

InterfaceSpecification for OASIS

Version: 4.1.1 Date: 1/22/2014

# Interface Specification for OASIS (Spring 2014/FERC764 Release)

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# **Revision History**

Date	Versi on	Description	Author
Sep 23, 2013	4.0.0	Initial release of GMT 2013 services to Market Participants. Pre-GMT tech specs and it's version history is at <a href="http://www.caiso.com/Documents/InterfaceSpecifications-OASISv3-12-0.pdf">http://www.caiso.com/Documents/InterfaceSpecifications-OASISv3-12-0.pdf</a>	AM, EC
Oct 24, 2013	4.0.1	Minor corrections and updates	AM
Nov 26, 2013	4.0.2	Removed deprecated group CRR1_GRP and corrected report names available under RTM1_GRP and HASP1_GRP	AM
		Removed alternate URL for CURR_LMP_GRP. StartDateTime and version parameters are now mandatory for all reports.	
Dec 15, 2013	4.0.3	PRC_LMP URL typo correction.  Update for PRC_FLEX_RAMP and PRC_FLEX_RAMP_CURR.	AM
		Updated files in groups HASP_MPM_SD_PRC_GRP, RTPD_MPM_SD_PRC_GRP, DAM_MPM_LMP_GRP	
Jan 22, 2014	4.1.1	Merge FERC764 tech spec changes on top of latest GMT release tech spec	AM, EC
		Updated current Transmission usage, Demand forecast, Renew able forecast sections for 15-min interval data.	



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#### 1. Overview

This document explains the functionality of the Open Access Same-Time Information System (OASIS) API. In this document the following are described:

- ❖ Background of OASIS.
- ❖ URL Parameter definitions for requesting OASIS data.
- ❖ Naming Convention for Returned OASIS files.
- Schema (XSD) for returned OASIS XML data.

# 1.1 Background - Time Horizons

The California Independent System Operator's (CAISO) Open Access Same-time information System (OASIS) provides energy market and power grid information to the public and market participants, through reports with real time updates. This information includes the following:

- System load requirements
- Market Price information
- Transmission availability
- System demand conditions

The data is categorized into three groups:

Category	Description
OASIS Data	This is the CAISO operational and market data.
Public Bids	This is the Public Bid data published after 90 days.
Atlas Data	This is the reference data supporting OASIS Data.

Its own XSD Schema, described in this document, supports each category.

To automate the download of the OASIS report data in XML, the information in this document describes the OASIS XML format and the download procedures, including URL examples associated with the XML data files.

## Time Horizons for CAISO Public Data postings:

#### GMT version services for ISO Market

The URL for the GMT version of the OASIS API web services is <a href="http://oasis.caiso.com/oasisapi">http://oasis.caiso.com/oasisapi</a>

This API document describes the functions for this version of OASIS.

## 2. Data Request to API

CAISO's OASIS is redesigned to adapt to the changes in the markets and grid operations initiated by the New ISO Market program. However, the technology of the new OASIS for downloading data is quite similar to the existing OASIS. The process of obtaining data from OASIS by automation using its API can be described as queries implemented through URL Servlet requests. It can be defined as sending URL requests with parameters to the OASIS web servers, from the Users web client.

## 2.1 API URL for single reports

Single report request will be using the servlet called SingleZip. The return of XML in CIM format will be based on XSDs specified above. The data content will be based on the type parameters will be passed to the SingleZip request. To illustrate the URL and its parameters, we show the pattern that would return an XML file based on the Schemas.

```
URL?queryname=<A>&startdatetime=<D>&enddatetime=<D>&market run id=<A>&version
=<A>&varParameters
Where:
      URL = http://oasiswebsite/context-path/SingleZip
      For production : oasiswebsite = oasis.caiso.com
                      context-path = oasisapi
      For mapstage : oasiswebsite = oasis.caiso.com
                      context-path = oasisapi
Mandatory Parameters:
      startdatetime = valid operating start datetime in GMT
(yyyymmddThh24:miZ)
      enddatetime = valid operating end datetime in GMT (yyyymmddThh24:miZ)
            which is equal or greater than <startdate>
      queryname = valid reportname,
           refer to the XML Query Name in the document
     market run id = valid market type
      version = API version (1 for the GMT 2013 release)
Variable Parameters:
     varParameters
           variable Parameters are defined for each Report
           and its specific Filter options
```

#### 2.1.1. Example URL for the ISO Market Simulation Environment

To illustrate the use of the URL and its parameters, we show an example based on the pattern above: This string indicates the proper path to query data that exists in our Market Simulation Environment.



```
http://oasismap.caiso.com/oasisapi/SingleZip?queryname=AS_REQ&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&market_run_id=DAM&version=1&as_type=ALL&as_region=ALL
```

#### 2.1.2. Example URL for the ISO Market Production Environment

To illustrate the use of the URL and its parameters, we show an example based on the pattern above. This string indicates the proper path to query the data for Trading Days beginning with the deployment of the New ISO Market:

```
http://oasis.caiso.com/oasisapi/SingleZip?queryname=AS_REQ&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&market_run_id=DAM&version=v1&as_type=ALL&version=1&as_region=ALL
```

## 2.2. API URL for Group Reports

The group reports depends on the servlet called GroupZip. The GroupZip is going to call a group of singleZips. The XML's embedded in the Zip file will be based on the group type. The data content will be for entire day that the user is going to be requested at a given time you can only request for single day.

To illustrate the URL and its parameters, we show the pattern that would return an XML files based on the Schemas.

#### 2.2.1 Example URL

To illustrate the use of the URL and its parameters, we show an example based on the pattern above:



Example 1: http://oasis.caiso.com/oasisapi/GroupZip?groupid=DAM\_LMP\_GRP&startdatetime=20130919T07:00-0000&version=1

Example 2: http://oasis.caiso.com/oasisapi/GroupZip?groupid=HASP\_LMP\_GRP&startdatetime=20130919T07:00-0000&enddatetime=20130919T08:00-0000&version=1

#### 3. Returned XML File

For every request sent to the OASIS web server, the web server will return a "zip" compressed file. In case of single report or group zip functionality, the user then unzips the file to extract the actual XML file/ files, for further processing by any business or report generation application.

## 3.1 File Names for single and group

The returned files will use the following naming convention for singlezip:

```
startdate_enddate_Report_Name_MktRunID_Stamp#_Version.Zip
```

Within this zip file, the XML file will use the following naming convention:

```
startdate_enddate_Report Name_MktRunID_Stamp#_Version.XML
```

The returned files will use the following naming convention for group zip:

```
startdate startDate GroupID N xml Version.Zip
```

Within this zip file, the XML file will use the following naming convention:

```
startdate_startdate_Report Name_MktRunID_Version.XML
```

#### XML Examples:

20131115\_20131115\_ENE\_CB\_AWARDS\_GRP\_N\_N\_v1\_xml.zip 20131115\_20131115\_ENE\_CB\_AWARDS\_N\_v1.xml 20131115\_20131115\_CURR\_LMP\_GRP\_10\_N\_v1\_xml.zip 20131115\_20131115\_PRC\_CURR\_LMP\_RTM\_10\_v1.xml 20131104\_20131105\_AS\_REQ\_RTM\_20131115\_09\_44\_44\_v1\_xml.zip 20131104\_20131105\_AS\_REQ\_RTM\_20131115\_09\_44\_44\_v1.xml

#### **CSV Examples:**

20131115\_20131115\_CURR\_LMP\_GRP\_10\_N\_v1\_xml.zip 20131115\_20131115\_PRC\_CURR\_LMP\_RTM\_10\_v1.xml 20131013\_20131013\_CB\_NODAL\_LMT\_GRP\_N\_N\_v1\_csv.zip 20131013\_20131013\_CB\_NODAL\_LIMITS\_N\_v1.csv 20131104\_20131105\_AS\_REQ\_RTM\_20131115\_09\_44\_44\_v1\_csv.zip

20131104\_20131105\_AS\_REQ\_RTM\_20131115\_09\_44\_44\_v1.csv

#### 3.1.1 XML Format

The structure of the XML (eXtensible Markup Language) format file is based on standard CAISO CIM XML. It is generated by using Servlet call to the common reporting web services framework and using XSLT the xml files will be translated to CIM XML based on xml schemas. The CIM XML is zipped and sent to the requesting users as response, similar to the OASIS operation today.

OASIS will continue to comply with FERC interface requirements and associated implementation standards as it does today. The CAISO believes the use of XML provides information that is more valuable to the end user, and reduces overall development costs as changes occur in the future.

To learn more about the reporting interface and download functionality, please browse through our on-line **OASIS HELP**. Additional support can be obtained by contacting us through the **OASIS Support link**.

#### 3.1.2 XML Schemas

Three XML schemas are developed to conform to the CIM XML standard support data delivery from the OASIS application. The schemas are **OASIS Report\_v1.xsd**, **OASIS Bid\_v1.xsd**, **OASIS CRRPublicBid\_v1.xsd** and **OASIS Master\_v1.xsd**. Each XML file, when downloaded, will point to the most current version of the Schema.

With the GMT 2013 release, all services will start with V1 and future releases will support the current and previous schemas .

XSD	Category	Description
OASISReport_v1.xsd	OASIS Data	This is the primary schema by which OASIS returns operational and market data.
OASISBid_v1.xsd	Public Bids	OASIS returns Public Bid data by this schema. This schema is a derivative of the bid schema used by market participants to submit bids and schedules.
OASISCBBid_v1.xsd	Public CB Bids	OASIS returns CB Public Bid data by this schema. This schema is a derivative of the CB bid schema used by market participants to submit CB bids.
OASISMaster_v1.xsd	Atlas Data	This schema is tailored to the Atlas / Reference data portion of OASIS.
OASISCRRPublicBid_v1.xsd	CRR Bid Data	OASIS returns CRR Bid data by this schema. This schema is a derivative of the CRR bid schema.

#### 3.1.3 CSV Format

Please note that with the GMT 2013 release version, the CSV format will now return the data elements in the top down format similar to XML in terms of overall layout. There will be the header and the fields will be separated with a comma, but the pivot feature where the hours go across like in the UI is now going away.

The element in the URL resultformat=5 will extract the data in CSV format. If resultformat= element is not in the URL string, the default format will be XML.

The CSV format with the pivot hours across will continue to be supported in the pre-GMT 2013 OASIS web services.

For certain CSV reports that were pivoted across in pre-GMT services, an additional column called "group" will be added as the last column in the GMT version of the CSV reports. Here is the list of the impacted reports:

- AGGR\_OUTAGE\_SCH
- AS\_MILEAGE\_CALC
- AS\_MILEAGE
- AS\_REQ
- AS\_RESULTS
- ATL\_LDF
- ATL\_PEAK\_ON\_OFF
- CB\_NODAL\_LIMITS
- CMMT\_RA\_MLC
- CMMT\_RMR
- ENE\_CB\_AWARDS
- ENE\_CB\_CLR\_AWARDS
- ENE\_CB\_MKT\_SUM
- ENE\_DISP
- ENE\_EA
- ENE\_LOSS
- ENE\_MPM
- ENE\_SLRS
- PRC AS
- PRC\_CD\_INTVL\_LMP

- PRC\_CD\_RTM\_FLOWGATE
- PRC\_CD\_RTM\_NOMOGRAM
- PRC\_CNSTR
- PRC\_CURR\_HUB\_LMP
- PRC\_FLEX\_RAMP
- PRC\_FLEX\_RAMP\_CURR
- PRC\_FUEL
- PRC\_GHG\_ALLOWANCE
- PRC\_HASP\_LMP
- PRC\_INTVL\_AS
- PRC\_INTVL\_LMP
- PRC\_LMP
- PRC\_MPM\_CNSTR\_CMP
- PRC\_MPM\_CNSTR
- PRC\_MPM\_LMP
- PRC\_MPM\_NOMOGRAM\_CMP
- PRC\_MPM\_NOMOGRAM
- PRC\_MPM\_REF\_BUS
- PRC\_MPM\_RTM\_FLOWGATE\_CMP
- PRC\_MPM\_RTM\_FLOWGATE
- PRC\_MPM\_RTM\_LMP
- PRC\_MPM\_RTM\_NOMOGRAM\_CMP
- PRC\_MPM\_RTM\_NOMOGRAM
- PRC\_MPM\_RTM\_REF\_BUS
- PRC\_NOMOGRAM
- PRC\_RTM\_FLOWGATE
- PRC\_RTM\_NOMOGRAM
- PUB\_CURR\_LMP
- SLD\_FCST
- SLD\_REN\_FCST

- TRNS\_ATC
- TRNS\_CURR\_USAGE
- TRNS\_USAGE

#### 3.2 Errors

The XML API will throw errors based on the situation and those are described below. In the XML file, if there is any error comes because of different reasons will be thrown with both error code and error description. The Users will know the valid reason for failure. The error codes and descriptions are described below.

Error Code	Error Description
1000	No data returned for the specified selection.
1001	Invalid Parameters of the given report name.
1002	Invalid datetime format, please use valid datetime format.
1003	Timed out waiting for query response.
1004	Data can be requested for period of 31 days only.
1005	Report name does not exist, please use valid report name.
1006	Validation exception during transformation of XML.
1007	Required file for does not exist.
1008	Out of memory exception.
1009	Exceptions in reading and writing of XML files.
1010	System Error.
1011	Empty Query; Please Enter Report Name, Startdate, EndDate and Other Parameters.
1012	Connection refused.
1013	Required Resources (xslt or xml or dir) Unavailable.
1014	Start Date is beyond the limit, Please Use valid Start Date that falls within the prescribed limit.
1015	Group Zip DownLoad is in Processing, Please Submit request after Sometime
1016	GROUPID Does Not Exist, Please Use Valid GROUPID Name

1017	Please select a maximum of 10 nodes or use the ALL option
1018	Invalid Selection, cannot select multiple hours for this query
1019	market_term=ALL not supported for this query
1020	Version parameter is missing or is invalid

# 4. Recommended Usage

By observing the Publication and Revisions Log and Publication Schedule reports, users can submit the requests more efficiently. We strongly recommend first to find out whether the data is already published to the OASIS database. Once the required data is published then submit the requests for the required reports. This way the user can eliminate unnecessary requests for the required data.

