-Tie Resource (1 to 24 can be used, 1 being the most flexible) (if not specified a value of 1 is set)	integer	No
RampRateCurve *This is not supported currently for Intertie bids.* *reserved for future use and serves no functional use at this time.*	Curve for Ramp (based on type of Ramp)		No
RampRateCurve.description	Description of the object.		No
RampRateCurve.CurveScheduleDatas.	The data point values for a Ramp Curve		No
RampRateCurve.CurveScheduleDatas.xAxisData	Operational Level	Float	No Yes if Ramp data is supplied
RampRateCurve.CurveScheduleDatas.y1AxisData	Ramp Rate	Float	No Yes if Ramp data is supplied
RampRateCurve.rampRateType	Type of Ramp, Operational, Operating Reserve or for Regulation. Enumerations: (INTERTIE, LD_DROP, LD_PICKUP, **OP, OP_RES, REG**.)	String	No Yes if Ramp data is supplied

Element	Data Description	Type	Req'd
RegisteredInterTie.mrid *For a registered Intertie with Master File, the mrid is required in the bid.* *For a Transaction based (non-registered resource) the mrid is not required and will be generated by SIBR dependent upon the components selected for the bid.*	Registered name of the Intertie Resource. (1-32 characters) Only for registered Interties.	string	No
RegisteredInterTie.SecondaryFlowGate *Note: For Transaction based bids not for Registered resources.*	The Flowgate translates to Tie Name where the Transaction is scheduled.	String	No
RegisteredInterTie.SecondaryFlowGate.mrid *Note: For Transaction based bids not for Registered resources.*	For resources where an alternative path is registered . An alternative path can be specified.	String	No
RegisteredInterTie.AggregatedPnode RegisteredInterTie.AggregatedPnode.mrid	These are the Scheduling points for Transaction based bids. It will be either a Aggregated Pnode or an Individual Pnode.	String	no
RegisteredInterTie.IndividualPnode RegisteredInterTie.IndividualPnode.mrid	These are the Scheduling points for Transaction based bids. It will be either a Aggregated Pnode or an Individual Pnode.	String	no
RegisteredInterTie.PrimaryFlowGate *Note: For Transaction based bids not for Registered resources.* *Must be submitted for external locations.*	The Flowgate translates to Tie Name where the Transaction is scheduled.	String	No
RegisteredInterTie.PrimaryFlowGate.mrid *Note: For Transaction based bids not for Registered resources.*	Tie name for Transaction based bids. This must be supplied for all Transaction based bids.	String	Yes

Element	Data Description	Type	Req'd
RegisteredInterTie.SchedulingCoordinator *Note: For Transaction based bids not for Registered resources.*	Scheduling Coordinator for Transaction based bid.	String	No
RegisteredInterTie.SchedulingCoordinator.mrid *Note: For Transaction based bids not for Registered resources.*	Scheduling Coordinator for Transaction based bid. This must be supplied for all Transaction based bids.	String	Yes
RegisteredInterTie.direction *Note: For Transaction based bids not for Registered resources.*	Indicator for direction of an Intertie. Can be either I or E. This must be supplied for all Transaction based bids.	InterTieDirection	No
RegisteredInterTie.energyProductType *Note: For Transaction based bids not for Registered resources.*	Product type of an Intertie related to Tagging. Can be: DYN, FIRM, NFRM, UCTG, WHL This must be supplied for all Transaction based bids.	EnergyProductType	No
RegisteredInterTie.purchaseServiceEntity	PSE identifier forTransaction based bids. This is a string registered in MF that will be used.	String	No
RegisteredInterTie_wheeling.WheelingResource *Note: For Transaction based bids not for Registered resources.*	Used in wheeling transactions where EnergyProductType is WHL.	String	No
RegisteredInterTie_wheeling.WheelingResource.mrid *Note: This is not a submitted value* *For Transaction based bids not for Registered resources.*	Wheeling Transaction name. This will be generated by SIBR once the Transaction is submitted.	String	No

Element	Data Description	Type	Req'd
RegisteredInterTie_wheeling.WheelingResource.SecondaryFlowGate *Note: For Transaction based bids not for Registered resources.*	Alternate Scheduling Point (if registered) for a Transaction based bid.		No
RegisteredInterTie_wheeling.WheelingResource.SecondaryFlowGate.mrid *Note: For Transaction based bids not for Registered resources.*	Alternate Scheduling Point	String	No
RegisteredInterTie_wheeling.WheelingResource.AggregatedPnode RegisteredInterTie_wheeling.WheelingResource.AggregatedPnode.mrid *Note: For Transaction based bids not for Registered resources.*	These are not submittable, will be inserted based on Master File data in SIBR.	String	no
RegisteredInterTie_wheeling.WheelingResource.IndividualPnode RegisteredInterTie_wheeling.WheelingResource.IndividualPnode.mird *Note: For Transaction based bids not for Registered resources.*	These are not submittable, will be inserted based on Master File data in SIBR.	String	no
RegisteredInterTie_wheeling.WheelingResource.PrimaryFlowGate *Note: For Transaction based bids not for Registered resources.*	Primary Scheduling Point for Wheeling.	String	No
RegisteredInterTie_wheeling.WheelingResource.PrimaryFlowGate.mrid *Note: For Transaction based bids not for Registered resources.*	Primary Scheduling Point for Wheeling.	String	No

Element	Data Description	Type	Req'd
RegisteredInterTie_wheeling.WheelingResource.SchedulingCoordinator *Note: For Transaction based bids not for Registered resources.*	Scheduling Coordinater for Wheeling.		No
RegisteredInterTie_wheeling.WheelingResource.SchedulingCoordinator.mrid *Note: For Transaction based bids not for Registered resources.*	Scheduling Coordinater for Wheeling.	String	No
RegisteredInterTie_wheeling.WheelingResource.direction *Note: For Transaction based bids not for Registered resources.*	Indicator for direction of an Intertie. Can be either I or E. This must be supplied for all Transaction based bids.	InterTieDirection	No
RegisteredInterTie_wheeling.WheelingResource.energyProductType *Note: For Transaction based bids not for Registered resources.*	Product type of an Intertie related to Tagging. Can be: DYN, FIRM, NFRM, UCTG, WHL This must be supplied for all Transaction based bids.	EnergyProductType	No
RegisteredInterTie_wheeling.WheelingResource.purchaseServiceEntity	PSE identifier forTransaction based bids.	String	No
LoadBid			
description	Description of Load Bid. (1-32 characters)	string	No
mrid	Unique transaction identification	String	No
name	Unique name of Load Bid. (1-32 characters)	string	No
marketType	The market type, DAM or RTM.	string	Yes
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes

Element	Data Description	Type	Req'd
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.BidSchedule	Energy Bid Component is optional		No
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve	Used when submitting an Economic Bid for a resource.		No
ProductBid.BidSchedule.BidPriceCurve.description	Description of Bid Price Curve.	string	No
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.xAxisData	The Mw value specified on the price curve.	float	Yes
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.y1AxisData	The dollar ($) value specified on the price curve. A price curve segment consist of both the Mw value and the dollar value. Pattern value = [-+]?[\d]+\.?\d?\d?	float	Yes
ProductBid.BidSelfSched	Self Schedule Bid Component is optional		No
ProductBid.BidSelfSched.description	Description of Bid Self Schedule. (1-32 characters)	string	No
ProductBid.BidSelfSched.timeIntervalStart	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSelfSched.timeIntervalEnd	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.BidSelfSched.selfSchedMw	Self Schedule MW value for the referenced commodity.	float	No
ProductBid.BidSelfSched.ContractRight	Required for Self Schedule type ETC, TOR		No
ProductBid.BidSelfSched.ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched.ContractRight.mrid	Contract Reference Name (CRN). (1-32 characters)	string	Yes
ProductBid.MarketProduct.description	Description of Market Product. (1-32 characters)	string	No
ProductBid.MarketProduct.marketProductType	Market product type. Valid values are: EN – Energy type	string	Yes

Element	Data Description	Type	Req'd
ProductBid.MarketProduct.selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Take ETC – Existing transmission contract TOR – Transmission ownership right	string	No
ProductBid.UnitSchedule *This is not supported currently for Load bids.*	Needed when submitting Pumping Level, Pumping Cost, Pumping Shutdown Cost		No
ProductBid.UnitSchedule.parameterID	Parameter ID. Valid values are: PUMPING_LEVEL PUMPING_COST PUMPING_SHUTDOWN_COST	string	Yes
ProductBid.UnitSchedule.parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO. This should be used if the parameter type is STRING	string	No
ProductBid.UnitSchedule.parameterType	Indication of the type of parameter being defined (STRING or FLOAT) which should be used in conjunction with the parameterID chosen. PUMPING_LEVEL (FLOAT) PUMPING_COST (FLOAT) PUMPING_SHUTDOWN_COST (FLOAT)	string	Yes
ProductBid.UnitSchedule.parameterValue	Parameter value to be used with associated parameterType which replaces corresponding default values from input bid data. This 63hould be used if the parameter type is FLOAT	float	No
ProductBid.UnitSchedule.timeIntervalEnd	Start of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
ProductBid.UnitSchedule.timeIntervalStart	End of the time interval for the operating hour for which the bid is being submitted.	dateTime	Yes
SchedulingCoordinator.mrid	Scheduling Coordinator Identifier. (1-32 characters)	string	Yes
contingencyAvailFlag *This is not supported currently for Load bids.*	Contingent operating reserve availiability. Valid value = YES or NO. Resource is availiable to participate with capacity only in contingency dispatch. This is an optional element, but required when submitting Day Ahead Ancillary Service bid.	string	No

Element	Data Description	Type	Req'd
RegisteredLoad.mrid	Name of the Registered Load Resource. (1-32 characters)	string	Yes

2.12 *Bidding Product Type with Self Schedule Type*

For each Product Type there will be an associated Self Schedule Type with it when submitting bids. Use the following table for matching Product Type to Self Schedule Type:

Product Type	Self Schedule Type
EN	ETC PT LPT (Export Only) RMT (Generator Only) TOR WHL LSG (Generator Only) LOF (future use) BAS (future use) GSS (NGR future use) LSS (NGR future use)
GHG	For EIM participating resource. Also used with CASupplyIndicator.
RU RD LFU LFD SR NR	SP (AS Only)
RC	RA (internal only)
RC	Used for RUC bid

2.13 Submit CB RawBidSet

2.13.1 Element Table (v1 service newest to incorporate the CIM changes for consistency.)

Element	Data Description	Type	Req'd
Message Header (Header is Optional)			
TimeDate	The dateTime, in GMT, when the payload is published.	dateTime	Yes
Source	The source of published data.	string	Yes
Version	Date reflecting the release for the latest version. Default is 20141001	String	Yes
IncPayloadFlag		Yes/No	No
lastBroadcasted		dateTime	No
BroadcastSequenceNum		integer	No
Message Payload			
VirtualBid			
description	Description of virtual bid. (1-32 characters)	string	No
startTime	Start time and date of the trading period for which bid applies.	dateTime	Yes
stopTime	Stop time and date of the trading period for which bid applies.	dateTime	Yes
ProductBid			
ProductBid.description	Description of the virtual product	Description	No
ProductBid.BidSchedule	1-25 BidSchedules may be submitted to allow specified bid price curves for different time intervals.		Yes
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval in which bid is valid	dateTime	Yes
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval in which bid is valid	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve	Relationship between unit operating price in $/hour (Y-axis) and unit output in MW (X-axis).		Yes

Element	Data Description	Type	Req'd
ProductBid.BidSchedule. BidPriceCurve.CurveScheduleDatas.xAxisData	The Mw value specified on the price curve.	float	Yes
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas. y1AxisData	The dollar ($) value specified on the price curve. A price curve segment consist of both the Mw value and the dollar value. Pattern value = [-+]?[\d]+\.?\d?\d?	float	Yes
ProductBid.MarketProduct	The Product type for Virtual bid.		Yes
ProductBid.MarketProduct.marketProductType	The product type for Virtual bid is 'EN'	MarketProductType	Yes
ScheduingCoordinator.mrid *New element location.*	Scheduling Coordinator Identifier. (1-32 characters)	String	Yes
virtualBidType	This will be either VIRTUAL SUPPLY or VIRTUAL DEMAND	String	Yes
AggregatedPnodeNmReq			
AggregatedPnodeNmReq.mrid	Location name for virtual bid at an Aggregated Node.. (Scheduling Point)	String	No
IndividualPnodeNmReq			
IndividualPnodeNmReq.mrid	Location name for virtual bid at a Price Node. (Scheduling Point).	String	No
Flowgate	For Tie Name		
Flowgate.mrid	Name of Tie associated to Scheduling Point.	String	No
AggregatedPnode	AggregatedPnode	String	No
AggregatedPnode.mrid	Name of the Pnode	String	No

2.13.2 Element Table (v20100301 – go-live)

Element	Data Description	Type	Req'd
Message Header			

Element	Data Description	Type	Req'd
TimeDate	The dateTime, in GMT, when the payload is published.	dateTime	Yes
Source	The source of published data.	string	Yes
Message Payload			
VirtualBid			
description	Description of virtual bid. (1-32 characters)	string	No
startTime	Start time and date of the trading period for which bid applies.	dateTime	Yes
stopTime	Stop time and date of the trading period for which bid applies.	dateTime	Yes
virtualBidType	This will be either VIRTUAL SUPPLY or VIRTUAL DEMAND	String	Yes
AggregatedPnodeNmReq			
AggregatedPnodeNmReq.mrid	Location name for virtual bid at an Aggregated Node..	String	No Yes when using APnode
IndividualPnodeNmReq			
IndividualPnodeNmReq.mrid	Location name for virtual bid at a Price Node.	String	No Yes when using Pnode
ScheduingCoordinator.mrid	Scheduling Coordinator Identifier. (1-32 characters)	String	Yes
EnergyProductBid			
IndividualPnodeNmReq.description	Description of object	string	No
EnergyProductBid.BidSchedule	1-25 BidSchedules may be submitted to allow specified bid price curves for different time intervals.		Yes
EnergyProductBid.BidSchedule.timeIntervalStart	Start of the time interval in which bid is valid	dateTime	Yes
EnergyProductBid.BidSchedule.timeIntervalEnd	End of the time interval in which bid is valid	dateTime	Yes

Element	Data Description	Type	Req'd
EnergyProductBid.BidSchedule.BidPriceCurve	Relationship between unit operating price in $/hour (Y-axis) and unit output in MW (X-axis).		Yes
EnergyProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.xAxisData	The Mw value specified on the price curve.	float	Yes
EnergyProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.y1AxisData	The dollar ($) value specified on the price curve. A price curve segment consist of both the Mw value and the dollar value. Pattern value = [-+]?[\d]+\.?\d?\d?	float	Yes

2.13.3 Schema (CB_RawBidSet_v20100301.xsd) (CB)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.
http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Convergence Bidding under Current Initiatives)

2.13.4 Schema (CB_RawBidSet_v1.xsd) (CB)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.
http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Convergence Bidding under Current Initiatives)

Sample xml structured bids will be made available in the "SIBR Sample xml data" document.
Posted separately with the Technical Interface documents.

2.14 *Raw Bid Set Response*

2.14.1 Element Table

Element	Data Description	Type	Req'd
Event.result	Event result.	Yes	string
Event.id	Event identifier.	Yes	string
Event.description	Event description.	No	string
Event.creationTime	Event creation time.	No	dateTime
Service.id	Service identifier.	Yes	string
Service.name	Name of a service.	Yes	string
BID.BID_ID	Bid identification.	No	string
BID.START_TIME	Start time and date for which bid applies.	Yes	dateTime
BID.END_TIME	Stop time and date for which bid is applies.	Yes	dateTime
BID.RESOURCE_ID	Master resource identifier.	Yes	string
BID.MARKET_TYPE	The market type, DAM or RTM.	Yes	string
BID.RESULTS	Bid results.	No	string

2.15 *CB Raw Bid Set Response*

2.15.1 Element Table

Element	Data Description	Type	Req'd
Event.result	Event result.	Yes	string
Event.id	Event identifier.	Yes	string
Event.description	Event description.	No	string
Event.creationTime	Event creation time.	No	dateTime
Service.id	Service identifier.	Yes	string
Service.name	Name of a service.	Yes	string
CB_BID.BID_ID	Bid identification.	No	string
CB_BID.START_TIME	Start time and date for which bid applies.	Yes	dateTime
CB_BID.END_TIME	Stop time and date for which bid is applies.	Yes	dateTime
CB_BID.PNODE_ID	Node identifier (APNode or PNode Location).	Yes	string
CB_BID.VIRTUAL_BID_TYPE	The Bid Type (VIRTUAL SUPPLY or VIRTUAL DEMAND)	Yes	string

Element	Data Description	Type	Req'd
CB_BID.SCHEDULING_COORDINATOR	The Scheduling Coordinator Name.	Yes	string
CB_BID.RESULTS	Bid results.	No	string

2.15.2 Schema (SubmitStandardOutput.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Scheduling Infrastructure Business Rules)

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Convergence Bidding under Current Initiatives)

2.15.3 Schema (SubmitStandardOutput_v20100301.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.
http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Convergence Bidding under Current Initiatives)

2.16 *Fault Return (also the same for CB)*

2.16.1 Element Table

Element	Data Description	Type	Req'd
id	Event log identifier.	string	No
name	Event log name.	string	No
description	Event log description.	string	No
type	Event log type.	string	No
creationTime	Event log creation time.	date	No
collectionType	Event log collection type.	string	No

Element	Data Description	Type	Req'd
collectionQuantity	Event log collection quantity.	string	No
Event.result	Event result.	string	No
Event.id	Event identifier.	string	No
Event.name	Event name.	string	No
Event.description	Event description.	string	No
Event.creationTime	Event creation time.	dateTime	No
Event.severity	Event severity.	string	No
Event.priority	Event priority.	string	No
Event.sequence Number	Event sequence number.	string	No
Event.eventType	Event type.	string	No
Service.id	Service identifier.	string	No
Service.name	Service name.	string	No
Service.description	Service description.	string	No
Service.comments	Service comments.	string	No

2.16.2 Schema (StandardOutput.xsd) (also the same for CB)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD

references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Convergence Bidding under Current Initiatives)

3 Submit Bid Action (includes CB Bid Action)

3.1 *Business Scenario*

Scheduling Coordinators submit bid action data on behalf of market participants who wish to participate in the CAISO Day Ahead, Real Time and Convergence Bid markets. While most Scheduling Coordinators submit their bid action data through the SIBR portal manually, some Scheduling Coordinators submit their bid action data in batch mode through an automated process.

To meet the needs for submission of bid action request data from Scheduling Coordinators, two processes can be followed for manual and batch mode, respectively:

1) Portal Process

In this process the submission is made via a CAISO Web Portal. Scheduling Coordinators submit bid action data through the portal automatically using a proxy application implemented at the portal. The proxy will send the data to SIBR for submission.

2) Direct Link Process

In this case, a Scheduling Coordinator directly invokes the submitBidAction service that resides in CAISO domain using a security mechanism. This process involves submitting bid action xml payloads via the CAISO web service interface, but does not preclude the use of a client application for automating the process of invoking the web service

The direct link can only be established if a Scheduling Coordinator application knows the concrete information to invoke the SIBR bid action submit Web service. Since a Scheduling Coordinator application is usually outside of the CAISO firewall, a certain security mechanism shall be implemented for the process. The Scheduling Coordinator applications shall be also responsible for an XML validation prior to a data submission.

3.2 *Service Level Agreement*

The following service level agreement defines the business and technical requirements for service availability and performance.

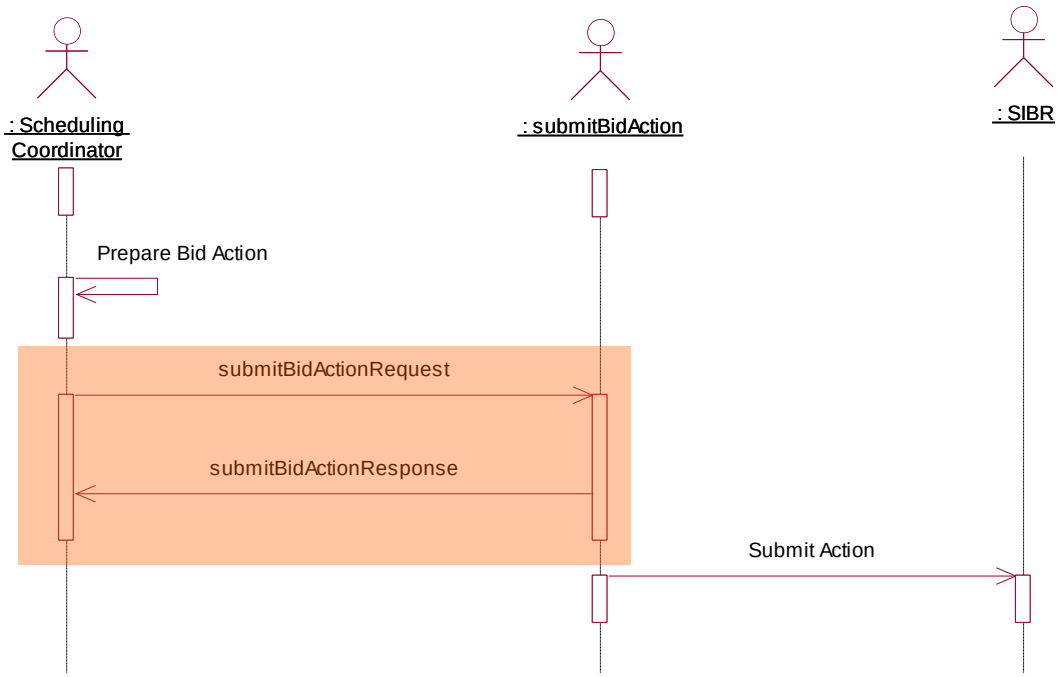
Service availability	Service level goal is 99.9%.
Expected size of payload (average and maximum)	Less than 1 KB.
Expected frequency (average and maximum)	The only action is to cancel bids. Expect this to be infrequent.
Longest time the service can be unavailable before business is impacted	[to be determined]
Business impact if is unavailable	Schedule Coordinators utilizing the service may not cancel a bid.
Expected response time for the service	[to be determined]
Expected time to exchange	[to be determined]

3.3 *Use Model*

The sequence diagram below describes the service interactions between Scheduling Coordinators and SIBR system in a direct link submission process. The data exchange follows CAISO SOA Submit messaging pattern. In this pattern, the data source system is the Scheduling Coordinator who initiates a data transaction by invoking a submitBidAction service or submitCBBidActiont serviceprovided by SIBR. The consumer of the Web service is Scheduling Coordinator or a Web portal. The consumer makes request to SIBR with raw bid data by invoking the submit Web service. The SIBR system is the provider of the Web service.

The following steps are involved in the submission process:

1) Scheduling Coordinator has the bid action data set ready in XML format
2) Scheduling Coordinator validates the data set based on the XML schema
3) Scheduling Coordinator invokes the submitBidAction Web service directly to send a request to SIBR with the bid action data set
4) SIBR returns an acknowledge message back to Scheduling Coordinator.



3.4 *Operation Details*

The service has one operation with three message types. All input and output messages are in XML format.

Operation	Message Types	Message	WSDL	XSD
SubmitBidAction	Input	SubmitBidAction Request	submitBidAction.wsdl	submitBidActiont.xsd
	Output	SubmitBidAction Response		SubmitStandardOutput.xsd
	Fault	faultReturnType		StandardOutput.xsd

Operation	Message Types	Message	WSDL	XSD
SubmitCBBidAction	Input	SubmitCBBidAction Request	submitCBBidAction_v20100301.wsdl	CB_BidAction_v20100301.xsd
	Output	SubmitCBBidAction Response		SubmitStandardOutput_v20100301.xsd
	Fault	faultReturnType		StandardOutput.xsd

3.5 *WSDL* (submitBidAction.wsdl)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Scheduling Infrastructure and Business Rules)

3.6 *WSDL* (submitCBBidAction.wsdl)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Convergence Bidding under Current Initiatives)

3.7 Submit Bid Action

3.7.1 Element Table

Element	Data Description	Type	Req'd
Message Header			
TimeDate	The dateTime, in GMT, when the payload is published.	dateTime	Yes
Source	The source of published data.	string	Yes
Message Payload			
GeneratingBid			
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
Action Request	Type of bid action request. Valid values are: CANCEL	string	Yes
LoadBid			
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
Action Request	Type of bid action request. Valid values are: CANCEL	string	Yes
InterTieBid			
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No

Element	Data Description	Type	Req'd
Action Request	Type of bid action request. Valid values are: CANCEL	string	Yes

3.8 Submit CB Bid Action

3.8.1 Element Table

Element	Data Description	Type	Req'd
Message Header			
TimeDate	The dateTime, in GMT, when the payload is published.	dateTime	Yes
Source	The source of published data.	string	Yes
Message Payload			
VirtualBid	Convergence Bids are only submitted in the Day-Ahead market, pertain only to the 'energy' market product type, and are associated with PNodes rather than resources.		No
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
Action Request	Type of bid action request. Valid values are: CANCEL	string	Yes

3.8.2 Schema (BidAction.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Scheduling Infrastructure and Business Rules)

3.8.3 Schema (CBBidAction.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Convergence Bidding under Current Initiatives)

3.9 *BidAction Response*

Same as 2.11 (Raw Bid Set Response)

3.10 *CBBidAction Response*

Same as 2.12 (CB Raw Bid Set Response)

3.11 *Fault Return*

Same as 2.13

3.12 *CBFault Return*

Same as 2.13

Retrieve Clean Bid Set (includes CB)

3.13 *Business Scenario*

The SIBR system provides fully validated bids (clean bids) to market participants. Clean bid set data can be retrieved by invoking the retrieveCleanBidSet web service.

1. The service will be used to retrieve the bids submitted/generated through the following:

    a. Bids submitted through SIBR GUI
    b. Bids submitted through SIBR UI Manual Upload
    c. Bids submitted through API
    d. Bids auto-generated by SIBR applicable to Ruleset SIBR BR 7.X

2. These services will be use to retrieve bids for all product applicable to either DA or RT markets for Physical Bids and the Convergence Bids (DA only)

3. This service will be use to retrieve bids for a single market trading period that has been closed.

4. The service will return only bids with “CL” (Clean) status. Bids with status of either V (Valid) or M (Modified) will be tagged by SIBR as “Clean” bid.

5. The service will return only bids for all resource that belongs to the user, depending on the filtering criteria used.

6. The result will be filtered using any of the following criteria:

    a. <u>By Bid MRID</u>

        i. Using Bid MRID filtering criteria, the user will be able to retrieve the clean bid for resource associated with the bid MRID.
        ii. The bid MRID generated is unique for each resource, trading period and bid activity, but associated with only 1 resource ID
        iii. The result will include 1 “Clean” bid for a particular resource (if the resource belong to the user) associated with the bid reference ID specified.

    b. <u>By Resource ID (Location ID for CB)</u>

        i. Using By Resource ID filtering criteria, the user will be able to retrieve clean bid for the resource ID and trading period specified.
        ii. The Resource ID refers to the actual resource name known to Market Participants;
        iii. The result will include at most 1 “Clean” bid for the specified trading period, and resource that belong to the user.

c. By Date

i. Using By Date filtering criteria, the user will be able to retrieve clean bid for all the resource that belongs to the user and trading period specified.
ii. The result will include at most 1 “Clean” bid for the specified trading period, and for all resource that belong to the user.

d. By SC ID

i. Using By SC ID filtering criteria, the user will be able to retrieve clean bid for all the resource that belongs to the SC ID and trading period specified that are authorized for the certificate being used.
ii. The result will include at most 1 “Clean” bid for the specified trading period, and for all resource that belong to the SC ID for the user.

