NAESB EIR POWERED BY OATI WEBREGISTRY
TECHNICAL GUIDE v6.1

NORTH AMERICAN ENERGY STANDARDS BOARD

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1. General Description

This Technical Guide describes how OATI webRegistry supports a web services architecture that provides data and application services to Users' systems. By using web services, customers can retrieve data available in webRegistry, as well as request the execution of specific application functions.

Web service technology enables diverse systems to communicate with ease in real time. webRegistry has been enhanced to support web services, in addition to other facilities, to provide data exchanges in and out of the system.

In the context of webRegistry, web services can be described as the ability to remotely call a process via HTTPS protocol. Both the caller and called process (client and server) comply with the underlying communication protocol and can be developed using different software technologies and architectures independently of each other.

Web service clients and servers communicate with one another in a language called eXtensible Markup Language (XML) irrespective of Operating System, platforms, or programming languages. The grammar for the communication is referred to as Simple Object Access Protocol (SOAP). SOAP is used to wrap around the language and is often referred to as the *envelope*. The envelope contains the address, mode of delivery, and instructions written in XML.

Web Services employ the notion of *methods* that can be called by client processes. Once a web service is created, it is announced (or published) to the outside world though a document known as Web Services Description Language (WSDL) file. Many methods supported by a given server can be described in a single WSDL file. The WSDL is the only source of information needed by a client to issue a request to the server.

The WSDL file contains all functions (or methods) that can be called by external parties. The WSDL describes parameters (if any) as well as the accompanying data types. This file also contains definitions of what type of data will be returned, if any. The WSDL exposes all the necessary information required for the services provided to be consumed.

For the consumer of a web service, one needs to know the address or location of the web service, as well as the method to be consumed. One of the primary benefits of using web services is that they are platform and language independent. Because of this, both the

consumer and provider may be located on different platforms and implemented in different languages.

It is assumed the audience of this document is familiar with basic concepts and terminology of web services, such as SOAP, XML Schemas, XML Namespaces, and XML parsing and validation.

2. Implementation Guidelines

In order to use the web service framework provided by webRegistry, the User is expected to prepare a SOAP message wrapped around an XML based structure that complies with the specification contained in the WSDL. This file contains all the various methods (functions) supported by the web service. In addition, the file also details the expected XML structure to use when invoking any of these methods.

The method specification includes the parameters with the accompanying data type. There are two broad categories of data type. The first is simple type, which contains the String, Number, Date, etc. The second is a complex type, which is a data type that is made up of zero or more simple types, as well as zero or more complex types. To view the content of the WSDL file, the User needs to do an HTTP GET request against the web service location.

2.1 SOAP Message Structure

The SOAP message must have a *SOAPAction* header included in the HTTP request. The *SOAPAction* identifies the Method or Function that is to be invoked. A typical SOAP message request could be depicted as shown below:

```
POST   /cgi-bin/webplus.dll?script=/naesbwry/WREG-Web-Services-Main.wml HTTP/ 1.1
Host: dev.naesbwry.oati.com
Content-Type: text/xml; charset="utf-8"
Content-Length: nnnn
SOAPAction: DownloadEntity

<?xml version="1.0"?>
<SOAP-ENV:Envelope
            xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
        xmlns:xsi="http://www.w3.org/1999/XMLSchema-instance"
        xmlns:xsd="http://www.w3.org/1999/XMLSchema">
  <SOAP-ENV:Body>
   <DownloadEntity
     xmlns="http://www.oati.net/namespace"
     SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/">
            <EffectiveDate>02/22/2011</EffectiveDate>
   </DownloadEntity>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

In the example above, the *DownloadEntity* block represents the request message. The response could either be a fault response, which signifies that the request could not be processed due

to a variety of reasons, or a success response including the requested data. Reasons for fault responses can include *SOAPAction* specification not being found, the Request Message not being in the expected format, or a variety of other reasons related to the construct of the message.

The response message will contain an indicator of the outcome of the request made. A sample of possible messages returned are shown below:

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
 <soap:Body>
   <soap :Fault>
     <faultcode>soap :Server</faultcode>
     <faultstring>
           SOAPAction:http://www.oati.net/namespace/webRegistry is not valid
     </faultstring>
   </soap:Fault>
 </soap:Body>
</soap:Envelope>
```

The sample above contains a response that is a Soap Fault block. This indicates the requested method is not valid. When a Soap fault block is returned, it is often an indication that the request did not conform to the specification of SOAP messaging.

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap=http://schemas.xmlsoap.org/soap/envelope/
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
<soap:Body>
    <d1:DownloadEntityResponse xmlns:d1="http://www.oati.net/namespace">
          <DownloadEntityResult>
                <ErrorDesc>webRegistry: Entity does not exists</ErrorDesc>
          </DownloadEntityResult>
    </d1:DownloadEntityResponse>
</soap:Body>
</soap:Envelope>
```

The sample above contains a response that is an indicator the SOAP request was processed, but no matching entities were found.