# 5. Reports and Xml Data Items

This section contains an overview listing of the individual types of result sets returned from OASIS, corresponding to the online OASIS reports.

Re port/ResultSet	XML Name	XML Data Items	<b>Description</b>
PRICES			
Locational Marginal Prices (LMP) Hourly Locational Marginal Prices for all PNodes and APNodes in \$MWh. For the DAM, posts the LMP, plus the Congestion, Loss and Energy Components that make up the LMP. For the RUC, only the LMP will be posted.		LMP_CONG_PRC LMP_ENE_PRC LMP_LOSS_PRC LMP_PRC	LMP - Congestion Component; LMP - Energy Component; LMP - Losses Component; LMP for each Pnode and APnode;
HASP Locational Marginal Prices (LMP)  Posts hourly, the 4 15-minute Locational Marginal Prices in \$MWh, for the HASP hour. Posts the LMP, plus the Congestion, Loss and Energy Components that make up the LMP. Posts the HASP Binding LMP for PNodes and APNodes relevant to Hourly Pre-Dispatched Resources. Posts the HASP Advisory LMP for PNodes and APnodes relevant to the Non-Hourly Pre-Dispatch Resources. For HASP, SC's should always utilize the CMRI posted price as the valid price for shadow-settlement purposes.	PRC_HASP_LMP	LMP_CONG_PRC LMP_ENE_PRC LMP_LOSS_PRC LMP_PRC	LMP - Congestion Component; LMP - Energy Component; LMP - Losses Component; LMP for each Pnode and APnode;
RTPD Locational Marginal Prices (LMP) 15-minute Locational Marginal Prices for all PNodes and APNodes in \$MWh.	PRC_RTPD_LMP	LMP_CONG_PRC LMP_ENE_PRC LMP_LOSS_PRC LMP_PRC	LMP - Congestion Component; LMP - Energy Component; LMP - Losses Component; LMP for each Pnode and APnode;
Interval Locational Marginal Prices (LMP) Five-minute Locational Marginal Prices for all PNodes and all APNodes in \$MWh, for each five-minute interval RTM. Posts the LMP, plus	PRC_INTVL_LMP	LMP_CONG_PRC LMP_ENE_PRC LMP_LOSS_PRC LMP_PRC	LMP - Congestion Component; LMP - Energy Component; LMP - Losses Component; LMP for each Pnode and

Re port/ResultSet	XML Name	XML Data Items	<b>Description</b>
the Congestion, Loss and Energy Components that makes up the LMP.			APnode;
AS Clearing Prices Ancillary Services Regional Shadow Prices for		NS_CLR_PRC RD_CLR_PRC	NonSpin Cleared Price; Regulation Down Cleared Price;
all Ancillary Service types at each AS Region and Sub-Regional Partition. Posted hourly in \$MW for the DAM and HASP.		RU_CLR_PRC SP_CLR_PRC	Regulation Up Cleared Price; Spin Cleared Price;
		RMD_CLR_PRC	Regulation Mileage Down Cleared Price.
		RMU_CLR_PRC	Regulation Mileage Up Cleared Price
Interval AS Clearing Prices Ancillary Services Regional Shadow Prices for	PRC_INTVL_AS	NS_CLR_PRC RD_CLR_PRC	NonSpin Cleared Price; RegulationDown Cleared
all Ancillary Service types at each AS Region and Sub-Regional Partition. Posts in \$MW. Posts 15-Minute price relevant to the next 15		RU_CLR_PRC SP_CLR_PRC	Price; RegulationUp Cleared Price; Spin Cleared Price;
minute binding interval for RTM on a fifteen minute basis.		RMD_CLR_PRC	Regulation Mileage Down Cleared Price.
		RMU_CLR_PRC	Regulation Mileage Up Cleared Price.
Intertie Constraint Shadow Prices	PRC_CNSTR	SHADOW_PRC	Shadow price by
Posts the hourly constraint pricing at Transmission Interfaces and Intertie Constraints, for each Market Process (DAM,HASP) in \$MWh, and the 15-Minute Shadow Price in \$MWh for the RTM.			Transmission Interface and Intertie Constraint
Report will also include an indication of whether the Constraints were binding because of the base operating conditions or contingencies, and if caused by a Contingency, the identity of the specific Contingency.		<m:reason></m:reason>	Will indicate either "Base Case" or specific Contingency ID.
Fuel Prices	PRC_FUEL	FUEL_PRC	Daily Gas Price.
For each Gas Flow Day, lists the gas price in \$/mmBtu by fuel region.			
Current Locational Marginal Price	PRC_CURR_LMP	LMP_CONG_PRC LMP ENE PRC	LMP - Congestion Component;
This report is available for download only. Lists Five min Locational Marginal Prices for all Generator PNodes and all APNodes for the current interval. (Returns the most recently posted interval only) Use SingleZip function if specific nodes are required; use GroupZip for downloading if all nodes are required.		LMP_LOSS_PRC LMP_PRC	LMP - Energy Component; LMP - Losses Component; LMP for each Pnode and APnode;
Nomogram/Branch Shadow Prices	PRC_NOMOGRAM	SHADOW_PRC	Shadow price by Nomogram or Branch.
Posts the hourly constraint pricing at each Nomogram and Branch, for each Market			o Dianoi.
Process (DAM, HASP) in \$/MWh, and the 15-Minute Shadow Price in \$/MWh for the RTPD in RTM.			
Report will also include an indication of whether the Constraints were binding because of the base operating conditions or contingencies, and if caused by a Contingency, the identity of the specific Contingency.		<mreason></mreason>	Will indicate either "Base Case" or specific Contingency ID.



Re port/ResultSet	XML Name	XML Data Items	<b>Description</b>
Interval Nomogram/Branch Shadow Prices Posts the 5 minute constraint pricing at each Nomogram and Branch, for each Market	PRC_RTM_NOMO GRAM	SHADOW_PRC	Shadow price by Nomogram or Branch.
Process (RTM) in \$MWh.  Report will also include an indication of whether the Constraints were binding because of the base operating conditions or contingencies, and if caused by a Contingency, the identity of the specific Contingency.		<mreason></mreason>	Will indicate either "Base Case" or specific Contingency ID.
Interval Intertie Constraint Shadow Prices Posts the 5 minute constraint pricing at Transmission Interfaces and Intertie Constraints in \$MWh	PRC_RTM_FLOWG ATE	SHADOW_PRC	Shadow price by Transmission Interface and Intertie Constraint
Report will also include an indication of whether the Constraints were binding because of the base operating conditions or contingencies, and if caused by a Contingency, the identity of the specific Contingency.		<mreason></mreason>	Will indicate either "Base Case" or specific Contingency ID.
Reference Prices	PRC_DS_REF	SPLY_PRC	Supply Component
Quarterly Reference prices associated with each node based on historical data, posted for Convergence Bidding purposes.		DMD_PRC	Demand Component
Nodal Group Constraints  This report displays the upper and lower MW limits, cleared MW value and associated hourly shadow prices for any binding Nodal Group Constraint. Additionally, the list of Eligible Pnodes included in the Nodal Group Constraint is displayed. This report is triggered with the publication of the Day-Ahead results.	CNSTR_PRC	SHADOW_PRC CLEARED_MW MAXIMUM_LIMIT MINIMUM_LIMIT	Shadow price by Nodal Constraint Group Cleared Price Maximum Limit of the Price Minimum Limit of the Price
System Ramping Nomogram Results	PRC_FLEX_RAMP PRC_FLEX_RAMP_ CURR	MKT_RUN_START_TIME	Indicates the start time of the market run in pacific Time format
		MKT_TYPE	An identifier which specifies the market run type (DAM.RTPD& RTD)
		RAMP_UP_CAP_REQ	Upward raming capacity nomogram results
		RAMP_UP_SHADOW_PRC	Shadow price of the upward ramping nomogram results
		RAMP_DOWN_CAP_REQ	Downward ramping capacity nomogram results.
		RAMP_DOWN_SHADOW_P RC	Shadow price of the downward nomogram results.

Re port/ResultSet	XML Name	XML Data Items	<b>Description</b>
Contingency Dispatch Locational Marginal Prices		LMP_CONG_PRC	LMP Marginal Cost of Congestion for ten-minute Contingency Dispatch.
Similar to the Interval Locational Marginal Prices (LMP) report, but for Real Time Contingency Dispatch (RTCD) runs. Posts the ten-minute Locational Marginal Prices for PNodes and APNodes in \$MWh, for each ten-		LMP_ENE_PRC	LMP Marginal Cost of Energy for ten-minute Contingency Dispatch.
minute interval RTCD.		LMP_LOSS_PRC	LMP Marginal Cost of Losses for ten-minute Contingency Dispatch.
Out to the Birech House Control	PRC_CD_RTM_FL	SUADOW PRO	Obstance in the
Contingency Dispatch Intertie Constraint Shadow Prices Similar to the Interval Intertie Constraint	OWGATE	SHADOW_PRC	Shadow price by Transmission Interface and Intertie Constraint for ten- minute Contingency Dispatch.
Shadow Prices report, but for Real Time Contingency Dispatch (RTCD) runs. Posts the 10-Minute constraint pricing at Transmission Interfaces and Intertie Constraints in \$MWh, for the RTCD run in the RTM. Report will also include an indication of whether the Constraints were binding because of the base operating conditions or contingencies, and if caused by a		REASON	Will indicate either "Base Case" or specific Contingency ID.
Contingency, the identity of the specific Contingency.			
Contingency Dispatch Nomogram/Branch Shadow Prices	PRC_CD_RTM_NO MOGRAM	SHADOW_PRC	Shadow price by Nomogram or Branch for ten-minute Contingency Dispatch.
Similar to the Interval Nomogram/Branch Shadow Prices report, but for Real Time Contingency Dispatch (RTCD) runs. Posts the 10-Minute constraint pricing at each Nomogram and Branch in \$/MWh, for the RTCD run in the RTM. Report will also include an indication of whether the Constraints were binding because of the base operating conditions or contingencies, and if caused by a Contingency, the identity of the specific Contingency.		REASON	Will indicate either "Base Case" or specific Contingency ID.
MPM DA Locational Marginal Prices (LMP):	PRC_MPM_LMP	LMP_PRC	LMP for each nodes
			LMP - Competitive

Re port/ResultSet	XML Name	XML Data Items	<b>Description</b>
Hourly Locational Marginal Prices from the Day-		LMP_CONG_CC_PRC	Congestion Component
Ahead MPM run for all PNodes and APNodes in \$MWh. Posts the LMP, plus the Competitive Congestion, Non-Competitive Congestion, Loss		LMP_CONG_NC_PRC	LMP- Non-Competitive Congestion Component
and Energy Components that make up the LMP.		LMP_ENE_PRC	LMP - Energy Component
		LMP_LOSS_PRC	LMP - Losses Component
MPM RT Locational Marginal Prices (LMP):	PRC_MPM_RTM_L MP	LMP_PRC	LMP for each nodes
Posts hourly, the 4 15-minute Locational Marginal Prices from the HASP MPM run for all		LMP_CONG_CC_PRC	LMP - Competitive Congestion Component
PNodes and APNodes in \$MWh. OR		LMP_CONG_NC_PRC	LMP- Non-Competitive Congestion Component
Posts every 15 minutes, the 15-minute Locational Marginal Prices from the RTPD MPM run for all PNodes and APNodes in		LMP_ENE_PRC	LMP - Energy Component
MPM run for all Phodes and Aphodes in \$/MWh.		LMP_LOSS_PRC	LMP-Losses Component
Posts the LMP, plus the Competitive Congestion, Non-Competitive Congestion,			
Loss and Energy Components that make up the LMP.			
MPM Nomogram/Branch Shadow Prices (DAM):	PRC_MPM_ NOMOGRAM	SHADOW_PRC	Shadow price by Nomogram or Branch.
Posts the hourly constraint pricing at each binding Nomogram and Branch, for Day Ahead MPM run in \$MWh. Report will also include an indication of whether the Constraints were binding because of the base operating conditions or contingencies, and if caused by a Contingency, the identity of the specific Contingency.		<mreason></mreason>	Will indicate either "Base Case" or specific Contingency ID.
MPM Nomogram/Branch Shadow Prices (RTM)	PRC_MPM_ RTM_NOMOGRAM	SHADOW_PRC	Shadow price by Nomogram or Branch.
Posts hourly, 4 15-minute interval constraint pricing at each binding Nomogram and Branch, for HASP MPM run in \$MWh  OR  Posts every 15 minutes, 15-minute interval constraint pricing at each binding Nomogram and Branch, for RTPD MPM run in \$MWh.		<mreason></mreason>	Will indicate either "Base Case" or specific Contingency ID.
JReport will also include an indication of whether the Constraints were binding because of the base operating conditions or contingencies, and if caused by a Contingency, the identity of the specific Contingency.			
MPM Nomogram/Branch Competitive Paths (DAM):	PRC_MPM_ NOMOGRAM_CMP	MPM_CMP_STATUS_FLG	Competitive Path indicator (Y/N)
Posts the hourly results of the dynamic competitiveness constraint for the Day-Ahead MPM run, for nomograms and flowgates. Posts			