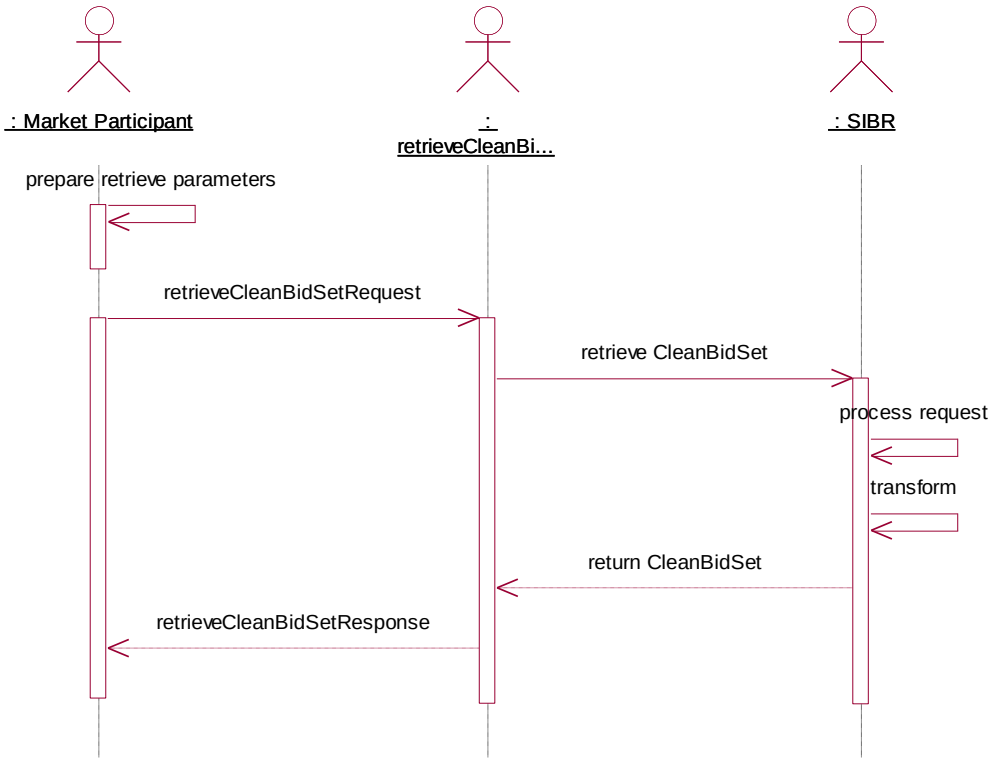
3.14 *Service Level Agreement*

The following service level agreement defines the business and technical requirements for service availability and performance.

Service availability	Service level goal is 99.9%.
Expected size of payload (average and maximum)	(AVG # of bids) to (500+ maximum bids) times size of one bid
Expected frequency (average and maximum)	One an hour after RTM closes, and minimum of once per day after DAM closes, per Schedule Coordinator utilizing the service.
Longest time the service can be unavailable before business is impacted	[to be determined]
Business impact if is unavailable	Schedule Coordinators utilizing the service may have difficulty submitting all their bids for the next RTM.
Expected response time for the service	[to be determined]
Expected time to exchange	[to be determined]

3.15 *Use Model*

The sequence diagram below describes the market participants retrieving the clean bid data. There are two web service involved: retrieveCleanBidSet for Physical Bids and retrieveCBCleanBidSet for Convergence Bids.



3.16 *Operation Details*

The service has one operation with three message types. All input and output messages are in XML format.

Operation	Message Types	Message	WSDL	XSD
retrieveCleanBidSet	Input	RetrieveCleanBidSetRequest	retrieveCleanBidSet_v3.wsdl retrieveCleanBidSet_v4.wsdl	RequestCleanBidSet.xsd
	Output	RetrieveCleanBidSetResponse		CleanBidSet_v3.xsd CleanBidSet_v4.xsd
	Fault	faultReturnType		StandardOutput.xsd

Operation	Message Types	Message	WSDL	XSD
retrieveCBCleanBidSet	Input	RetrieveCBCleanBidSetRequest		RequestCBCleanBidSet_v20100301.xsd

	Output	RetrieveCBCleanBid SetResponse	retrieveCBCleanBidSet_v20100301.wsdl retrieveCBCleanBidSet_v1.wsdl	CB_CleanBidSet_v20100301.xsd CB_CleanBidSet_v1.xsd
	Fault	faultReturnType		StandardOutput.xsd

3.17 *WSDL (retrieveCleanBidSet_v1.wsdl)*

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Scheduling Infrastructure and Business Rules)

3.18 *WSDL (retrieveCleanBidSet_v3.wsdl)*

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Scheduling Infrastructure and Business Rules)

(Not yet posted)

sdfasdf

3.19 *WSDL (retrieveCBCleanBidSet_v20100301.wsdl)*

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Scheduling Infrastructure and Business Rules)

3.20 *WSDL (retrieveCBCleanBidSet_v1.wsdl)*

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Scheduling Infrastructure and Business Rules)

3.21 Clean Bid Set Request

3.21.1 Element Table

Element	Data Description	Type	Req'd
Bid_MarketTimeInterval	**Request using Market Type**		**No**
Bid_MarketTimeInterval. MarketStartTime	Time of day when Market Definition starts.	dateTime	Yes

Element	Data Description	Type	Req'd
Bid_MarketTimeInterval. MarketEndTime	Time of day when Market Definition ends.	dateTime	Yes
Bid_MarketTimeInterval. marketType	Market Type to be used: DAM RTM	string	Yes
Bid_SchedulingCoordinatorMarketTimeInterval	**Request using SC ID**		**No**
Bid_SchedulingCoordinatorMarketTimeInterval. MarketStartTime	Time of day when Market Definition starts.	dateTime	Yes
Bid_SchedulingCoordinatorMarketTimeInterval. MarketEndTime	Time of day when Market Definition ends.	dateTime	Yes
Bid_SchedulingCoordinatorMarketTimeInterval. marketType	Market Type to be used: DAM RTM	string	Yes
Bid_SchedulingCoordinatorMarketTimeInterval. schedulingCoordinator	SC ID to be used with Market Type	string	Yes
Bid_BidIDMarketTimeInterval	**Request using Bid ID(MRID)**		**No**
Bid_BidIDMarketTimeInterval. BidID	BidID = MRID which stands for master object identifier which should be globally unique.	string	Yes
Bid_ResourceIDMarketTimeInterval	**Request using Resource ID**		**No**
Bid_ResourceIDMarketTimeInterval. MarketStartTime	Time of day when Market Definition starts.	dateTime	Yes
Bid_ResourceIDMarketTimeInterval. MarketEndTime	Time of day when Market Definition ends.	dateTime	Yes
Bid_MarketTimeInterval. marketType	Market Type to be used: DAM RTM	string	Yes
Bid_ResourceIDMarketTimeInterval. ResourceID	ResourceID = MRID which stands for master object identifier which should be globally unique.	string	Yes

3.22 CBClean Bid Set Request

3.22.1 Element Table

Element	Data Description	Type	Req'd
CB_Bid_MarketTimeInterval	**Request using Market Type**		**No**

Element	Data Description	Type	Req'd
CB_Bid_MarketTimeInterval. MarketStartTime	Time of day when Market Definition starts.	dateTime	Yes
CB_Bid_MarketTimeInterval. MarketEndTime	Time of day when Market Definition ends.	dateTime	Yes
CB_Bid_SchedulingCoordinatorMarketTimeInterval	**Request using SC ID**		**No**
CB_Bid_SchedulingCoordinatorMarketTimeInterval . MarketStartTime	Time of day when Market Definition starts.	dateTime	Yes
CB_Bid_SchedulingCoordinatorMarketTimeInterval .MarketEndTime	Time of day when Market Definition ends.	dateTime	Yes
CB_Bid_SchedulingCoordinatorMarketTimeInterval .schedulingCoordinator	SC ID to be used with Market Type	string	Yes
CB_Bid_BidIDMarketTimeInterval	**Request using Bid ID(MRID)**		**No**
CB_Bid_BidIDMarketTimeInterval. BidID	BidID = MRID which stands for master object identifier which should be globally unique.	string	Yes
CB_Bid_PnodeIDMarketTimeInterval	**Reguest using Pnode ID**		**No**
CB_Bid_PnodeIDMarketTimeInterval. MarketStartTime	Time of day when Market Definition starts.	dateTime	Yes
CB_Bid_PnodeIDMarketTimeInterval. MarketEndTime	Time of day when Market Definition ends.	dateTime	Yes
CB_Bid_PnodeIDMarketTimeInterval. ResourceID	ResourceID = MRID which stands for master object identifier which should be globally unique.	string	Yes

3.22.2 Schema (RequestCleanBidSet.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

. Pre Production Release date for v4
http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Scheduling Infrastructure and Business Rules)

3.22.3 Schema (RequestCBCleanBidSet.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Scheduling Infrastructure and Business Rules)

3.23 Clean Bid Set Response

3.23.1 Element Table (v3 existing service for EIM FNM)

Element	Data Description	Type	Req'd
Message Header (Header is optional)			
TimeDate	The dateTime, in GMT, when the payload is published.	dateTime	Yes
Source	The source of published data.	string	Yes
Version	Date reflecting the release it is related to. Default is 20141001.	String	Yes
IncPayloadFlag	(these elements will not be utilized in SIBR, they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	Yes/No	No
lastBroadcasted	(these elements will not be utilized in SIBR) they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	dateTime	No
BroadcastSequenceNum	(these elements will not be utilized in SIBR) they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	integer	No
Message Payload			
GeneratingBid			
description	Description of object.	string	No
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
name	Unique name of generating bid. (1-32 characters)	string	No

Element	Data Description	Type	Req'd
lastModified	Time and date the document was last modified. Documents may potentially be modified many times during their lifetime.	dateTime	No
marketType	The market type DAM or RTM	String	yes
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
HourlyParameter	Used for bidable capacity and resource Bid Option, and Open Tie status.		
HourlyParameters.biddableCapacityLimit	This is a MW quantity that limits the capacity to be used during optimization. SIBR rules inforce submitted quantity, if none submitted default will be used.	String	No
HourlyParameters.biddableCapacityLimitType	Enumerations are: GEN_CAPACITY_LIMIT (used for Generators and NGR resources under Gen condition) LOAD_CAPACITY_LIMIT (used for NGR resources in Load Condition)	String	No
HourlyParameters.timeIntervalStart	Start of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
HourlyParameters.timeIntervalEnd	End of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
HourlyParameter.openTieStatus	Enumeration of YES/NO status generated by SIBR for Bid to indicate open or isolated Tie condition that apply to the bid for the relevant trading hour.	YesNo	No
HourlyParameters.resourceBidOption	If no data is submitted, the default will be used. For Real Time Market only: HOURLY ONCE 15MIN DYNAMIC	String	No
ProductBid			
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidDistributionFactor.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidDistributionFactor.timeIntervalEnd	End of the time interval n which bid is valid.	dateTime	Yes

Element	Data Description	Type	Req'd
ProductBid.BidDistributionFactor.PnodeDistributionFactor.factor.value	Used to calculate "participation" of Pnode in an AggregatePnode. For example, for regulation region this factor is 1 and total sum of all factors for a specific regulation region does not have to be 1. For pricing zone the total sum of all factors has to value must be => 0 and <= 1	float	Yes
ProductBid.BidDistributionFactor.PnodeDistributionFactor.IndividualPnode.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.xAxisData	The data value of the X-axis variable..	float	Yes
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. (will also be seen in RMU/RMD as Price for Mileage)	float	Yes
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.y2AxisData	The data value of the Y-axis variable, depending on the Y-axis units. (this is the Opportunity Cost in the Regulation component. (both RU and RD).	float	Yes
ProductBid.BidSelfSched.description	Description of Bid Self Sched. (1-32 characters)	string	No
ProductBid.BidSelfSched.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched.selfSchedMw	Self Schedule MW value for the referenced commodity.	float	No
ProductBid.BidSelfSched.selfSchedSptResource	PT Export Self Sched Support Resource	String	No
ProductBid.BidSelfSched.balancingFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR is balanced with another self-schedule using the same TR ID.	YesNo	No

Element	Data Description	Type	Req'd
ProductBid.BidSelfSched. priorityFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR has scheduling priority in IFM/RTM.	YesNo	No
ProductBid.BidSelfSched.wheeli ngTransactionReference	A unique identifier of a wheeling transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources	String	No
ProductBid.BidSelfSched. referenceType	Indication of which class is referenced by the self schedule. • ETC • TOR • WHL • RMT	String	No
ProductBid.BidSelfSched. pumpSelfSchedMw	Contains the PT, ETC, TOR pumping self schedule quantity. If this value is not null, then the unit is in pumping mode.	float	No
ProductBid.BidSelfSched. AdjacentCASet/mrid	Goups Adjacent Control Areas.	String	No
ProductBid.BidSelfSched. HostControlArea/mrid	A HostControlArea has a set of tie points and a set of generator controls (i.e., AGC). It also has a total load, including transmission and distribution losses.	String	No
ProductBid.BidSelfSched. ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched. ContractRight.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.MarketProduct. description	Description of Marke tProduct. (1-32 characters)	string	No
ProductBid.MarketProduct. marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment RMU – Regulation Mileage Up RMD – Regulation Milieage Down LFU – Load Following Up LFD – Load Following Down	string	Yes

Element	Data Description	Type	Req'd
ProductBid.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker (Export only) ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take SP – Self Provision (AS only) LOF – Lay Off Self Schedule WHL – Wheeling Transaction LSG – Load Serving Generator (Partial QF initiative) RA – Resource Adequacy (not a submitted element) IFM – DA AS for RTM (not a submitted element) GSS – Generating Self Schedule (NGR) (future use, currently not recognized) LSS – Load Self Schedule (NGR) (future use)	string	No
ProductBid.UnitSchedule. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule. parameterID	Parameter ID. Valid values are: HOURLY_PREDISPATCH – hourly pre-dispatch PUMPING_LEVEL – pumping level PUMPING_COST PUMPING_SHUTDOWN_COST	string	Yes
ProductBid.UnitSchedule. parameterType	Indication of the type of parameter being defined (STRING or FLOAT).	string	Yes
ProductBid.UnitSchedule. parameterValue	Parameter value which replaces corresponding default values from input bid data.	float	No
ProductBid.UnitSchedule. parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO.	string	No
SchedulingCoordinator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
bidStatus	Bid status: CL – Clean (CL is the only Status that will be returned with this request. The XSD is modeled from the BidResults.)	string	No

Element	Data Description	Type	Req'd
contingencyAvailFlag	Contingent operating reserve availiability. Valid value = YES or NO. Resource is availiable to participate with capacity only in contingency dispatch.	string	No
CreatedISO	Implies if the bid was created by the ISO versus submitted by an SC	string	no
energyMaxDay	Maximum amount of energy per day which can be produced during the trading period in MWh.	float	No
energyMinDay	Minimum amount of energy per day which has to be produced during the trading period in MWh.	float	No
startUpsMaxDay	Maximum number of startups per day.	integer	No
curtailmentEnergyLimit	Max energy left that can be curtailed for DDR	Float	No
greenHouseGasAdder	Green House Gas adder for EIM participating resource.	Float	No
lowerChargeLimit	Lowest stored energy (MWh) that should be maintained in the LESR device	Float	No
maximumEconomicMW	Maximum high economic MW limit, that should not exceed the maximum operating MW limit.	float	No
minimumEconomicMW	Low economic MW limit that must be greater than or equal to the minimum operating MW limit.	float	No
noLoadCost	Resource fixed no load cost.	float	No
startUpRampTime	Start Up Ramp Time	Float	No Yes if used with MSG
stateOfCharge	Actual stored Energy (MWh) left in the storage device	Float	No
upperChargeLimit	Highest stored energy (MWh) that should be allowed in the LESR device	Float	No
RampRateCurve	Curve for Ramp (based on type of Ramp)		No
RampRateCurve.description	Description of the object.		No
RampRateCurve.CurveScheduleDatas.	The data point values for a Ramp Curve		No
RampRateCurve.CurveScheduleDatas.xAxisData	Operational Level	Float	No Yes if Ramp data is supplied

Element	Data Description	Type	Req'd
RampRateCurve.CurveScheduleDatas.y1AxisData	Ramp Rate	Float	No Yes if Ramp data is supplied
RampRateCurve.constraintRampType	Type of Ramp : will be either FAST or SLOW	string	No
RampRateCurve.rampRateType	Type of Ramp, Operational, Operating Reserve or for Regulation. Enumerations: (INTERTIE, LD_DROP, LD_PICKUP, **OP, OP_RES, REG**.)	String	No Yes if Ramp data is supplied
RegisteredGenerator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RegisteredGenerator.Configuration	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate.	string	No Yes if used with MSG
RegisteredGenerator.AggregatedPnode.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RegisteredGenerator.IndividualPnode.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
Configuration.mrid	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate.	string	No Yes if used with MSG
StartUpCostCurve.description	Description of Start Up CostCurve. (1-32 characters)	string	No
StartUpCostCurve.CurveSchedDatas.xAxisData	The data value of the X-axis variable, depending on the X-axis units.	float	Yes
StartUpCostCurve.CurveSchedDatas.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units.	float	Yes
StartUpTimeCurve.description	Description of Start Up Time Curve. (1-32 characters)	string	No
StartUpTimeCurve.CurveSchedDatas.xAxisData	The data value of the X-axis variable, depending on the X-axis units.	float	Yes
StartUpTimeCurve.CurveSchedDatas.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units.	float	Yes
Transition			

Element	Data Description	Type	Req'd
Transition.notificationTime	Time in minutes the 'To-Configuration ID' requires before deployment. Notification time includes transition ramp time	float	No Yes if used with MSG
Transition.transitionCost	Cost of moving from 'From-Configuration ID' to 'To-Configuration ID'	float	No Yes if used with MSG
Transition.transitionRampTime	Time in minutes it takes to ramp from 'From-Configuration ID' to 'To-Configuration ID'	float	No Yes if used with MSG
Transition.FromConfiguration	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate. (currently in)	string	No Yes if used with MSG
InterTieBid			
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
name	Unique name of intertie bid. (1-32 characters)	string	No
lastModified	Time and date the document was last modified.	dateTime	No
marketType	The market type, DAM or RTM.	string	Yes
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
HourlyParameter.openTieStatus	Enumeration of YES/NO status generated by SIBR for Bid to indicate open or isolated Tie condition that apply to the bid for the relevant trading hour.		

Element	Data Description	Type	Req'd
HourlyParameters.resourceBidOption	The InterTie and Generator have bidding options that SC shall explicitly select as part of its real time bid. The default is that it is not a hour block resource. If no data, the default will be used. For Real Time Market only: HOURLY ONCE 15MIN DYNAMIC		No
HourlyParameters.timeIntervalEnd	End of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
HourlyParameters.timeIntervalStart	Start of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
ProductBid			
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.xAxisData	The data value of the X-axis variable.	float	Yes
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [\d]+\.?\d?\d?	float	Yes
ProductBid.BidSelfSched.description	Description of Bid Self Sched. (1-32 characters)	string	No
ProductBid.BidSelfSched.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSelfSched.balancingFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR is balanced with another self-schedule using the same TR ID.	YesNo	No

Element	Data Description	Type	Req'd
ProductBid.BidSelfSched. priorityFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR has scheduling priority in IFM/RTM.	YesNo	No
ProductBid.BidSelfSched. pumpSelfSchedMw	Contains the PT, ETC, TOR pumping self schedule quantity. If this value is not null, then the unit is in pumping mode.	float	No
ProductBid.BidSelfSched. referenceType	Indication of which class is referenced by the self schedule. • ETC • TOR • WHL RMT	String	No
ProductBid.BidSelfSched. selfSchedMw	Self Schedule MW value for the referenced commodity.	float	No
ProductBid.BidSelfSched. selfSchedSptResource	PT Export Self Sched Support Resource	String	No
ProductBid.BidSelfSched. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched.wheeli ngTransactionReference	A unique identifier of a wheeling transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources	String	No
ProductBid.BidSelfSched. AdjacentCASet/mrid	Goups Adjacent Control Areas.	String	No
ProductBid.BidSelfSched. ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched. ContractRight.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.BidSelfSched. HostControlArea/mrid	A HostControlArea has a set of tie points and a set of generator controls (i.e., AGC). It also has a total load, including transmission and distribution losses.	String	No
ProductBid.MarketProduct. description	Description of Market Product. (1-32 characters)	string	No

Element	Data Description	Type	Req'd
ProductBid.MarketProduct. marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment LFU – Load Following Up LFD – Load Following Down	string	Yes
ProductBid.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker (Export only) ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take SP – Self Provision (AS only) LOF – Lay Off Self Schedule WHL – Wheeling Transaction LSG – Load Serving Generator (Partial QF initiative) RA – Resource Adequacy (not a submitted element) IFM – DA AS for RTM (not a submitted element) GSS – Generating Self Schedule (NGR) (future use, currently not recognized) LSS – Load Self Schedule (NGR) (future use)	string	No
ProductBid.UnitSchedule. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule. parameterID	Parameter ID. Valid values are: HOURLY_PREDISPATCH PUMPING_LEVEL PUMPING_COST PUMPING_SHUTDOWN_COST	string	Yes
ProductBid.UnitSchedule. parameterType	Indication of the type of parameter being defined (STRING or FLOAT).	string	Yes
ProductBid.UnitSchedule. parameterValue	Parameter value which replaces corresponding default values from input bid data.	float	No

Element	Data Description	Type	Req'd
ProductBid.UnitSchedule. parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO.	string	No
SchedulingCoordinator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
bidStatus	Bid Status: CL – Clean -	string	No
contingencyAvailFlag	Contingent operating reserve availiability. Valid value = YES or NO. Resource is availiable to participate with capacity only in contingency dispatch.	string	No
CreatedISO	Implies if the bid was created by the ISO versus submitted by an SC	string	no
MinHourlyBlock	The Registered upper bound of MHB for an Inter-Tie Resource	integer	No
RampRateCurve Ramp Rate data is not currently provided for Interties.	Curve for Ramp (based on type of Ramp)		No
RampRateCurve.description	Description of the object.		No
RampRateCurve.CurveSchedule Datas.	The data point values for a Ramp Curve		No
RampRateCurve.CurveSchedule Datas.xAxisData	Operational Level	Float	No Yes if Ramp data is supplied
RampRateCurve.CurveSchedule Datas.y1AxisData	Ramp Rate	Float	No Yes if Ramp data is supplied
RampRateCurve.rampRateType	Type of Ramp, Operational, Operating Reserve or for Regulation. Enumerations: (INTERTIE, LD_DROP, LD_PICKUP, **OP, OP_RES, REG**.)	String	No Yes if Ramp data is supplied
RegisteredInterTie.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RegisteredInterTie.AggregatedP node.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RegisteredInterTie.IndividualPno de.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes

Element	Data Description	Type	Req'd
RegisteredInterTie.IndividualPnode.registeredFlag	Resource flag to indicate Master File registered.	YesNo	Yes
LoadBid			
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
name	Unique name for Load Bid. (1-32 characters)	string	No
lastModified	Last modification timestamp	dateTime	Yes
marketType	The market type, DAM or RTM.	string	Yes
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
ProductBid			
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.xAxisData	The data value of the X-axis variable..	float	Yes
ProductBid.BidSelfSched.description	Description of Bid Self Schedule. (1-32 characters)	string	No
ProductBid.BidSelfSched.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSelfSched.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes

Element	Data Description	Type	Req'd
ProductBid.BidSelfSched. selfSchedMw	Self Schedule MW value for the referenced commodity	float	No
ProductBid.BidSelfSched. selfSchedSptResource	PT Export Self Sched Support Resource	String	No
ProductBid.BidSelfSched. balancingFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR is balanced with another self-schedule using the same TR ID.	YesNo	No
ProductBid.BidSelfSched. priorityFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR has scheduling priority in IFM/RTM.	YesNo	No
ProductBid.BidSelfSched.wheeli ngTransactionReference	A unique identifier of a wheeling transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources	String	No
ProductBid.BidSelfSched. referenceType	Indication of which class is referenced by the self schedule. • ETC • TOR • WHL RMT	String	No
ProductBid.BidSelfSched. pumpSelfSchedMw	Contains the PT, ETC, TOR pumping self schedule quantity. If this value is not null, then the unit is in pumping mode.	float	No
ProductBid.BidSelfSched. AdjacentCASet/mrid	Goups Adjacent Control Areas.	String	No
ProductBid.BidSelfSched. HostControlArea/mrid	A HostControlArea has a set of tie points and a set of generator controls (i.e., AGC). It also has a total load, including transmission and distribution losses.	String	No
ProductBid.BidSelfSched. ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched. ContractRight.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.MarketProduct. description	Description of Market Product. (1-32 characters)	string	No

Element	Data Description	Type	Req'd
ProductBid.MarketProduct. marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment LFU – Load Following Up LFD – Load Following Down	string	Yes
ProductBid.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker (Export only) ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take SP – Self Provision (AS only) LOF – Lay Off Self Schedule WHL – Wheeling Transaction LSG – Load Serving Generator (Partial QF initiative) RA – Resource Adequacy (not a submitted element) IFM – DA AS for RTM (not a submitted element) GSS – Generating Self Schedule (NGR) (future use, currently not recognized) LSS – Load Self Schedule (NGR) (future use)	string	No
ProductBid.UnitSchedule. parameterID	Parameter ID. Valid values are: HOURLY_PREDISPATCH – hourly pre-dispatch PUMPING_LEVEL – pumping level PUMPING_COST PUMPING_SHUTDOWN_COST	string	Yes
ProductBid.UnitSchedule. parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO.	string	No
ProductBid.UnitSchedule. parameterType	Indication of the type of parameter being defined (STRING or FLOAT).	string	Yes
ProductBid.UnitSchedule. parameterValue	Parameter value which replaces corresponding default values from input bid data.	float	No
ProductBid.UnitSchedule. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes

Element	Data Description	Type	Req'd
ProductBid.UnitSchedule. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
SchedulingCoordinator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
bidStatus	Bid status: CL - Clean	string	No
contingencyAvailFlag	Contingent operating reserve availiability. Valid value = YES or NO. Resource is availiable to participate with capacity only in contingency dispatch.	string	No
CreatedISO	Implies if the bid was created by the ISO versus submitted by an SC	string	no
RegisteredLoad.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RegisteredLoad.AggregatedPnode.mrid	An aggregated pricing node is a specialized type of pricing node used to model items such as System Zone, Default Price Zone, Custom Price Zone, Control Area, Aggregated Generation, Aggregated Particpating Load, Aggregated Non-Participating Load, Trading. MRID stands for master resource identifier which should be globally unique. (1-32 characters).	string	Yes
RegisteredLoad.IndividualPnode.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters).	string	Yes
MarketRun			
MarketRun.executionType	Type of execution for run: Enumerations are : DA HASP RTD RTPD	String	No
MarketRun.marketEndTime	Market End Time	dateTime	No
MarketRun.marketID	Market ID of the planned market refering to the ID of the instance of the PlannedMarket.	string	Yes
MarketRun.marketRunID	A unique market identifier. The market ID of the instance of a planned market.	string	Yes

Element	Data Description	Type	Req'd
MarketRun.marketType	Market Type Enumerations are DAM or RTM	MarketType	No
MarketRun.masterFileRepository Version	Unique reference to the Master File used for input to market.	String	No

3.23.2 Element Table (v4 service, newest version for EIM Enhancements)

Element	Data Description	Type	Req'd
Message Header (Header is optional)			
TimeDate	The dateTime, in GMT, when the payload is published.	dateTime	Yes
Source	The source of published data.	string	Yes
Version	Date reflecting the release it is related to. Default is 20151001.	String	Yes
IncPayloadFlag	(these elements will not be utilized in SIBR, they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	Yes/No	No
lastBroadcasted	(these elements will not be utilized in SIBR) they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	dateTime	No
BroadcastSequenceNum	(these elements will not be utilized in SIBR) they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	integer	No
Message Payload			
GeneratingBid			
description	Description of object.	string	No
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
name	Unique name of generating bid. (1-32 characters)	string	No