```
<?xml version="1.0"?>
<soap:Envelope
    xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema">

<soap:Body>
    <d1:WTDealExportResponse xmlns:d1="http://www.oati.net/namespace">
```

```
        <WTDealExportResult>
                <AddressLine1>1</AddressLine1>
                <Deal>
                <DealNumber>1000</DealNumber>
                <BaseImportExport>
                        <AddressLine1>CONFIRMED</AddressLine1>
                <CounterPartyName>AEP</CounterPartyName>
                <CounterPartyTrader>AEP Trader
                        </CounterPartyTrader>
                <TransactionType>P</TransactionType>
                        ……..
                <EnergyProfile>
                        <TypeEnergyProfile>
                        <StartDate>2003-10-14</StartDate>
                        <EndDate>2003-10-14</EndDate>
                        <EP_Block>
                                <TypeEP_Block>
                                        <EP_HE>0100</EP_HE>
                                        <EP_MW>100.0</EP_MW>
                                        <EP_InitialDate>20.0</EP_InitialDate>
                                </TypeEP_Block>
                                …..
                        </EP_Block
                        </TypeExnergyProfile>
                </EnergyProfile>
                </BaseImportExport>
                </Deal>
        </WTDealExportResult>
            </d1:WTDealExportResponse>
     </soap:Body>
    </soap:Envelope>
```

The sample message above is response text indicating the request was processed correctly and the requested information returned.

A request is made and a response is given for all web service calls. The response will either be SUCCESS or FAILURE or different variations thereof.

2.2 Location

The URL to access the web services provided by webRegistry is:

Item	Location
Web Service URL in Production	https://www.naesbwry.oati.com/cgi-bin/webplus.dll?Script=/naesbwry/WREG-Web-Services-Main.wml

The same URL can be accessed to get the WSDL content, by submitting a regular HTTP GET request.

2.3 Functionality

The main functionality provided by webRegistry web services is to support webRegistry integration with other applications supporting web services.

2.4 Logging

A log of all web service requests and corresponding responses, if any, will be maintained and accessible by Users. The log can be viewed by and sorted by date. In addition, Audit Trail information can be used in most cases to view events that may be associated with service requests.

2.5 Security

Several security measures are in place for the purposes of web services usage. First, the web service location is hosted on a secure server and only HTTPS protocol will be allowed. Second, before any action is taken on any web service request, a digitally signed certificate that has been successfully associated with a webRegistry User must be provided. Only requests accompanied with the appropriate certificate will be processed.

2.6 Soap Fault Response

Server failure, where the service becomes unavailable, will be handled by Soap Fault Response. In addition, any data type or WSDL schema validation error will be handled by the Soap Fault Response. In the event of Soap Fault Response, a User can retrigger the method call at any time knowing they will receive the same response if the failure is caused by data type or WSDL schema violation.

3. Hosted webRegistry Web Service Methods

3.1 DownloadEntity

3.1.1 Description

OATI webRegistry allows for the retrieval of entities (replacement of Entity_Registry.csv) through the web service. The DownloadEntity method is accessible through the standard webRegistry web service mechanism. If Effective Date is not provided, this query will return the last published Entities.

3.1.2 Parameters

3.1.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the entities to be retrieved.
Version	String *Optional*	The version of the entities to be retrieved (i.e., ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.1.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error

Element Name	Data Type/ Requirement	Description/ Notes
		Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
ErrorXPath	String *Optional*	Pointer/path to specific input that cannot be processed successfully.
Success	Complex *Optional*	Element that encapsulates one or more EntityStructs.
EntityStruct	Complex *Required*	Element that encapsulates elements defining attributes for one Entity.
ID	Integer *Required*	The unique System Identifier associated to the object registration. (Old Attribute Name: N/A)
Entity_Type	String *Optional*	The business role associated with the Entity registration. (Old Attribute Name: Entity_Type)
NERCID	Integer *Required*	Key that uniquely identifies a particular Entity within the current NERC registry. (Old Attribute Name: NERC_ID)
DUNS	String *Optional*	DUNS Number associated to the Entity, which uniquely identifies the Entity. (Old Attribute Name: Duns)
ShortName	String *Required*	An abbreviated official/legal Entity name/code. (Old Attribute Name: Entity_Code)
LongName	String *Required*	Full official/legal Entity name. (Old Attribute Name: Entity_Name)
EntityCodeRole	EntityCodeRole *Required*	The Entity Code-Role(s) associated with the Entity registration. (Old Attribute Name: N/A)
StartEffectiveDate	Date *Required*	The start date that delineate the time period of the Entity registration. (Old Attribute Name: Begin_Date)
StopEffectiveDate	Date *Required*	The end date that delineate the time period of an Entity registration.

Element Name	Data Type/ Requirement	Description/ Notes
		(Old Attribute Name: End_Date)
InitialDate	Date *Required*	The first date the Entity is effective. (Old Attribute Name: Initial_Date)
URL	String *Optional*	An address of Entity's web page if available. (Old Attribute Name: Entity_URL)
PredecessorName	String *Optional*	Name of associations with existing registered entities, which gave rise to a formation of the new Entity. (Old Attribute Name: N/A)
AddressLine1	String *Required*	Mailing address of Entity's business location. (Old Attribute Name: Address_Line_One)
AddressLine2	String *Optional*	Mailing address of Entity's business location. (Old Attribute Name: Address_Line_Two)
City	String *Required*	City of Entity's business location. (Old Attribute Name: City)
State	String *Required*	State of Entity's business location. (Old Attribute Name: State)
PostalCode	String *Required*	Postal Code of Entity's business location. (Old Attribute Name: Zip_Code)
CountryCode	String *Required*	Country Code of Entity's business location. (Old Attribute Name: Country)
PrimaryContactName	String *Required*	Name of primary contact for Entity business operations. (Old Attribute Name: Prim_Contact)
PrimaryContactPhoneNbr	String *Required*	Phone number of primary contact for Entity business operations. (Old Attribute Name: Prim_Phone)
PrimaryContactFaxNbr	String *Optional*	Fax number of primary contact for Entity business operations. (Old Attribute Name: Prim_Fax)
PrimaryContactEmail	String *Required*	Email address of primary contact for Entity business operations. (Old Attribute Name: Prim_Email)
AdminContactName	String *Optional*	Name of administrative contact for Entity business operations. (Old Attribute Name: Admin_Contact)

Element Name	Data Type/ Requirement	Description/ Notes
AdminContactPhoneNbr	String *Optional*	Phone number of administrative contact for Entity business operations. (Old Attribute Name: Admin_Phone)
AdminContactFaxNbr	String *Optional*	Fax number of administrative contact for Entity business operations. (Old Attribute Name: Admin_Fax)
AdminContactEmail	String *Optional*	Email address of administrative contact for Entity business operations. (Old Attribute Name: Admin_Email)
TaggingEntityID	Integer *Required*	The unique System Identifier associated to the object registration. (Old Attribute Name: Record_ID)

3.1.3 Method Specific Error Codes

None.

3.1.4 Sample XML

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap=http://schemas.xmlsoap.org/soap/envelope/ xmlns:xsd=http://www.w3.org/2001/XMLSchema
xmlns:m0=http://www.oati.net/namespace/tvawtm/MRKT_WebServices>
        <soap:Body>
                <m:DownloadEntity xmlns:m="http://www.oati.net/namespace">
                        <m0:EffectiveDate>09/10/2010</m0:EffectiveDate>
                </m:DownloadEntity>
        </soap:Body>
</soap:Envelope>                                                                    ©2018 OATI, Inc.
```