Re port/ResultSet	XML Name	XML Data Items	<b>Description</b>
a flag indicating whether each binding constraint was competitive or not	7.111 <b>-</b>	AIII Data tomo	Docomputer.
MPM Nomogram/Branch Competitive Paths (RTM):	PRC_MPM_RTM_N OMOGRAM_CMP	MPM_CMP_STATUS_FLG	Competitive Path indicator (Y/N)
Posts the hourly 4 15-minute interval results of the dynamic competitiveness constraint for the HASP MPM run for nomograms and flowgates. Posts a flag indicating whether each binding constraint was competitive or not.  OR  Posts every 15 minutes, the 15-minute interval			
results of the dynamic competitiveness constraint for the RTPD MPM run for nomograms and flowgates. Posts a flag indicating whether each binding constraint was competitive or not.			
MPM Intertie Constraint Shadow Prices (DAM):	PRC_MPM_ CNSTR	SHADOW_PRC	Shadow price by Transmission Interface and Intertie Constraint
Posts the hourly constraint pricing at Transmission Interfaces and Interfie Constraints, for Day Ahead market MPM run in \$/MWh. Report will also include an indication of whether the Constraints were binding because of the base operating conditions or		<mreason></mreason>	Will indicate either "Base Case" or specific Contingency ID.
contingencies, and if caused by a Contingency, the identity of the specific Contingency.			
MPM Intertie Constraint Shadow Prices (RTM):	PRC_MPM_ RTM_FLOWGATE	SHADOW_PRC	Shadow price by Transmission Interface and Intertie Constraint
Posts the hourly, the 4.15-minute interval constraint pricing at Transmission Interfaces and Intertie Constraints, for HASP market MPM run in \$MWh.		<mreason></mreason>	Will indicate either "Base Case" or specific Contingency ID.
OR Posts every 15 minutes, the15-minute interval constraint pricing at Transmission Interfaces and Intertie Constraints, for RTPD market MPM run in \$MWh			containguitay i.b.
Report will also include an indication of whether the Constraints were binding because of the base operating conditions or contingencies, and if caused by a Contingency, the identity of the specific Contingency			
MPM Intertie Constraint Competitive Paths (DAM):	PRC_MPM_CNSTR _CMP	MPM_CMP_STATUS_FLG	Competitive Path indicator (Y/N)
OR			
For HASP MPM run, posted hourly the 4 15 minute interval results.			
OR For RTPD MPM run, posted every 15 minutes, the 15 minute interval results			
Posts the results of the dynamic competitiveness constraint for the market MPM run, for interchanges, market scheduling limits,			

Re port/ResultSet	XML Name	XML Data Items	<b>Description</b>
and branch groups. Posts a flag indicating			
whether each binding constraint was competitive or not.			
MPM Reference Bus (DAM):	PRC_MPM_	REFERENCE_BUS_ID	Reference Bus Name
WITWINGERING Das (DAW).	REF_BUS		
Posts the reference bus used in the MPM run.			
Posted hourly for the Day-Ahead market.  Note, the IFM, RUC, and regular HASP runs			
use a distributed reference bus.			
MPM Reference Bus (RTM):	PRC_MPM_RTM_R EF_BUS	REFERENCE_BUS_ID	Reference Bus Name
Posts the reference bus used in the MPM run. Posted hourly, the 4 15-minute interval for the HASP market. OR			
Posted every 15 minutes, the 15-minute interval			
data for the RTPD market.			
Note, the IFM, RUC, and regular HASP runs use a distributed reference bus.			
Greenhouse Gas Allowance Price	PRC_GHG_ALLOW ANCE	OPR_DATE	The operating date.
For each real-time trade date, posts the index price for the California Carbon Allowance and for day-ahead bids, use the index price from			
the previous day's index price		GHG_ALLOWANCE_PRC	Greenhouse gas allowance price index value
TRANSMISSION			
Current Transmission Usage  Consolidated report for Current transmission capacity and usage per Transmission Interface.	TRNS_CURR_USA GE	ATC_MW AS_IMPORT_MW	Current Hourly/15-min ATC; Current Hourly/15-min Tagged AS from Imports;
Starts with 7-days ahead and is updated continuously as outages occur.  AS, Energy and ETC/TOR utilization values are		ENE_IMPORT_MW	Current Hourly/15-min Tagged Net Energy from Imports / Exports;
updated in conjunction with the publication of the DAM and RTM market results.		CBM_MW OTC_MW	Current Hourly/15-min CBM; Current Hourly/15-min OTC;
			This refers to the "Hourly TTC" value
		TTC_MW	Current Hourly/15-min TTC; This refers to the "Seasonal TTC" value
		CONSTRAINT_MW USEAGE_MW	Current Hourly Constraint; Current Hourly Unused TR Capacity
		TRM_MW	Total TRM
		TRM_UF_MW	Unscheduled Flow
		TRM_FTO_MW	Forced Topology outages
		TRM_SPI_MW	Simultaneous Path Interaction

Re port/ResultSet	XML Name	XML Data Items	<b>Description</b>
		MKT_XFER_CAP_MW	Market Transfer Capability
Market Available Transmission Capacity Available Transmission Capacity per Transmission Interface for DAM, HASP, RTPD. ATC = OTC (TTC-CBM-Constraint)-AS From Imports-Net Energy flow from Imports/Exports- Unscheduled Transmission Rights capacity.	TRNS_ATC	ATC_MW	DAM Hourly or HASP 15- minute or RTPD 15-minute ATC
Transmission Outages List planned and actual Transmission Outage events per Transmission Interface and direction.	TRNS_OUTAGE	OUTAGE_LIMIT_MW	Curtailed Line Rating for each Transmission Interface MW.
Updated with every outage event.  Transmission Interface Usage	TRNS_USAGE	ATC_MW	DAM Hourly or HASP 15- minute or RTPD 15-minute ATC;
Consolidated report for transmission capacity, usage, ETC/TOR utilization and schedules resulting from CAISO market operations for DAM,HASP or RTPD by Transmission Interface.		AS_IMPORT_MW	DAM Hourly or HASP 15- minute or RTPD 15-minute DAM Hourly or HASP Hourly or RTPD 15-minute Tagged AS from Imports;
		ENE_IMPORT_MW	DAM Hourly or HASP 15- minute or RTPD 15-minute Tagged Net Energy from Imports / Exports;
		CBM_MW	DAM Hourly or HASP 15- minute or RTPD 15-minute CBM;
		OTC_MW	DAM Hourly or HASP 15-minute or RTPD 15-minute OTC; For Fall Release 2012, data item name will not be changed, yet going forward will refer to the "Hourly TTC" value
		TTC_MW	DAM Hourly or HASP Hourly or RTPD 15-minute TTC; For Fall Release 2012, data item name will not be changed, yet going forward will refer to the "Seasonal TTC" value
		CONSTRAINT_MW	DAM Hourly or HASP 15- minute or RTPD 15-minute Constraint;
		USEAGE_MW	DAM Hourly or HASP 15-

Re port/ResultSet	XML Name	XML Data Items	De scription
			minute or RTPD 15-minute Unused TR Capacity
		TRM_MW	Total TRM
		TRM_UF_MW TRM_FTO_MW	Unscheduled Flow Forced Topology outages
		TRM_SPI_MW	Simultaneous Path Interaction
SYSTEM DEMAND			
CAISO Peak Demand Forecast  Peak Demand Forecast per CAISO control area total. Posting begins at 7 days before Trading Day.  Also posts Peak Demand Forecast by TAC Area.	SLD_FCST_PEAK	SYS_PEAK_MW	The forecast peak demand in MW for the Forecast Day.
CAISO Demand Forecast  Daily posting for the 2-DA,7-DA hourly forecast, DAM hourly forecast by TAC area.	SLD_FCST	SYS_FCST_DA_MW	The forecast MW demand for each hour of the Operating Day, posted in the morning the day before the Operating Day, before the markets run;
		SYS_FCST_2DA_MW	The forecast MW demand fo each hour of the Operating Day, posted two days before the Operating day,
		SYS_FCST_7DA_MW	The forecast MW demand for each hour of the Operating Day, posted seven days before the Operating day;
Hourly posting for the hourly Actual Demand by TAC area.		SYS_FCST_ACT_MW	The actual demand measurement by Hourly basis
15-minute posting for the RTPD markets by TAC area.		SYS_FCST_15MIN_MW	The forecast MW demand for 15 minute intervals
RTM 5-Minute Load Forecast is posted every five minutes, for the next 11 intervals. The postings occur every 5-minutes for a rolling 11 interval period.		SYS_FCST_5MIN_MW	The VSTLF forecast MW demand used for the Operating Interval, for use in RTID

D (D )(O )	VMI No.	VIII Data kana	D
Re port/ResultSet	XML Name	XML Data Items	De scription
Wind and Solar Forecast  Forecast and actual wind and solar generation by hour. Aggregated by trading hub (NP15, ZP26, and SP15). Day-Ahead forecast is posted daily in advance of the Day-Ahead Market, Hour-Ahead forecast is posted in advance of each HASP market. RTPD forecast is posted in advance of each RTPD market run by 15-minute intervals. RTD forecast is posted in advance of each RTD run by 5-minute intervals. Actual production is posted the day after the operating day. Note: to ensure a high level of accuracy only Eligible Intermittent Resources (EIR), including those that participate in the Participating Intermittent Resource program (PIRP) are included in the report	SLD_REN_FCST	RENEW_FCST_DA_MW RENEW_FCST_HASP_MW RENEW_FCST_ACT_MW RENEW_FCST_5MIN_MW RENEW_FCST_15MIN_MW  TRADING_HUB  RENEWABLE_TYPE	The forecast MW value for each hour of the Operating Day, posted in the morning the day before the each markets run  The trading hub name. Valid values are NP15,SP15,ZP26 and ALL  Renewable Type include one of the following  - "Wind" (Include: Wind PIRP & EIR resources).  - "Solar" (Include: Solar PIRP & EIR resources).
ENERGY			
System Load and Resource Schedules  Balanced System Load, Generation, Import and	ENE_SLRS	ISO_TOT_GEN_MW	ISO Total MW cleared as Generation in DAM, RUC, HASP, RTM.
Export per TAC Area, and for CAISO total. Posts results for DAM, RUC Capacity, HASP and 5-Minute RTM, as indicated below:		ISO_TOT_LOAD_MW	ISO Total MW cleared as Demand in DAM, HASP, RTM.
DAM Load, Generation, Import and Export Schedules per TAC Area and CAISO total for each Operating Hour, in MW.		ISO_TOT_IMP_MW	ISO Total MW cleared as imports in DAM, RUC, HASP, RTM.
RUC Capacity from Generation and Imports for each TAC Area and CAISO total for each Operating Hour, in MW		ISO_TOT_EXP_MW	ISO Total MW cleared as Exports in DAM, HASP, RTM.
		TOT_GEN_MW	
Hour-Ahead Scheduling Process (HASP) Import and Export per TAC Area and CAISO total, in MW.		TOT_LOAD_MW	Total MW cleared as Generation in DAM, RUC, HASP, RTM, by TAC Area.
5 minute <b>RTM</b> Generation, Import and Export per TAC Area and CAISO total, in MW.		TOT_IMP_MW	ISO Total MW cleared as Demand in DAM, HASP, RTM, by TAC Area.
		TOT_GEN_MW	ISO Total MW cleared as imports in DAM, RUC, HASP, RTM, by TAC Area.
			ISO Total MW cleared as Exports in DAM, HASP, RTM, by TAC Area.
Expected Energy  After-the-Fact Energy Accounting, per Energy Type. Posted daily at T+1, in MWh for ISO total.	ENE_EA	DASE_MWH DSSE_MWH DABE_MWH OE_MWH HASE_MWH SRE_MWH	DA Scheduled Energy DA Self-Scheduled Energy DA Bid Award Energy Optimal Energy HourAhead Scheduled Energy
		RED_MWH EDE_MWH	Standard Ramping Energy Ramping Energy Deviation

Re port/ResultSet	XML Name	XML Data Items	<b>Description</b>
Please refer to the table in the BPM for Market Operations, Appendix C.4 for the complete list of valid Expected Energy Types.		RMRE_MWH MSSLFE_MWH RE_MWH MLE_MWH SE_MWH RTSSE_MWH DMLE_MWH PE_MWH TEE_MWH	Exceptional Dispatch Energy RMR Energy MSS Load Following Energy Residual Energy Minimum Load Energy Slic Energy RT Self Scheduled Energy DA Minimum Load Energy Pumping Energy Total Expected Energy
Market Power Mitigation Status  Mitigation Indicator showing whether any bids were replaced by Reference Curves. Value will be "Y" or "N".	ENE_MPM	MPM_STATUS_FLG	Indicator whether mitigation occurred in that Operating Interval
RMR Pre-Dispatched and MPM Determined RMR capacity (MW) summed for all resources, for the DAM and RTM market processes.	CMMT_RMR	DISPATCH_MW  TOT_AVAIL_MW  DETER_MW	The RMR capacity dispatched ahead of the Market.  Total RMR capacity available to the market in that hour. RMR capacity determined by MPM before market run.
Exceptional Dispatch Summary of Exceptional Dispatch Data. Posted daily at T+1, in MWh by TAC area and Instruction Type.  Please refer to the table in the BPM for Market Operations, Appendix C.4 for the complete list of valid Exceptional Dispatch Instruction Types.	ENE_DISP	EXPT_DIS_PRC EXPT_DIS_MWH	Exceptional Dispatch Price. Exceptional Dispatch MW
Marginal Losses CAISO Total Marginal Loss costs (\$) and Total System losses (MWh). Posted hourly for the DAM and HASP.	ENE_LOSS	TOT_LOSS_PRC TOT_LOSS_MW	Total costs incurred due to Losses in this hour/interval. Total MWh lost
Resource Adequacy and Minimum Load  Commitment data for each market. All data for all markets posted daily at T+1. All commitment data is related to ISO committed resources.	CMMT_RA_MLC	RA_CAP_COMM_MW  MIN_LD_MW  RA_MLC_PRC  MIN_LD_MLC_PRC  TOT_STRT_CST_PRC  RA_STRT_PRC  RA_COMM_UNITS_CNT  TOT_COMM_UNITS_CNT  TOT_COMM_CAP_MW	RA Capacity Committed  Minimum Load  RA Minimum Load Cost (MLC)  Minimum Load cost  Total Start Up Cost  RA Start-Up Cost  RA Number of Units Committed  Total Number of Units Committed
Convergence Bidding Aggregate Awards Posts Day Ahead CAISO aggregate Virtual Bidding Awards for Energy for Supply &	ENE_CB_AWARDS	ISO_TOT_SPLY_MW ISO_TOT_DMD_MW	Supply Component  Demand Component