Element	Data Description	Type	Req'd
lastModified	Time and date the document was last modified. Documents may potentially be modified many times during their lifetime.	dateTime	No
marketType	The market type DAM or RTM	String	yes
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
HourlyParameter	Used for bidable capacity and resource Bid Option, and Open Tie status.		
HourlyParameters.biddableCapacityLimit	This is a MW quantity that limits the capacity to be used during optimization. SIBR rules inforce submitted quantity, if none submitted default will be used.	String	No
HourlyParameters.biddableCapacityLimitType	Enumerations are: GEN_CAPACITY_LIMIT (used for Generators and NGR resources under Gen condition) LOAD_CAPACITY_LIMIT (used for NGR resources in Load Condition)	String	No
HourlyParameters.timeIntervalStart	Start of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
HourlyParameters.timeIntervalEnd	End of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
HourlyParameter.openTieStatus	Enumeration of YES/NO status generated by SIBR for Bid to indicate open or isolated Tie condition that apply to the bid for the relevant trading hour.	YesNo	No
HourlyParameters.resourceBidOption	If no data is submitted, the default will be used. For Real Time Market only: HOURLY ONCE 15MIN DYNAMIC	String	No
ProductBid			
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidDistributionFactor.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidDistributionFactor.timeIntervalEnd	End of the time interval n which bid is valid.	dateTime	Yes

Element	Data Description	Type	Req'd
ProductBid.BidDistributionFactor.PnodeDistributionFactor.factor.value	Used to calculate "participation" of Pnode in an AggregatePnode. For example, for regulation region this factor is 1 and total sum of all factors for a specific regulation region does not have to be 1. For pricing zone the total sum of all factors has to value must be => 0 and <= 1	float	Yes
ProductBid.BidDistributionFactor.PnodeDistributionFactor.IndividualPnode.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.xAxisData	The data value of the X-axis variable..	float	Yes
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. (will also be seen in RMU/RMD as Price for Mileage)	float	Yes
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.y2AxisData	The data value of the Y-axis variable, depending on the Y-axis units. (this is the Opportunity Cost in the Regulation component. (both RU and RD).	float	Yes
ProductBid.BidSelfSched.description	Description of Bid Self Sched. (1-32 characters)	string	No
ProductBid.BidSelfSched.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched.selfSchedMw	Self Schedule MW value for the referenced commodity.	float	No
ProductBid.BidSelfSched.selfSchedSptResource	PT Export Self Sched Support Resource	String	No
ProductBid.BidSelfSched.balancingFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR is balanced with another self-schedule using the same TR ID.	YesNo	No

Element	Data Description	Type	Req'd
ProductBid.BidSelfSched. priorityFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR has scheduling priority in IFM/RTM.	YesNo	No
ProductBid.BidSelfSched. WheelingTransactionReference. mrid	For the Clean Bid, this will either be the registered resource or the Transaction MRID (name) generated on a submitted Transaction Wheel.	String	No
ProductBid.BidSelfSched. referenceType	Indication of which class is referenced by the self schedule. • ETC • TOR • WHL • RMT	String	No
ProductBid.BidSelfSched. pumpSelfSchedMw	Contains the PT, ETC, TOR pumping self schedule quantity. If this value is not null, then the unit is in pumping mode.	float	No
ProductBid.BidSelfSched. AdjacentCASet/mrid	Goups Adjacent Control Areas.	String	No
ProductBid.BidSelfSched. HostControlArea/mrid	A HostControlArea has a set of tie points and a set of generator controls (i.e., AGC). It also has a total load, including transmission and distribution losses.	String	No
ProductBid.BidSelfSched. ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched. ContractRight.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.MarketProduct. description	Description of Marke tProduct. (1-32 characters)	string	No
ProductBid.MarketProduct. CASupplyIndicator	**Flag indicating Green House Gas (GHG) MW is fully committed to CA supply. (EIM) YES or NO enumeration.**	**YesNo**	**No**
ProductBid.MarketProduct. marketProductType	Market product type. Valid values are: EN – Energy type GHG – Green House Gas for EIM Participating. RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment RMU – Regulation Mileage Up RMD – Regulation Milieage Down LFU – Load Following Up LFD – Load Following Down	string	Yes

Element	Data Description	Type	Req'd
ProductBid.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker (Export only) ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take SP – Self Provision (AS only) LOF – Lay Off Self Schedule WHL – Wheeling Transaction LSG – Load Serving Generator (Partial QF initiative) RA – Resource Adequacy (not a submitted element) IFM – DA AS for RTM (not a submitted element) GSS – Generating Self Schedule (NGR) (future use, currently not recognized) LSS – Load Self Schedule (NGR) (future use)	string	No
ProductBid.UnitSchedule. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule. parameterID	Parameter ID. Valid values are: HOURLY_PREDISPATCH – hourly pre-dispatch PUMPING_LEVEL – pumping level PUMPING_COST PUMPING_SHUTDOWN_COST	string	Yes
ProductBid.UnitSchedule. parameterType	Indication of the type of parameter being defined (STRING or FLOAT).	string	Yes
ProductBid.UnitSchedule. parameterValue	Parameter value which replaces corresponding default values from input bid data.	float	No
ProductBid.UnitSchedule. parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO.	string	No
SchedulingCoordinator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
bidStatus	Bid status: CL – Clean (CL is the only Status that will be returned with this request. The XSD is modeled from the BidResults.)	string	No

Element	Data Description	Type	Req'd
contingencyAvailFlag	Contingent operating reserve availiability. Valid value = YES or NO. Resource is availiable to participate with capacity only in contingency dispatch.	string	No
CreatedISO	Implies if the bid was created by the ISO versus submitted by an SC	string	no
energyMaxDay	Maximum amount of energy per day which can be produced during the trading period in MWh.	float	No
energyMinDay	Minimum amount of energy per day which has to be produced during the trading period in MWh.	float	No
startUpsMaxDay	Maximum number of startups per day.	integer	No
curtailmentEnergyLimit	Max energy left that can be curtailed for DDR	Float	No
greenHouseGasAdder	Green House Gas adder for EIM participating resource.	Float	No
lowerChargeLimit	Lowest stored energy (MWh) that should be maintained in the LESR device	Float	No
maximumEconomicMW	Maximum high economic MW limit, that should not exceed the maximum operating MW limit.	float	No
minimumEconomicMW	Low economic MW limit that must be greater than or equal to the minimum operating MW limit.	float	No
noLoadCost	Resource fixed no load cost.	float	No
startUpRampTime	Start Up Ramp Time	Float	No Yes if used with MSG
stateOfCharge	Actual stored Energy (MWh) left in the storage device	Float	No
upperChargeLimit	Highest stored energy (MWh) that should be allowed in the LESR device	Float	No
RampRateCurve	Curve for Ramp (based on type of Ramp)		No
RampRateCurve.description	Description of the object.		No
RampRateCurve.CurveScheduleDatas.	The data point values for a Ramp Curve		No
RampRateCurve.CurveScheduleDatas.xAxisData	Operational Level	Float	No Yes if Ramp data is supplied

Element	Data Description	Type	Req'd
RampRateCurve.CurveScheduleDatas.y1AxisData	Ramp Rate	Float	No Yes if Ramp data is supplied
RampRateCurve.constraintRampType	Type of Ramp : will be either FAST or SLOW	string	No
RampRateCurve.rampRateType	Type of Ramp, Operational, Operating Reserve or for Regulation. Enumerations: (INTERTIE, LD_DROP, LD_PICKUP, **OP, OP_RES, REG**.)	String	No Yes if Ramp data is supplied
RegisteredGenerator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RegisteredGenerator.Configuration	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate.	string	No Yes if used with MSG
RegisteredGenerator.AggregatedPnode.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RegisteredGenerator.IndividualPnode.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
Configuration.mrid	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate.	string	No Yes if used with MSG
StartUpCostCurve.description	Description of Start Up CostCurve. (1-32 characters)	string	No
StartUpCostCurve.CurveSchedDatas.xAxisData	The data value of the X-axis variable, depending on the X-axis units.	float	Yes
StartUpCostCurve.CurveSchedDatas.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units.	float	Yes
StartUpTimeCurve.description	Description of Start Up Time Curve. (1-32 characters)	string	No
StartUpTimeCurve.CurveSchedDatas.xAxisData	The data value of the X-axis variable, depending on the X-axis units.	float	Yes
StartUpTimeCurve.CurveSchedDatas.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units.	float	Yes
Transition			

Element	Data Description	Type	Req'd
Transition.notificationTime	Time in minutes the 'To-Configuration ID' requires before deployment. Notification time includes transition ramp time	float	No Yes if used with MSG
Transition.transitionCost	Cost of moving from 'From-Configuration ID' to 'To-Configuration ID'	float	No Yes if used with MSG
Transition.transitionRampTime	Time in minutes it takes to ramp from 'From-Configuration ID' to 'To-Configuration ID'	float	No Yes if used with MSG
Transition.FromConfiguration	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate. (currently in)	string	No Yes if used with MSG
InterTieBid			
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
name	Unique name of intertie bid. (1-32 characters)	string	No
lastModified	Time and date the document was last modified.	dateTime	No
marketType	The market type, DAM or RTM.	string	Yes
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
HourlyParameter.openTieStatus	Enumeration of YES/NO status generated by SIBR for Bid to indicate open or isolated Tie condition that apply to the bid for the relevant trading hour.		

Element	Data Description	Type	Req'd
HourlyParameters.resourceBidOption	The InterTie and Generator have bidding options that SC shall explicitly select as part of its real time bid. The default is that it is not a hour block resource. If no data, the default will be used. For Real Time Market only: HOURLY ONCE 15MIN DYNAMIC		No
HourlyParameters.timeIntervalEnd	End of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
HourlyParameters.timeIntervalStart	Start of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
ProductBid			
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.xAxisData	The data value of the X-axis variable.	float	Yes
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [\d]+\.?\d?\d?	float	Yes
ProductBid.BidSelfSched.description	Description of Bid Self Sched. (1-32 characters)	string	No
ProductBid.BidSelfSched.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSelfSched.balancingFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR is balanced with another self-schedule using the same TR ID.	YesNo	No

Element	Data Description	Type	Req'd
ProductBid.BidSelfSched. priorityFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR has scheduling priority in IFM/RTM.	YesNo	No
ProductBid.BidSelfSched. pumpSelfSchedMw	Contains the PT, ETC, TOR pumping self schedule quantity. If this value is not null, then the unit is in pumping mode.	float	No
ProductBid.BidSelfSched. referenceType	Indication of which class is referenced by the self schedule. • ETC • TOR • WHL RMT	String	No
ProductBid.BidSelfSched. selfSchedMw	Self Schedule MW value for the referenced commodity.	float	No
ProductBid.BidSelfSched. selfSchedSptResource	PT Export Self Sched Support Resource	String	No
ProductBid.BidSelfSched. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
~~ProductBid.BidSelfSched.wheelingTransactionReference~~ Deleted in v4	~~A unique identifier of a wheeling transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources~~	~~String~~	~~No~~
ProductBid.BidSelfSched. WheelingTransactionReference. mrid	For the Clean Bid, this will either be the registered resource or the Transaction MRID (name) generated on a submitted Transaction Wheel.	String	No
ProductBid.BidSelfSched. AdjacentCASet/mrid	Goups Adjacent Control Areas.	String	No
ProductBid.BidSelfSched. ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched. ContractRight.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.BidSelfSched. HostControlArea/mrid	A HostControlArea has a set of tie points and a set of generator controls (i.e., AGC). It also has a total load, including transmission and distribution losses.	String	No
ProductBid.MarketProduct. description	Description of Market Product. (1-32 characters)	string	No

Element	Data Description	Type	Req'd
ProductBid.MarketProduct. marketProductType	Market product type. Valid values are: EN – Energy type GHG – Green House Gas for EIM Participating RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment LFU – Load Following Up LFD – Load Following Down	string	Yes
ProductBid.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker (Export only) ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take SP – Self Provision (AS only) LOF – Lay Off Self Schedule WHL – Wheeling Transaction LSG – Load Serving Generator (Partial QF initiative) RA – Resource Adequacy (not a submitted element) IFM – DA AS for RTM (not a submitted element) GSS – Generating Self Schedule (NGR) (future use, currently not recognized) LSS – Load Self Schedule (NGR) (future use)	string	No
ProductBid.UnitSchedule. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule. parameterID	Parameter ID. Valid values are: HOURLY_PREDISPATCH PUMPING_LEVEL PUMPING_COST PUMPING_SHUTDOWN_COST	string	Yes
ProductBid.UnitSchedule. parameterType	Indication of the type of parameter being defined (STRING or FLOAT).	string	Yes
ProductBid.UnitSchedule. parameterValue	Parameter value which replaces corresponding default values from input bid data.	float	No

Element	Data Description	Type	Req'd
ProductBid.UnitSchedule. parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO.	string	No
SchedulingCoordinator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
bidStatus	Bid Status: CL – Clean -	string	No
contingencyAvailFlag	Contingent operating reserve availiability. Valid value = YES or NO. Resource is availiable to participate with capacity only in contingency dispatch.	string	No
CreatedISO	Implies if the bid was created by the ISO versus submitted by an SC	string	no
MinHourlyBlock	The Registered upper bound of MHB for an Inter-Tie Resource	integer	No
RampRateCurve Ramp Rate data is not currently provided for Interties.	Curve for Ramp (based on type of Ramp)		No
RampRateCurve.description	Description of the object.		No
RampRateCurve.CurveSchedule Datas.	The data point values for a Ramp Curve		No
RampRateCurve.CurveSchedule Datas.xAxisData	Operational Level	Float	No Yes if Ramp data is supplied
RampRateCurve.CurveSchedule Datas.y1AxisData	Ramp Rate	Float	No Yes if Ramp data is supplied
RampRateCurve.rampRateType	Type of Ramp, Operational, Operating Reserve or for Regulation. Enumerations: (INTERTIE, LD_DROP, LD_PICKUP, **OP, OP_RES, REG**.)	String	No Yes if Ramp data is supplied
RegisteredInterTie.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RegisteredInterTie.AggregatedP node.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RegisteredInterTie.IndividualPno de.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes

Element	Data Description	Type	Req'd
RegisteredInterTie.IndividualPnode.registeredFlag	Resource flag to indicate Master File registered.	YesNo	Yes
LoadBid			
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
name	Unique name for Load Bid. (1-32 characters)	string	No
lastModified	Last modification timestamp	dateTime	Yes
marketType	The market type, DAM or RTM.	string	Yes
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
ProductBid			
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.xAxisData	The data value of the X-axis variable..	float	Yes
ProductBid.BidSelfSched.description	Description of Bid Self Schedule. (1-32 characters)	string	No
ProductBid.BidSelfSched.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSelfSched.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes

Element	Data Description	Type	Req'd
ProductBid.BidSelfSched. selfSchedMw	Self Schedule MW value for the referenced commodity	float	No
ProductBid.BidSelfSched. selfSchedSptResource	PT Export Self Sched Support Resource	String	No
ProductBid.BidSelfSched. balancingFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR is balanced with another self-schedule using the same TR ID.	YesNo	No
ProductBid.BidSelfSched. priorityFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR has scheduling priority in IFM/RTM.	YesNo	No
~~ProductBid.BidSelfSched.wheelingTransactionReference~~ Deleted in v4	~~A unique identifier of a wheeling transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources~~	~~String~~	~~No~~
ProductBid.BidSelfSched. WheelingTransactionReference. mrid	For the Clean Bid, this will either be the registered resource or the Transaction MRID (name) generated on a submitted Transaction Wheel.	String	No
ProductBid.BidSelfSched. referenceType	Indication of which class is referenced by the self schedule. • ETC • TOR • WHL RMT	String	No
ProductBid.BidSelfSched. pumpSelfSchedMw	Contains the PT, ETC, TOR pumping self schedule quantity. If this value is not null, then the unit is in pumping mode.	float	No
ProductBid.BidSelfSched. AdjacentCASet/mrid	Goups Adjacent Control Areas.	String	No
ProductBid.BidSelfSched. HostControlArea/mrid	A HostControlArea has a set of tie points and a set of generator controls (i.e., AGC). It also has a total load, including transmission and distribution losses.	String	No
ProductBid.BidSelfSched. ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched. ContractRight.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.MarketProduct. description	Description of Market Product. (1-32 characters)	string	No

Element	Data Description	Type	Req'd
ProductBid.MarketProduct. marketProductType	Market product type. Valid values are: EN – Energy type GHG – Green House Gas for EIM Partiicipating RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment LFU – Load Following Up LFD – Load Following Down	string	Yes
ProductBid.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker (Export only) ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take SP – Self Provision (AS only) LOF – Lay Off Self Schedule WHL – Wheeling Transaction LSG – Load Serving Generator (Partial QF initiative) RA – Resource Adequacy (not a submitted element) IFM – DA AS for RTM (not a submitted element) GSS – Generating Self Schedule (NGR) (future use, currently not recognized) LSS – Load Self Schedule (NGR) (future use)	string	No
ProductBid.UnitSchedule. parameterID	Parameter ID. Valid values are: HOURLY_PREDISPATCH – hourly pre-dispatch PUMPING_LEVEL – pumping level PUMPING_COST PUMPING_SHUTDOWN_COST	string	Yes
ProductBid.UnitSchedule. parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO.	string	No
ProductBid.UnitSchedule. parameterType	Indication of the type of parameter being defined (STRING or FLOAT).	string	Yes
ProductBid.UnitSchedule. parameterValue	Parameter value which replaces corresponding default values from input bid data.	float	No

Element	Data Description	Type	Req'd
ProductBid.UnitSchedule. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
SchedulingCoordinator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
bidStatus	Bid status: CL - Clean	string	No
contingencyAvailFlag	Contingent operating reserve availiability. Valid value = YES or NO. Resource is availiable to participate with capacity only in contingency dispatch.	string	No
CreatedISO	Implies if the bid was created by the ISO versus submitted by an SC	string	no
RegisteredLoad.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RegisteredLoad.AggregatedPnode.mrid	An aggregated pricing node is a specialized type of pricing node used to model items such as System Zone, Default Price Zone, Custom Price Zone, Control Area, Aggregated Generation, Aggregated Particpating Load, Aggregated Non-Participating Load, Trading. MRID stands for master resource identifier which should be globally unique. (1-32 characters).	string	Yes
RegisteredLoad.IndividualPnode.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters).	string	Yes
MarketRun			
MarketRun.executionType	Type of execution for run: Enumerations are : DA HASP RTD RTPD	String	No
MarketRun.marketEndTime	Market End Time	dateTime	No
MarketRun.marketID	Market ID of the planned market refering to the ID of the instance of the PlannedMarket.	string	Yes

Element	Data Description	Type	Req'd
MarketRun.marketRunID	A unique market identifier. The market ID of the instance of a planned market.	string	Yes
MarketRun.marketType	Market Type Enumerations are DAM or RTM	MarketType	No
MarketRun.masterFileRepositoryVersion	Unique reference to the Master File used for input to market.	String	No

3.24 CB Clean Bid Set Response

3.24.1 Element Table (v1, newest for EIM, FNM)

Element	Data Description	Type	Req'd
Message Header (Header is optional)			
TimeDate	The dateTime, in GMT, when the payload is published.	dateTime	Yes
Source	The source of published data.	string	Yes
Version	Date reflecting the release version. Default is 20141001	String	Yes
IncPayloadFlag		Yes/No	No
lastBroadcasted		dateTime	No
BroadcastSequenceNum		integer	No
Message Payload			
MarketRun			
MarketRun.executionType	Type of execution for run: Enumerations are : DA HASP RTD RTPD	String	No

Element	Data Description	Type	Req'd
MarketRun.marketEndTime	Market End Time	dateTime	No
MarketRun.marketID	Market ID of the planned market refering to the ID of the instance of the PlannedMarket.	string	Yes
MarketRun.marketRunID	A unique market identifier. The market ID of the instance of a planned market.	string	Yes
MarketRun.marketType	Market Type Enumerations are DAM or RTM	MarketType	No
MarketRun.masterFileRepositoryVersion	Unique reference to the Master File used for input to market.	String	No
VirtualBid			
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
ProductBid			
IndividualPnodeNmReq.description	Description of object	string	No
ProductBid.BidSchedule	1-25 BidSchedules may be submitted to allow specified bid price curves for different time intervals.		Yes
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval in which bid is valid	dateTime	Yes
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval in which bid is valid	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve	Relationship between unit operating price in $/hour (Y-axis) and unit output in MW (X-axis).		Yes
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.xAxisData	The Mw value specified on the price curve.	float	Yes
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.y1AxisData	The dollar ($) value specified on the price curve. A price curve segment consist of both the Mw value and the dollar value. Pattern value = [-+]?[\d]+\.?\d?\d?	float	Yes
bidStatus	Bid Status: CL – Clean Bid	string	No
virtualBidType	Identifies virtual demand or supply bid.	string	Yes

Element	Data Description	Type	Req'd
AggregatedPnodeNmReq			
AggregatedPnodeNmReq.mrid	Location name for virtual bid at an Aggregated Node..	String	No Yes when using APnode
IndividualPnodeNmReq			
IndividualPnodeNmReq.mrid	Location name for virtual bid at a Price Node.	String	No Yes when using Pnode
ScheduingCoordinator.mrid	Scheduling Coordinator Identifier. (1-32 characters)	String	Yes

3.24.2 Element Table (CB - go-live)

Element	Data Description	Type	Req'd
Message Header			
TimeDate	The dateTime, in GMT, when the payload is published.	dateTime	Yes
Source	The source of published data.	string	Yes
Message Payload			
VirtualBid			
name	Unique name of generating bid. (1-32 characters)	string	No
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
bidStatus	Bid Status: CL – Clean Bid	string	No

Element	Data Description	Type	Req'd
virtualBidType	Identifies virtual demand or supply bid.	string	Yes
AggregatedPnodeNmReq			
AggregatedPnodeNmReq.mrid	Location name for virtual bid at an Aggregated Node..	String	No Yes when using APnode
IndividualPnodeNmReq			
IndividualPnodeNmReq.mrid	Location name for virtual bid at a Price Node.	String	No Yes when using Pnode
ScheduingCoordinator.mrid	Scheduling Coordinator Identifier. (1-32 characters)	String	Yes
EnergyProductBid			
IndividualPnodeNmReq.description	Description of object	string	No
EnergyProductBid.BidSchedule	1-25 BidSchedules may be submitted to allow specified bid price curves for different time intervals.		Yes
EnergyProductBid.BidSchedule.timeIntervalStart	Start of the time interval in which bid is valid	dateTime	Yes
EnergyProductBid.BidSchedule.timeIntervalEnd	End of the time interval in which bid is valid	dateTime	Yes
EnergyProductBid.BidSchedule.BidPriceCurve	Relationship between unit operating price in $/hour (Y-axis) and unit output in MW (X-axis).		Yes
EnergyProductBid.BidSchedule.BidPriceCurve.CurveSchedData.xAxisData	The Mw value specified on the price curve.	float	Yes
EnergyProductBid.BidSchedule.BidPriceCurve.CurveSchedData.y1AxisData	The dollar ($) value specified on the price curve. A price curve segment consist of both the Mw value and the dollar value. Pattern value = [-+]?[\d]+\.?\d?\d?	float	Yes

3.24.3 Schema (CleanBidSet_v3.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Scheduling Infrastructure and Business Rules)

3.24.4 Schema (CleanBidSet_v4.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Scheduling Infrastructure and Business Rules)

3.24.5 Schema (CB_CleanBidSet_v20100301.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Scheduling Infrastructure and Business Rules)

3.24.6 Schema (CB_CleanBidSet_v1.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Scheduling Infrastructure and Business Rules)

3.25 Fault Return

The fault return message is the same for all services; see Section 2.13 for details.

4 Retrieve Current Bid Results (includes CB)

4.1 *Business Scenario*

The following bid results need to be exchanged between Scheduling Coordinators and the SIBR system.

1. This service will be use to retrieve result for bids submitted/generated through the following:

    a. Bids submitted through SIBR GUI
    b. Bids submitted through SIBR UI Manual Upload
    c. Bids submitted through API

2. The services will be use to retrieve results for bids submitted either in the DA or RT markets for Physical Bids or the Convergence Bids.,

3. The service will be use to retrieve bid results for market trading periods that are open.

4. The bid result will include the following major data elements:

    a. Bid Status
    b. Bid Data
    c. Bid Error Messages

5. The bid status can be any of the following, depending on the filtering criteria used:

    a. I - Invalid
    b. RJ - Rejected
    c. CM - Conditionally Modified
    d. M - Modified
    e. CV - Conditionally Valid
    f. V - Valid
    g. CX - Cancelled
    h. O - Obsolete
    i. S - Submit in Queue
    j. SO - Service Obsolete

6. The result will include the same bid data that can be retrieved and displayed in SIBR GUI. The text “NOT API submitted” will be inserted in the bid name if the bid were submitted through SIBR GUI.

7. The service will return bid results for all resources that belong to the user, depending on the filtering criteria used.

8. The bid result will be filtered using any of the following criteria:

a. By Bid MRID

i. Using Bid MRID filtering criteria, the user will be able to retrieve the result of a bid submitted for a specific resource associated with the Bid MRID.
ii. The following filtering option must be included:
    1. Bid MRID only
iii. The result will include bids submitted either through SIBR UI manual upload or through API.
iv. The result will not include bids submitted through SIBR GUI since no bid reference ID is associated with the bid
v. The result will include the most recent bid result associated with the bid MRID.
vi. The result will include single bid and the bid status can be any of the following:

    1. Invalid (I)
    2. Rejected (RJ)
    3. Conditionally Modified (CM)
    4. Modified (M)
    5. Conditionally Valid (CV)
    6. Valid (V)
    7. Cancelled (CX)
    8. Obsolete (O)
    9. Submit in Queue (S)
    10. Service Obsolete (SO)

vii. The result will include error messages associated with the bid MRID.
viii. The result will not include bids with Hidden Rejected (HR), Hidden Invalid (HI), status since these bids are non-displayable in SIBR GUI.

b. By Resource ID (Location ID for CB)

i. Using Resource ID filtering criteria, the user will be able to retrieve only the most recent result of the bid submitted, for the specified resource ID which belongs to the user and for trading period that corresponds to the specified start and end date/time interval. The bids returned would include only bids that can be displayed in SIBR GUI.

ii. The following filtering options must be included:

    1. Start and End Date/Time – Start and End / Time must correspond to beginning or ending of trading period; maximum of 1 trading period per request.
    2. Market Type – either DAM or RTM (no Market Type for CB)
    3. Bid Type – either VIRTUAL SUPPLY or VIRTUAL DEMAND (CB ONLY)
    4. Resource ID – resource name known to Market Participants, and no wildcards allowed

iii. The service will return result of the DA bids submitted through SIBR GUI manual upload, through API, or through SIBR GUI
iv. The service will return bids submitted for the specified Market Type.
v. The result will include bid for a specified resource that belongs to the user.
vi. The result will include bid for specified trading period.
vii. The result will include error messages generated for each bid returned by the service.
viii. The result will include at most 2 bid results and each resource can have up to one Market Accepted and up to Non-Market Accepted, and the bid status can have any of the following:

1. Market Accepted (M, V, CM, CV,)
2. Non-Market Accepted (CX, I, RJ, , O, SO)

ix. The result will not include bids with), Hidden Rejected (HR), Hidden Invalid (HI), or status since these bids are non-displayable in SIBR GUI.

c. By Date

i. Using By Date filtering criteria, the user will be able to retrieve only the most recent result of the bid submitted, for all the resources which belongs to the user and for trading period that corresponds to the specified start and end date/time interval. The bids returned would include only bids that can be displayed in SIBR GUI.

ii. The following filtering options must be included:

1. Start and End Date/Time – Start and End / Time must correspond to beginning or ending of trading period; maximum of 1 trading period per request.
2. Market Type – either DAM or RTM

iii. The service will return result of the DA bids submitted through SIBR GUI manual upload, through API, or through SIBR GUI
iv. The service will return bids submitted for the specified Market Type.
v. The result will include bid for all resources that belongs to the user.
vi. The result will include bid for specified trading period.
vii. The result will include error messages generated for each bid returned by the service.
viii. The result will include at most 2 bid results and each resource can have up to one Market Accepted and up to one Non-Market Accepted, and the bid status can have any of the following:

1. Market Accepted (M, V, CM, CV,)
2. Non-Market Accepted (I, -, RJ, ,)

ix. The result will not include bids with Cancelled (CX), Hidden Rejected (HR), Hidden Invalid (HI) Obsolete (O) or Service Obsolete (SO) status since these bids are non-displayable in SIBR GUI.

d. By SC ID

i. Using By SC ID filtering criteria, the user will be able to retrieve clean bid for all the resource that belongs to the SC ID and trading period specified that are authorized for the certificate being used.
ii. The result will include at least a bid for the specified trading period, and for all resource that belong to the SC ID for the user.