3.1.5 Successful Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadEntityResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:EntityStruct>
       <d2:ID>4606</d2:ID>
       <d2:Entity_Type>TC/PSE</d2:Entity_Type>
       <d2:NERCID>100018</d2:NERCID>
       <d2:DUNS>000000099</d2:DUNS>
       <d2:ShortName>SSPC</d2:ShortName>
       <d2:LongName>South Sea Pacific Corporation</d2:LongName>
       <d2 :EntityCodeRole>SSPC (PSE)</d2 :EntityCodeRole>
       <d2:StartEffectiveDate>05/18/2012</d2:StartEffectiveDate>
       <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
       <d2:InitialDate>02/13/2012</d2:InitialDate>
       <d2:URL>www.SSPC.com</d2:URL>
       <d2:PredecessorName>South Sea Energy</d2:PredecessorName>
       <d2:AddressLine1>987 5th Street N</d2:AddressLine1>
       <d2:AddressLine2></d2:AddressLine2>                                          ©2018 OATI, Inc.
```

```
        <d2:City>Los Angeles</d2:City>
        <d2:State>California</d2:State>
        <d2:PostalCode>09876</d2:PostalCode>
        <d2:CountryCode>United States</d2:CountryCode>
        <d2:PrimaryContactName>Mike Jones</d2:PrimaryContactName>
        <d2:PrimaryContactPhoneNbr>(763)201-2000</d2:PrimaryContactPhoneNbr>
        <d2:PrimaryContactFaxNbr>(763)201-2000</d2:PrimaryContactFaxNbr>
        <d2:PrimaryContactEmail>Mike.Jones@SSPC.net</d2:PrimaryContactEmail>
        <d2:AdminContactName>Nate Jones</d2:AdminContactName>
        <d2:AdminContactPhoneNbr>(763)201-2000</d2:AdminContactPhoneNbr>
        <d2:AdminContactFaxNbr>(763)201-2000</d2:AdminContactFaxNbr>
        <d2:AdminContactEmail>Nate.Jones@SSPC.net</d2:AdminContactEmail>
        <d2:TaggingEntityID>100020</d2:TaggingEntityID>
      </d2:EntityStruct>
    </d2:Success>
   </d2:OutputStruct>
  </d1:DownloadEntityResponse>
 </soap:Body>
</soap:