Re port/ResultSet	XML Name	XML Data Items	<b>Description</b>
Demand Publishes with the Day Ahead Market results			
Net Cleared Convergence Bidding Awards Posts Net Cleared MW for Virtual Bids for every Virtual Bidding Node per Trade Hour within a Trading Day including Trading Hubs and default LAPs. This report will post after all Real Time markets have closed for the associated Trading Day.  Posts Convergence Bidding Supply Awards Less Convergence Bidding Demand Awards per node. Under this convention, positive ne cleared virtual quantities will indicate net Virtua Supply, whereas negative net cleared virtua quantities will indicate net Virtual Demand at a given node.  A value of null Net Cleared Virtual quantities a a given node will indicate no virtual bids submitted at that node while a value of zero wil indicate virtual supply and demand Awards netted to zero.		ENE_CB_CLR_MW	Cleared MW
.  Day Ahead Market Summary Summary of the Day Ahead market showing	ENE_CB_MKT_SUM	DMD_SLF_ENE_SUB_MW	Sum of demand self schedule energy bids submitted for all internal
physical and virtual breakdowns of energy submitted, dollars submitted, energy cleared and dollars cleared as well as the totals.  Posts after the completion of the DAM Market publication.		DMD_SLF_ENE_CLR_MW	resources for a specific trade date in the day ahead market Sum of demand self schedule energy bids awarded (cleared) for all internal resources for a specific trade date in the day ahead market
		DMD_SLF_CLR_CST	Sum of dollars associated with demand self schedule energy bids awarded (cleared) for all internal resources for a specific trade date in the day ahead market
		DMD_ENE_SUB_MW	Sum of demand economic energy bids submitted for all internal resources for a specific trade date in the day ahead market. All the MW values in each price curve will be included in this calculation
			Sum of dollars associated

Re port/ResultSet	XML Name	XML Data Items	<b>Description</b>
		DMD_ENE_SUB_CST	with demand economic energy submitted for all internal resources for a specific trade date in the day ahead market. All the MW/price pair values in each price curve will be included in this calculation
		DMD_ENE_CLR_MW	Sum of demand economic energy bids awarded (cleared) for all internal resources for a specific trade date in the day ahead market
		DMD_ENE_CLR_CST	Sum of dollars associated with demand economic energy bids awarded (cleared) for all internal resources for a specific trade date in the day ahead market
		DMD_VIR_ENE_SUB_MW	Sum of demand convergence bidding (virtual) energy bids submitted for all internal resources for a specific trade date in the day ahead market. All the MW values in each price curve will be included in this calculation
		DMD_VIR_SUB_CST	Sum of dollars associated with demand convergence bidding (virtual) energy submitted for all internal resources for a specific trade date in the day ahead market. All the MW/price pair values in each price curve will be included in this calculation
		DMD_VIR_ENE_CLR_MW	Sum of demand convergence bidding (virtual) energy bids awarded (cleared) for all internal resources for a specific trade date in the day ahead market
		DMD_VIR_CLR_CST	Sum of dollars associated with demand convergence bidding (virtual) energy bids awarded (cleared) for all internal resources for a specific trade date in the day ahead market
		DMD_TOT_ENE_SUB_MW	Sum of demand self schedule energy bids submitted, demand economic energy bids submitted, demand virtual bids submitted for all internal resources (and nodes) for a specific trade date in the day ahead market
		DMD_TOT_SUB_CST	Sum of dollars associated with demand self schedule energy bids submitted,

Re port/ResultSet	XML Name	XML Data Items	<b>Description</b>
			demand economic energy bids submitted, demand virtual bids submitted for all internal resources (and nodes) for a specific trade date in the day ahead market
		DMD_TOT_ENE_CLR_MW	Sum of demand self schedule energy bids awarded (cleared), demand economic energy bids awarded (cleared), demand virtual bids awarded (cleared) for all internal resources (and nodes) for a specific trade date in the day ahead market
		DMD_TOT_CLR_CST	Sum of dollars associated with demand self schedule energy bids awarded (cleared), demand economic energy bids awarded (cleared), demand virtual bids awarded (cleared) for all internal resources (and nodes) for a specific trade date in the day ahead market
		SPLY_ENE_SUB_MW	Sum of supply physical energy bids submitted for all internal resources for a specific trade date in the day ahead market. All the MW values in each price curve will be included in this calculation.
		SPLY_ENE_SUB_CST	Sum of dollars associated with supply physical energy submitted for all internal resources for a specific trade date in the day ahead market. All the MW/price pair values in each price curve will be included in this calculation.
		SPLY_ENE_CLR_MW	Sum of supply physical energy bids awarded (cleared) for all internal resources for a specific trade date in the day ahead market
		SPLY_ENE_CLR_CST	Sum of dollars associated with supply physical energy bids awarded (cleared) for all internal resources for a specific trade date in the day ahead market
		SPLY_SLF_ENE_SUB_MW	Sum of supply self schedule energy bids submitted for all internal resources for a specific trade date in the day

Re port/ResultSet	XML Name	XML Data Items	<b>Description</b>
			ahead market
		SPLY_SLF_ENE_CLR_MW	Sum of supply self schedule energy bids awarded (cleared) for all internal resources for a specific trade date in the day ahead market
		SPLY_SLF_CLR_CST	Sum of dollars associated with supply self schedule energy bids awarded (cleared) for all internal resources for a specific trade date in the day ahead market
		SPLY_VIR_ENE_SUB_MW	Sum of supply convergence bidding (virtual) energy bids submitted for all internal resources for a specific trade date in the day ahead market. All the MW values in each price curve will be included in this calculation.
		SPLY_VIR_SUB_CST	Sum of dollars associated with supply convergence bidding (virtual) energy submitted for all internal resources for a specific trade date in the day ahead market. All the MW/price pair values in each price curve will be included in this calculation.
		SPLY_VIR_ENE_CLR_MW	Sum of supply convergence bidding (virtual) energy bids awarded (cleared) for all internal resources for a specific trade date in the day ahead market
		SPLY_VIR_CLR_CST	Sum of dollars associated with supply convergence bidding (virtual) energy bids awarded (cleared) for all internal resources for a specific trade date in the day ahead market
		SPLY_TOT_ENE_SUB_MW  SPLY_TOT_SUB_CST	Sum of supply economic energy bids submitted, supply virtual bids submitted for all internal resources (and nodes) for a specific trade date in the day ahead market.
		SPLY_TOT_ENE_CLR_MW	Sum of dollars associated with supply economic energy bids submitted, supply virtual bids submitted for all internal resources (and nodes) for a specific trade date in the day ahead market

Re port/ResultSet	XML Name	XML Data Items	<b>Description</b>
		SPLY_TOT_CLR_CST	Sum of supply economic energy bids awarded (cleared), supply virtual bids awarded (cleared) for all internal resources (and nodes) for a specific trade date in the day ahead market
			Sum of dollars associated with supply economic energy bids awarded (cleared), supply virtual bids awarded (cleared) for all internal resources (and nodes) for a specific trade date in the day ahead market
		EXP_SLF_ENE_SUB_MW	Sum of Exports self schedule energy bids submitted for a specific trade date in the day ahead market N/A
			Sum of Exports self schedule energy bids awarded (cleared) for a specific trade date in the day ahead market
		EXP_SLF_ENE_CLR_MW	Sum of dollars associated with Exports self schedule energy bids awarded (cleared) for a specific trade date in the day ahead market
		EXP_SLF_CLR_CST	Sum of Exports economic energy bids submitted for a specific trade date in the day ahead market. All the MW values in each price curve
		EXP_ENE_SUB_MW	will be included in this calculation
		EXP_ENE_SUB_CST	Sum of dollars associated with Exports economic energy submitted for a specific trade date in the day ahead market. All the MW/price pair values in each price curve will be included in this calculation
			Sum of Exports economic energy bids awarded (cleared) for a specific trade date in the day ahead market
		EXP_ENE_CLR_MW	Sum of dollars associated with Exports economic energy bids awarded (cleared) for a specific trade date in the day ahead market
		EXP_ENE_CLR_CST  EXP_VIR_ENE_SUB_MW	Sum of Exports convergence bidding (virtual) energy bids submitted for a specific trade date in the day ahead market. All the MW values in each price curve will be

included in this calculation Sum of bollars associated with Exports convergence subtringed transports and the protection of the protection	Re port/ResultSet	XML Name	XML Data Items	<b>Description</b>
with Exports convergence bidding (virtual) energy submitted for a specific trade in the day aphead market. All the MVI/price of values in each price curve will be included in this calculation.  Sum of Exports convergence bidding (virtual) energy bids awarded (cleared) for a specific trade date in the day ahead market. Sum of delayers associated with Exports convergence bidding (virtual) energy bids awarded (cleared) for a specific trade date in the day ahead market. Sum of submitted. Exports with all bids submitted. Exports with the day ahead market submitted. Exports exposed to the day ahead market submitted. Exports exports with the day ahead market submitted. Exports exports with the day ahead market submitted. Exports export				
convergence bidding (with energy bids awarded (cleared) for a specific tradate in the day ahead mar sum of dollars associated with Exports convergence bidding (virtual) energy bid awarded (cleared) for a specific trade date in the same awarded (cleared) for a specific trade date in the same awarded (cleared) for a specific trade date in the day ahead market Sum of Exports submitted, Exports virtual bids submitted (and node in the day ahead market Sum of dollars associated with Exports set schedule energy bids submitted (and node in the day ahead market Sum of dollars associated with Exports set schedule energy bids submitted, Exports set schedule energy bids submitted, Exports set schedule energy bids submitted, Exports set schedule energy bids awarded (cleared), Exports economic energy bids exports econ			EXP_VIR_SUB_CST	with Exports convergence bidding (virtual) energy submitted for a specific trade date in the day ahead market. All the MW/price pair values in each price curve will be included in this
with Exports convergence bidding (virtual) energy bid awarded (cleared) for a specific trade date in the classed market.  EXP_TOT_ENE_SUB_MW  EXP_TOT_ENE_SUB_MW  EXP_TOT_ENE_SUB_MW  EXP_TOT_SUB_CST  EXP_TOT_SUB_CST  EXP_TOT_SUB_CST  EXP_TOT_ENE_CLR_MW  EXP_TOT_CLR_CST  EXP_TO			EXP_VIR_ENE_CLR_MW	convergence bidding (virtual) energy bids awarded (cleared) for a specific trade date in the day ahead market
schedule energy bids submitted, Exports virtual bids submitted (and node for a specific trade date in the day ahead market  EXP_TOT_ENE_SUB_MW  EXP_TOT_SUB_CST  EXP_TOT_SUB_CST  EXP_TOT_SUB_CST  EXP_TOT_ENE_CLR_MW  EXP_TOT_ENE_CLR_ENE_CLR_MW  EXP_TOT_ENE_CLR			EXP_VIR_CLR_CST	with Exports convergence bidding (virtual) energy bids awarded (cleared) for a specific trade date in the day
with Exports self schedule energy bids submitted, Exports economic energy bids submitted, Exports virtual bids submitted (an nodes) for a specific trade date in the day ahead mar Sum of Exports self schedule energy bids awarded (cleared), Exports economic energy bids awarded (cleared), Exports economic energy bids awarded (cleared), Exports exports expecific trade date in the cahead market Sum of dollars associated with Exports self schedule energy bids awarded (cleared), Exports economic energy bids awarded (cleared), Exports self schedule energy bids awarded (cleared), Exports economic energy bids awarded (cleared), Exports virtual bids awarded (cleared) Exports economic energy bids awarded (cleared), Exports virtual bids awarded (cleared). Exports economic energy bids awarded (cleared), Exports economic energy bids awarded (cleared). Exports economic energy bids exports economic energy bids exports economic energy bids exports economic energy bids exports economic energ			EXP_TOT_ENE_SUB_MW	schedule energy bids submitted, Exports economic energy bids submitted, Exports virtual bids submitted (and nodes) for a specific trade date in the day ahead market
EXP_TOT_ENE_CLR_MW  EXP_TOT_ENE_CLR_MW  EXP_TOT_ENE_CLR_MW  EXP_TOT_ENE_CLR_MW  EXP_TOT_ENE_CLR_MW  EXP_TOT_ENE_CLR_MW  EXP_TOT_ENE_CLR_MW  EXP_TOT_ENE_CLR_MW  EXP_TOT_ENE_CLR_MW  EXP_TOT_CLR_CST  EXP_TOT_CLR_C			EXP_TOT_SUB_CST	with Exports self-schedule energy bids submitted, Exports economic energy
with Exports self schedule energy bids awarded (cleared), Exports econor energy bids awarded (cleared), Exports virtual bids awarded (cleared) (nodes) for a specific trade date in the day ahead mar Sum of Imports self schedule energy bids			EXP_TOT_ENE_CLR_MW	schedule energy bids awarded (cleared), Exports economic energy bids awarded (cleared), Exports virtual bids awarded (cleared) (and nodes) for a specific trade date in the day
Sum of Imports self schedule energy bids			EXP_TOT_CLR_CST	with Exports self schedule energy bids awarded (cleared), Exports economic energy bids awarded
Sum of Imports self schedule energy bids			IMP SEE ENE SUB MW	