The result will not include bids with Cancelled (CX), Hidden Rejected (HR), Hidden Invalid (HI) Obsolete (O) or Service Obsolete (SO) status since these bids are non-displayable in SIBR GUI

Day Ahead Bid Validation Results

After a bid is submitted, Content Validation will be performed to ensure that the bid adheres to the structural rules requirements . If not, the bid will be given a rejected status.

After Content Validation succeeds, Bid Validation verifies that the various components of the bid adhere to the applicable market rules. If this validation passes, the bid becomes eligible to be used in a market. If not, the bid will be given an Invalid status.

Day Ahead Bid Processing Results

If the bid passes Content and Bid validation rules with no modifications, it will be given a Conditionally Valid status.

If the bid is acceptable only after the system has automatically modified it, it is called a Conditionally Modified.At this point, the Scheduling Coordinator has the option to view the bid and

- Cancel the bid, in which case the bid is retained in the system database as a Cancelled Bid
- Modify and re-submit the bid, in which case the original bid is retained in the system database as an Obsolete Bid

Bid Validation Results (After Master File Updates)

After the Master File has been updated, all “conditional” bids are re-validated via a process very similar to what happened in the Day Ahead Bid Validation. This validation process may result in changes to the current bid statuses.

Bid Processing Results (After Master File Updates)

After the Master File is updated, the Bid Processing steps are repeated. This may result in changes to the current bid statuses,

To summarize, the following bid status results may be assigned to a bid. These are available to the Scheduling Coordinator through the retrieveCurrentBidResults web service:

- Rejected Bid
- Invalid Bid
- Conditionally Valid Bid

- Conditionally Modified Bid
- Valid Bid
- Modified Bid
- Canceled Bid
- Obsolete Bid

Along with the bid results, the bid status and the necessary error information will be provided to the Scheduling Coordinators.

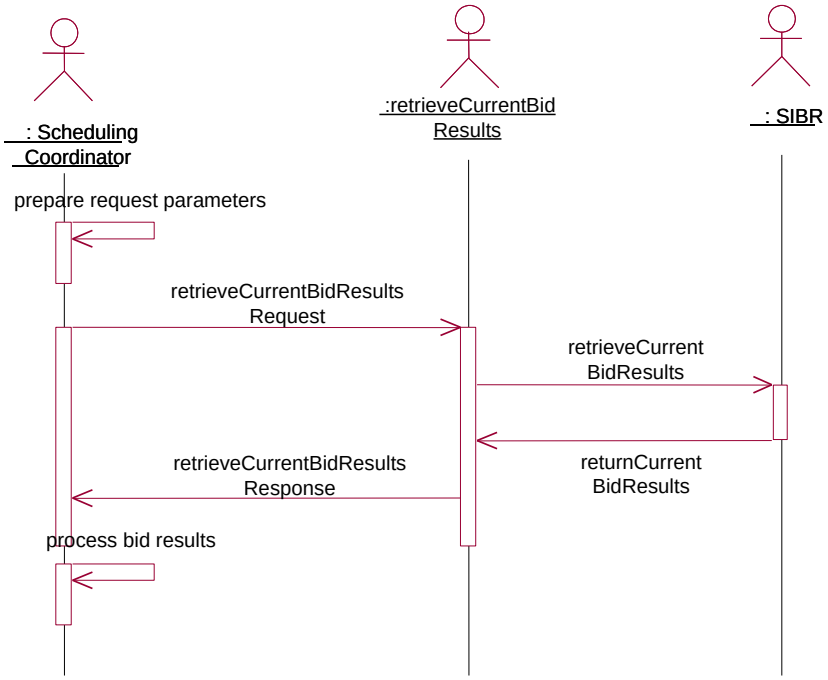
4.2 *Service Level Agreement*

The following service level agreement defines the business and technical requirements for service availability and performance.

Service availability requirements	Service level goal is 99.9%.
Expected size of payload (average and maximum)	(AVG # of bids) to (500+ maximum bids) times size of one bid
Expected frequency (average and maximum)	At least once an hour per Schedule Coordinator utilizing the service for RTM, and several times prior to DAM closing 10:00 AM per SC.
Longest time the service can be unavailable before business is impacted	[to be determined]
Business impact if is unavailable	Schedule Coordinators utilizing the service may not complete submitting all their bids.
Expected response time for the service	[to be determined]
Expected time to exchange	[to be determined]

4.3 *Use Model*

The sequence diagram below describes the service interactions between SCs and CAISO for retrieving the current bid results. The Web service involved is retrieveCurrentBidResults.



4.4 *Operation Details*

The PHY bids service has one operation with three message types. All input and output messages are in XML format.

Operation	Message Types	Message	WSDL	XSD
RetrieveCurrent BidResults	Input	retrieveCurrentBid Results	RetrieveCurrentBid Results_v4.wsdl RetrieveCurrentBid Results_v3.wsdl	RequestBidResults .xsd
	Output	retrieveCurrentBid Results		BidResults_v4.xsd BidResults_v3.xsd
	Fault	faultReturnType		StandardOutput. xsd

The CB service has one operation with three message types. All input and output messages are in XML format.

Operation	Message Types	Message	WSDL	XSD
RetrieveCurrent BidResults	Input	retrieveCurrentBid Results	RetrieveCBCurrentBid Results_v20100301.wsdl	RequestCBBidResults_v20100301.xsd

	Output	retrieveCurrentBidResults	RetrieveCBCurrentBidResults_v1.wsdl	CB_BidResult_v20100301.xsd CB_BidResult_v1.xsd
	Fault	faultReturnType		StandardOutput.xsd

4.5 *WSDL (retrieveCurrentBidResults_v4.wsdl)*

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

Pre Production Release date
http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx

4.6 *WSDL (retrieveCurrentBidResults_v3.wsdl)*

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Scheduling Infrastructure and Business Rules)

4.7 *WSDL (retrieveCBCurrentBidResults_v1v1.wsdl)*

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Scheduling Infrastructure and Business Rules)

4.8 Current Bid Results Request

4.8.1 Element Table

Element	Data Description	Type	Req'd
Bid_MarketTimeInterval	**Request using Market Type**		**No**
Bid_MarketTimeInterval. MarketStartTime	Time of day when Market Definition starts.	dateTime	Yes
Bid_MarketTimeInterval. MarketEndTime	Time of day when Market Definition ends.	dateTime	Yes
Bid_MarketTimeInterval. marketType	Market Type to be used: DAM RTM	string	Yes
Bid_SchedulingCoordinatorMarketTimeInterval	**Request using SC ID**		**No**
Bid_SchedulingCoordinatorMarketTimeInterval. MarketStartTime	Time of day when Market Definition starts.	dateTime	Yes

Element	Data Description	Type	Req'd
Bid_SchedulingCoordinatorMarketTimeInterval. MarketEndTime	Time of day when Market Definition ends.	dateTime	Yes
Bid_SchedulingCoordinatorMarketTimeInterval. marketType	Market Type to be used: DAM RTM	string	Yes
Bid_SchedulingCoordinatorMarketTimeInterval. schedulingCoordinator	SC ID to be used with Market Type	string	Yes
Bid_BidIDMarketTimeInterval	**Request using Bid ID(MRID)**		**No**
Bid_BidIDMarketTimeInterval. BidID	BidID = MRID which stands for master object identifier which should be globally unique.	string	Yes
Bid_ResourceIDMarketTimeInterval	**Reguest using Resource ID**		**No**
Bid_ResourceIDMarketTimeInterval. MarketStartTime	Time of day when Market Definition starts.	dateTime	Yes
Bid_ResourceIDMarketTimeInterval. MarketEndTime	Time of day when Market Definition ends.	dateTime	Yes
Bid_MarketTimeInterval. marketType	Market Type to be used: DAM RTM	string	Yes
Bid_ResourceIDMarketTimeInterval. ResourceID	ResourceID = MRID which stands for master object identifier which should be globally unique.	string	Yes

4.9 CB Current Bid Results Request

4.9.1 Element Table

Element	Data Description	Type	Req'd
CB_Bid_MarketTimeInterval	**Request using Market Time**		**No**
CB_Bid_MarketTimeInterval. MarketStartTime	Time of day when Market Definition starts.	dateTime	Yes
CB_Bid_MarketTimeInterval. MarketEndTime	Time of day when Market Definition ends.	dateTime	Yes
CB_Bid_SchedulingCoordinatorMarketTimeInterval	**Request using SC ID**		**No**

Element	Data Description	Type	Req'd
CB_Bid_SchedulingCoordinatorMarketTimeInterval. MarketStartTime	Time of day when Market Definition starts.	dateTime	Yes
CB_Bid_SchedulingCoordinatorMarketTimeInterval.MarketEndTime	Time of day when Market Definition ends.	dateTime	Yes
CB_Bid_SchedulingCoordinatorMarketTimeInterval.schedulingCoordinator	SC ID to be used with Market Time	string	Yes
CB_Bid_BidIDMarketTimeInterval	**Request using Bid ID(MRID)**		**No**
CB_Bid_BidIDMarketTimeInterval. CBBidID	CBBidID = MRID assigned to the API submitted bid.	string	Yes
CB_Bid_PnodeIDMarketTimeInterval	**Reguest using Pnode ID**		**No**
CB_Bid_PnodeIDMarketTimeInterval. MarketStartTime	Time of day when Market Definition starts.	dateTime	Yes
CB_Bid_PnodeIDMarketTimeInterval. MarketEndTime	Time of day when Market Definition ends.	dateTime	Yes
CB_Bid_PnodeIDMarketTimeInterval.PnodeID	PnodeID = This is the location of the CB Bid.	string	Yes

4.9.2 Schema (RequestBidResults.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

. Pre Production Release date for v4
http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx

http://www.caiso.com/2350/2350840c5ff70.html (Scheduling Infrastructure and Business Rules)

4.9.3 Schema (RequestCBBidResults.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.
http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Convergence Bidding under Current Initiatives)

4.10 Current Bid Results Response

4.10.1 Element Table (v3 service existing for FNM)

Element	Data Description	Type	Req'd
Message Header (Header is optional)			
TimeDate	The dateTime, in GMT, when the payload is published.	dateTime	Yes
Source	The source of published data.	string	Yes
Version	Date reflecting the version related to the release. Default is 20141001.	String	Yes
IncPayloadFlag	(these elements will not be utilized in SIBR, they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	Yes/No	No
lastBroadcasted	(these elements will not be utilized in SIBR) they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	dateTime	No
BroadcastSequenceNum	(these elements will not be utilized in SIBR) they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	integer	No
Message Payload			
GeneratingBid			
description	Description of Generating Bid. (1-32 characters)	string	No
name	Unique name for Generating Bid. (1-32 characters)	string	No
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
lastModified	Time and date the document was last modified.	dateTime	Yes
marketType	The market type, DAM or RTM.	string	Yes
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
HourlyParameter	Used for bidable capacity and resource Bid Option, and Open Tie status.		

Element	Data Description	Type	Req'd
HourlyParameters.biddableCapacityLimit	This is a MW quantity that limits the capacity to be used during optimization. SIBR rules inforce submitted quantity, if none submitted default will be used.	String	No
HourlyParameters.biddableCapacityLimitType	Enumerations are: GEN_CAPACITY_LIMIT (used for Generators and NGR resources under Gen condition) LOAD_CAPACITY_LIMIT (used for NGR resources in Load Condition)	String	No
HourlyParameter.openTieStatus	Enumeration of YES/NO status generated by SIBR for Bid to indicate open or isolated Tie condition that apply to the bid for the relevant trading hour.	YesNo	No
HourlyParameters.resourceBidOption	If no data is submitted, the default will be used. For Real Time Market only: HOURLY ONCE 15MIN DYNAMIC	String	No
HourlyParameters.timeIntervalEnd	End of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
HourlyParameters.timeIntervalStart	Start of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	No
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.mrid	MRID stands for master resource identifier which should be globally unique.	string	No
ProductBid.BidDistributionFactor.description	Description of Bid Distribution Factor. (1-32 characters)	string	No
ProductBid.BidDistributionFactor.timeIntervalEnd	End of the time interval n which bid is valid.	dateTime	Yes
ProductBid.BidDistributionFactor.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidDistributionFactor.PnodeDistributionFactor.factor	Used to calculate "participation" of Pnode in an AggregatePnode. For example, for regulation region this factor is 1 and total sum of all factors for a specific regulation region does not have to be 1. For pricing zone the total sum of all factors has to value must be => 0 and <= 1	float	No
ProductBid.BidDistributionFactor.PnodeDistributionFactor.IndividualPnode.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No

Element	Data Description	Type	Req'd
ProductBid.BidSchedule. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule. BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule. BidPriceCurve.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule. BidPriceCurve.CurveScheduleDatas.xAxisData	The data value of the X-axis variable..	float	No
ProductBid.BidSchedule.BidPriceCurve. CurveScheduleDatas. y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [\d]+\.?\d?\d?	float	No
ProductBid.BidSchedule.BidPriceCurve. CurveScheduleDatas. y2AxisData	The data value of the Y-axis variable, depending on the Y-axis units.	float	No
ProductBid.BidSelfSched. description	Description of Bid Self Schedule. (1-32 characters)	string	No
ProductBid.BidSelfSched. balancingFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR is balanced with another self-schedule using the same TR ID.	YesNo	No
ProductBid.BidSelfSched. priorityFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR has scheduling priority in IFM/RTM.	YesNo	No
ProductBid.BidSelfSched. pumpSelfSchedMw	Contains the PT, ETC, TOR pumping self schedule quantity. If this value is not null, then the unit is in pumping mode.	float	No
ProductBid.BidSelfSched. referenceType	Indication of which class is referenced by the self schedule; resulting in the following choices: • ETC • TOR • WHL • RMT	String	No
ProductBid.BidSelfSched. selfSchedMw	Self Schedule MW value for the referenced commodity.	float	No
ProductBid.BidSelfSched.selfSchedSptResource	PT Export Self Sched Support Resource	String	No

Element	Data Description	Type	Req'd
ProductBid.BidSelfSched. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched.wheeli ngTransactionReference	A unique identifier of a wheeling transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources	String	No
ProductBid.BidSelfSched. AdjacentCASet/mrid	Goups Adjacent Control Areas.	String	No
ProductBid.BidSelfSched. ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched. ContractRight.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.BidSelfSched. HostControlArea/mrid	A HostControlArea has a set of tie points and a set of generator controls (i.e., AGC). It also has a total load, including transmission and distribution losses.	String	No
ProductBid.MarketProduct. description	Description of Market Product. (1-32 characters)	string	No
ProductBid.MarketProduct. marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment RMU – Regulation Mileage Up RMD – Regulation Milieage Down LFU – Load Following Up LFD – Load following Down	string	Yes
ProductBid.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take RA – Resource Adequacy SP – Self Provision BAS – Base Load LOF – Load WHL - Wheeling	string	No

Element	Data Description	Type	Req'd
ProductBid.UnitSchedule.parameterID	Parameter ID. Valid values are: HOURLY_PREDISPATCH – hourly pre-dispatch PUMPING_LEVEL – pumping level PUMPING_COST PUMPING_SHUTDOWN_COST NERC_TAG SCHEDULING_POINT	string	Yes
ProductBid.UnitSchedule.parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO.	string	No
ProductBid.UnitSchedule.parameterType	Indication of the type of parameter being defined (STRING or FLOAT).	string	Yes
ProductBid.UnitSchedule.parameterValue	Parameter value which replaces corresponding default values from input bid data.	float	No
ProductBid.UnitSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
SchedulingCoordinator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
bidStatus	Bid status: RJ - Rejected Bid I - Invalid Bid CV - Conditionally valid bid CM - Conditionally modified bid V - Valid bid M - Modified bid CX - Canceled bid O - Obsolete bid S – Submit in Queue RS – Recent Submit	string	No
contingencyAvailFlag	Contingent operating reserve availiability. Valid value = YES or NO. Resource is availiable to participate with capacity only in contingency dispatch.	YesNo	No
CreatedISO	Implies if the bid was created by the ISO versus submitted by an SC	string	no
energyMaxDay	Maximum amount of energy per day which can be produced during the trading period in MWh.	float	No
energyMinDay	Minimum amount of energy per day which has to be produced during the trading period in MWh.	float	No
BidError.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No

Element	Data Description	Type	Req'd
BidError.endTime	End date/time of the Bid component, for which this error or warning is logged.	dateTime	No
BidError.errMessage	Text of an error or warning message.	string	Yes
BidError.errPriority	Priority of an error or warning	Integer	Yes
BidError.logTimeStamp	Timestamp of logged message.	dateTime	Yes
BidError.ruleID	SIBR Market Rule Identifier.	integer	Yes
BidError.startTime	Start date/time of the Bid component, for which this error or warning is logged.	dateTime	No
BidError.MarketProduct.description	Description of Market Product. (1-32 characters)	string	No
BidError.MarketProduct.marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment	string	Yes
BidError.MarketProduct.selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take RA – Resource Adequacy	string	No
curtailmentEnergyLimit	Maximum energy (MWh) left can be curtailed for the Dispatchable Demand Resource	Float	No
greenHouseGasAdder	Green House Gass adder for EIM participating resources.	Float	No
lowerChargeLimit	Lowest stored energy (MWh) that should be maintained in the LESR device	Float	No
noLoadCost	Resource fixed no load cost. Pattern value = [\d]+\.?\d?\d?	float	No
startUpRampTime	Start Up Ramp Time	Float	No Yes if used with MSG
stateOfCharge	Actual stored Energy (MWh) left in the storage device	Float	No

Element	Data Description	Type	Req'd
upperChargeLimit	Highest stored energy (MWh) that should be allowed in the LESR device	Float	No
RampRateCurve.description	Description of Ramp Rate Curve. (1-32 characters)	string	No
RampRateCurve.CurveSchedule Datas.xAxisData	The data value of the X-axis variable.,	float	No
RampRateCurve. CurveSchedule Datas.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units.	float	No
RampRateCurve. constraintRampType	The condition that identifies whether a Generating Resource should be constrained from Ancillary Service provision if its Schedule or Dispatch change across Trading Hours or Trading Intervals requires more than a specified fraction of the duration of the Trading Hour or Trading Interval. Valid values are Fast/Slow.	string	No
RampRateCurve.rampRateType	[Not supported in Release 1.]	string	No
RegisteredGenerator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RegisteredGenerator.Configuration.mrid	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate.	string	No Yes if used with MSG
StartUpCostCurve.description	Description of Start Up Cost Curve. (1-32 characters)	string	No
StartUpCostCurve. CurveSchedule Datas.xAxisData	The data value of the X-axis variable, depending on the X-axis units.	float	No
StartUpCostCurve CurveSchedule Datas.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [\d]+\.?\d?\d?	float	No
StartUpTimeCurve.description	Description of Start Up Time Curve. (1-32 characters)	string	No
StartUpTimeCurve. CurveSchedule Datas.xAxisData	The data value of the X-axis variable, depending on the X-axis units.	float	No
StartUpTimeCurve. CurveSchedule Datas.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [\d]+\.?\d?\d?	float	No
Transition			

Element	Data Description	Type	Req'd
Transition.notificationTime	Time in minutes the 'To-Configuration ID' requires before deployment. Notification time includes transition ramp time	float	No Yes if used with MSG
Transition.transitionCost	Cost of moving from 'From-Configuration ID' to 'To-Configuration ID'	float	No Yes if used with MSG
Transition.transitionRampTime	Time in minutes it takes to ramp from 'From-Configuration ID' to 'To-Configuration ID'	float	No Yes if used with MSG
Transition.FromConfiguration.mrid	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate. (currently in)	string	No Yes if used with MSG
Transition.ToConfiguration.mrid	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate. (going to)	string	No Yes if used with MSG
InterTieBid			
description	Description of intertie bid. (1-32 characters)	string	No
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
name	Unique name for intertie bid. (1-32 characters)	string	No
lastModified	Time of last modification (bid processing)	Date Time	Yes
marketType	The market type, DAM or RTM.	string	Yes
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
HourlyParameters.openTieStatus	OPENTIE_STATUS. Could be Y or N	string	Yes
HourlyParameters.resourceBidOption	InterTie bid option for FMM. Could be Hourly, Once, 15Min, or Dynamic	String	No

Element	Data Description	Type	Req'd
HourlyParameters.timeIntervalEnd	End of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
HourlyParameters.timeIntervalStart	Start of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.mrid	MRID stands for master resource identifier which should be globally unique.	mrid	No
ProductBid.BidSchedule. description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule. BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule. BidPriceCurve.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule. BidPriceCurve. CurveScheduleDatas.xAxisData	The data value of the X-axis variable.	float	No
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas. y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [\-+]?[\d]+\.?\d?\d?	float	No
ProductBid.BidSelfSched. description	Description of Bid Self Schedule. (1-32 characters)	string	No
ProductBid.BidSelfSched. balancingFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR is balanced with another self-schedule using the same TR ID.	YesNo	No
ProductBid.BidSelfSched. priorityFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR has scheduling priority in IFM/RTM.	YesNo	No
ProductBid.BidSelfSched. pumpSelfSchedMw	Contains the PT, ETC, TOR pumping self schedule quantity. If this value is not null, then the unit is in pumping mode.	float	No

Element	Data Description	Type	Req'd
ProductBid.BidSelfSched. referenceType	Indication of which class is referenced by the self schedule; resulting in the following choices: • ETC • TOR • WHL • RMT *Functionality not fully supported.	String	No
ProductBid.BidSelfSched. selfSchedMw	Self Schedule MW value for the referenced commodity.	float	No
ProductBid.BidSelfSched.selfSchedSptResource	PT Export Self Sched Support Resource	String	No
ProductBid.BidSelfSched. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched.wheelingTransactionReference	A unique identifier of a wheeling transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources	String	No
ProductBid.BidSelfSched. AdjacentCASet/mrid	Goups Adjacent Control Areas.	String	No
ProductBid.BidSelfSched. ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched. ContractRight.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.BidSelfSched. HostControlArea/mrid	A HostControlArea has a set of tie points and a set of generator controls (i.e., AGC). It also has a total load, including transmission and distribution losses.	String	No
ProductBid.MarketProduct. description	Description of Market Product. (1-32 characters)	string	No
ProductBid.MarketProduct. marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment LFU – Load Following Up LFD – Load Following down	string	Yes

Element	Data Description	Type	Req'd
ProductBid.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take RA – Resource Adequacy SP – Self Provision BAS – Base Load LOF – Load Following WHL – Wheeling	string	No
ProductBid.UnitSchedule. parameterID	Parameter ID. Valid values are: HOURLY_PREDISPATCH – hourly pre-dispatch PUMPING_LEVEL – pumping level PUMPING_COST PUMPING_SHUTDOWN_COST NERC_TAG SCHEDULING_POINT	string	Yes
ProductBid.UnitSchedule. parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO.	string	No
ProductBid.UnitSchedule. parameterType	Indication of the type of parameter being defined (STRING or FLOAT).	string	Yes
ProductBid.UnitSchedule. parameterValue	Parameter value which replaces corresponding default values from input bid data.	float	No
ProductBid.UnitSchedule. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
SchedulingCoordinator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
bidStatus	Bid status: RJ - Rejected Bid I - Invalid Bid CV - Conditionally valid bid CM - Conditionally modified bid V - Valid bid M - Modified bid CX - Canceled bid O - Obsolete bid S – Submit in Queue	string	Yes

Element	Data Description	Type	Req'd
contingencyAvailFlag	Contingent operating reserve availiability. Valid value = YES or NO. Resource is availiable to participate with capacity only in contingency dispatch.	string	No
CreatedISO	Implies if the bid was created by the ISO versus submitted by an SC	string	no
BidError.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
BidError.endTime	End date/time of the Bid component, for which this error or warning is logged.	dateTime	Yes
BidError.errMessage	Text of an error or warning message.	string	Yes
BidError.errPriority	Message level: 0 = highest priority 1-4 = different level of error 5 = warning message 6 = Information status	integer	Yes
BidError.logTimeStamp	Timestamp of logged message.	dateTime	Yes
BidError.ruleID	SIBR Market Rule Identifier.	integer	Yes
BidError.startTime	Start date/time of the Bid component, for which this error or warning is logged.	dateTime	Yes
BidError.MarketProduct.description	Description of Market Product. (1-32 characters)	string	No
BidError.MarketProduct.marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment	string	Yes
BidError.MarketProduct.selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take RA – Resource Adequacy SP – Self Provision	string	No
MinHourlyBlock	The Registered upper bound of MHB for an Inter-Tie Resource	integer	No
RampRateCurve.description	Description of Ramp Rate Curve. (1-32 characters)	string	No

Element	Data Description	Type	Req'd
RampRateCurve.CurveSchedule Datas.xAxisData	The data value of the X-axis variable..	float	No
RampRateCurve. CurveSchedule Datas.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [\d]+\.?\d?\d?	float	No
RampRateCurve. constraintRampType	The condition that identifies whether a Generating Resource should be constrained from Ancillary Service provision if its Schedule or Dispatch change across Trading Hours or Trading Intervals requires more than a specified fraction of the duration of the Trading Hour or Trading Interval. Valid values are Fast/Slow	string	No
RampRateCurve.rampRateType	[Not supported in Release 1.]	string	No
RampRateCurve.CurveSched Data.prohibitedZone	[Does not apply to intertie resource bids.]	string	No
RegisteredInterTie.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RegisteredInterTie.mrid *For a registered Intertie with Master File, the mrid is required in the bid.* *For a Transaction based (non-registered resource) the mrid is not required and will be generated by SIBR dependent upon the components selected for the bid.*	Registered name of the Intertie Resource. (1-32 characters) Only for registered Interties.	string	Yes
RegisteredInterTie.SecondaryFlowGate *Note: For Transaction based bids not for Registered resources.*	Alternate Tie (if registered) for Transaction based bid.	String	No
RegisteredInterTie.SecondaryFlowGate.mrid *Note: For Transaction based bids not for Registered resources.*	For resources where an alternative path is registered . An alternative path can be specified.	String	Yes
RegisteredInterTie.AggregatedPnode RegisteredInterTie.AggregatedPnode.mrid	These are the Scheduling Points defined.	String	No

Element	Data Description	Type	Req'd
RegisteredInterTie.IndividualPnode RegisteredInterTie.IndividualPnode.mrid	These are the Scheduling Points defined.	String	no
RegisteredInterTie.PrimaryFlowGate *Note: For Transaction based bids not for Registered resources.* *Must be submitted for external locations.*	Primary Tie for Transaction based bid. (associated to Scheduling Point)	String	No
RegisteredInterTie.PrimaryFlowGate.mrid *Note: For Transaction based bids not for Registered resources.*	Tie Name for Transaction based bids. This must be supplied for all Transaction based bids.	String	Yes
RegisteredInterTie.SchedulingCoordinator *Note: For Transaction based bids not for Registered resources.*	Scheduling Coordinator for Transaction based bid.	String	No
RegisteredInterTie.SchedulingCoordinator.mrid *Note: For Transaction based bids not for Registered resources.*	Scheduling Coordinator for Transaction based bid. This must be supplied for all Transaction based bids.	String	Yes
RegisteredInterTie.direction *Note: For Transaction based bids not for Registered resources.*	Indicator for direction of an Intertie. Can be either I or E. This must be supplied for all Transaction based bids.	InterTieDirection	No
RegisteredInterTie.energyProductType *Note: For Transaction based bids not for Registered resources.*	Product type of an Intertie related to Tagging. Can be: DYN, FIRM, NFRM, UCTG, WHL This must be supplied for all Transaction based bids.	EnergyProductType	No

Element	Data Description	Type	Req'd
RegisteredInterTie.registeredFlag	Resource flag to indicate if it is a Master File resource	YesNo	Yes
RegisteredInterTie.purchaseServiceEntity	PSE identifier forTransaction based bids. This is made available to SIBR from Master File registry.	String	No
RegisteredInterTie_wheeling.WheelingResource *Note: For Transaction based bids not for Registered resources.*	Used in wheeling transactions where EnergyProductType is WHL.	String	No
RegisteredInterTie_wheeling.WheelingResource.mrid *Note: This is not a submitted value* *For Transaction based bids not for Registered resources.*	Wheeling Transaction name. This will be generated by SIBR once the Transaction is submitted.	String	No
RegisteredInterTie_wheeling.WheelingResource.SecondaryFlowGate *Note: For Transaction based bids not for Registered resources.*	Alternate Scheduling Point (if registered) for a Transaction based bid.		No
RegisteredInterTie_wheeling.WheelingResource.SecondaryFlowGate.mrid *Note: For Transaction based bids not for Registered resources.*	Alternate Tie Name	String	No
RegisteredInterTie_wheeling.WheelingResource.AggregatedPnode RegisteredInterTie_wheeling.WheelingResource.AggregatedPnode.mrid *Note: For Transaction based bids not for Registered resources.*	These are the Scheduling Points at Aggregated locations.	String	no