Re port/Re sultSet	XML Name	XML Data Items	<b>Description</b>
		IMP_SLF_CLR_CST	Sum of Imports self schedule energy bids awarded (cleared) for a specific trade date in the day ahead market Sum of dollars associated Sum of Imports self schedule energy bids submitted for a specific trade date in the day ahead market. All the MW values in each price curve
		IMP_ENE_SUB_MW	Sum of Imports physical
		IMP_ENE_SUB_CST	energy bids submitted for a specific trade date in the day ahead market. All the MW values in each price curve will be included in this calculation.
		IMP_ENE_CLR_MW	Sum of dollars associated with Imports physical energy submitted for a specific trade date in the day ahead market. All the MW/price pair values in each price curve will be included in this calculation.
		IMP_ENE_CLR_CST	Sum of Imports physical energy bids awarded (cleared) for a specific trade date in the day ahead market
		IMP_VIR_ENE_SUB_MW	Sum of dollars associated with Imports physical energy bids awarded (cleared) for a specific trade date in the day ahead market Sum of Imports convergence bidding (virtual) energy bids
		IMP_VIR_SUB_CST	submitted for a specific trade date in the day ahead market. All the MW values in each price curve will be included in this calculation.
		IMP_VIR_ENE_CLR_MW	Sum of dollars associated with Imports convergence bidding (virtual) energy submitted for a specific trade date in the day ahead market. All the MW/price pair values in each price curve will be included in this calculation.
		IMP_VIR_CLR_CST	Sum of Imports convergence bidding (virtual) energy bids awarded (cleared) for a specific trade date in the day

Re port/ResultSet	XML Name	XML Data Items	<b>Description</b>
			ahead market
		IMP_TOT_ENE_SUB_MW	Sum of dollars associated with Imports convergence bidding (virtual) energy bids awarded (cleared) for a specific trade date in the day ahead market
		IMP_TOT_SUB_CST	Sum of Imports economic energy bids submitted, Imports virtual bids submitted (and nodes) for a specific trade date in the day ahead market
		IMP_TOT_ENE_CLR_MW	Sum of dollars associated with Imports economic energy bids submitted, Imports virtual bids submitted (and nodes) for a specific trade date in the day ahead market
		IMP_TOT_CLR_CST	Sum of Imports economic energy bids awarded (cleared), Imports virtual bids awarded (cleared) (and nodes) for a specific trade date in the day ahead market
			Sum of dollars associated with Imports economic energy bids awarded (cleared), Imports virtual bids awarded (cleared) (and nodes) for a specific trade date in the day ahead market
Convergence Bidding Nodal MW Limits	CB_NODAL_LIMITS	CB_NODAL_LIMITS	Upper or lower limit (MW)
This report displays the MW limits used by the ISO in formulating nodal MW constraints in conjunction with convergence bidding. An upper and lower limit is defined for each Eligible Pnode other than an Eligible Pnode established for an Intertie. This report is triggered with the publication of the Day-Ahead results.		PHYSICAL_TYPE	'Supply' or 'Demand'
Contingency Dispatch Resource Schedules Similar to the System Load and Resource	ENE_CD_SLRS	ISO_TOT_GEN_MW	ISO Total MW cleared as Generation for all 10-Minute Contingency Dispatch run.
Schedules report, but for Real Time Contingency Dispatch (RTCD) runs. RTM Generation, Import and Export per TAC Area and CAISO total, in MW for all 10-minute RTCD		ISO_TOT_IMP_MW	ISO Total MW cleared as imports for all 10-Minute Contingency Dispatch run.
runs.		ISO_TOT_EXP_MW	ISO Total MW cleared Exports for all 10-Minute Contingency Dispatch run.
		TOT_GEN_MW	Total MW cleared as Generation per TAC area for all 10-Minute Contingency Dispatch run.
		TOT_IMP_MW	Total MW cleared as imports

Re port/ResultSet	XML Name	XML Data Items	<b>Description</b>
		TOT_EXP_MW	per TAC area for all 10-Minute Contingency Dispatch run.  Total MW cleared as Exports per TAC area for all 10-Minute Contingency Dispatch run.
	AGGR_OUTAGE_S	REPORT_DATE	The date when the data was
Aggregated Generation Outages	CH	IKLI OKI_DATE	published
Generator de-rates and outages which are considered in the Day-Ahead Market. Report is		OUTAGE_DATE	Outage date
generated from the list of de-rates and outages that are known at the time of publication, typically 5:00 AM PPT the day prior to the		OUTAGE_HOUR	Outage hour
operating day. Aggregated into a total MW capacity reduction amount by trading hub (NP15, ZP26, and SP15) and resource type		FUEL_CATEGORY	Fuel Category
(thermal, hydro, renewable).		TRADING_HUB	Trading Hub name
		OUTAGE_MW	Outage MW
ANCILLARY			
AS Requirements	AS_REQ	NS_REQ_MAX_MW	Max capacity to be acquired
Ancillary Service Capacity Minimum and Maximums per AS Region. Report will post for		RD_REQ_MAX_MW	for NonSpin Max capacity to be acquired for RegulationDown
the 2-Day-Ahead forecast, DAM , HASP and RTM (RTPD)		RU_REQ_MAX_MW	Max capacity to be acquired for RegulationUp
Note:		SP_REQ_MAX_MW	Max capacity to be acquired for Spin
When encountering a max A/S limit of zero,		NS_REQ_MIN_MW	Min capacity to be acquired for NonSpin
please interpret this as "no limit".		RD_REQ_MIN_MW	Min capacity to be acquired for RegulationDown
		RU_REQ_MIN_MW	Min capacity to be acquired for RegulationUp
		SP_REQ_MIN_MW	Min capacity to be acquired for Spin
		AS_REQ_MAX_MW	Max capacity UP to be acquired for RegulationUp,Spin,Non Spin
		RMD_REQ_MAX_MW	For 2DA Market.  Max capacity to be acquired for Regulation Mileage Down
		RMD_REQ_MIN_MW	Min capacity to be acquired for Requiation Mileage Down
		RMU_REQ_MAX_MW	Max capacity to be acquired for Requiation Mileage Up
			Min capacity to be acquired for Requlation Mileage Down

Re port/ResultSet	XML Name	XML Data Items	De scription
		RMU_REQ_MIN_MW	
	AC DECLUTE	DIL TOT CCT PDC	The Total line cost across AS
AS Results	AS_RESULTS	RU_TOT_CST_PRC	Region for Regulation Up.
Ancillary Service Capacity procured and self- scheduled, by AS type, posted for each AS Region. Also posts the sum of the procured		RD_TOT_CST_PRC	The Total line cost across AS Region for Regulation Down.
and self-scheduled.  Posts Hourly for the Day-Ahead (DAM), HASP.		SP_TOT_CST_PRC	The Total line cost across AS Region for Spin.
and in 15 Minute (RTPD) intervals, by AS type.  Also posts Total AS Cost for each AS Region, by AS Type.			The Total line cost across AS Region for NonSpin.
Results will only post for AS Regions that are		NS_TOT_CST_PRC	The MW of capacity procured from the AS market bids for NonSpin.
binding for that market run.		NS_PROC_MW	The MW of capacity self- provided by market participants. Total MW of capacity obtained.
		NS_SPROC_MW	
	NS_TOT_MW  SP_PROC_MW  SP_SPROC_MW  SP_TOT_MW  RU_PROC_MW  RU_SPROC_MW	NS_TOT_MW	The MW of capacity procured from the AS market bids for Spin. The MW of capacity self-
		SP_PROC_MW	provided by market participants Total MW of capacity obtained
		obtained	
		SP_TOT_MW	The MW of capacity procured from the AS market bids for RegulationUp. The MW of capacity self-
		RU_PROC_MW	provided by market participants. Total MW of capacity obtained.
		RU_SPROC_MW	
		RU_TOT_MW	The MW of capacity procured from the AS market bids for RegulationDown. The MW of capacity self-provided by market
		RD_PROC_MW	participants. Total MW of capacity obtained
		RD_SPROC_MW	
		RD_TOT_MW	
		RMD_PROC_MW	The MW of capacity procured from the AS market bids for Regulation Mileage Down
		RMD_SPROC_MW	The MW of capacity self- provided by market participants for Regulation

Re port/ResultSet	XML Name	XML Data Items	<b>Description</b>
			Mileage Down
		RMD_TOT_CST_PRC	The Total line cost across AS Region for Regulation Mileage Down
		RMD_TOT_MW	Total MW of capacity obtained for Requiation Mileage Up
		RMU_PROC_MW	The MW of capacity procured from the AS market bids for Regulation Mileage Up
		RMU_SPROC_MW	The MW of capacity self- provided by market participants for Regulation Mileage Up
		RMU_TOT_CST_PRC	The Total line cost across AS Region for Regulation Mileage Up
		RMU_TOT_MW	Total MW of capacity obtained for Requiation Mileage Up
Actual Operating Reserves	AS_OP_RSRV	OP_RSRV_ACT_PCT	Total Actual Operating
Total Actual Load, AS, and Operating Reserves maintained during delivery.			Reserves maintained during delivery.
Mileage Calculation Components	AS_MILEAGE_CAL C	RMD_AVG_MIL	Average Instructed Mileage for regulation mileage down
Lists system performance accuracy, average Instructed Mileage (MW), and system Mileage multiplier data from the prior seven days for each hour of		RMD_SYS_MIL_MUL	System Mileage Multiplier for regulation mileage down
a trading day.		RMD_SYS_PERF_ACC	System Performance Accuracy for regulation mileage up
		RMU_AVG_MIL	Average Instructed Mileage for regulation mileage up
		RMU_SYS_MIL_MUL	System Mileage Multiplier for regulation mileage up
		RMU_SYS_PERF_ACC	System Performance Accuracy for regulation mileage up.
CRR			
CRR Clearing Prices	CRR_CLEARING	ON_PRC LT_OFF_PRC	On-peak Price Off-peak Price
Congestion Revenue Rights Auction Clearing Prices by PNode for CRR segments.		Note: These the XML tags for corresponding data items	

Re port/ResultSet	XML Name	XML Data Items	<b>Description</b>
		CRR_MARKET_NAME	CRR MARKET NAME
		RESOURCE_NAME	APNODE ID
		START_DATE_TIME	START DATE
		END_DATE_TIME	End DATE
		REASON	MARKET TERM
CDD lavantani	CRR INVENTORY	ON_MW	On-peak capacity
CRR Inventory  Congestion Revenue Rights Daily Inventory.		OFF_MW	Off-peak capacity
Congestion Revenue Rights Daily liveriory.		Note: These are the XML tags for corresponding data items CRR_MARKET_NAME SOURCE SINK RESOURCE_NAME OPTION INVENTORY_DATE_TIME START_DATE_TIME END_DATE_TIME REASON STATUS TYPE	CRR MARKET NAME Source APNODE Sink APNODE OWNER NAME CRR OPTION INVENTORY DATE START DATE END DATE MARKET TERM CRR Type
		CRR_CATEGORY CRR_NSR	CRR CATEGORY NSR INDEX
		CRR_SEGMENT	SEGMENT ID
PUBLIC BIDS			
Public Bids	PUB_BID	Note: Below structure is common forGENERATION, LOAD, and INTERTIE.	
Clean Bid payloads used as the input in the markets, with certain fields replaced by pseudo data as indicated. Posted for DAM and RTM. Posted at T+90. The Public Bid Data is		STARTTIME STOPTIME	Start time of bid End time of bid
downloadable to XML and CSV only, for a single day at a time.		REGISTERED GENERATOR	Pseudo ID of Resource
Data is available for downloading at midnight on the 90 <sup>th</sup> day after the trading day.		SCHEDULINGCOORDINATO	Pseudo ID of SC_ID
The Publications and Revisions log will not create records for the Public Bid data when it is becomes available for downloading on T+90.		PRODUCTBID DESCRIPTION MRID  MARKETPRODUCT DESCRIPTION	All the possible types like EN, LFD, LFU, NR, RC,RD,RU,SR,RMD and RMU
		MARKETPRODUCTTYPE	Selfscheduled bid start and end time with the MW.
		BIDSELFSCHED TIMEINTERVALSTART TIMEINTERVALEND SELFSCHEDMW	Bid Schedule with start and end time
		BIDSCHEDULE TIMEINTERVALSTART TIMEINTERVALEND BIDPRICECURVE MRID CURVESCHEDDATA	Curve details contains X and Y1 & Y2 axis data.
		XAXISDATA Y1AXISDATA Y2AXISDATA	Xaxis= optional element Y1axis = optional element Y2 axis = Opportunity Cost;

Re port/ResultSet	XML Name	XML Data Items	<b>Description</b>
		- June Data Homo	optional element
CB Public Bids  Convergence Bidding Clean Bid payloads used	PUB_CB_BID	STARTTIME STOPTIME	Start time of Virtual bid End time of Virtual bid
as the input in the markets, with certain fields replaced by pseudo data as indicated. Posted for DAM. Posted at T+90. The Public Bid Data is downloadable to XML and CSV only, for a single day at a time.  Data is available for downloading at midnight on the 90 <sup>th</sup> day after the trading day.		AggregatedPnode Individual Pnode VirtualBidType SCHEDULINGC OORD INATO R ENERGYPRODU CTBID BIDSCHEDULE TIMEINTERVALSTART TIMEINTERVALEND BIDPRICECUR VE CURVESCHEDDATA XAXISDATA Y1AXISDATA	Pseudo ID of APnode Pseudo ID of Pnode Supply/Demand Bid Pseudo ID of SC_ID  Bid Schedule with start and end time  Curve details contains X and Y axis data.
Congestion Revenue Rights (CRR) Public Bids	PUB_CRR_BID	STARTTIME	Effective Start Date of the CRR
Bids submitted and used in the CRR auction markets, with certain fields replaced by pseudo data as indicated. Posted for the monthly		STOPTIME	Effective End Date of the CRR
auctions 90 days after the close of markets and seasonal auctions after each relevant quarter has passed. The Public Bid Data is downloadable to XML and CSV only, for a single market at a time.		MARKETTERM	CRR auction type . Valid values are Seasonal or Monthly
		MARKETNAME	CRR auction name
		SOURCEID	Source id
		SINKID	Sink id
		TIMEOFUSE	Time of use of the CRR bid
		MWQUANTITY	The MW Quantity of the bid point
		CRR_PRICE	The Price of the bid point
		CRRBID_ID	CRR Bid identifier
		CRRBIDSEG_ID	The point number in the CRR Bid
		AUCTIONCLOSEDATE	CRR auction Close date.
ATLAS			
PNode Listing	ATL_PNODE	N/A	All Pricing Node locations in CAISO Markets. For CB, Y/N flag will be added. For CB, Maximum CB MW Limit, with effective start and