Element	Data Description	Type	Req'd
RegisteredInterTie_wheeling.WheelingResource.IndividualPnode RegisteredInterTie_wheeling.WheelingResource.IndividualPnode.mird *Note: For Transaction based bids not for Registered resources.*	These are the Scheduling Points at Individual locations.	String	no
RegisteredInterTie_wheeling.WheelingResource.PrimaryFlowGate *Note: For Transaction based bids not for Registered resources.*	Primary Tie Name for Wheeling.	String	No
RegisteredInterTie_wheeling.WheelingResource.PrimaryFlowGate.mrid *Note: For Transaction based bids not for Registered resources.*	Primary Tie Name for Wheeling.	String	No
RegisteredInterTie_wheeling.WheelingResource.SchedulingCoordinator *Note: For Transaction based bids not for Registered resources.*	Scheduling Coordinater for Wheeling.		No
RegisteredInterTie_wheeling.WheelingResource.SchedulingCoordinator.mrid *Note: For Transaction based bids not for Registered resources.*	Scheduling Coordinater for Wheeling.	String	No
RegisteredInterTie_wheeling.WheelingResource.direction *Note: For Transaction based bids not for Registered resources.*	Indicator for direction of an Intertie. Can be either I or E. This must be supplied for all Transaction based bids.	InterTieDirection	No
RegisteredInterTie_wheeling.WheelingResource.energyProductType *Note: For Transaction based bids not for Registered resources.*	Product type of an Intertie related to Tagging. Can be: DYN, FIRM, NFRM, UCTG, WHL This must be supplied for all Transaction based bids.	EnergyProductType	No

Element	Data Description	Type	Req'd
RegisteredInterTie.registeredFlag	Resource flag to indicate if it is a Master File resource	YesNo	No
RegisteredInterTie_wheeling.WheelingResource.purchaseServiceEntity	PSE identifier forTransaction based bids.	String	No
LoadBid			
description	Description of Load Bid. (1-32 characters)	string	No
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
name	Unique name for Load Bid. (1-32 characters)	string	No
lastModified	Time and date the document was last modified.	dateTime	No
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
marketType	The market type, DAM or RTM.	string	Yes
ProductBid.description	Description Product Bid. (1-32 characters)	string	No
ProductBid.mrid	MRID stands for master resource identifier which should be globally unique.	string	No
ProductBid.BidSchedule.description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.xAxisData	The data value of the X-axis variable.	float	No

Element	Data Description	Type	Req'd
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [\d]+\.?\d?\d?	float	No
ProductBid.BidSelfSched.description	Description of Bid Self Sched. (1-32 characters)	string	No
ProductBid.BidSelfSched.balancingFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR is balanced with another self-schedule using the same TR ID.	YesNo	No
ProductBid.BidSelfSched.priorityFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR has scheduling priority in IFM/RTM.	YesNo	No
ProductBid.BidSelfSched.pumpSelfSchedMw	Contains the PT, ETC, TOR pumping self schedule quantity. If this value is not null, then the unit is in pumping mode.	float	No
ProductBid.BidSelfSched.referenceType	Indication of which class is referenced by the self schedule; resulting in the following choices: • ETC • TOR • WHL • RMT	String	No
ProductBid.BidSelfSched.selfSchedMw	Self Schedule MW value for the referenced commodity	float	No
ProductBid.BidSelfSched.selfSchedSptResource	PT Export Self Sched Support Resource	String	No
ProductBid.BidSelfSched.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched.wheelingTransactionReference	A unique identifier of a wheeling transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources	String	No
ProductBid.BidSelfSched.AdjacentCASet/mrid	Goups Adjacent Control Areas.	String	No
ProductBid.BidSelfSched.ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched.ContractRight.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes

Element	Data Description	Type	Req'd
ProductBid.BidSelfSched. HostControlArea/mrid	A HostControlArea has a set of tie points and a set of generator controls (i.e., AGC). It also has a total load, including transmission and distribution losses.	String	No
ProductBid.MarketProduct. description	Description Market Product. (1-32 characters)	string	No
ProductBid.MarketProduct. marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment LFU – Load Following Up LFD – Load Following Down	string	Yes
ProductBid.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take RA – Resource Adequacy SP – Self Provision BAS – Base Load LOF – Load Following WHL - Wheeling	string	No
ProductBid.UnitSchedule. parameterID	Parameter ID. Valid values are: HOURLY_PREDISPATCH – hourly pre-dispatch PUMPING_LEVEL – pumping level PUMPING_COST PUMPING_SHUTDOWN_COST	string	Yes
ProductBid.UnitSchedule. parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO.	string	No
ProductBid.UnitSchedule. parameterType	Indication of the type of parameter being defined (STRING or FLOAT).	string	Yes
ProductBid.UnitSchedule. parameterValue	Parameter value which replaces corresponding default values from input bid data.	float	No
ProductBid.UnitSchedule. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
SchedulingCoordinator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes

Element	Data Description	Type	Req'd
bidStatus	Bid status: RJ - Rejected Bid I - Invalid Bid CV - Conditionally valid bid CM - Conditionally modified bid V - Valid bid M - Modified bid CX - Canceled bid O - Obsolete bid S – Submit in Queue	string	No
contingencyAvailFlag	Contingent operating reserve availiability. Valid value = YES or NO. Resource is availiable to participate with capacity only in contingency dispatch.	string	No
CreatedISO	Implies if the bid was created by the ISO versus submitted by an SC	string	no
BidError.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
BidError.endTime	End date/time of the Bid component, for which this error or warning is logged.	dateTime	Yes
BidError.errMessage	Text of an error or warning message.	string	Yes
BidError.errPriority	Message level: 0 = highest priority 1-4 = different level of error 5 = warning message 6 = Information status	integer	Yes
BidError.logTimeStamp	Timestamp of logged message.	dateTime	Yes
BidError.ruleID	SIBR Market Rule Identifier.	integer	Yes
BidError.startTime	Start date/time of the Bid component, for which this error or warning is logged.	dateTime	Yes
BidError.MarketProduct.description	Description of Market Product. (1-32 characters)	string	No
BidError.MarketProduct.marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment	string	Yes

Element	Data Description	Type	Req'd
BidError.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take RA – Resource Adequacy	string	No
RegisteredLoad.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes

4.10.2 Element Table (v4 service, newest for EIM Enhancements)

Element	Data Description	Type	Req'd
Message Header (Header is optional)			
TimeDate	The dateTime, in GMT, when the payload is published.	dateTime	Yes
Source	The source of published data.	string	Yes
Version	Date reflecting the version related to the release. Default is 20151001.	String	Yes
IncPayloadFlag	(these elements will not be utilized in SIBR, they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	Yes/No	No
lastBroadcasted	(these elements will not be utilized in SIBR) they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	dateTime	No
BroadcastSequenceNum	(these elements will not be utilized in SIBR) they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	integer	No
Message Payload			
GeneratingBid			
description	Description of Generating Bid. (1-32 characters)	string	No

Element	Data Description	Type	Req'd
name	Unique name for Generating Bid. (1-32 characters)	string	No
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
lastModified	Time and date the document was last modified.	dateTime	Yes
marketType	The market type, DAM or RTM.	string	Yes
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
HourlyParameter	Used for bidable capacity and resource Bid Option, and Open Tie status.		
HourlyParameters.biddableCapacityLimit	This is a MW quantity that limits the capacity to be used during optimization. SIBR rules inforce submitted quantity, if none submitted default will be used.	String	No
HourlyParameters.biddableCapacityLimitType	Enumerations are: GEN_CAPACITY_LIMIT (used for Generators and NGR resources under Gen condition) LOAD_CAPACITY_LIMIT (used for NGR resources in Load Condition)	String	No
HourlyParameter.openTieStatus	Enumeration of YES/NO status generated by SIBR for Bid to indicate open or isolated Tie condition that apply to the bid for the relevant trading hour.	YesNo	No
HourlyParameters.resourceBidOption	If no data is submitted, the default will be used. For Real Time Market only: HOURLY ONCE 15MIN DYNAMIC	String	No
HourlyParameters.timeIntervalEnd	End of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
HourlyParameters.timeIntervalStart	Start of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	No
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.mrid	MRID stands for master resource identifier which should be globally unique.	string	No
ProductBid.BidDistributionFactor.description	Description of Bid Distribution Factor. (1-32 characters)	string	No
ProductBid.BidDistributionFactor.timeIntervalEnd	End of the time interval n which bid is valid.	dateTime	Yes
ProductBid.BidDistributionFactor.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes

Element	Data Description	Type	Req'd
ProductBid.BidDistributionFactor. PnodeDistributionFactor.factor	Used to calculate "participation" of Pnode in an AggregatePnode. For example, for regulation region this factor is 1 and total sum of all factors for a specific regulation region does not have to be 1. For pricing zone the total sum of all factors has to value must be => 0 and <= 1	float	No
ProductBid.BidDistributionFactor. PnodeDistributionFactor. IndividualPnode.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule. description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule. BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule. BidPriceCurve.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule. BidPriceCurve.CurveScheduleDatas.xAxisData	The data value of the X-axis variable..	float	No
ProductBid.BidSchedule.BidPriceCurve. CurveScheduleDatas. y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [\d]+\.?\d?\d?	float	No
ProductBid.BidSchedule.BidPriceCurve. CurveScheduleDatas. y2AxisData	The data value of the Y-axis variable, depending on the Y-axis units.	float	No
ProductBid.BidSelfSched. description	Description of Bid Self Schedule. (1-32 characters)	string	No
ProductBid.BidSelfSched. balancingFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR is balanced with another self-schedule using the same TR ID.	YesNo	No
ProductBid.BidSelfSched. priorityFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR has scheduling priority in IFM/RTM.	YesNo	No
ProductBid.BidSelfSched. pumpSelfSchedMw	Contains the PT, ETC, TOR pumping self schedule quantity. If this value is not null, then the unit is in pumping mode.	float	No

Element	Data Description	Type	Req'd
ProductBid.BidSelfSched. referenceType	Indication of which class is referenced by the self schedule; resulting in the following choices: • ETC • TOR • WHL • RMT	String	No
ProductBid.BidSelfSched. selfSchedMw	Self Schedule MW value for the referenced commodity.	float	No
ProductBid.BidSelfSched.selfSchedSptResource	PT Export Self Sched Support Resource	String	No
ProductBid.BidSelfSched. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched. WheelingTransactionReference. AggregatedPnode.mrid	Either the AggregatedPnode or the IndividualPnode must be supplied but not both. This is the Scheduling Point.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference.IndividualPnode.mrid	Either the AggregatedPnode or the IndividualPnode must be supplied but not both. This is the Scheduling Point.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. PrimaryFlowgate.mrid	This is the Tie Point associated to a Scheduling Point for the Transaction.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. SchedulingCoordinator.mrid	This is the SC for the Wheeling Reference (counter resource) that was submitted.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. SecondaryFlowgate.mrid	Currently there are no Alternate Ties associated with Scheduling Points. This would be used if there was a defined Alternate Tie in Master File for a Scheduling Point.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. direction	This will be either an Import or an Export which is an enumerated value : 'I' or 'E' .	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. energyProductType	This will be one of the enumerated values : DYN, FIRM, NFRM, UCTG, WHL For a Wheel, it must be WHL.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. purchaseServiceEntity	This is one of the registered PSE that is provided by Master File.	String	No

Element	Data Description	Type	Req'd
ProductBid.BidSelfSched.wheelingTransactionReference.mrid	A unique identifier of a wheeling transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources	String	No
ProductBid.BidSelfSched. AdjacentCASet/mrid	Goups Adjacent Control Areas.	String	No
ProductBid.BidSelfSched. ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched. ContractRight.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.BidSelfSched. HostControlArea/mrid	A HostControlArea has a set of tie points and a set of generator controls (i.e., AGC). It also has a total load, including transmission and distribution losses.	String	No
ProductBid.MarketProduct. description	Description of Market Product. (1-32 characters)	string	No
ProductBid.MarketProduct. CASupplyIndicator	**Flag indicating Green House Gas (GHG) MW is fully committed to CA supply. (EIM) YES or NO enumeration.**	**YesNo**	**No**
ProductBid.MarketProduct. marketProductType	Market product type. Valid values are: EN – Energy type GHG – Green House Gas for EIM Participating RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment RMU – Regulation Mileage Up RMD – Regulation Milieage Down LFU – Load Following Up LFD – Load following Down	string	Yes
ProductBid.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take RA – Resource Adequacy SP – Self Provision BAS – Base Load LOF – Load WHL - Wheeling	string	No

Element	Data Description	Type	Req'd
ProductBid.UnitSchedule.parameterID	Parameter ID. Valid values are: HOURLY_PREDISPATCH – hourly pre-dispatch PUMPING_LEVEL – pumping level PUMPING_COST PUMPING_SHUTDOWN_COST NERC_TAG SCHEDULING_POINT	string	Yes
ProductBid.UnitSchedule.parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO.	string	No
ProductBid.UnitSchedule.parameterType	Indication of the type of parameter being defined (STRING or FLOAT).	string	Yes
ProductBid.UnitSchedule.parameterValue	Parameter value which replaces corresponding default values from input bid data.	float	No
ProductBid.UnitSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
SchedulingCoordinator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
bidStatus	Bid status: RJ - Rejected Bid I - Invalid Bid CV - Conditionally valid bid CM - Conditionally modified bid V - Valid bid M - Modified bid CX - Canceled bid O - Obsolete bid S – Submit in Queue RS – Recent Submit	string	No
contingencyAvailFlag	Contingent operating reserve availiability. Valid value = YES or NO. Resource is availiable to participate with capacity only in contingency dispatch.	YesNo	No
CreatedISO	Implies if the bid was created by the ISO versus submitted by an SC	string	no
energyMaxDay	Maximum amount of energy per day which can be produced during the trading period in MWh.	float	No
energyMinDay	Minimum amount of energy per day which has to be produced during the trading period in MWh.	float	No
BidError.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No

Element	Data Description	Type	Req'd
BidError.endTime	End date/time of the Bid component, for which this error or warning is logged.	dateTime	No
BidError.errMessage	Text of an error or warning message.	string	Yes
BidError.errPriority	Priority of an error or warning	Integer	Yes
BidError.logTimeStamp	Timestamp of logged message.	dateTime	Yes
BidError.ruleID	SIBR Market Rule Identifier.	integer	Yes
BidError.startTime	Start date/time of the Bid component, for which this error or warning is logged.	dateTime	No
BidError.MarketProduct.description	Description of Market Product. (1-32 characters)	string	No
BidError.MarketProduct.marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment	string	Yes
BidError.MarketProduct.selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take RA – Resource Adequacy	string	No
curtailmentEnergyLimit	Maximum energy (MWh) left can be curtailed for the Dispatchable Demand Resource	Float	No
greenHouseGasAdder	Green House Gass adder for EIM participating resources.	Float	No
lowerChargeLimit	Lowest stored energy (MWh) that should be maintained in the LESR device	Float	No
noLoadCost	Resource fixed no load cost. Pattern value = [\d]+\.?\d?\d?	float	No
startUpRampTime	Start Up Ramp Time	Float	No Yes if used with MSG
stateOfCharge	Actual stored Energy (MWh) left in the storage device	Float	No

Element	Data Description	Type	Req'd
upperChargeLimit	Highest stored energy (MWh) that should be allowed in the LESR device	Float	No
RampRateCurve.description	Description of Ramp Rate Curve. (1-32 characters)	string	No
RampRateCurve.CurveSchedule Datas.xAxisData	The data value of the X-axis variable.,	float	No
RampRateCurve. CurveSchedule Datas.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units.	float	No
RampRateCurve. constraintRampType	The condition that identifies whether a Generating Resource should be constrained from Ancillary Service provision if its Schedule or Dispatch change across Trading Hours or Trading Intervals requires more than a specified fraction of the duration of the Trading Hour or Trading Interval. Valid values are Fast/Slow.	string	No
RampRateCurve.rampRateType	[Not supported in Release 1.]	string	No
RegisteredGenerator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RegisteredGenerator.Configuration.mrid	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate.	string	No Yes if used with MSG
StartUpCostCurve.description	Description of Start Up Cost Curve. (1-32 characters)	string	No
StartUpCostCurve. CurveSchedule Datas.xAxisData	The data value of the X-axis variable, depending on the X-axis units.	float	No
StartUpCostCurve CurveSchedule Datas.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [\d]+\.?\d?\d?	float	No
StartUpTimeCurve.description	Description of Start Up Time Curve. (1-32 characters)	string	No
StartUpTimeCurve. CurveSchedule Datas.xAxisData	The data value of the X-axis variable, depending on the X-axis units.	float	No
StartUpTimeCurve. CurveSchedule Datas.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [\d]+\.?\d?\d?	float	No
Transition			

Element	Data Description	Type	Req'd
Transition.notificationTime	Time in minutes the 'To-Configuration ID' requires before deployment. Notification time includes transition ramp time	float	No Yes if used with MSG
Transition.transitionCost	Cost of moving from 'From-Configuration ID' to 'To-Configuration ID'	float	No Yes if used with MSG
Transition.transitionRampTime	Time in minutes it takes to ramp from 'From-Configuration ID' to 'To-Configuration ID'	float	No Yes if used with MSG
Transition.FromConfiguration.mrid	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate. (currently in)	string	No Yes if used with MSG
Transition.ToConfiguration.mrid	Configuration in which a MSG resource (CCGT resource or generating units with multiple operating units) can operate. (going to)	string	No Yes if used with MSG
InterTieBid			
description	Description of intertie bid. (1-32 characters)	string	No
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
name	Unique name for intertie bid. (1-32 characters)	string	No
lastModified	Time of last modification (bid processing)	Date Time	Yes
marketType	The market type, DAM or RTM.	string	Yes
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
HourlyParameters.openTieStatus	OPENTIE_STATUS. Could be Y or N	string	Yes
HourlyParameters.resourceBidOption	InterTie bid option for FMM. Could be Hourly, Once, 15Min, or Dynamic	String	No

Element	Data Description	Type	Req'd
HourlyParameters.timeIntervalEnd	End of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
HourlyParameters.timeIntervalStart	Start of the time interval in which bid is valid (yyyy-mm-dd hh24: mi: ss).	dateTime	Yes
ProductBid.description	Description of Product Bid. (1-32 characters)	string	No
ProductBid.mrid	MRID stands for master resource identifier which should be globally unique.	mrid	No
ProductBid.BidSchedule. description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule. BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule. BidPriceCurve.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule. BidPriceCurve. CurveScheduleDatas.xAxisData	The data value of the X-axis variable.	float	No
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas. y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [\-+]?[\d]+\.?\d?\d?	float	No
ProductBid.BidSelfSched. description	Description of Bid Self Schedule. (1-32 characters)	string	No
ProductBid.BidSelfSched. balancingFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR is balanced with another self-schedule using the same TR ID.	YesNo	No
ProductBid.BidSelfSched. priorityFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR has scheduling priority in IFM/RTM.	YesNo	No
ProductBid.BidSelfSched. pumpSelfSchedMw	Contains the PT, ETC, TOR pumping self schedule quantity. If this value is not null, then the unit is in pumping mode.	float	No

Element	Data Description	Type	Req'd
ProductBid.BidSelfSched.referenceType	Indication of which class is referenced by the self schedule; resulting in the following choices: • ETC • TOR • WHL • RMT *Functionality not fully supported.	String	No
ProductBid.BidSelfSched.selfSchedMw	Self Schedule MW value for the referenced commodity.	float	No
ProductBid.BidSelfSched.selfSchedSptResource	PT Export Self Sched Support Resource	String	No
ProductBid.BidSelfSched.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
~~ProductBid.BidSelfSched.wheelingTransactionReference~~ Deleted in v4	~~A unique identifier of a wheeling transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources~~	~~String~~	~~No~~
ProductBid.BidSelfSched.WheelingTransactionReference.mrid	For Registered resources, this would be the name of the resource as it is registered in Master File. If this is a Transaction submission, this will not be provided, it will be generated by the separated components supplied for the transaction based Wheel.	String	No
ProductBid.BidSelfSched.WheelingTransactionReference.AggregatedPnode.mrid	Either the AggregatedPnode or the IndividualPnode must be supplied but not both. This is the Scheduling Point.	String	No
ProductBid.BidSelfSched.WheelingTransactionReference.IndividualPnode.mrid	Either the AggregatedPnode or the IndividualPnode must be supplied but not both. This is the Scheduling Point.	String	No
ProductBid.BidSelfSched.WheelingTransactionReference.PrimaryFlowgate.mrid	This is the Tie Point associated to a Scheduling Point for the Transaction.	String	No
ProductBid.BidSelfSched.WheelingTransactionReference.SchedulingCoordinator.mrid	This is the SC for the Wheeling Reference (counter resource) that was submitted.	String	No
ProductBid.BidSelfSched.WheelingTransactionReference.SecondaryFlowgate.mrid	Currently there are no Alternate Ties associated with Scheduling Points. This would be used if there was a defined Alternate Tie in Master File for a Scheduling Point.	String	No

Element	Data Description	Type	Req'd
ProductBid.BidSelfSched. WheelingTransactionReference. direction	This will be either an Import or an Export which is an enumerated value : 'I' or 'E' .	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. energyProductType	This will be one of the enumerated values : DYN, FIRM, NFRM, UCTG, WHL For a Wheel, it must be WHL.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. purchaseServiceEntity	This is one of the registered PSE that is provided by Master File.	String	No
ProductBid.BidSelfSched. AdjacentCASet/mrid	Goups Adjacent Control Areas.	String	No
ProductBid.BidSelfSched. ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched. ContractRight.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.BidSelfSched. HostControlArea/mrid	A HostControlArea has a set of tie points and a set of generator controls (i.e., AGC). It also has a total load, including transmission and distribution losses.	String	No
ProductBid.MarketProduct. description	Description of Market Product. (1-32 characters)	string	No
ProductBid.MarketProduct. marketProductType	Market product type. Valid values are: EN – Energy type GHG – Green House Gas for EIM Participating RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment LFU – Load Following Up LFD – Load Following down	string	Yes
ProductBid.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take RA – Resource Adequacy SP – Self Provision BAS – Base Load LOF – Load Following WHL – Wheeling	string	No

Element	Data Description	Type	Req'd
ProductBid.UnitSchedule.parameterID	Parameter ID. Valid values are: HOURLY_PREDISPATCH – hourly pre-dispatch PUMPING_LEVEL – pumping level PUMPING_COST PUMPING_SHUTDOWN_COST NERC_TAG SCHEDULING_POINT	string	Yes
ProductBid.UnitSchedule.parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO.	string	No
ProductBid.UnitSchedule.parameterType	Indication of the type of parameter being defined (STRING or FLOAT).	string	Yes
ProductBid.UnitSchedule.parameterValue	Parameter value which replaces corresponding default values from input bid data.	float	No
ProductBid.UnitSchedule.timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule.timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
SchedulingCoordinator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
bidStatus	Bid status: RJ - Rejected Bid I - Invalid Bid CV - Conditionally valid bid CM - Conditionally modified bid V - Valid bid M - Modified bid CX - Canceled bid O - Obsolete bid S – Submit in Queue	string	Yes
contingencyAvailFlag	Contingent operating reserve availiability. Valid value = YES or NO. Resource is availiable to participate with capacity only in contingency dispatch.	string	No
CreatedISO	Implies if the bid was created by the ISO versus submitted by an SC	string	no
BidError.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
BidError.endTime	End date/time of the Bid component, for which this error or warning is logged.	dateTime	Yes
BidError.errMessage	Text of an error or warning message.	string	Yes

Element	Data Description	Type	Req'd
BidError.errPriority	Message level: 0 = highest priority 1-4 = different level of error 5 = warning message 6 = Information status	integer	Yes
BidError.logTimeStamp	Timestamp of logged message.	dateTime	Yes
BidError.ruleID	SIBR Market Rule Identifier.	integer	Yes
BidError.startTime	Start date/time of the Bid component, for which this error or warning is logged.	dateTime	Yes
BidError.MarketProduct.description	Description of Market Product. (1-32 characters)	string	No
BidError.MarketProduct.marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment	string	Yes
BidError.MarketProduct.selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take RA – Resource Adequacy SP – Self Provision	string	No
MinHourlyBlock	The Registered upper bound of MHB for an Inter-Tie Resource	integer	No
RampRateCurve.description	Description of Ramp Rate Curve. (1-32 characters)	string	No
RampRateCurve.CurveScheduleDatas.xAxisData	The data value of the X-axis variable..	float	No
RampRateCurve.CurveScheduleDatas.y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [\d]+\.?\d?\d?	float	No
RampRateCurve.constraintRampType	The condition that identifies whether a Generating Resource should be constrained from Ancillary Service provision if its Schedule or Dispatch change across Trading Hours or Trading Intervals requires more than a specified fraction of the duration of the Trading Hour or Trading Interval. Valid values are Fast/Slow	string	No

Element	Data Description	Type	Req'd
RampRateCurve.rampRateType	[Not supported in Release 1.]	string	No
RampRateCurve.CurveSchedData.prohibitedZone	[Does not apply to intertie resource bids.]	string	No
RegisteredInterTie.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
RegisteredInterTie.mrid *For a registered Intertie with Master File, the mrid is required in the bid.* *For a Transaction based (non-registered resource) the mrid is not required and will be generated by SIBR dependent upon the components selected for the bid.*	Registered name of the Intertie Resource. (1-32 characters) Only for registered Interties.	string	Yes
RegisteredInterTie.SecondaryFlowGate *Note: For Transaction based bids not for Registered resources.*	Alternate Tie (if registered) for Transaction based bid.	String	No
RegisteredInterTie.SecondaryFlowGate.mrid *Note: For Transaction based bids not for Registered resources.*	For resources where an alternative path is registered . An alternative path can be specified.	String	Yes
RegisteredInterTie.AggregatedPnode RegisteredInterTie.AggregatedPnode.mrid	These are the Scheduling Points defined.	String	No
RegisteredInterTie.IndividualPnode RegisteredInterTie.IndividualPnode.mrid	These are the Scheduling Points defined.	String	no
RegisteredInterTie.PrimaryFlowGate *Note: For Transaction based bids not for Registered resources.* *Must be submitted for external locations.*	Primary Tie for Transaction based bid. (associated to Scheduling Point)	String	No

Element	Data Description	Type	Req'd
RegisteredInterTie.PrimaryFlowGate.mrid *Note: For Transaction based bids not for Registered resources.*	Tie Name for Transaction based bids. This must be supplied for all Transaction based bids.	String	Yes
RegisteredInterTie.SchedulingCoordinator *Note: For Transaction based bids not for Registered resources.*	Scheduling Coordinator for Transaction based bid.	String	No
RegisteredInterTie.SchedulingCoordinator.mrid *Note: For Transaction based bids not for Registered resources.*	Scheduling Coordinator for Transaction based bid. This must be supplied for all Transaction based bids.	String	Yes
RegisteredInterTie.direction *Note: For Transaction based bids not for Registered resources.*	Indicator for direction of an Intertie. Can be either I or E. This must be supplied for all Transaction based bids.	InterTieDirection	No
RegisteredInterTie.energyProductType *Note: For Transaction based bids not for Registered resources.*	Product type of an Intertie related to Tagging. Can be: DYN, FIRM, NFRM, UCTG, WHL This must be supplied for all Transaction based bids.	EnergyProductType	No
RegisteredInterTie.registeredFlag	Resource flag to indicate if it is a Master File resource	YesNo	Yes
RegisteredInterTie.purchaseServiceEntity	PSE identifier forTransaction based bids. This is made available to SIBR from Master File registry.	String	No
~~RegisteredInterTie_wheeling.WheelingResource~~ ~~*Note: For Transaction based bids not for Registered resources.*~~	~~Used in wheeling transactions where EnergyProductType is WHL.~~	~~String~~	~~No~~