Re port/ResultSet	XML Name	XML Data Items	De scription
			end dates will be added.
APNode Listing	ATL_APNODE	N/A	All Aggregated Pricing Node locations used in CAISO Markets. For CB, Y/N flag will be
			added. For CB, Maximum CB MW Limit. with effective start and
			end dates will be added.
Load Distribution Factors (LDFs)	ATL_LDF	N/A	Typical Load Distribution Factors that map PNodes to APNodes.
Load Aggregation Point Listing	ATL_LAP	N/A	All Load Aggregation Points in CAISO, by type.
Market Resource Listing	ATL_RESOURCE	N/A	List of CAISO Resources and their associated PNode/APNode
Trading Hub Listing	ATL_HUB	N/A	All Trading Hub APNodes in CAISO.
Trading Hub - PNode Mapping	ATL_PNODE_MAP	N/A	Map of all PNodes to each Trading Hub APNode.
AS Region - PNode Mapping	ATL_AS_REGION_ MAP	N/A	Map of all PNodes to each Ancillary Services Region.
RUC Zone - PNode Mapping	ATL_RUC_ZONE_ MAP	N/A	Map of all PNodes to each Reliability Unit Commitment Zone.
TAC Area – Pnode Mapping	ATL_TAC_AREA	N/A	Map of all Pnodes to each Transmission Access Charge Area.
Intertie Constraint Mapping	ATL_TIEPOINT	N/A	Map of all Intertie Constraints with respective Transmission Interface and TSIN.
Transmission Interface Listing	ATL_TI	N/A	All Transmission Interfaces in CAISO.
Publications and Revisions	ATL_PUB	N/A	List of all OASIS data publication and revisions. Users can track all data additions and updates to OASIS through these entries.
OASIS Publication Schedule	ATL_PUB_SCHED	N/A	Expected publication schedule by which all OASIS reports are published.
System Operating Messages	ATL_OSM	N/A	System Operating Messages posted by Severity. Severity: Green = Normal, Red = Emergency, Blue = Urgent
Peak-Off-Peak Definition	ATL_PEAK_ON_OF F	N/A	Posts Hourly Peak/Off-Peak indicator based on the WECC definition.

# 6. Single Report URL Query Strings

This section contains examples of all single report URL Examples for XML downloads.

XML Name	Exam ple URL for XML Download
PRICES	
IEUC FINE	http://oasis.caiso.com/oasisapi/SingleZip?quer.yname=PRC_LMP&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1&market_run_id=DAM&grp_type=ALL_APNODES
	OR .



XML Name	Exam ple URL for XML Download
	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_LMP&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1&market_run_id=DAM&node=LAPLMG1_7_B2
	NOTE:
	Recommend to use grp_type or node only. Grp_type will give all the APNODES or ALL NODES groups and node can enable users to select individual APNODES or PNODES.  The first content of the content o
	<ol> <li>The "enddatetime" is ignored if the query is to pull "ALL" or "ALL_APNODES" nodes; ie query will return only 1-days' worth of data for all nodes at a time based on the "startdatetime" supplied</li> <li>The "enddatetime" is referenced only when a node is supplied in the query</li> </ol>
	c. The chadacathe is relevanced only when a head is supplied in the query
PRC_INTVL_LMP	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_INTVL_LMP&startdatetime=20130919T07:00-0000&enddatetime=20130919T08:00-0000&version=1&market run id=RTM&grp_type=ALL_APNODES
	OR  http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_INTVL_LMP&startdatetime=20130919T07:00-0000&enddatetime=20130919T08:00-0000&version=1&market_run_id=RTM&node=LAPLMG1_7_B2
	NOTE:
	<ol> <li>Recommend to use grp_type or node only. Grp_type will give all the APNODES or ALL NODES groups and node can enable users to select individual APNODES or PNODES.</li> </ol>
	<ol><li>The "enddatetime" is ignored if the query is to pull "ALL" or "ALL_APNODES" nodes; ie query will return only 1 hours' worth of data for all nodes at a time based on the "startdatetime" supplied</li></ol>
	<ol> <li>The "enddatetime" is referenced only when a node is supplied in the query</li> <li>Market_run_id 'RTM' will continue to provide 5-min RTD interval LMP data</li> </ol>
PRC_HASP_LMP	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_HASP_LMP&startdatetime=20130919T07:00-0000&enddatetime=20130919T08:00-0000&version=1&market_run_id=HASP&grp_type=ALL_APNODESOR http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_HASP_LMP&startdatetime=20130919T07:00-
	0000&enddatetime=20130919T08:00-0000&version=1&market_run_id=HASP&node=LAPLMG1_7_B2
	NOTE:
	<ol> <li>Recommend to use grp_type or node only. Grp_type will give all the APNODES or ALL NODES groups and node can enable users to select individual APNODES or PNODES.</li> </ol>
	2. The "enddatetime" is ignored if the query is to pull "ALL" or "ALL_APNODES" nodes; ie query will return only 1 hours' worth of data for all nodes at a time based on the "startdatetime" supplied  2. The "enddatetime" is referenced as by when a node is supplied in the guery.
	3. The "enddatetime" is referenced only when a node is supplied in the query
PRC_RTPD_LMP	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_RTPD_LMP&startdatetime=20130919T07:00-0000&enddatetime=20130919T08:00-0000&version=1&market_run_id=RTPD&grp_type=ALL_APNODES OR http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_RTPD_LMP&startdatetime=20130919T07:00-0000&enddatetime=20130919T08:00-0000&version=1&market_run_id=RTPD&node=LAPLMG1_7_B2
	NOTE:

XML Name	Exam ple URL for XML Download
	Recommend to use grp_type or node only. Grp_type will give all the APNODES or ALL NODES groups and node can enable users to select individual APNODES or PNODES.
	<ol><li>The "enddatetime" is ignored if the query is to pull "ALL" or "ALL_APNODES" nodes; ie query will return only 1-day's worth of data for all nodes at a time based on the "startdatetime" supplied</li></ol>
	3. The "enddatetime" is referenced only when a node is supplied in the query
PRC_AS	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_AS&market_run_id=DAM&startdatetime=20130919 T07:00-0000&enddatetime=20130920T07:00-0000&version=1&anc_type=ALL&anc_region=ALL Note: For HASP_replace, 'DAM' with 'HASP'.
PRC_INTVL_AS	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_INTVL_AS&market_run_id=RTM&startdatetime=201 30919T07:00-0000&enddatetime=20130919T08:00-0000&version=1&anc_type=ALL&anc_region=ALL
PRC_CNSTR	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_CNSTR&market_run_id=DAM&ti_id=ALL&startdateti_me=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
PRC_FUEL	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_FUEL&fuel_region_id=ALL&startdatetime=2013091 9T07:00-0000&enddatetime=20130920T07:00-0000&version=1
PRC_CURR_LMP	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_CURR_LMP&node=ALL&startdatetime=20130919T_07:00-0000&enddatetime=20130919T07:00-0000&version=1
PRC_CURR_HUB_L MP	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_CURR_HUB_LMP&startdatetime=20130919T07:00-0000&version=1
PRC_NOMOGRAM	http://oasis.caiso.com/oasisapi/SingleZip?quervname=PRC_NOMOGRAM&market_run_id=DAM&nomogram_id=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
PRC_RTM_NOMOG RAM	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_RTM_NOM OGRAM&market_run_id=RTM&nomogram_id=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
PRC_RTM_FLOWG ATE	http://oasis.caiso.com/oasis.api/SingleZip?quer.yname=PRC_RTM_FLOWGATE&market_run_id=RTM&node=AL_L&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
PRC_DS_REF	http://oasis.caiso.com/oasisapi/SingleZip?queryname=queryname=PRC_DS_REF&startdatetime=20130919T07: 00-0000&enddatetime=20130920T07:00-0000&version=1&market_run_id=DAM&grp_type=ALL_OR http://oasis.caiso.com/oasisapi/SingleZip?queryname=queryname=PRC_DS_REF&startdatetime=20130919T07:
	00-0000&enddatetime=20130920T07:00-0000&version=1&market run id=DAM&node=LAPLMG1 7 B2  NOTE: Prices are the same for the entire quarter.  Recommend to use grp_type or single node only. Grp_type will give all the APNODES or ALL NODES groups and node can enable users to select individual APNODES or PNODES.
CB_NODAL_GRP_C NSTR_PRC	http://oasis.caiso.com/oasis.apii/SingleZip?quer.yname=CB_NODAL_GRP_CNSTR_PRC&startdatetime=2013091 9T07:00-0000&enddatetime=20130920T07:00-0000&version=1
PRC_FLEX_RAMP	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_FLEX_RAMP&market_run_id=DAM&startdatetime=20130919T07:00-0000&version=1 OR
	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_FLEX_RAMP&market_run_id=RTPD&startdatetime =20130919T07:00-0000&version=1&grp_type=ALLOR
	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_FLEX_RAMP&market_run_id=RTD&startdatetime=2_0130919T07:00-0000&version=1&grp_type=ALL_Note: This will be based on the historical view. Returns data based on the input time range.
PRC_FLEX_RAMP_ CURR	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_FLEX_RAMP&market_run_id=RTPD&startdatetime=20130919T07:00-0000&version=1&grp_type=CURROR

XML Name	Exam ple URL for XML Download
	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_FLEX_RAMP&market_run_id=RTD&startdatetime=2 0130919T07:00-0000&version=1&grp_type=CURR
	Note: This will be based on the current view. This gives the most current/latest interval. It ignores the input datetime range. The view outputs the latest/greatest interval.
PRC_CD_INTVL_LM P	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_CD_INTVL_LMP&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1&market_run_id=RTM&grp_type=ALL_APNODESOR
	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_CD_INTVL_LMP&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1&market_run_id=RTM&node=LAPLMG1_7_B2
PRC_CD_RTM_FLO WGATE	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_CD_RTM_FLOWGATE&market_run_id=RTM&ti_id=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
PRC_CD_RTM_NO MOGRAM	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_CD_RTM_NOMOGRAM&market_run_id=RTM&nom_ogram_id=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
TRANSMISSIO N	
TRNS_CURR_USA GE	http://oasis.caiso.com/oasisapi/SingleZip?quer.yname=TRNS_CURR_USAGE&ti_id=ALL&ti_direction=ALL&start_datetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
TRNS_ATC	http://oasis.caiso.com/oasisapi/SingleZip?queryname=TRNS_ATC&market_run_id=DAM&ti_id=ALL&ti_direction=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
	http://oasis.caiso.com/oasisapi/SingleZip?queryname=TRNS_ATC&market_run_id=RTPD&ti_id=ALL&ti_direction=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
TRNS_OUTAGE	http://oasis.caiso.com/oasisapi/SingleZip?queryname=TRNS_OUTAGE&ti_id=ALL&ti_direction=ALL&startdateti_me=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
TRNS_USAGE	http://oasis.caiso.com/oasisapi/SingleZip?queryname=TRNS_USAGE&market_run_id=DAM&ti_id=ALL&ti_direction=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
	http://oasis.caiso.com/oasisapi/SingleZip?queryname=TRNS_USAGE&market_run_id=RTPD&ti_id=ALL&ti_direc_tion=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1



PRC_MPM_ LMP	http://oasis.caiso.com/oasis.api/SingleZip?quervname=PRC_MPM_LMP&market_run_id=DAM&grp_type= ALL_APNODES&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1				
	OR  http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_MPM_LMP&market_run_id=DAM&node=3E  MIDIO_6_N001&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1				
	NOTE:				
	<ol> <li>Recommend to use grp_type or node only. Grp_type will give all the APNODES or ALL NODES groups and node can enable users to select individual APNODES or PNODES.</li> </ol>				
	<ol> <li>The "enddatetime" is ignored if the query is to pull "ALL" or "ALL_APNODES" nodes; ie query will return only 1-day's worth of data for all nodes at a time based on the "startdatetime" supplied</li> </ol>				
	3. The "enddatetime" is referenced only when a node is supplied in the query  Output  Description:				
PRC_MPM_RTM_LMP	HASP				
	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_MPM_RTM_LMP&market_run_id=HASP&gr_p_type=ALL_APNODES&startdatetime=20130920T06:00-0000&enddatetime=20130920T07:00-0000&version=1				
	OR  http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_MPM_RTM_LMP&market_run_id=HASP&no_de=3EMIDIO_6_N001&startdatetime=20130919T07:00-0000&enddatetime=20130919T08:00-0000&version=1_				
	RTPD				
	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_MPM_RTM_LMP&market_run_id=RTPD&gr_p_type=ALL_APNODES&startdatetime=20130920T06:00-0000&enddatetime=20130920T07:00-0000&version=1				
	OR  http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_MPM_RTM_LMP&market_run_id=RTPD&no_de=3EMIDIO_6_N001&startdatetime=20130919T07:00-0000&enddatetime=20130919T08:00-0000&version=1				
	NOTE:  1. Recommend to use grp_type or node only. Grp_type will give all the APNODES or ALL NODES groups and node can enable users to select individual APNODES or PNODES.				
	<ol> <li>The "enddatetime" is ignored if the query is to pull "ALL" or "ALL_APNODES" nodes; ie query will return only 1 hours' worth of data for all nodes at a time based on the "startdatetime" supplied</li> </ol>				
	3. The "enddatetime" is referenced only when a node is supplied in the query  Output  Description:				
PRC_MPM_ NOMOGRAM	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_MPM_NOMOGRAM&market_run_id=DAM&nomogram_id=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1				
PRC_MPM_RTM_NOMO GRAM	HASP				
	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_MPM_RTM_NOMOGRAM&market_run_id= HASP&nomogram_id=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00- 0000&version=1				