Element	Data Description	Type	Req'd
~~RegisteredInterTie_wheeling.WheelingResource.mrid~~ ~~*Note: This is not a submitted value*~~ ~~*For Transaction based bids not for Registered resources.*~~	~~Wheeling Transaction name.~~ ~~This will be generated by SIBR once the Transaction is submitted.~~	~~String~~	~~No~~
~~RegisteredInterTie_wheeling.WheelingResource.SecondaryFlowGate~~ ~~*Note: For Transaction based bids not for Registered resources.*~~	~~Alternate Scheduling Point (if registered) for a Transaction based bid.~~		~~No~~
~~RegisteredInterTie_wheeling.WheelingResource.SecondaryFlowGate.mrid~~ ~~*Note: For Transaction based bids not for Registered resources.*~~	~~Alternate Tie Name~~	~~String~~	~~No~~
~~RegisteredInterTie_wheeling.WheelingResource.AggregatedPnode~~ ~~RegisteredInterTie_wheeling.WheelingResource.AggregatedPnode.mrid~~ ~~*Note: For Transaction based bids not for Registered resources.*~~	~~These are the Scheduling Points at Aggregated locations.~~	~~String~~	~~no~~
~~RegisteredInterTie_wheeling.WheelingResource.IndividualPnode~~ ~~RegisteredInterTie_wheeling.WheelingResource.IndividualPnode.mird~~ ~~*Note: For Transaction based bids not for Registered resources.*~~	~~These are the Scheduling Points at Individual locations.~~	~~String~~	~~no~~
~~RegisteredInterTie_wheeling.WheelingResource.PrimaryFlowGate~~ ~~*Note: For Transaction based bids not for Registered resources.*~~	~~Primary Tie Name for Wheeling.~~	~~String~~	~~No~~

Element	Data Description	Type	Req'd
~~RegisteredInterTie_wheeling.WheelingResource.PrimaryFlowGate.mrid~~ ~~*Note: For Transaction based bids not for Registered resources.*~~	~~Primary Tie Name for Wheeling.~~	~~String~~	~~No~~
~~RegisteredInterTie_wheeling.WheelingResource.SchedulingCoordinator~~ ~~*Note: For Transaction based bids not for Registered resources.*~~	~~Scheduling Coordinater for Wheeling.~~		~~No~~
~~RegisteredInterTie_wheeling.WheelingResource.SchedulingCoordinator.mrid~~ ~~*Note: For Transaction based bids not for Registered resources.*~~	~~Scheduling Coordinater for Wheeling.~~	~~String~~	~~No~~
~~RegisteredInterTie_wheeling.WheelingResource.direction~~ ~~*Note: For Transaction based bids not for Registered resources.*~~	~~Indicator for direction of an Intertie.~~ ~~Can be either I or E.~~ ~~This must be supplied for all Transaction based bids.~~	~~InterTieDirection~~	~~No~~
~~RegisteredInterTie_wheeling.WheelingResource.energyProductType~~ ~~*Note: For Transaction based bids not for Registered resources.*~~	~~Product type of an Intertie related to Tagging.~~ ~~Can be:~~ ~~DYN, FIRM, NFRM, UCTG, WHL~~ ~~This must be supplied for all Transaction based bids.~~	~~EnergyProductType~~	~~No~~
~~RegisteredInterTie.registeredFlag~~	~~Resource flag to indicate if it is a Master File resource~~	~~YesNo~~	~~No~~
~~RegisteredInterTie_wheeling.WheelingResource.purchaseServiceEntity~~	~~PSE identifier forTransaction based bids.~~	~~String~~	~~No~~
LoadBid			

Element	Data Description	Type	Req'd
description	Description of Load Bid. (1-32 characters)	string	No
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
name	Unique name for Load Bid. (1-32 characters)	string	No
lastModified	Time and date the document was last modified.	dateTime	No
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
marketType	The market type, DAM or RTM.	string	Yes
ProductBid.description	Description Product Bid. (1-32 characters)	string	No
ProductBid.mrid	MRID stands for master resource identifier which should be globally unique.	string	No
ProductBid.BidSchedule. description	Description of Bid Schedule. (1-32 characters)	string	No
ProductBid.BidSchedule. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSchedule. BidPriceCurve.description	Description of Bid Price Curve. (1-32 characters)	string	No
ProductBid.BidSchedule. BidPriceCurve.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
ProductBid.BidSchedule. BidPriceCurve.CurveScheduleDatas.xAxisData	The data value of the X-axis variable.	float	No
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas. y1AxisData	The data value of the Y-axis variable, depending on the Y-axis units. Pattern value = [\d]+\.?\d?\d?	float	No
ProductBid.BidSelfSched. description	Description of Bid Self Sched. (1-32 characters)	string	No
ProductBid.BidSelfSched. balancingFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR is balanced with another self-schedule using the same TR ID.	YesNo	No
ProductBid.BidSelfSched. priorityFlag	This is a Y/N flag for a self-schedule of a resource per market per date and hour, using a specific TR ID. It indicates whether a self-schedule using a TR has scheduling priority in IFM/RTM.	YesNo	No
ProductBid.BidSelfSched. pumpSelfSchedMw	Contains the PT, ETC, TOR pumping self schedule quantity. If this value is not null, then the unit is in pumping mode.	float	No

Element	Data Description	Type	Req'd
ProductBid.BidSelfSched. referenceType	Indication of which class is referenced by the self schedule; resulting in the following choices: • ETC • TOR • WHL • RMT	String	No
ProductBid.BidSelfSched. selfSchedMw	Self Schedule MW value for the referenced commodity	float	No
ProductBid.BidSelfSched.selfSchedSptResource	PT Export Self Sched Support Resource	String	No
ProductBid.BidSelfSched. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.BidSelfSched. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
~~ProductBid.BidSelfSched.wheelingTransactionReference~~ Deleted in v4	~~A unique identifier of a wheeling transaction. A wheeling transaction is a balanced Energy exchange among Supply and Demand Resources~~	~~String~~	~~No~~
ProductBid.BidSelfSched. WheelingTransactionReference. mrid	For Registered resources, this would be the name of the resource as it is registered in Master File. If this is a Transaction submission, this will not be provided, it will be generated by the separated components supplied for the transaction based Wheel.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. AggregatedPnode.mrid	Either the AggregatedPnode or the IndividualPnode must be supplied but not both. This is the Scheduling Point.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference.IndividualPnode.mrid	Either the AggregatedPnode or the IndividualPnode must be supplied but not both. This is the Scheduling Point.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. PrimaryFlowgate.mrid	This is the Tie Point associated to a Scheduling Point for the Transaction.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. SchedulingCoordinator.mrid	This is the SC for the Wheeling Reference (counter resource) that was submitted.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. SecondaryFlowgate.mrid	Currently there are no Alternate Ties associated with Scheduling Points. This would be used if there was a defined Alternate Tie in Master File for a Scheduling Point.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. direction	This will be either an Import or an Export which is an enumerated value : 'I' or 'E' .	String	No

Element	Data Description	Type	Req'd
ProductBid.BidSelfSched. WheelingTransactionReference. energyProductType	This will be one of the enumerated values : DYN, FIRM, NFRM, UCTG, WHL For a Wheel, it must be WHL.	String	No
ProductBid.BidSelfSched. WheelingTransactionReference. purchaseServiceEntity	This is one of the registered PSE that is provided by Master File.	String	No
ProductBid.BidSelfSched. AdjacentCASet/mrid	Goups Adjacent Control Areas.	String	No
ProductBid.BidSelfSched. ContractRight.description	Description of Contract Right. (1-32 characters)	string	No
ProductBid.BidSelfSched. ContractRight.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
ProductBid.BidSelfSched. HostControlArea/mrid	A HostControlArea has a set of tie points and a set of generator controls (i.e., AGC). It also has a total load, including transmission and distribution losses.	String	No
ProductBid.MarketProduct. description	Description Market Product. (1-32 characters)	string	No
ProductBid.MarketProduct. marketProductType	Market product type. Valid values are: EN – Energy type GHG – Green House Gas for EIM Participating RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment LFU – Load Following Up LFD – Load Following Down	string	Yes
ProductBid.MarketProduct. selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take RA – Resource Adequacy SP – Self Provision BAS – Base Load LOF – Load Following WHL - Wheeling	string	No

Element	Data Description	Type	Req'd
ProductBid.UnitSchedule. parameterID	Parameter ID. Valid values are: HOURLY_PREDISPATCH – hourly pre-dispatch PUMPING_LEVEL – pumping level PUMPING_COST PUMPING_SHUTDOWN_COST	string	Yes
ProductBid.UnitSchedule. parameterStringValue	If ProductBid.UnitSchedule = STRING then value = YES. Else value = NO.	string	No
ProductBid.UnitSchedule. parameterType	Indication of the type of parameter being defined (STRING or FLOAT).	string	Yes
ProductBid.UnitSchedule. parameterValue	Parameter value which replaces corresponding default values from input bid data.	float	No
ProductBid.UnitSchedule. timeIntervalEnd	End of the time interval in which bid is valid.	dateTime	Yes
ProductBid.UnitSchedule. timeIntervalStart	Start of the time interval in which bid is valid.	dateTime	Yes
SchedulingCoordinator.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes
bidStatus	Bid status: RJ - Rejected Bid I - Invalid Bid CV - Conditionally valid bid CM - Conditionally modified bid V - Valid bid M - Modified bid CX - Canceled bid O - Obsolete bid S – Submit in Queue	string	No
contingencyAvailFlag	Contingent operating reserve availiability. Valid value = YES or NO. Resource is availiable to participate with capacity only in contingency dispatch.	string	No
CreatedISO	Implies if the bid was created by the ISO versus submitted by an SC	string	no
BidError.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
BidError.endTime	End date/time of the Bid component, for which this error or warning is logged.	dateTime	Yes
BidError.errMessage	Text of an error or warning message.	string	Yes

Element	Data Description	Type	Req'd
BidError.errPriority	Message level: 0 = highest priority 1-4 = different level of error 5 = warning message 6 = Information status	integer	Yes
BidError.logTimeStamp	Timestamp of logged message.	dateTime	Yes
BidError.ruleID	SIBR Market Rule Identifier.	integer	Yes
BidError.startTime	Start date/time of the Bid component, for which this error or warning is logged.	dateTime	Yes
BidError.MarketProduct.description	Description of Market Product. (1-32 characters)	string	No
BidError.MarketProduct.marketProductType	Market product type. Valid values are: EN – Energy type RU – Regulaion up RD – Regulaion down SR – spinning reserve NR – Non-spinning reserve RC – Residual Unit Commitment	string	Yes
BidError.MarketProduct.selfSchedType	Self schedule bid contract type. Valid values are: PT – Price Taker LPT – Lower Price Taker ETC – Existing transmission contract TOR – Transmission ownership right RMT – Regulatory Must Take RA – Resource Adequacy	string	No
RegisteredLoad.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	Yes

4.11 Current CB Bid Results Response

4.11.1 Element Table (v1 newest for consistency with CIM)

Element	Data Description	Type	Req'd
Message Header (Header is optional)			
TimeDate	The dateTime, in GMT, when the payload is published.	dateTime	Yes
Source	The source of published data.	string	Yes

Element	Data Description	Type	Req'd
Version	Date reflecting which release version is related to. Default is v20141001	String	Yes
IncPayloadFlag	(these elements will not be utilized in SIBR, they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	Yes/No	No
lastBroadcasted	(these elements will not be utilized in SIBR) they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	dateTime	No
BroadcastSequenceNum	(these elements will not be utilized in SIBR) they are identified in the CIM and will show on the xsd. they are optional, and if used must have data provided for them.	integer	No
Message Payload			
VirtualBid			
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes
ProductBid			
ProductBid.BidSchedule	1-25 BidSchedules may be submitted to allow specified bid price curves for different time intervals.		Yes
ProductBid.BidSchedule.timeIntervalEnd	End of the time interval in which bid is valid	dateTime	Yes
ProductBid.BidSchedule.timeIntervalStart	Start of the time interval in which bid is valid	dateTime	Yes
ProductBid.BidSchedule.BidPriceCurve	Relationship between unit operating price in $/hour (Y-axis) and unit output in MW (X-axis).		Yes
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.xAxisData	The Mw value specified on the price curve.	float	Yes
ProductBid.BidSchedule.BidPriceCurve.CurveScheduleDatas.y1AxisData	The dollar ($) value specified on the price curve. A price curve segment consist of both the Mw value and the dollar value. Pattern value = [-+]?[\d]+\.?\d?\d?	float	Yes

Element	Data Description	Type	Req'd
ProductBid.MarketProduct.marketProductType	Market Product type will be EN.	String	Yes
ScheduingCoordinator.mrid	Scheduling Coordinator Identifier. (1-32 characters)	String	Yes
bidCreditStatus	Credit Status returned from Credit System: AP Approved DA Dissapproved ERR Error PR Pending Request PRS Pending Response CND Cancelled	String	No
bidStatus	Bid status: RJ - Rejected Bid I - Invalid Bid CV - Conditionally valid bid CM - Conditionally modified bid V - Valid bid M - Modified bid CX - Canceled bid O - Obsolete bid S – Submit in Queue	String	No
virtualBidType	Identifies virtual demand or virtual supply bid.	string	Yes
BidError.mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
BidError.endTime	End date/time of the Bid component, for which this error or warning is logged.	dateTime	Yes
BidError.errMessage	Text of an error or warning message.	string	Yes
BidError.errPriority	Message level: 0 = highest priority 1-4 = different level of error 5 = warning message 6 = Information status	integer	Yes
BidError.logTimeStamp	Timestamp of logged message.	dateTime	Yes
BidError.ruleID	SIBR Market Rule Identifier.	integer	Yes
BidError.startTime	Start date/time of the Bid component, for which this error or warning is logged.	dateTime	Yes
AggregatedPnodeNmReq			

Element	Data Description	Type	Req'd
AggregatedPnodeNmReq.mrid	Location name for virtual bid at an Aggregated Node..	String	No Yes when using APnode
IndividualPnodeNmReq			
IndividualPnodeNmReq.mrid	Location name for virtual bid at a Price Node.	String	No Yes when using Pnode
IndividualPnodeNmReq.description	Description of object	string	No
Flowgate.mrid	Tie Name associated with Virtual Bid.	String	No

4.11.2 Element Table (v20100301 go-live)

Element	Data Description	Type	Req'd
Message Header			
TimeDate	The dateTime, in GMT, when the payload is published.	dateTime	Yes
Source	The source of published data.	string	Yes
Message Payload			
VirtualBid			
mrid	MRID stands for master resource identifier which should be globally unique. (1-32 characters)	string	No
startTime	Start time and date for which bid applies.	dateTime	Yes
stopTime	Stop time and date for which bid is applies.	dateTime	Yes

Element	Data Description	Type	Req'd
bidStatus	Bid status: RJ - Rejected Bid I - Invalid Bid CV - Conditionally valid bid CM - Conditionally modified bid V - Valid bid M - Modified bid CX - Canceled bid O - Obsolete bid S – Submit in Queue	String	No
bidCreditStatus	Credit Status returned from Credit System: AP Approved DA Dissapproved ERR Error PR Pending Request PRS Pending Response CND Cancelled	String	No
BidError			
virtualBidType	Identifies virtual demand or virtual supply bid.	string	Yes
AggregatedPnodeNmReq			
AggregatedPnodeNmReq.mrid	Location name for virtual bid at an Aggregated Node..	String	No Yes when using APnode
IndividualPnodeNmReq			
IndividualPnodeNmReq.mrid	Location name for virtual bid at a Price Node.	String	No Yes when using Pnode
ScheduingCoordinator.mrid	Scheduling Coordinator Identifier. (1-32 characters)	String	Yes
EnergyProductBid			
IndividualPnodeNmReq.description	Description of object	string	No

Element	Data Description	Type	Req'd
EnergyProductBid.BidSchedule	1-25 BidSchedules may be submitted to allow specified bid price curves for different time intervals.		Yes
EnergyProductBid.BidSchedule.timeIntervalStart	Start of the time interval in which bid is valid	dateTime	Yes
EnergyProductBid.BidSchedule.timeIntervalEnd	End of the time interval in which bid is valid	dateTime	Yes
EnergyProductBid.BidSchedule.BidPriceCurve	Relationship between unit operating price in $/hour (Y-axis) and unit output in MW (X-axis).		Yes
EnergyProductBid.BidSchedule.BidPriceCurve.CurveSchedData.xAxisData	The Mw value specified on the price curve.	float	Yes
EnergyProductBid.BidSchedule.BidPriceCurve.CurveSchedData.y1AxisData	The dollar ($) value specified on the price curve. A price curve segment consist of both the Mw value and the dollar value. Pattern value = [-+]?[\d]+\.?\d?\d?	float	Yes

4.11.3 Schema (BidResult_v4.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references. Pre Production Release date
http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx

4.11.4 Schema (BidResult_v3.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Scheduling Infrastructure and Business Rules)

4.11.5 Schema (CB_BidResult_v20100301.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Scheduling Infrastructure and Business Rules)

4.11.6 Schema (CB_BidResult_v1.xsd)

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx (Scheduling Infrastructure and Business Rules)

4.12 Fault Return

The fault return message is the same for all services; see Section 2.13 for details.

5 Submit External Forecast

5.1 *Business Scenario*

Scheduling Coordinators submit forecast data, on behalf of market participants who wish to participate and are eligable in the CAISO Real Time, and 15 Minute markets(Veriable Energy Resources (VER) or Load Serving Generator (LSG). While some Scheduling Coordinators submit their forecast data through the SIBR portal manually, most Scheduling Coordinators submit their forecast data in batch mode through an automated process.

To meet the needs for submission of forecast data from Scheduling Coordinators, two processes can be followed for manual and batch mode, respectively:

1) Portal Process

   In this process the submission is made via a CAISO Web Portal. Scheduling Coordinators submit forecast data through the portal automatically using a proxy application implemented at the portal. The proxy will send the data to SIBR for submission. Using the SIBR portal, Scheduling Coordinators can upload XML files, submit forecast data.

2) Direct Link Process

   In this case, a Scheduling Coordinator directly invokes the submitEnergyForecast service that resides in CAISO domain using a security mechanism. This process involves submitting Energy Forecast xml payloads via the CAISO web service interface, but does not preclude the use of a client application for automating the process of invoking the web service

   The direct link can only be established if a Scheduling Coordinator application knows the concrete information to invoke the SIBR Energy Forecast submit Web services. Since a Scheduling Coordinator application is usually outside of the CAISO firewall, a certain security mechanism shall be implemented for the process. The Scheduling Coordinator applications shall be also responsible for an XML validation prior to a data submission.

5.2 *Service Level Agreement*

The following service level agreement defines the business and technical requirements for service availability and performance.

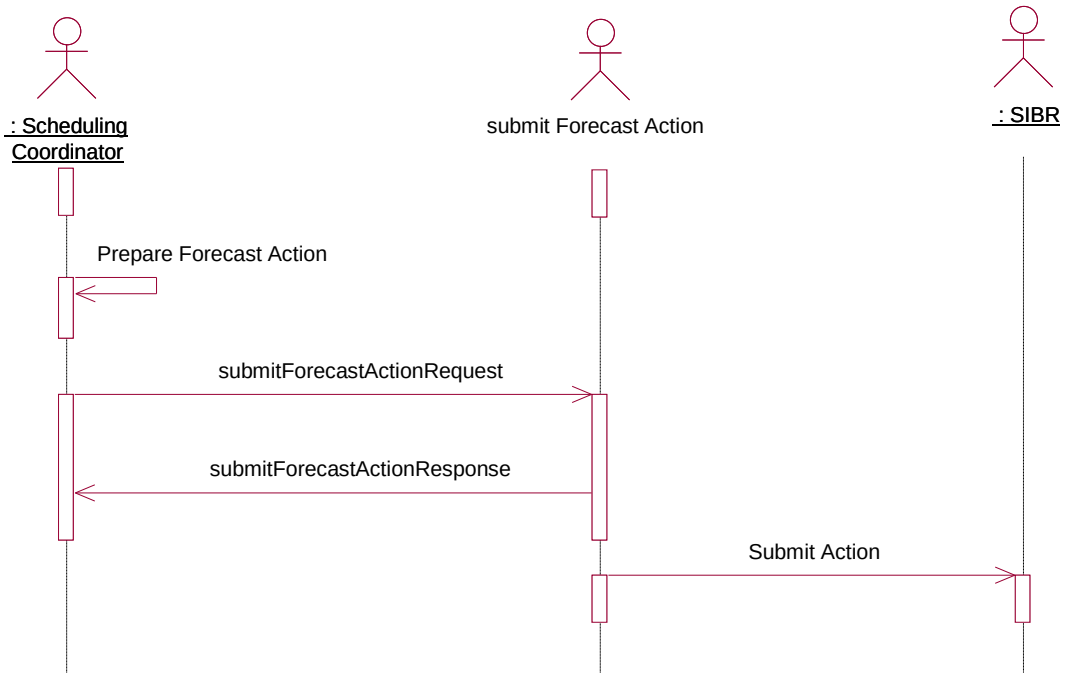
Service availability	Service level goal is 99.9%.
Expected size of payload (average and maximum)	(AVG # of Energy Forecast) to be determined. 12 intervals per hour * number of resources X hours in the market horizon. (*2).
Expected frequency (average and maximum)	At least once every 5 minutes per Schedule Coordinator utilizing the service for Energy Forecast per SC.
Longest time the service can be unavailable before business is impacted	[to be determined]
Business impact if is unavailable	Schedule Coordinators utilizing the service may not complete submitting new Energy Forecast data. (latest is always used.)
Expected response time for the service	[to be determined]
Expected time to exchange	[to be determined]

5.3 *Use Model*

The sequence diagram below describes the service interactions between Scheduling Coordinators and SIBR system in a direct link submission process. The data exchange follows CAISO SOA Submit messaging pattern. In this pattern, the data source system is the Scheduling Coordinator who initiates a data transaction by invoking a submitEnergyForecast service provided by SIBR. The consumer of the Web service is Scheduling Coordinator or a Web portal. The consumer makes request to SIBR with energy forecast data by invoking the submit Web service. The SIBR system is the provider of the Web service.

The following steps are involved in the submission process:

5) Scheduling Coordinator has the Energy Forecast data set ready in XML format
6) Scheduling Coordinator validates the data set based on the XML schema
7) Scheduling Coordinator invokes the submitEnergyForecast Web service directly to send a request to SIBR with the Energy Forecast data set
8) SIBR returns an acknowledge message back to Scheduling Coordinator.



5.4 *Operation Details*

The Energy Forecast service has one operation with three message types. All input and output messages are in XML format.

Operation	Message Types	Message	WSDL	XSD
submitEnergyForecast	Input	SubmitEnergyForecastRequest	submitSCVERForecast_v1.wsdl	ExternalEnergyForecast_v1.xsd
	Output	SubmitEnergyForecastResponse		SubmitStandardOutput.xsd
	Fault	faultReturnType		StandardOutput.xsd

5.5 *WSDL (submitEnergyForecast_v1.wsdl) (this has version 20140401 –used with FERC 764 – 15 Minute Market FMM)*

Please review the Technical Interface Specifications for SIBR Bidding under the appropriate header for related WSDL and XSD references.
http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx

5.6 Submit Energy Forecast

5.6.1 Element Table

Element	Data Description	Type	Req'd
Message Header			
TimeDate	The dateTime, in GMT, when the payload is published.	dateTime	Yes
Source	The source of published data.	String	Yes
Version	Date reflecting the release this service update is related to. V1 is v20140401 (default)	String	Yes
Message Payload			
EnergyForecastHorizon			
forecastHorizonPeriod	Energy forecast horizon period defined by a start and end dateTime. The forecast horizon period may be defined for any duration, such as 24 hours, 15 minutes, ...		
forecastHorizonPeriod.end	End date and time of interval	Date Time	Yes
forecastHorizonPeriod.start	Start date and time of interval	Date Time	Yes
RegisteredGenerator			
RegisteredGenerator.mrid	Unique resource identifier.	String	Yes
RegisteredGenerator.EnergyForecast.forecastType	Enumerated: EPF (energy production forecast) ECF (energy consumption forecast) EPF will be used for VER resources ECF will be used for behind the meter (partial QF i.e. LSG)	String	Yes
RegisteredGenerator.EnergyForcastInterval			
RegisteredGenerator.EnergyForcastInterval.energyForecast.units	Energy forecast value in MW.	String	No

Element	Data Description	Type	Req'd
RegisteredGenerator.EnergyForcastInterval.energyForecast.value	Value for submitted energy Forecast	Float	Yes
RegisteredGenerator.EnergyForcastInterval.intervalPeriod.end	Start date and time of interval	Date Time	Yes
RegisteredGenerator.EnergyForcastInterval.intervalPeriod.start	End date and time of interval	Date Time	Yes
SchedulingCoordinator			
SchedulingCoordinator.mrid	4 Letter Scheduling Coordinator name used in association with the resource the forecast is submitted for.	String	Yes

5.7 *External Energy Forecast v1 Response*

5.7.1 Element Table

Element	Data Description	Type	Req'd
Event.result	Event result.	string	Yes
Event.id	Event identifier.	string	Yes
Event.description	Event description.	string	No
Event.creationTime	Event creation time.	dateTime	No
Service.id	Service identifier.	string	Yes
Service.name	Name of a service.	string	Yes
BID.BID_ID	Bid identification.	string	No
BID.START_TIME	Start time and date for which forecast applies.	dateTime	Yes
BID.END_TIME	Stop time and date for which forecast applies.	dateTime	Yes
BID.RESOURCE_ID	Unique Resource	string	Yes
BID.MARKET_TYPE	DAM or RTM	string	Yes
BID.RESULTS	Bid results.	string	No

6 Retrieve External Energy

6.1 *Business Scenario*

The following forecast results need to be exchanged between Scheduling Coordinators and the SIBR system.

9. This service will be use to retrieve energy forecast submitted through following:

    a. Forecast submitted through SIBR GUI
    b. Forecast submitted through API

10. The services will be use to retrieve results for forecast submitted either in the DA or RT markets,

11. The service will be use to retrieve forecast data within the allowable retention period on SIBR.

12. The bid result will include the following major data elements:

    a. Forecast Status
    b. Forecast Data
    c. Forecast Error Messages

13. The result will include the same forecast data that can be retrieved and displayed in SIBR GUI. The text “NOT API submitted” will be inserted in the bid name if the forecast were submitted through SIBR GUI.

14. The service will return forecast results for all resources that belong to the user, depending on the filtering criteria used.

15. The forecast result will be filtered using any of the following criteria:

    a. By Resource ID

        i. Using Resource ID filtering criteria, the user will be able to retrieve only the most recent result of the forecast submitted, for the specified resource ID which belongs to the user and for forecast period that corresponds to the specified start and end date/time interval. The forecast returned would include only forecast that can be displayed in SIBR GUI.

        ii. The following filtering options must be included:

5. Forecast Horizon Period – Start and End / Time must correspond to beginning or ending of forecastHorizonPeriod;
    a. Based on the current implementation, the "horizon period" is now more flexible. The start and end time in the "horizon period" can extend anywhere from 1 minute to 7 days. All energy forecast submitted with a beginning time interval that falls within the "horizon period", will be returned.
6. Resource ID – resource name known to Market Participants, and no wildcards allowed

b. By Date (if multiple SC roles are associated with the certificate, all SC's will be returned in the response).

i. The following filtering options must be included:

3. Forecast Horizon Period – Start and End / Time must correspond to beginning or ending of forecastHorizonPeriod;
    a. Based on the current implementation, the "horizon period" is now more flexible. The start and end time in the "horizon period" can extend anywhere from 1 minute to 7 days. All energy forecast submitted with a beginning time interval that falls within the "horizon period", will be returned.

e. By SC ID

iii. Using By SC ID filtering criteria, the user will be able to retrieve forecast data for all the resource that belongs to the SC ID and interval period specified that are authorized for the certificate being used.
iv. The result will include at least a forecast for the specified interval period, and for all resource that belong to the SC ID for the user.