	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_MPM_RTM_NOMOGRAM&market_run_id= RTPD&nomogram_id=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00- 0000&version=1
PRC_MPM_NOMOGRAM _CMP	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_MPM_NOMOGRAM_CMP&market_run_id=DAM&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
PRC_MPM_RTM_NOMO GRAM_CMP	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_MPM_RTM_NOMOGRAM_CMP&market_ru_n_id=HASP&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1  OR http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_MPM_RTM_NOMOGRAM_CMP&market_ru_n_id=RTPD&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
PRC_MPM_CNSTR	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_MPM_CNSTR&market_run_id=DAM&ti_id=A_LL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1_
PRC_MPM_RTM_FLOWG ATE	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_MPM_RTM_FLOWGATE&market_run_id=H_ASP&ti_id=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1  http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_MPM_RTM_FLOWGATE&market_run_id=R_TPD&ti_id=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
PRC_MPM_CNSTR_CMP	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_MPM_CNSTR_CMP&market_run_id=DAM&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1  http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_MPM_CNSTR_CMP&market_run_id=HASP&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1  http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_MPM_CNSTR_CMP&market_run_id=RTPD&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
PRC_MPM_REF_BUS	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_MPM_REF_BUS&market_run_id=DAM&start_datetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
PRC_MPM_RTM_REF_B US	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_MPM_RTM_REF_BUS&market_run_id=HAS P&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1  http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_MPM_RTM_REF_BUS&market_run_id=RTP D&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
PRC_GHG_ALLOWANCE	http://oasis.caiso.com/oasisapi/SingleZip?queryname=PRC_GHG_ALLOWANCE&startdatetime=2013091 9T07:00-0000&enddatetime=20130920T07:00-0000&version=1
SYSTEM DEMAND	
SLD_FCST_PEAK	http://oasis.caiso.com/oasisapi/SingleZip?quer.yname=SLD_FCST_PEAK&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
SLD_FCST	http://oasis.caiso.com/oasisapi/SingleZip?queryname=SLD_FCST&market_run_id=DAM&startdatetime=2 0130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1 http://oasis.caiso.com/oasisapi/SingleZip?queryname=SLD_FCST&market_run_id=2DA&startdatetime=2 0130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1

	http://oasis.caiso.com/oasisapi/SingleZip?queryname=SLD_FCST&market_run_id=7DA&startdatetime=2 0130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
	http://oasis.caiso.com/oasisapi/SingleZip?queryname=SLD_FCST&market_run_id=RTM&exec_type=RT_ D&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
	http://oasis.caiso.com/oasisapi/SingleZip?queryname=SLD_FCST&market_run_id=RTM&exec_type=RT_PD&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
SLD_REN_FCST	http://oasis.caiso.com/oasisapi/SingleZip?queryname=SLD_REN_FCST&market_run_id=DAM&startdateti_me=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
	http://oasis.caiso.com/oasisapi/SingleZip?queryname=SLD_REN_FCST&market_run_id=RTPD&startdate time=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
	http://oasis.caiso.com/oasis.api/SingleZip?quer.yname=SLD_REN_FCST&market_run_id=RTD&startdateti_me=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
ENERGY	
ENE_SLRS	http://oasis.caiso.com/oasisapi/SingleZip?queryname=ENE_SLRS&market_run_id=DAM&tac_zone_nam_e=ALL&schedule=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
ENE_EA	http://oasis.caiso.com/oasisapi/SingleZip?queryname=ENE_EA&energy_type=ALL&opr_interval=ALL&st_artdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
ENE_MPM	http://oasis.caiso.com/oasisapi/SingleZip?queryname=ENE_MPM&market_run_id=DAM&startdatetime=2 0130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1 OR
	http://oasis.caiso.com/oasisapi/SingleZip?queryname=ENE_MPM&market_run_id=RTM&execution_type=HASP&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
	OR http://oasis.caiso.com/oasisapi/SingleZip?queryname=ENE_MPM&market_run_id=RTM&execution_type =RTPD&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
CMMT_RMR	http://oasis.caiso.com/oasisapi/SingleZip?queryname=CMMT_RMR&market_run_id=DAM&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
ENE_DISP	http://oasis.caiso.com/oasisapi/SingleZip?queryname=ENE_DISP&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
ENE_LOSS	http://oasis.caiso.com/oasisapi/SingleZip?queryname=ENE_LOSS&market_run_id=DAM&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
CMMT_RA_MLC	http://oasis.caiso.com/oasisapi/SingleZip?queryname=CMMT_RA_MLC&market_run_id=DAM&startdateti_me=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
ENE_CB_AWARDS	http://oasis.caiso.com/oasisapi/SingleZip?gueryname=ENE_CB_AWARDS&startdatetime=20130919T07: 00-0000&enddatetime=20130920T07:00-0000&version=1
ENE_CB_CLR_AWARDS	http://oasis.caiso.com/oasisapi/SingleZip?queryname=ENE_CB_CLR_AWARDS&startdatetime=2013091 9T07:00-0000&enddatetime=20130920T07:00-0000&version=1
ENE_CB_MKT_SUM	http://oasis.caiso.com/oasisapi/SingleZip?queryname=ENE_CB_MKT_SUM&startdatetime=20130919T07 :00-0000&enddatetime=20130920T07:00-0000&version=1
CB_NODAL_LIMITS	http://oasis.caiso.com/oasisapi/SingleZip?queryname=CB_NODAL_LIMITS&node_id=RNCHSECO_2_N1_08&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
ENE_CD_SLRS	http://oasis.caiso.com/oasisapi/SingleZip?queryname=ENE_CD_SLRS&market_run_id=RTM&tac_zone_name=ALL&schedule=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
AGGR_OUTAGE_SCH	http://oasis.caiso.com/oasisapi/SingleZip?queryname=AGGR_OUTAGE_SCH&fuel_category=Renewable &tracling_hub=NP15&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1

ANCILLA RY AS_REQ AS_RESULTS	http://oasis.caiso.com/oasisapi/SingleZip?queryname=AS_REQ&market_run_id=DAM&anc_type=ALL&a_nc_region=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1 OR http://oasis.caiso.com/oasisapi/SingleZip?queryname=AS_REQ&market_run_id=HASP&anc_type=ALL&anc_region=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1 OR http://oasis.caiso.com/oasisapi/SingleZip?queryname=AS_REQ&market_run_id=RTM&anc_type=ALL&anc_region=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1  http://oasis.caiso.com/oasisapi/SingleZip?queryname=AS_RESULTS&market_run_id=DAM&anc_type=ALL&anc_region=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
	OR  http://oasis.caiso.com/oasisapi/SingleZip?queryname=AS_RESULTS&market_run_id=HASP&anc_type=ALL&anc_region=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1  OR  http://oasis.caiso.com/oasisapi/SingleZip?queryname=AS_RESULTS&market_run_id=RTM&anc_type=ALL&anc_region=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
AS_OP_RSRV	http://oasis.caiso.com/oasisapi/SingleZip?queryname=AS_OP_RSRV&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
AS_MILEAGE_CALC	http://oasis.caiso.com/oasisapi/SingleZip?queryname=AS_MILEAGE_CALC&anc_type=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
CRR	
CRR_CLEARING	http://oasis.caiso.com/oasis.api/SingleZip?quer.yname=CRR_CLEARING&mar.ket_name=ALL&mar.ket_ter_m=ALL&time_of_use=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
CRR_INVENTORY	http://oasis.caiso.com/oasisapi/SingleZip?queryname=CRR_INVENTORY&market_name=ALLOC_AN_2 013_S03_TR&market_term=ALL&time_of_use=ALL&startdatetime=20130924T07:00- 0000&enddatetime=20130925T07:00-0000&version=1
PUBLICBIDS	
PUB_BID	http://oasis.caiso.com/oasis.api/GroupZip?groupid=PUB_RTM_GRP&startdatetime=20130919T07:00-0000&version=1 (for RTM) or http://oasis.caiso.com/oasis.api/GroupZip?groupid=PUB_DAM_GRP&startdatetime=20130919T07:00-0000&version=1 (for DAM)
PUB_CB_BID	http://oasis.caiso.com/oasisapi/GroupZip?groupid=PUB_CB_DAM_GRP&startdatetime=20130919T07:00 -0000&version=1 (for DAM)
PUB_CRR_BID	http://oasis.caiso.com/oasisapi/GroupZip?groupid=PUB_CRR_BID_SEASONAL_GRP&startdatetime=201 30919T07:00-0000&version=1  http://oasis.caiso.com/oasisapi/GroupZip?groupid=PUB_CRR_BID_MONTHLY_GRP&startdatetime=201 30919T07:00-0000&version=1
ATLAS	<u>355 10 10 10 10 00 000 10 10 10 10 10 10 10</u>
ATL_PNODE	http://oasis.caiso.com/oasisapi/SingleZip?queryname=ATL_PNODE&Pnode_id=12THST_6_N101&Pnode_type=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
ATL_APNODE	http://oasis.caiso.com/oasisapi/SingleZip?queryname=ATL_APNODE&APnode_type=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
ATL_LDF	http://oasis.caiso.com/oasisapi/SingleZip?queryname=ATL_LDF&apnode_id=AGRICO_6_PL3N5_APND



	&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
ATL_LAP	http://oasis.caiso.com/oasisapi/SingleZip?queryname=ATL_LAP&APnode_type=ALL&startdatetime=2013 0919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
ATL_RESOURCE	http://oasis.caiso.com/oasis.api/SinqleZip?quer.yname=ATL_RESOURCE&resource_id=8M ILE_2_V200LD & agge_type=ALL&resource_type=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
ATL_HUB	http://oasis.caiso.com/oasisapi/SingleZip?queryname=ATL_HUB&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
ATL_PNODE_MAP	http://oasis.caiso.com/oasisapi/SingleZip?queryname=ATL_PNODE_MAP&pnode_id=KEARNY_7_KY2D_8startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
ATL_AS_REGION_MAP	http://oasis.caiso.com/oasis.api/SingleZip?quer.yname=ATL_AS_REGION_MAP&as_region_id=A54_CNT_R&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
ATL_RUC_ZONE_MAP	http://oasis.caiso.com/oasisapi/SingleZip?quervname=ATL_RUC_ZONE_MAP&startdatetime=20130919T_07:00-0000&enddatetime=20130920T07:00-0000&version=1
ATL_TAC_AREA	http://oasis.caiso.com/oasisapi/SingleZip?queryname=ATL_TAC_AREA_MAP&startdatetime=20130919T_07:00-0000&enddatetime=20130920T07:00-0000&version=1
ATL_TIEPOINT	http://oasis.caiso.com/oasisapi/SingleZip?queryname=ATL_TIEPOINT&resource_type=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
ATL_TI	http://oasis.caiso.com/oasisapi/SingleZip?queryname=ATL_TI&Ti_type=ALL&wecc_path=ALL&startdateti_me=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
ATL_PUB	http://oasis.caiso.com/oasisapi/SinqleZip?queryname=ATL_PUB&market_run_id=DAM&oasis_section=A LL&status=ALL&attpubversion=ALL&startdatetime=20130919T07:00- 0000&enddatetime=20130920T07:00-0000&version=1
ATL_PUB_SCHED	http://oasis.caiso.com/oasis.api/SingleZip?queryname=ATL_PUB_SCHED&market_run_id=DAM&oasis_s ection=ALL&publication_type=ALL&startdatetime=20130919T07:00- 0000&enddatetime=20130920T07:00-0000&version=1
ATL_OSM	http://oasis.caiso.com/oasisapi/SingleZip?queryname=ATL_OSM&msg_severity=ALL&startdatetime=20130919T07:00-0000&enddatetime=20130920T07:00-0000&version=1
ATL_PEAK_ON_OFF	http://oasis.caiso.com/oasisapi/SingleZip?quervname=ATL_PEAK_ON_OFF&startdatetime=20130919T0_7:00-0000&enddatetime=20130920T07:00-0000&version=1

## 7. Group Report Definitions

This section contains all Group IDs and corresponding reports.