6.2 Request Energy Forecast Results

6.2.1 Element Table

Element	Data Description	Type	Req'd
Forecast_ResourceTimeHorizon	**Request using Market Type**		**No**

Element	Data Description	Type	Req'd
Forecast_ResourceTimeHorizon.forecastHorizonPeriod.start	Time of day when Market Definition starts.	dateTime	Yes
Forecast_ResourceTimeHorizon.forecastHorizonPeriod.end	Time of day when Market Definition ends.	dateTime	Yes
Forecast_ResourceTimeHorizon.Registered.Resource	Resource specified for forecast data.	string	Yes
Forecast_SchedulingCoordinatorTimeHorizon	**Request using Scheduling Coordinator**		**No**
Forecast_SchedulingCoordinatorTimeHorizon.SchedulingCoordinator.mrid	Scheduling Coordinator specified for forecast data.	string	Yes
Forecast_SchedulingCoordinatorTimeHorizon.forecastHorizonPeriod.end	Time of day when Market Definition ends.	dateTime	Yes
Forecast_SchedulingCoordinatorTimeHorizon.forecastHorizonPeriod.start	Time of day when Market Definition starts.	dateTime	Yes
Forecast_TimeHorizon	**Request using TimeHorizon**		**No**
Forecast_TimeHorizon.forecastHorizonPeriod.end	Time of day when Market Definition ends.	dateTime	Yes
Forecast_TimeHorizon.forecastHorizonPeriod.start	Time of day when Market Definition starts.	dateTime	Yes

6.3 Energy Forecast Results

6.3.1 Element Table

Element	Data Description	Type	Req'd
Message Header			
TimeDate	The dateTime, in GMT, when the payload is published.	dateTime	Yes
Source	The source of published data.	String	Yes
Version	Date reflecting the release this service update is related to. V1 is v20140401 (default)	String	Yes

Element	Data Description	Type	Req'd
Message Payload			
EnergyForecastHorizon			
forecastHorizonPeriod	Energy forecast horizon period defined by a start and end dateTime. The forecast horizon period may be defined for any duration, such as 24 hours, 15 minutes, ...		
forecastHorizonPeriod.end	End date and time of interval	Date Time	Yes
forecastHorizonPeriod.start	Start date and time of interval	Date Time	Yes
RegisteredGenerator			
RegisteredGenerator.mrid	Unique resource identifier.	String	Yes
RegisteredGenerator.EnergyForcast.forecastType	Enumerated: EPF (energy production forecast) ECF (energy consumption forecast) EPF will be used for VER resources ECF will be used for behind the meter (partial QF)	String	Yes
RegisteredGenerator.EnergyForcastInterval	Interval for which status and messages apply.		
RegisteredGenerator.EnergyForcastInterval.status	Energy Forecast status (enumerated values) V, CX, I, RJ could be returned with regard to EF.	String	Yes
RegisteredGenerator.EnergyForcastInterval.BidError	EF message data.		
RegisteredGenerator.EnergyForcastInterval.BidError.endTime	Energy Forecast Interval end time.	dateTime	No
RegisteredGenerator.EnergyForcastInterval.BidError.errMessage	Rule messages that fire on processed EF submissions.	String	No
RegisteredGenerator.EnergyForcastInterval.BidError.errPriority	EF message level for rules that fire, typically will return 0.	String	No
RegisteredGenerator.EnergyForcastInterval.BidError.logTimeStamp	Timestamp of logging report entry.	dateTime	Yes
RegisteredGenerator.EnergyForcastInterval.BidError.ruleID	SIBR Rule that fired on processed Energy Forecast submission or cancel.	Integer	No
RegisteredGenerator.EnergyForcastInterval.BidError.startTime	Energy Forecast Interval start time.	dateTime	No
RegisteredGenerator.EnergyForcastInterval.energyForecast.units	Energy forecast value in MW.	String	No
RegisteredGenerator.EnergyForcastInterval.energyForecast.value	Value for submitted energy Forecast	Float	Yes

Element	Data Description	Type	Req'd
RegisteredGenerator.EnergyForcastInterval.intervalPeriod.end	Start date and time of interval	Date Time	Yes
RegisteredGenerator.EnergyForcastInterval.intervalPeriod.start	End date and time of interval	Date Time	Yes
SchedulingCoordinator			
SchedulingCoordinator.mrid	4 Letter Scheduling Coordinator name used in association with the resource the forecast is submitted for.	String	Yes

7 Samples

Submit Bid xml Sample v4 RTM

Sample xml was generated using XMLSpy, bid characteristics are fabricated for:

Generator with CASupplyIndicator element. (For EIM only).

New items for the v4 CASupplyIndicator are highlighted in yellow.

```
<!-- edited with XMLSpy v2017 rel. 3 sp1 (x64) (http://www.altova.com) by
California ISO (California ISO) -->
<RawBidSet xmlns="http://www.caiso.com/soa/RawBidSet_v4.xsd#"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
	<MessageHeader>
		<TimeDate>2014-09-30T18:24:47-07:00</TimeDate>
		<Source>SOAPUI_SUBMIT</Source>
		<Version>v20171001</Version>
	</MessageHeader>
	<MessagePayload>
		<GeneratingBid>
			<name>BID</name>
			<marketType>RTM</marketType>
			<startTime>2017-10-05T06:00:00.000-00:00</startTime>
			<stopTime>2017-10-05T07:00:00.000-00:00</stopTime>
			<HourlyParameters>
				<biddableCapacityLimit>100</biddableCapacityLimit>
```

```
      <biddableCapacityLimitType>GEN_CAPACITY_LIMIT</biddableCapacityLimitType
>
                        <timeIntervalEnd>2017-10-05T07:00:00.000-
00:00</timeIntervalEnd>
                        <timeIntervalStart>2017-10-05T06:00:00.000-
00:00</timeIntervalStart>
                  </HourlyParameters>
                  <ProductBid>
                        <BidSelfSched>
                              <selfSchedMw>100</selfSchedMw>
                              <timeIntervalEnd>2017-10-05T07:00:00.000-
00:00</timeIntervalEnd>
                              <timeIntervalStart>2017-10-05T06:00:00.000-
00:00</timeIntervalStart>
                        </BidSelfSched>
                        <MarketProduct>
                              <marketProductType>EN</marketProductType>
                              <selfSchedType>PT</selfSchedType>
                        </MarketProduct>
                  </ProductBid>
                  <ProductBid>
                        <BidSchedule>
                              <timeIntervalEnd>2017-10-05T07:00:00.000-
00:00</timeIntervalEnd>
                              <timeIntervalStart>2017-10-05T06:00:00.000-
00:00</timeIntervalStart>
                              <BidPriceCurve>
                                    <CurveScheduleDatas>
                                          <xAxisData>80</xAxisData>
                                          <y1AxisData>35.00</y1AxisData>
                                    </CurveScheduleDatas>
                              </BidPriceCurve>
                        </BidSchedule>
                        <MarketProduct>
                              <CASupplyIndicator>YES</CASupplyIndicator>
                              <marketProductType>GHG</marketProductType>
                        </MarketProduct>
                  </ProductBid>
                  <SchedulingCoordinator>
                        <mrid>EIMSC</mrid>
                  </SchedulingCoordinator>
                  <contingencyAvailFlag>YES</contingencyAvailFlag>
                  <noLoadCost>0.00</noLoadCost>
                  <RampRateCurve>
                        <CurveScheduleDatas>
                              <xAxisData>0.00</xAxisData>
                              <y1AxisData>10.00</y1AxisData>
                        </CurveScheduleDatas>
                        <CurveScheduleDatas>
                              <xAxisData>111.00</xAxisData>
                              <y1AxisData>10.00</y1AxisData>
```

```
                        </CurveScheduleDatas>
                        <rampRateType>OP</rampRateType>
                    </RampRateCurve>
                    <RegisteredGenerator>
                        <mrid>SOME_UNIT</mrid>
                    </RegisteredGenerator>
                    <StartUpCostCurve>
                        <description>STARTUP COST CURVE</description>
                        <CurveScheduleDatas>
                            <xAxisData>0.00</xAxisData>
                            <y1AxisData>0.00</y1AxisData>
                        </CurveScheduleDatas>
                    </StartUpCostCurve>
                    <StartUpTimeCurve>
                        <description>STARTUP TIME CURVE</description>
                        <CurveScheduleDatas>
                            <xAxisData>0.00</xAxisData>
                            <y1AxisData>0.00</y1AxisData>
                        </CurveScheduleDatas>
                    </StartUpTimeCurve>
                </GeneratingBid>
            </MessagePayload>
</RawBidSet>
```

Submit Bid xml Sample v3 DAM

Sample xml was generated using XMLSpy, bid characteristics are fabricated for:

Generator / MSG / NGR / TG resource / Import / Export / and Load.

New items for the v3 are highlighted in blue

These are also available in the artifacts as an xml posted in the link below:

Under Scheduling Infrastructure Business Rules (SIBR) Bidding / Raw bid submission.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- edited with XMLSpy v2013 sp1 (x64) (http://www.altova.com) by CALIFORNIA ISO
(CALIFORNIA ISO) -->
<RawBidSet xmlns="http://www.caiso.com/soa/RawBidSet_v3.xsd#">
        <MessageHeader>
                <TimeDate>2014-01-31T10:00:00-08:00</TimeDate>
                <Source>Siemens</Source>
                <Version>v20140401</Version>
```

```
        </MessageHeader>
        <MessagePayload>
                <GeneratingBid>
                        <!--Sample bid with Min/Max Daily Energy Limit-->
                        <marketType>DAM</marketType>
                        <startTime>2014-11-06T00:00:00.000-08:00</startTime>
                        <stopTime>2014-11-07T00:00:00.000-08:00</stopTime>
                        <ProductBid>
                                <BidSchedule>
                                        <timeIntervalEnd>2014-11-07T00:00:00.000-
08:00</timeIntervalEnd>
                                        <timeIntervalStart>2014-11-06T00:00:00.000-
08:00</timeIntervalStart>
                                        <BidPriceCurve>
                                                <CurveScheduleDatas>
                                                        <xAxisData>10</xAxisData>
                                                        <y1AxisData>0.01</y1AxisData>
                                                </CurveScheduleDatas>
                                                <CurveScheduleDatas>
                                                        <xAxisData>35</xAxisData>
                                                        <y1AxisData>0.01</y1AxisData>
                                                </CurveScheduleDatas>
                                        </BidPriceCurve>
                                </BidSchedule>
                                <MarketProduct>
                                        <marketProductType>EN</marketProductType>
                                </MarketProduct>
                        </ProductBid>
                        <ProductBid>
                                <BidSelfSched>
                                        <selfSchedMw>10</selfSchedMw>
                                        <timeIntervalEnd>2014-11-07T00:00:00.000-
08:00</timeIntervalEnd>
                                        <timeIntervalStart>2014-11-06T00:00:00.000-
08:00</timeIntervalStart>
                                </BidSelfSched>
                                <MarketProduct>
                                        <marketProductType>EN</marketProductType>
                                        <selfSchedType>PT</selfSchedType>
                                </MarketProduct>
                        </ProductBid>
                        <SchedulingCoordinator>
                                <mrid>SCID</mrid>
                        </SchedulingCoordinator>
                        <contingencyAvailFlag>YES</contingencyAvailFlag>
                        <energyMaxDay>240</energyMaxDay>
                        <energyMinDay>-1</energyMinDay>
                        <RegisteredGenerator>
                                <mrid>GENERATING_RESOURCE_NAME_1</mrid>
                        </RegisteredGenerator>
                </GeneratingBid>
                <GeneratingBid>
                        <!--Sample Energy bid, AS, and AS SP-->
```

```
                    <marketType>DAM</marketType>
                    <startTime>2014-11-06T00:00:00.000-08:00</startTime>
                    <stopTime>2014-11-07T00:00:00.000-08:00</stopTime>
                    <ProductBid>
                        <BidSchedule>
                            <timeIntervalEnd>2014-11-07T00:00:00.000-
08:00</timeIntervalEnd>
                            <timeIntervalStart>2014-11-06T00:00:00.000-
08:00</timeIntervalStart>
                            <BidPriceCurve>
                                <CurveScheduleDatas>
                                    <xAxisData>10</xAxisData>
                                    <y1AxisData>0.01</y1AxisData>
                                </CurveScheduleDatas>
                                <CurveScheduleDatas>
                                    <xAxisData>85</xAxisData>
                                    <y1AxisData>0.01</y1AxisData>
                                </CurveScheduleDatas>
                            </BidPriceCurve>
                        </BidSchedule>
                        <MarketProduct>
                            <marketProductType>EN</marketProductType>
                        </MarketProduct>
                    </ProductBid>
                    <ProductBid>
                        <BidSelfSched>
                            <selfSchedMw>10</selfSchedMw>
                            <timeIntervalEnd>2014-11-07T00:00:00.000-
08:00</timeIntervalEnd>
                            <timeIntervalStart>2014-11-06T00:00:00.000-
08:00</timeIntervalStart>
                        </BidSelfSched>
                        <MarketProduct>
                            <marketProductType>EN</marketProductType>
                            <selfSchedType>PT</selfSchedType>
                        </MarketProduct>
                    </ProductBid>
                    <ProductBid>
                        <BidSelfSched>
                            <selfSchedMw>1</selfSchedMw>
                            <timeIntervalEnd>2014-11-07T00:00:00.000-
08:00</timeIntervalEnd>
                            <timeIntervalStart>2014-11-06T00:00:00.000-
08:00</timeIntervalStart>
                        </BidSelfSched>
                        <MarketProduct>
                            <marketProductType>SR</marketProductType>
                            <selfSchedType>SP</selfSchedType>
                        </MarketProduct>
                    </ProductBid>
                    <ProductBid>
                        <BidSelfSched>
                            <selfSchedMw>1</selfSchedMw>
```

```
                        <timeIntervalEnd>2014-11-07T00:00:00.000-
08:00</timeIntervalEnd>
                        <timeIntervalStart>2014-11-06T00:00:00.000-
08:00</timeIntervalStart>
                    </BidSelfSched>
                    <MarketProduct>
                        <marketProductType>NR</marketProductType>
                        <selfSchedType>SP</selfSchedType>
                    </MarketProduct>
                </ProductBid>
                <ProductBid>
                    <BidSelfSched>
                        <selfSchedMw>1</selfSchedMw>
                        <timeIntervalEnd>2014-11-07T00:00:00.000-
08:00</timeIntervalEnd>
                        <timeIntervalStart>2014-11-06T00:00:00.000-
08:00</timeIntervalStart>
                    </BidSelfSched>
                    <MarketProduct>
                        <marketProductType>RU</marketProductType>
                        <selfSchedType>SP</selfSchedType>
                    </MarketProduct>
                </ProductBid>
                <ProductBid>
                    <BidSelfSched>
                        <selfSchedMw>1</selfSchedMw>
                        <timeIntervalEnd>2014-11-07T00:00:00.000-
08:00</timeIntervalEnd>
                        <timeIntervalStart>2014-11-06T00:00:00.000-
08:00</timeIntervalStart>
                    </BidSelfSched>
                    <MarketProduct>
                        <marketProductType>RD</marketProductType>
                        <selfSchedType>SP</selfSchedType>
                    </MarketProduct>
                </ProductBid>
                <ProductBid>
                    <BidSchedule>
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08:00</timeIntervalEnd>
                        <timeIntervalStart>2014-11-06T00:00:00.000-
08:00</timeIntervalStart>
                        <BidPriceCurve>
                            <CurveScheduleDatas>
                                <xAxisData>1</xAxisData>
                                <y1AxisData>50.15</y1AxisData>
                            </CurveScheduleDatas>
                        </BidPriceCurve>
                    </BidSchedule>
                    <MarketProduct>
                        <marketProductType>SR</marketProductType>
                    </MarketProduct>
                </ProductBid>
```

```
                    <ProductBid>
                        <BidSchedule>
                            <timeIntervalEnd>2014-11-07T00:00:00.000-
08:00</timeIntervalEnd>
                            <timeIntervalStart>2014-11-06T00:00:00.000-
08:00</timeIntervalStart>
                            <BidPriceCurve>
                                <CurveScheduleDatas>
                                    <xAxisData>1</xAxisData>
                                    <y1AxisData>50.15</y1AxisData>
                                </CurveScheduleDatas>
                            </BidPriceCurve>
                        </BidSchedule>
                        <MarketProduct>
                            <marketProductType>NR</marketProductType>
                        </MarketProduct>
                    </ProductBid>
                    <ProductBid>
                        <BidSchedule>
                            <timeIntervalEnd>2014-11-07T00:00:00.000-
08:00</timeIntervalEnd>
                            <timeIntervalStart>2014-11-06T00:00:00.000-
08:00</timeIntervalStart>
                            <BidPriceCurve>
                                <CurveScheduleDatas>
                                    <xAxisData>1</xAxisData>
                                    <y1AxisData>50.15</y1AxisData>
                                </CurveScheduleDatas>
                            </BidPriceCurve>
                        </BidSchedule>
                        <MarketProduct>
                            <marketProductType>RU</marketProductType>
                        </MarketProduct>
                    </ProductBid>
                    <ProductBid>
                        <BidSchedule>
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08:00</timeIntervalEnd>
                            <timeIntervalStart>2014-11-06T00:00:00.000-
08:00</timeIntervalStart>
                            <BidPriceCurve>
                                <CurveScheduleDatas>
                                    <xAxisData>1</xAxisData>
                                    <y1AxisData>50.15</y1AxisData>
                                </CurveScheduleDatas>
                            </BidPriceCurve>
                        </BidSchedule>
                        <MarketProduct>
                            <marketProductType>RD</marketProductType>
                        </MarketProduct>
                    </ProductBid>
                    <SchedulingCoordinator>
                        <mrid>SCID</mrid>
```

```
                </SchedulingCoordinator>
                <contingencyAvailFlag>YES</contingencyAvailFlag>
                <RegisteredGenerator>
                        <mrid>GENERATING_RESOURCE_NAME_2</mrid>
                </RegisteredGenerator>
        </GeneratingBid>
        <GeneratingBid>
                <!--Sample bid for MSG resource; Bid 1 of 2-->
                <marketType>DAM</marketType>
                <startTime>2014-11-06T00:00:00.000-08:00</startTime>
                <stopTime>2014-11-07T00:00:00.000-08:00</stopTime>
                <ProductBid>
                        <BidSchedule>
                                <timeIntervalEnd>2014-11-07T00:00:00.000-
08:00</timeIntervalEnd>
                                <timeIntervalStart>2014-11-06T00:00:00.000-
08:00</timeIntervalStart>
                                <BidPriceCurve>
                                        <CurveScheduleDatas>
                                                <xAxisData>160</xAxisData>
                                                <y1AxisData>41.12</y1AxisData>
                                        </CurveScheduleDatas>
                                        <CurveScheduleDatas>
                                                <xAxisData>200</xAxisData>
                                                <y1AxisData>50.15</y1AxisData>
                                        </CurveScheduleDatas>
                                        <CurveScheduleDatas>
                                                <xAxisData>260</xAxisData>
                                                <y1AxisData>50.15</y1AxisData>
                                        </CurveScheduleDatas>
                                </BidPriceCurve>
                        </BidSchedule>
                        <MarketProduct>
                                <marketProductType>EN</marketProductType>
                        </MarketProduct>
                </ProductBid>
                <ProductBid>
                        <BidSchedule>
                                <timeIntervalEnd>2014-11-07T00:00:00.000-
08:00</timeIntervalEnd>
                                <timeIntervalStart>2014-11-06T00:00:00.000-
08:00</timeIntervalStart>
                                <BidPriceCurve>
                                        <CurveScheduleDatas>
                                                <xAxisData>1</xAxisData>
                                                <y1AxisData>0.00</y1AxisData>
                                        </CurveScheduleDatas>
                                </BidPriceCurve>
                        </BidSchedule>
                        <MarketProduct>
                                <marketProductType>SR</marketProductType>
                        </MarketProduct>
                </ProductBid>
```

```
                <SchedulingCoordinator>
                    <mrid>SCID</mrid>
                </SchedulingCoordinator>
                <contingencyAvailFlag>YES</contingencyAvailFlag>
                <RegisteredGenerator>
                    <mrid>GENERATING_RESOURCE_NAME_3</mrid>
                    <Configuration>
                        <mrid>GEN_3_CONFIGURATION_NAME_1</mrid>
                    </Configuration>
                </RegisteredGenerator>
            </GeneratingBid>
            <GeneratingBid>
                <!--Sample bid for MSG resource; Bid 2 of 2-->
                <marketType>DAM</marketType>
                <startTime>2014-11-06T00:00:00.000-08:00</startTime>
                <stopTime>2014-11-07T00:00:00.000-08:00</stopTime>
                <ProductBid>
                    <BidSchedule>
                        <timeIntervalEnd>2014-11-07T00:00:00.000-
08:00</timeIntervalEnd>
                        <timeIntervalStart>2014-11-06T00:00:00.000-
08:00</timeIntervalStart>
                        <BidPriceCurve>
                            <CurveScheduleDatas>
                                <xAxisData>520</xAxisData>
                                <y1AxisData>41.12</y1AxisData>
                            </CurveScheduleDatas>
                            <CurveScheduleDatas>
                                <xAxisData>521</xAxisData>
                                <y1AxisData>50.15</y1AxisData>
                            </CurveScheduleDatas>
                            <CurveScheduleDatas>
                                <xAxisData>668</xAxisData>
                                <y1AxisData>50.15</y1AxisData>
                            </CurveScheduleDatas>
                        </BidPriceCurve>
                    </BidSchedule>
                    <MarketProduct>
                        <marketProductType>EN</marketProductType>
                    </MarketProduct>
                </ProductBid>
                <SchedulingCoordinator>
                    <mrid>SCID</mrid>
                </SchedulingCoordinator>
                <contingencyAvailFlag>YES</contingencyAvailFlag>
                <RegisteredGenerator>
                    <mrid>GENERATING_RESOURCE_3</mrid>
                    <Configuration>
                        <mrid>GEN_3_CONFIGURATION_NAME_2</mrid>
                    </Configuration>
                </RegisteredGenerator>
            </GeneratingBid>
            <GeneratingBid>
```

```
                    <!--Sample bid LSG resource-->
                    <marketType>DAM</marketType>
                    <startTime>2014-11-06T00:00:00.000-08:00</startTime>
                    <stopTime>2014-11-07T00:00:00.000-08:00</stopTime>
                    <ProductBid>
                        <BidSchedule>
                            <timeIntervalEnd>2014-11-07T00:00:00.000-
08:00</timeIntervalEnd>
                            <timeIntervalStart>2014-11-06T00:00:00.000-
08:00</timeIntervalStart>
                            <BidPriceCurve>
                                <CurveScheduleDatas>
                                    <xAxisData>298</xAxisData>
                                    <y1AxisData>50.15</y1AxisData>
                                </CurveScheduleDatas>
                                <CurveScheduleDatas>
                                    <xAxisData>500</xAxisData>
                                    <y1AxisData>50.15</y1AxisData>
                                </CurveScheduleDatas>
                            </BidPriceCurve>
                        </BidSchedule>
                        <MarketProduct>
                            <marketProductType>EN</marketProductType>
                        </MarketProduct>
                    </ProductBid>
                    <ProductBid>
                        <BidSelfSched>
                            <selfSchedMw>297</selfSchedMw>
                            <timeIntervalEnd>2014-11-07T00:00:00.000-
08:00</timeIntervalEnd>
                            <timeIntervalStart>2014-11-06T00:00:00.000-
08:00</timeIntervalStart>
                        </BidSelfSched>
                        <MarketProduct>
                            <marketProductType>EN</marketProductType>
                            <selfSchedType>PT</selfSchedType>
                        </MarketProduct>
                    </ProductBid>
                    <ProductBid>
                        <BidSelfSched>
                            <selfSchedMw>1</selfSchedMw>
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                        <InterTieBid>
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dispatch option is for RT only-->
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            </LoadBid>
    </MessagePayload>
</RawBidSet>
```

1 Submit Bid xml Sample v3 RTM

Sample xml was generated using XMLSpy, bid characteristics are fabricated for:

Generator / MSG / NGR / TG resource / Import / Export / and Load.

New items for the v3 are highlighted in blue

These are also available in the artifacts as an xml posted in the link below:

Under Scheduling Infrastructure Business Rules (SIBR) Bidding / Raw bid submission.

http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- edited with XMLSpy v2011 (http://www.altova.com) by California ISO (California ISO) -->
<RawBidSet xmlns="http://www.caiso.com/soa/RawBidSet_v3.xsd">
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		<Source>FERC764</Source>
		<Version>v20141001</Version>
	</MessageHeader>
	<MessagePayload>
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                    </SchedulingCoordinator>
                    <contingencyAvailFlag>NO</contingencyAvailFlag>
                    <noLoadCost>0.00</noLoadCost>
                    <RampRateCurve>
                        <CurveScheduleDatas>
                            <xAxisData>0.00</xAxisData>
```

```
                        <y1AxisData>20.00</y1AxisData>
                    </CurveScheduleDatas>
                    <CurveScheduleDatas>
                        <xAxisData>740.00</xAxisData>
                        <y1AxisData>20.00</y1AxisData>
                    </CurveScheduleDatas>
                    <rampRateType>OP</rampRateType>
                </RampRateCurve>
                <RegisteredGenerator>
                    <mrid>TGRES01</mrid>
                </RegisteredGenerator>
                <StartUpCostCurve>
                    <description>STARTUP COST CURVE</description>
                    <CurveScheduleDatas>
                        <xAxisData>0.00</xAxisData>
                        <y1AxisData>0.00</y1AxisData>
                    </CurveScheduleDatas>
                </StartUpCostCurve>
                <StartUpTimeCurve>
                    <description>STARTUP TIME CURVE</description>
                    <CurveScheduleDatas>
                        <xAxisData>0.00</xAxisData>
                        <y1AxisData>0.00</y1AxisData>
                    </CurveScheduleDatas>
                </StartUpTimeCurve>
            </GeneratingBid>
            <InterTieBid>
                <name>SCID_MALIN500_I_WHL_REGISTERED</name> MF
Registered.
                <marketType>RTM</marketType>
                <startTime>2014-01-14T23:00:00.000-00:00</startTime>
                <stopTime>2014-01-15T00:00:00.000-00:00</stopTime>
                <HourlyParameters>   ---Bid Option in RTM only for Interties is needed.
                    <resourceBidOption>HOURLY</resourceBidOption>
                    <timeIntervalEnd>2014-01-15T00:00:00.000-
00:00</timeIntervalEnd>
                    <timeIntervalStart>2014-01-14T23:00:00.000-
00:00</timeIntervalStart>
                </HourlyParameters>
                <ProductBid>
                    <BidSelfSched>
                        <selfSchedMw>35</selfSchedMw>
                        <timeIntervalEnd>2014-01-15T00:00:00.000-
00:00</timeIntervalEnd>
                        <timeIntervalStart>2014-01-14T23:00:00.000-
00:00</timeIntervalStart>
                    </BidSelfSched>
                    <MarketProduct>
                        <marketProductType>EN</marketProductType>
                        <selfSchedType>PT</selfSchedType>
                    </MarketProduct>
                </ProductBid>
                <SchedulingCoordinator>
```

```
                        <mrid>SCID</mrid>
                    </SchedulingCoordinator>
                    <contingencyAvailFlag>YES</contingencyAvailFlag>
                    <RegisteredInterTie>
                        <mrid>SCID_MALIN500_I_WHL_MYWHL</mrid>
                    </RegisteredInterTie>
                </InterTieBid>
                <InterTieBid>
                    <name>SCID_TESLA230_E_NON_REGISTERED</name>
                    <marketType>RTM</marketType>
                    <startTime>2014-01-14T23:00:00.000-00:00</startTime>
                    <stopTime>2014-01-15T00:00:00.000-00:00</stopTime>
                    <HourlyParameters>
                        <resourceBidOption>HOURLY</resourceBidOption>
                        <timeIntervalEnd>2014-01-15T00:00:00.000-
00:00</timeIntervalEnd>
                        <timeIntervalStart>2014-01-14T23:00:00.000-
00:00</timeIntervalStart>
                    </HourlyParameters>
                    <ProductBid>
                        <BidSelfSched>
                            <selfSchedMw>35</selfSchedMw>
                            <timeIntervalEnd>2014-01-15T00:00:00.000-
00:00</timeIntervalEnd>
                            <timeIntervalStart>2014-01-14T23:00:00.000-
00:00</timeIntervalStart>
                        </BidSelfSched>
                        <MarketProduct>
                            <marketProductType>EN</marketProductType>
                            <selfSchedType>PT</selfSchedType>
                        </MarketProduct>
                    </ProductBid>
                    <SchedulingCoordinator>
                        <mrid>SCID</mrid>
                    </SchedulingCoordinator>
                    <contingencyAvailFlag>YES</contingencyAvailFlag>
                    <RegisteredInterTie>
                        <mrid>will be generated by SIBR</mrid>
SC05-P-North_Hub –TESLA230-E-F-1
                    --based on below submissions
                        <PrimaryFlowGate>
                            <mrid>TESLA230</mrid>
                        </PrimaryFlowGate>
                        <SchedulingCoordinator>
                            <mrid>SCID</mrid>
                        </SchedulingCoordinator>
                        <direction>E</direction>
                        <energyProductType>FIRM</energyProductType>
                    </RegisteredInterTie>
                </InterTieBid>
            </MessagePayload>
</RawBidSet>
```

2 Submit Energy Forecast xml Sample

Sample xml was generated using XMLSpy, Energy Forecast characteristics are fabricated.