GroupID	Reports In Group	Market	Report XML Names
		Type	
DAM_LMP_GRP	Locational Marginal Prices (LMP)	DAM	PRC_LMP ( Note: 4 files will be created LMP, MCC, MCE, MCL for the trade date & will be cached for all nodes)
RUC_LMP_GRP	Locational Marginal Prices (LMP)	RUC	PRC_LMP (Note: 1 file will be created LMP for the trade date & will be cached for all nodes)
HASP_LMP_GRP	HASP Locational Marginal Prices (LMP)	HASP	PRC_HASP_LMP (Note: Hourly 4 intervals cached files for trade date & will be cached for all nodes)
RTPD_LMP_GRP	RTPD Locational Marginal Prices (LMP)	RTPD	PRC_RTPD_LMP (Note: Hourly 4 intervals cached files for trade date & will be cached for all nodes)
RTM_LMP_GRP	Interval Locational Marginal Prices (LMP)	RTM	PRC_INTV L_LMP (Note: Hourly 12 intervals cached files for trade date & will be cached for all nodes)
DAM_PRC_AS_GRP	AS Clearing Prices	DAM	PRC_AS (Note: Daily cached files for trade date & will be cached for all AS Regions)
HASP_PRC_AS_GRP	AS Clearing Prices	HASP	PRC_AS ( Note: Daily cached files for trade date & will be cached for all AS Regions)
RTM_PRC_AS_GRP	Interval AS Clearing Prices	RTM	PRC_INTVL_AS ( Note: Hourly 4 intervals cached files for trade date & w ill be cached for all AS Regions)
DAM_TRNS_GRP	Transmission Interface Usage Market Available Transmission Capacity	DAM DAM	TRNS_USAGE TRNS_ATC



114 OD TONO COO	T	T 1 1 4 6 5	TONG HEAD
HASP_TRNS_GRP	Transmission Interface Usage Market Available Transmission Capacity	HASP HASP	TRNS_USAGE TRNS_ATC
RTPD_TRNS_GRP	Transmission Interface Usage Market Available Transmission Capacity	RTPD RTPD	TRNS_USAGE TRNS_ATC
DAM1_GRP	TAC A rea Demand Forecast System Load and Resource Schedules Market Pow er Mitigation Status RMR Marginal Losses	DAM DAM DAM DAM DAM	SLD_FCST ENE_SLRS ENE_MPM CMMT_RMR ENE_LOSS
RTM1_GRP (RTD)	TAC Area Load Forecast System Load and Resource Schedules	RTM/RTD RTM	SLD_FCST ENE_SLRS
RTPD_FCST_GRP	TAC Area Load Forecast	RTM/RTPD	SLD_FCST
HASP1_GRP	System Load and Resource Schedules TAC Area Load Forecast RMR Marginal Losses	HASP HASP HASP HASP	ENE_SLRS SLD_FCST CMMT_RMR ENE_LOSS
POST1_GRP	Expected Energy Exceptional Dispatch	N/A	ENE_EA ENE_DISP
DAM_AS_GRP	AS Requirements AS Results	DAM DAM	AS_REQ AS_RESULTS
HASP_AS_GRP	AS Requirements AS Results	HASP	AS_REQ AS_RESULTS
RTM_AS_GRP	AS Requirements AS Results	RTM (RTPD)	AS_REQ AS_RESULTS



PUB_DAM_GRP	Public Bids	DAM	PUB BID
FUD_DAWI_GKF	FUDIIC DIUS	DAIVI	FUD_DID
PUB_RTM_GRP	Public Bids	RTM	PUB BID
TOB_KTW_GIKT	Table Blas	IXIIVI	
CURR LMP GRP	Current interval Price	RTM	PRC CURR LMP
DAM_SD_PRC_GRP	Constraint Shadow Prices	DAM	PRC_CNSTR
	Nomogram/Branch Shadow		PRC_NOMOGRAM
	Prices		
HASP_SD_PRC_GRP	Constraint Shadow Prices	HASP	PRC_CNSTR
	Nomogram/Branch Shadow		PRC_NOMOGRAM
	Prices		
RTM_SD_PRC_GRP	Constraint Shadow Prices	RTM	PRC_CNSTR
	Nomogram/Branch Shadow Prices		PRC_NOMOGRAM
	Prices		
DID OD DAM ODD	D.L. OD.D.I	D 4 1 4	DI ID OD DID
PUB_CB_DAM_GRP	Public CB Bids	DAM	PUB_CB_BID
CB_REF_PRC_GRP	Reference Prices	DAM	PRC_DS_REF (Note: File
CB_REF_FRC_GRF	Reference Frices	DAIVI	will be created for Supply &
			Demand Prices for the
			effective date ranges
			(quarterly) for all nodes.)
CB_CLR_DAM_GRP	Net Cleared Awards	DAM	ENE_CB_CLR_AWARDS
CB_NODAL_LMT_GRP	Nodal Limit MW values	DAM	CB_NODAL_LIMITS
	L Court and the court	DAM	
DAM_FLEX_RAMP_GRP	System ramping nomogram	DAM	PRC_FLEX_RAMP
	results from DAM market run		

		DTES	
RTPD_FLEX_RAMP_GRP	System ramping nomogram results from RTPD market run	RTPD	PRC_FLEX_RAMP
RTD_FLEX_RAMP_GRP	System ramping nomogram results from RTD market run	RTD	PRC_FLEX_RAMP
DAM_MPM_LMP_GRP	MPM Locational Marginal Prices (LMP)	DAM	PRC_MPM_LMP PRC_MPM_LMP_DAM_MC CC PRC_MPM_LMP_DAM_MC CNC PRC_MPM_LMP_DAM_MC E PRC_MPM_LMP_DAM_MC L
HASP_MPM_LMP_GRP	MPM HASP Locational Marginal Prices (LMP)	HASP	PRC_MPM_RTM_LMP
RTPD_MPM_LMP_GRP	MPM RTPD Locational Marginal Prices (LMP)	RTPD	PRC_MPM_RTM_LMP
DAM_MPM_SD_PRC_G RP	MPM Constraint Shadow Prices MPM Constraint Competitive Paths MPM Nomogram/Branch Shadow Prices MPM Nomogram/Branch Competitive Paths	DAM	PRC_MPM_CONSTR PRC_MPM_CONSTR_CM P PRC_MPM_NOMOGRAM PRC_MPM_NOMOGRAM_ CMP
HASP_MPM_SD_PRC_ GRP	MPM Flow gate Competitive Paths MPM Flow gate Shadow Prices MPM Nomogram/Branch Competitive Paths MPM Nomogram/Branch Shadow Prices	HASP	PRC_MPM_RTM_FLOWG ATE_CMP_HASP PRC_MPM_RTM_FLOWG ATE_HASP PRC_MPM_NOMOGRAM_ CMP_HASP PRC_MPM_NOMOGRAM_ HASP
RTPD_MPM_SD_PRC_ GRP	MPM Flow gate Competitive Paths MPM Flow gate Shadow Prices MPM Nomogram/Branch Competitive Paths MPM Nomogram/Branch	RTPD	PRC_MPM_RTM_FLOWGA TE_CMP_RTPD PRC_MPM_RTM_FLOWGA TE_RTPD PRC_MPM_RTM_NOMOGR AM_CMP_RTPD



	Chadau Diasa		
	Shadow Prices		PRC_MPM_RTM_NOMOGR
			AM RTPD
			_
DID ODD DID OF A CO	0 (	054 0014	DI ID ODD DID
PUB_CRR_BID_SEASO	Congestion Revenue Rights	SEASONA	PUB_CRR_BID
NAL_GRP	(CRR) Public Bids	L	
	From the Annual Auction		
DUD ODD DID MONTH	C (; D D; I (	MONITHIN	DI ID ODD DID
PUB_CRR_BID_MONTH	Congestion Revenue Rights	MONTHLY	PUB_CRR_BID
LY_GRP	(CRR) Public Bids		
	From the Monthly Auction		
	·		
4 0 0 D 0 1 T 4 0 E 0 0 1 1		N 1 / A	A COD OUTA OF COUL
AGGR_OUTAGE_SCH_	Aggregated Generation	N/A	AGGR_OUTAGE_SCH
GRP	Outages data		

# 8. Group URL Query Strings

This section contains examples of all Group report URL Examples for XML Downloads. For CSV forneed as resultformat=6 as specified above.

GroupID	Exam ple URL for XML Download
PRICES	
DAM_LMP_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=DAM_LMP_GRP&startdatetime=20130919T07:00-0000&version=1
RUC_LMP_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=RUC_LMP_GRP&startdatetime=20130919T07:00-0000&version=1
HASP_LMP_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=HASP_LMP_GRP&startdatetime=20130919T07:0 0-0000&enddatetime=20130919T08:00-0000&version=1
RTPD_LMP_GRP	http://oasis.caiso.com/oasis.api/GroupZip?groupid=RTPD_LMP_GRP&startdatetime=20130919T07:0 0-0000&enddatetime=20130919T08:00-0000&version=1
RTM_LMP_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=RTM_LMP_GRP&startdatetime=20130919T07:00-0000&enddatetime=20130919T08:00-0000&version=1
DAM_PRC_AS_GRP	http://oasis.caiso.com/oasis.api/GroupZip?groupid=DAM_PRC_AS_GRP&startdatetime=20130919T0 7:00-0000&version=1
HASP_PRC_AS_GRP	http://oasis.caiso.com/oasis.api/GroupZip?groupid=HASP_PRC_AS_GRP&startdatetime=20130919T_07:00-0000&version=1
DAM_TRNS_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=DAM_TRNS_GRP&startdatetime=20130919T07:0 0-0000&version=1
HASP_TRNS_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=HASP_TRNS_GRP&startdatetime=20130919T07: 00-0000&version=1
RTPD_TRNS_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=RTPD_TRNS_GRP&startdatetime=20130919T07: 00-0000&version=1
DAM1_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=DAM1_GRP&startdatetime=20130919T07:00-0000&version=1
RTM1_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=RTM1_GRP&startdatetime=20130919T07:00-0000&version=1
RTPD_FCST_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=RTPD_FCST_GRP&startdatetime=20130919T07: 00-0000&version=1
HASP1_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=HASP1_GRP&startdatetime=20130919T07:00-0000&version=1

GroupID	Exam ple URL for XML Download
POST1_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=POST1_GRP&startdatetime=20130919T07:00- 0000&version=1
DAM_AS_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=DAM_AS_GRP&startdatetime=20130919T07:00-0000&version=1
HASP_AS_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=HASP_AS_GRP&startdatetime=20130919T07:00-0000&version=1
RTM_AS_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=RTM_AS_GRP&startdatetime=20130919T07:00-0000&version=1
PUB_DAM_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=PUB_DAM_GRP&startdatetime=20130919T07:00-0000&version=1
PUB_RTM_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=PUB_RTM_GRP&startdatetime=20130919T07:00-0000&version=1
CURR_LMP_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=CURR_GRP&startdatetime=20130919T07:00-0000&version=1
DAM_SD_PRC_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=DAM_SD_PRC_GRP&startdatetime=20130919T0 7:00-0000&version=1
HASP_SD_PRC_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=HASP_SD_PRC_GRP&startdatetime=20130919T_07:00-0000&version=1
RTM_SD_PRC_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=RTM_SD_PRC_GRP&startdatetime=20130919T0 7:00-0000&version=1
PUB_CB_DAM_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=PUB_CB_DAM_GRP&startdatetime=20130919T07:00-0000&version=1
CB_REF_PRC_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=CB_REF_PRC_GRP&startdatetime=20130919T07:00-0000&version=1
CB_CLR_DAM_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=CB_CLR_DAM_GRP&startdatetime=20130919T0 7:00-0000&version=1
CB_NODAL_LMT_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=CB_NODAL_LMT_GRP&resultformat=5&startdatet ime=20130919T07:00-0000&version=1
DAM_FLEX_RAMP_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=DAM_FLEX_RAMP_GRP&startdatetime=2013091 9T07:00-0000&version=1
RTPD_FLEX_RAMP_GR P	http://oasis.caiso.com/oasis.api/GroupZip?groupid=RTPD_FLEX_RAMP_GRP&startdatetime=201309_19T07:00-0000&version=1
RTD_FLEX_RAMP_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=RTD_FLEX_RAMP_GRP&startdatetime=2013091 9T07:00-0000&version=1
DAM_MPM_LMP_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=DAM_MPM_LMP_GRP&startdatetime=20130919T 07:00-0000&version=1
HASP_MPM_LMP_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=HASP_MPM_LMP_GRP&startdatetime=20130919 T07:00-0000&enddatetime=20130919T08:00-0000&version=1
RTPD_MPM_LMP_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=RTPD_MPM_LMP_GRP&startdatetime=20130919 T07:00-0000&enddatetime=20130919T08:00-0000&version=1
DAM_MPM_SD_PRC_G RP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=DAM_MPM_SD_PRC_GRP&startdatetime=20130 919T07:00-0000&version=1
HASP_MPM_SD_PRC_G RP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=HASP_MPM_SD_PRC_GRP&startdatetime=2013_0919T07:00-0000&version=1
RTPD_MPM_SD_PRC_G RP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=RTPD_MPM_SD_PRC_GRP&startdatetime=2013_0919T07:00-0000&version=1
PUB_CRR_BID_SEASO NAL_GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=PUB_CRR_BID_SEASONAL_GRP&startdatetime =20130919T07:00-0000&version=1
PUB_CRR_BID_MTHLY_ GRP	http://oasis.caiso.com/oasisapi/GroupZip?groupid=PUB_CRR_BID_MTHLY_GRP&startdatetime=201 30919T07:00-0000&version=1
AGGR_OUTAGE_SCH_	http://oasis.caiso.com/oasisapi/GroupZip?groupid=AGGR_OUTAGE_SCH_GRP&startdatetime=2013 0919T07:00-0000&version=1



GroupID	Exam ple URL for XML Download
GRP	

#### 9. Versioning and Namespace domain reference

With the GMT release, the namespace domain is changing from the environment specific URL to use <a href="www.caiso.com/soa/\*.xsd">www.caiso.com/soa/\*.xsd</a>. So for the GMT release, the namespaces for the various reports are:

Namespace	Major Version	Minor Version
http://www.caiso.com/soa/OASISBid_v1.xsd	1	20131201
http://www.caiso.com/soa/OASISCBBid_v1.xsd	1	20131201
http://www.caiso.com/soa/OASISCRRPublicBid_v1.xsd	1	20131201
http://www.caiso.com/soa/OASISMaster_v1.xsd	1	20131201
http://www.caiso.com/soa/OASISReport_v1.xsd	1	20140401

### 10. Schema Files Changes

This section contains the summary of the schema changes involved in the Spring 2014/FERC764 release.



Schema File Name	Change Description
OASISReport_v1.xsd	<ol> <li>Added PRC_RTPD_LMP in OASISReportType enumeration</li> <li>Added MKT_XFER_CAP_MW in OASISDataItems enumeration</li> <li>Updated minor version of XSD to 20140401</li> <li>Added SYS_FCST_15MIN_MW in OASISDataItems enumeration</li> <li>Added RENEW_FCST_5MIN_MW and RENEW_FCST_15MIN_MW in OASISDataItems enumeration</li> </ol>
OASISBid_v1.xsd	No changes
OASISCBBid_v1.xsd	No changes
OASISMaster_v1.xsd	No changes
OASISCRRPublicBid_v1.xsd	No changes

### 11. Long day and short day request examples

Here are the example URL's for long day and short day with the GMT version of the OASIS APIs ervices:

#### Short day

http://oasis.caiso.com/oasisapi/SingleZip?query.name=ENE\_CB\_CLR\_AWARDS&startdatetime=20130310T08:00-0000&enddatetime=20130311T07:00-0000&version=1

#### Long day

http://oasis.caiso.com/oasisapi/SingleZip?queryname=ENE\_CB\_CLR\_AWARDS&startdatetime=20131103T07:00-0000&enddatetime=20131104T08:00-0000&version=1