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- edited with XMLSpy v2011 (http://www.altova.com) by California ISO (California ISO) -->
<!--Sample XML file generated by XMLSpy v2011 (http://www.altova.com)-->
<ExternalEnergyForecast xmlns:m="http://www.caiso.com/soa/ExternalEnergyForecast_v1.xsd#"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.caiso.com/soa/ExternalEnergyForecast_v1.xsd#
file:///U:/My%20Documents/WT_Laptop/SIBR/API%20Specs%20for%20Posting/Spring%202014/
ExtEnergyForecastv1/ExternalEnergyForecast_v1.xsd"
xmlns="http://www.caiso.com/soa/ExternalEnergyForecast_v1.xsd#">
        <MessageHeader>
                <TimeDate>2001-12-17T09:30:47Z</TimeDate>
                <Source>String</Source>
                <Version>v20140401</Version>
        </MessageHeader>
        <MessagePayload>
                <EnergyForecastHorizon>
                        <forecastHorizonPeriod>
                                <end>2014-01-22T02:55:00.000-08:00</end>
                                <start>2014-01-22T00:00:00.000-08:00</start>
                        </forecastHorizonPeriod>
                        <RegisteredGenerator>
                                <mrid>EPFRES</mrid>
                                <EnergyForecast>
                                        <forecastType>EPF</forecastType>  ---Used with VER.
                                        <EnergyForecastInterval>
                                                <energyForecast>
                                                        <units>MW</units>
                                                        <value>0</value>
                                                </energyForecast>
                                                <intervalPeriod>
                                                        <end>2014-01-22T00:05:00.000-
08:00</end>
                                                        <start>2014-01-22T00:00:00.000-
08:00</start>
                                                </intervalPeriod>
                                        </EnergyForecastInterval>
                                </EnergyForecast>
                                <EnergyForecast>
                                        <forecastType>EPF</forecastType>
                                        <EnergyForecastInterval>
                                                <energyForecast>
                                                        <units>MW</units>
                                                        <value>9.27</value>
                                                </energyForecast>
                                                <intervalPeriod>
```

```
                                        <end>2014-01-22T00:10:00.000-
08:00</end>
                                        <start>2014-01-22T00:05:00.000-
08:00</start>
                                    </intervalPeriod>
                                </EnergyForecastInterval>
                            </EnergyForecast>
                            <EnergyForecast>
                                <forecastType>EPF</forecastType>
                                <EnergyForecastInterval>
                                    <energyForecast>
                                        <units>MW</units>
                                        <value>18.55</value>
                                    </energyForecast>
                                    <intervalPeriod>
                                        <end>2014-01-22T00:15:00.000-
08:00</end>
                                        <start>2014-01-22T00:10:00.000-
08:00</start>
                                    </intervalPeriod>
                                </EnergyForecastInterval>
                            </EnergyForecast>
                            <EnergyForecast>
                                <forecastType>EPF</forecastType>
                                <EnergyForecastInterval>
                                    <energyForecast>
                                        <units>MW</units>
                                        <value>27.82</value>
                                    </energyForecast>
                                    <intervalPeriod>
                                        <end>2014-01-22T00:20:00.000-
08:00</end>
                                        <start>2014-01-22T00:15:00.000-
08:00</start>
                                    </intervalPeriod>
                                </EnergyForecastInterval>
                            </EnergyForecast>
                            <EnergyForecast>
                                <forecastType>EPF</forecastType>
                                <EnergyForecastInterval>
                                    <energyForecast>
                                        <units>MW</units>
                                        <value>37.09</value>
                                    </energyForecast>
                                    <intervalPeriod>
                                        <end>2014-01-22T00:25:00.000-
08:00</end>
                                        <start>2014-01-22T00:20:00.000-
08:00</start>
                                    </intervalPeriod>
                                </EnergyForecastInterval>
                            </EnergyForecast>
                            <EnergyForecast>
```

```
                        <forecastType>EPF</forecastType>
                        <EnergyForecastInterval>
                                <energyForecast>
                                        <units>MW</units>
                                        <value>46.36</value>
                                </energyForecast>
                                <intervalPeriod>
                                        <end>2014-01-22T00:30:00.000-
08:00</end>
                                        <start>2014-01-22T00:25:00.000-
08:00</start>
                                </intervalPeriod>
                        </EnergyForecastInterval>
                </EnergyForecast>
                <EnergyForecast>
                        <forecastType>EPF</forecastType>
                        <EnergyForecastInterval>
                                <energyForecast>
                                        <units>MW</units>
                                        <value>55.64</value>
                                </energyForecast>
                                <intervalPeriod>
                                        <end>2014-01-22T00:35:00.000-
08:00</end>
                                        <start>2014-01-22T00:30:00.000-
08:00</start>
                                </intervalPeriod>
                        </EnergyForecastInterval>
                </EnergyForecast>
                <EnergyForecast>
                        <forecastType>EPF</forecastType>
                        <EnergyForecastInterval>
                                <energyForecast>
                                        <units>MW</units>
                                        <value>46.36</value>
                                </energyForecast>
                                <intervalPeriod>
                                        <end>2014-01-22T00:40:00.000-
08:00</end>
                                        <start>2014-01-22T00:35:00.000-
08:00</start>
                                </intervalPeriod>
                        </EnergyForecastInterval>
                </EnergyForecast>
                <EnergyForecast>
                        <forecastType>EPF</forecastType>
                        <EnergyForecastInterval>
                                <energyForecast>
                                        <units>MW</units>
                                        <value>37.09</value>
                                </energyForecast>
                                <intervalPeriod>
```

```
                                        <end>2014-01-22T00:45:00.000-
08:00</end>
                                        <start>2014-01-22T00:40:00.000-
08:00</start>
                                    </intervalPeriod>
                                </EnergyForecastInterval>
                            </EnergyForecast>
                            <EnergyForecast>
                                <forecastType>EPF</forecastType>
                                <EnergyForecastInterval>
                                    <energyForecast>
                                        <units>MW</units>
                                        <value>27.82</value>
                                    </energyForecast>
                                    <intervalPeriod>
                                        <end>2014-01-22T00:50:00.000-
08:00</end>
                                        <start>2014-01-22T00:45:00.000-
08:00</start>
                                    </intervalPeriod>
                                </EnergyForecastInterval>
                            </EnergyForecast>
                            <EnergyForecast>
                                <forecastType>EPF</forecastType>
                                <EnergyForecastInterval>
                                    <energyForecast>
                                        <units>MW</units>
                                        <value>18.55</value>
                                    </energyForecast>
                                    <intervalPeriod>
                                        <end>2014-01-22T00:55:00.000-
08:00</end>
                                        <start>2014-01-22T00:50:00.000-
08:00</start>
                                    </intervalPeriod>
                                </EnergyForecastInterval>
                            </EnergyForecast>
                            <EnergyForecast>
                                <forecastType>EPF</forecastType>
                                <EnergyForecastInterval>
                                    <energyForecast>
                                        <units>MW</units>
                                        <value>9.27</value>
                                    </energyForecast>
                                    <intervalPeriod>
                                        <end>2014-01-22T00:00:00.000-
09:00</end>
                                        <start>2014-01-22T00:55:00.000-
08:00</start>
                                    </intervalPeriod>
                                </EnergyForecastInterval>
                            </EnergyForecast>
                        </RegisteredGenerator>
```

```
                <SchedulingCoordinator>
                    <mrid>SCID</mrid>
                </SchedulingCoordinator>
            </EnergyForecastHorizon>
        </MessagePayload>
</ExternalEnergyForecast>
```

```
<?xml version="1.0" encoding="UTF-8"?>
<!--Sample XML file generated by XMLSpy v2011 (http://www.altova.com)-->
<ExternalEnergyForecast xmlns:m="http://www.caiso.com/soa/ExternalEnergyForecast_v1.xsd#"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://www.caiso.com/soa/ExternalEnergyForecast_v1.xsd#"
xsi:schemaLocation="http://www.caiso.com/soa/ExternalEnergyForecast_v1.xsd#
file:///U:/My%20Documents/WT_Laptop/SIBR/API%20Specs%20for%20Posting/Spring%202014/
ExtEnergyForecastv1/ExternalEnergyForecast_v1.xsd">
        <MessageHeader>
            <TimeDate>2001-12-17T09:30:47Z</TimeDate>
            <Source>String</Source>
            <Version>v20140401</Version>
        </MessageHeader>
        <MessagePayload>
            <EnergyForecastHorizon>
                <forecastHorizonPeriod>
                    <end>2014-01-22T02:55:00.000-08:00</end>
                    <start>2014-01-22T00:00:00.000-08:00</start>
                </forecastHorizonPeriod>
                <RegisteredGenerator>
                    <mrid>ECFRES</mrid>
                    <EnergyForecast>
                        <forecastType>ECF</forecastType> ---Used with LSG.
                        <EnergyForecastInterval>
                            <energyForecast>
                                <units>MW</units>
                                <value>68</value>
                            </energyForecast>
                            <intervalPeriod>
                                <end>2014-01-22T00:05:00.000-
08:00</end>
                                <start>2014-01-22T00:00:00.000-
08:00</start>
                            </intervalPeriod>
                        </EnergyForecastInterval>
                    </EnergyForecast>
                    <EnergyForecast>
                        <forecastType>ECF</forecastType>
                        <EnergyForecastInterval>
                            <energyForecast>
                                <units>MW</units>
                                <value>76</value>
```

```
                                    </energyForecast>
                                    <intervalPeriod>
                                        <end>2014-01-22T00:10:00.000-
08:00</end>
                                        <start>2014-01-22T00:05:00.000-
08:00</start>
                                    </intervalPeriod>
                                </EnergyForecastInterval>
                            </EnergyForecast>
                            <EnergyForecast>
                                <forecastType>ECF</forecastType>
                                <EnergyForecastInterval>
                                    <energyForecast>
                                        <units>MW</units>
                                        <value>84</value>
                                    </energyForecast>
                                    <intervalPeriod>
                                        <end>2014-01-22T00:15:00.000-
08:00</end>
                                        <start>2014-01-22T00:10:00.000-
08:00</start>
                                    </intervalPeriod>
                                </EnergyForecastInterval>
                            </EnergyForecast>
                            <EnergyForecast>
                                <forecastType>ECF</forecastType>
                                <EnergyForecastInterval>
                                    <energyForecast>
                                        <units>MW</units>
                                        <value>92</value>
                                    </energyForecast>
                                    <intervalPeriod>
                                        <end>2014-01-22T00:20:00.000-
08:00</end>
                                        <start>2014-01-22T00:15:00.000-
08:00</start>
                                    </intervalPeriod>
                                </EnergyForecastInterval>
                            </EnergyForecast>
                            <EnergyForecast>
                                <forecastType>ECF</forecastType>
                                <EnergyForecastInterval>
                                    <energyForecast>
                                        <units>MW</units>
                                        <value>100</value>
                                    </energyForecast>
                                    <intervalPeriod>
                                        <end>2014-01-22T00:25:00.000-
08:00</end>
                                        <start>2014-01-22T00:20:00.000-
08:00</start>
                                    </intervalPeriod>
                                </EnergyForecastInterval>
```

```
                    </EnergyForecast>
                    <EnergyForecast>
                        <forecastType>ECF</forecastType>
                        <EnergyForecastInterval>
                            <energyForecast>
                                <units>MW</units>
                                <value>108</value>
                            </energyForecast>
                            <intervalPeriod>
                                <end>2014-01-22T00:30:00.000-
08:00</end>
                                <start>2014-01-22T00:25:00.000-
08:00</start>
                            </intervalPeriod>
                        </EnergyForecastInterval>
                    </EnergyForecast>
                    <EnergyForecast>
                        <forecastType>ECF</forecastType>
                        <EnergyForecastInterval>
                            <energyForecast>
                                <units>MW</units>
                                <value>108</value>
                            </energyForecast>
                            <intervalPeriod>
                                <end>2014-01-22T00:35:00.000-
08:00</end>
                                <start>2014-01-22T00:30:00.000-
08:00</start>
                            </intervalPeriod>
                        </EnergyForecastInterval>
                    </EnergyForecast>
                    <EnergyForecast>
                        <forecastType>ECF</forecastType>
                        <EnergyForecastInterval>
                            <energyForecast>
                                <units>MW</units>
                                <value>100</value>
                            </energyForecast>
                            <intervalPeriod>
                                <end>2014-01-22T00:40:00.000-
08:00</end>
                                <start>2014-01-22T00:35:00.000-
08:00</start>
                            </intervalPeriod>
                        </EnergyForecastInterval>
                    </EnergyForecast>
                    <EnergyForecast>
                        <forecastType>ECF</forecastType>
                        <EnergyForecastInterval>
                            <energyForecast>
                                <units>MW</units>
                                <value>92</value>
                            </energyForecast>
```

```
                                    <intervalPeriod>
                                        <end>2014-01-22T00:45:00.000-
08:00</end>
                                        <start>2014-01-22T00:40:00.000-
08:00</start>
                                    </intervalPeriod>
                                </EnergyForecastInterval>
                            </EnergyForecast>
                            <EnergyForecast>
                                <forecastType>ECF</forecastType>
                                <EnergyForecastInterval>
                                    <energyForecast>
                                        <units>MW</units>
                                        <value>84</value>
                                    </energyForecast>
                                    <intervalPeriod>
                                        <end>2014-01-22T00:50:00.000-
08:00</end>
                                        <start>2014-01-22T00:45:00.000-
08:00</start>
                                    </intervalPeriod>
                                </EnergyForecastInterval>
                            </EnergyForecast>
                            <EnergyForecast>
                                <forecastType>ECF</forecastType>
                                <EnergyForecastInterval>
                                    <energyForecast>
                                        <units>MW</units>
                                        <value>76</value>
                                    </energyForecast>
                                    <intervalPeriod>
                                        <end>2014-01-22T00:55:00.000-
08:00</end>
                                        <start>2014-01-22T00:50:00.000-
08:00</start>
                                    </intervalPeriod>
                                </EnergyForecastInterval>
                            </EnergyForecast>
                            <EnergyForecast>
                                <forecastType>ECF</forecastType>
                                <EnergyForecastInterval>
                                    <energyForecast>
                                        <units>MW</units>
                                        <value>68</value>
                                    </energyForecast>
                                    <intervalPeriod>
                                        <end>2014-01-22T00:00:00.000-
09:00</end>
                                        <start>2014-01-22T00:55:00.000-
08:00</start>
                                    </intervalPeriod>
                                </EnergyForecastInterval>
                            </EnergyForecast>
```

```
                </RegisteredGenerator>
                <SchedulingCoordinator>
                        <mrid>SCID</mrid>
                </SchedulingCoordinator>
        </EnergyForecastHorizon>
</MessagePayload>
</ExternalEnergyForecast>
```

Submit Base xml Sample

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- edited with XMLSpy v2013 sp1 (x64) (http://www.altova.com) by CALIFORNIA ISO
(CALIFORNIA ISO) -->
<!--Sample XML file generated by XMLSpy v2011 (http://www.altova.com)-->
<m:Baseschedule xmlns:m="http://www.caiso.com/soa/BaseSchedule_v1.xsd#">
        <m:MessageHeader>
                <m:TimeDate>2001-12-17T09:30:47Z</m:TimeDate>
                <m:Source>wtmanual</m:Source>
                <m:Version>v20141001</m:Version>
        </m:MessageHeader>
        <m:MessagePayload>
                <m:GeneratingBaseSchedule>
                        <!--Sample base schedule for non-MSG resource-->
                        <m:startTime>2014-11-03T21:00:00.000-07:00</m:startTime>
                        <m:BaseSchedulePoint>
                                <m:value1>65</m:value1>
                                <m:endDateTime>2014-11-03T22:00:00.000-
07:00</m:endDateTime>
                                <m:startDateTime>2014-11-03T21:00:00.000-
07:00</m:startDateTime>
                                <m:MarketProduct>
                                        <m:marketProductType>EN</m:marketProductType>
                                </m:MarketProduct>
                        </m:BaseSchedulePoint>
                        <m:marketType>RTM</m:marketType>
                        <m:stopTime>2014-11-03T22:00:00.000-07:00</m:stopTime>
                        <m:BaseSchedulingCoordinator>
                                <m:mrid>BSSCID</m:mrid>
                        </m:BaseSchedulingCoordinator>
                        <m:SchedulingCoordinator>
                                <m:mrid>SCID</m:mrid>
                        </m:SchedulingCoordinator>
                        <m:RegisteredGenerator>
                                <m:mrid>GENERATING_RESOURCE_NAME_1</m:mrid>
                        </m:RegisteredGenerator>
                </m:GeneratingBaseSchedule>
                <m:GeneratingBaseSchedule>
                        <!--Sample base schedule for MSG resource-->
                        <m:startTime>2014-11-03T21:00:00.000-07:00</m:startTime>
                        <m:BaseSchedulePoint>
```

```
                        <m:value1>150</m:value1>
                        <m:endDateTime>2014-11-03T22:00:00.000-
07:00</m:endDateTime>
                        <m:startDateTime>2014-11-03T21:00:00.000-
07:00</m:startDateTime>
                        <m:MarketProduct>
                                <m:marketProductType>EN</m:marketProductType>
                        </m:MarketProduct>
                </m:BaseSchedulePoint>
                <m:marketType>RTM</m:marketType>
                <m:stopTime>2014-11-03T22:00:00.000-07:00</m:stopTime>
                <m:BaseSchedulingCoordinator>
                        <m:mrid>BSSCID</m:mrid>
                </m:BaseSchedulingCoordinator>
                <m:SchedulingCoordinator>
                        <m:mrid>SCID</m:mrid>
                </m:SchedulingCoordinator>
                <m:RegisteredGenerator>
                        <m:mrid>GENERATING_RESOURCE_NAME_2</m:mrid>
                        <m:Configuration>

        <m:mrid>GEN_RES_CONFIGURATION_NAME_1</m:mrid>
                        </m:Configuration>
                </m:RegisteredGenerator>
        </m:GeneratingBaseSchedule>
        <m:GeneratingBaseSchedule>
                <!--Sample base schedule for Tie Gen resource-->
                <m:startTime>2014-11-03T21:00:00.000-07:00</m:startTime>
                <m:BaseSchedulePoint>
                        <m:value1>80</m:value1>
                        <m:endDateTime>2014-11-03T22:00:00.000-
07:00</m:endDateTime>
                        <m:startDateTime>2014-11-03T21:00:00.000-
07:00</m:startDateTime>
                        <m:MarketProduct>
                                <m:marketProductType>EN</m:marketProductType>
                        </m:MarketProduct>
                </m:BaseSchedulePoint>
                <m:marketType>RTM</m:marketType>
                <m:stopTime>2014-11-03T22:00:00.000-07:00</m:stopTime>
                <m:BaseSchedulingCoordinator>
                        <m:mrid>BSSCID</m:mrid>
                </m:BaseSchedulingCoordinator>
                <m:SchedulingCoordinator>
                        <m:mrid>SCID</m:mrid>
                </m:SchedulingCoordinator>
                <m:RegisteredGenerator>
                        <m:mrid>TIE_GEN_RESOURCE_NAME_1</m:mrid>
                </m:RegisteredGenerator>
        </m:GeneratingBaseSchedule>
        <m:InterTieBaseSchedule>
                <!--Sample base schedule for registered export resource-->
                <m:startTime>2014-11-03T22:00:00Z</m:startTime>
```

```
                <m:BaseSchedulePoint>
                        <m:value1>597.000</m:value1>
                        <m:endDateTime>2014-11-03T23:00:00Z</m:endDateTime>
                        <m:startDateTime>2014-11-03T22:00:00Z</m:startDateTime>
                        <m:MarketProduct>
                                <m:marketProductType>EN</m:marketProductType>
                        </m:MarketProduct>
                </m:BaseSchedulePoint>
                <m:marketType>RTM</m:marketType>
                <m:stopTime>2014-11-03T23:00:00Z</m:stopTime>
                <m:BaseSchedulingCoordinator>
                        <m:mrid>BSEIMID</m:mrid>
                </m:BaseSchedulingCoordinator>
                <m:SchedulingCoordinator>
                        <m:mrid>SCID</m:mrid>
                </m:SchedulingCoordinator>
                <m:RegisteredInterTie>
                        <m:mrid>INTERTIE_RESOURCE_NAME_1</m:mrid>
                </m:RegisteredInterTie>
        </m:InterTieBaseSchedule>
        <m:InterTieBaseSchedule>
                <!--Sample base schedule for mirrored resource (used to account for the
RUC schedules )-->
                <m:startTime>2014-11-03T22:00:00Z</m:startTime>
                <m:BaseSchedulePoint>
                        <m:value1>80.000</m:value1>
                        <m:endDateTime>2014-11-03T23:00:00Z</m:endDateTime>
                        <m:startDateTime>2014-11-03T22:00:00Z</m:startDateTime>
                        <m:MarketProduct>
                                <m:marketProductType>EN</m:marketProductType>
                        </m:MarketProduct>
                </m:BaseSchedulePoint>
                <m:marketType>RTM</m:marketType>
                <m:stopTime>2014-11-03T23:00:00Z</m:stopTime>
                <m:BaseSchedulingCoordinator>
                        <m:mrid>BSEIMID</m:mrid>
                </m:BaseSchedulingCoordinator>
                <m:SchedulingCoordinator>
                        <m:mrid>SCID</m:mrid>
                </m:SchedulingCoordinator>
                <m:RegisteredInterTie>
                        <m:mrid>MIRRORED_RESOURCE_NAME_1</m:mrid>
                </m:RegisteredInterTie>
        </m:InterTieBaseSchedule>
        <m:InterTieBaseSchedule>
                <!--Sample transaction ID for import resource-->
                <m:startTime>2014-11-03T22:00:00Z</m:startTime>
                <m:BaseSchedulePoint>
                        <m:value1>148</m:value1>
                        <m:endDateTime>2014-11-03T23:00:00Z</m:endDateTime>
                        <m:startDateTime>2014-11-03T22:00:00Z</m:startDateTime>
                        <m:MarketProduct>
                                <m:marketProductType>EN</m:marketProductType>
```

```
                </m:MarketProduct>
            </m:BaseSchedulePoint>
            <m:marketType>RTM</m:marketType>
            <m:stopTime>2014-11-03T23:00:00Z</m:stopTime>
            <m:BaseSchedulingCoordinator>
                <m:mrid>BSEIMID</m:mrid>
            </m:BaseSchedulingCoordinator>
            <m:SchedulingCoordinator>
                <m:mrid>SCID</m:mrid>
            </m:SchedulingCoordinator>
            <m:RegisteredInterTie>
                <m:IndividualPnode>
                    <m:mrid>SCHEDULING_POINT_NAME_1</m:mrid>
                </m:IndividualPnode>
                <m:PrimaryFlowgate>
                    <m:mrid>PRIMARY_TIE_NAME_1</m:mrid>
                </m:PrimaryFlowgate>
                <m:SchedulingCoordinator>
                    <m:mrid>SCID</m:mrid>
                </m:SchedulingCoordinator>
                <m:direction>I</m:direction>
                <m:energyProductType>FIRM</m:energyProductType>
                <m:purchaseServiceEntity>PSEID1</m:purchaseServiceEntity>
            </m:RegisteredInterTie>
        </m:InterTieBaseSchedule>
        <m:InterTieBaseSchedule>
            <!--Sample transaction ID for export resource-->
            <m:startTime>2014-11-03T22:00:00Z</m:startTime>
            <m:BaseSchedulePoint>
                <m:value1>148</m:value1>
                <m:endDateTime>2014-11-03T23:00:00Z</m:endDateTime>
                <m:startDateTime>2014-11-03T22:00:00Z</m:startDateTime>
                <m:MarketProduct>
                    <m:marketProductType>EN</m:marketProductType>
                </m:MarketProduct>
            </m:BaseSchedulePoint>
            <m:marketType>RTM</m:marketType>
            <m:stopTime>2014-11-03T23:00:00Z</m:stopTime>
            <m:BaseSchedulingCoordinator>
                <m:mrid>BSEIMID</m:mrid>
            </m:BaseSchedulingCoordinator>
            <m:SchedulingCoordinator>
                <m:mrid>SCID</m:mrid>
            </m:SchedulingCoordinator>
            <m:RegisteredInterTie>
                <m:IndividualPnode>
                    <m:mrid>SCHEDULING_POINT_NAME_2</m:mrid>
                </m:IndividualPnode>
                <m:PrimaryFlowgate>
                    <m:mrid>PRIMARY_TIE_NAME_1</m:mrid>
                </m:PrimaryFlowgate>
                <m:SchedulingCoordinator>
                    <m:mrid>SCID</m:mrid>
```

```
                    </m:SchedulingCoordinator>
                    <m:direction>E</m:direction>
                    <m:energyProductType>FIRM</m:energyProductType>
                    <m:purchaseServiceEntity>PSEID2</m:purchaseServiceEntity>
                </m:RegisteredInterTie>
            </m:InterTieBaseSchedule>
        </m:MessagePayload>
</m:Baseschedule>
```

3 Energy Forecast Request xml Sample

Sample request #1

```
<!--Forecast_TimeHorizon method-->
<SOAP-ENV:Body>
        <RequestEnergyForecast>
                <MessagePayload>
                        <Forecast_TimeHorizon>
                                <forecastHorizonPeriod>
                                        <end>2014-11-05T11:00:00.000-08:00</end>
                                        <start>2014-11-05T10:00:00.000-08:00</start>
                                </forecastHorizonPeriod>
                        </Forecast_TimeHorizon>
                </MessagePayload>
        </RequestEnergyForecast>
</SOAP-ENV:Body>
```

Sample request #2

```
<!--Forecast_ResourceTimeHorizon method-->
<SOAP-ENV:Body>
        <RequestEnergyForecast>
                <MessagePayload>
                        <Forecast_ResourceTimeHorizon>
                                <forecastHorizonPeriod>
                                        <end>2014-11-05T11:00:00.000-08:00</end>
                                        <start>2014-11-05T10:00:00.000-08:00</start>
                                </forecastHorizonPeriod>
                                <RegisteredResource>
                                        <m:mrid>RESOURCE_NAME_1</m:mrid>
                                </RegisteredResource>
                        </Forecast_ResourceTimeHorizon>
                </MessagePayload>
        </RequestEnergyForecast>
</SOAP-ENV:Body>
```

Sample request #3

```
<!--Forecast_SchedulingCoordinatorTimeHorizon-->
<SOAP-ENV:Body>
        <RequestEnergyForecast>
                <MessagePayload>
                        <Forecast_SchedulingCoordinatorTimeHorizon>
                                <forecastHorizonPeriod>
                                        <end>2014-11-05T11:00:00.000-08:00</end>
                                        <start>2014-11-05T10:00:00.000-08:00</start>
                                </forecastHorizonPeriod>
                                <SchedulingCoordinator>
                                        <m:mrid>SCID</m:mrid>
                                </SchedulingCoordinator>
                        </Forecast_SchedulingCoordinatorTimeHorizon>
                </MessagePayload>
        </RequestEnergyForecast>
```

```
</SOAP-ENV:Body>
```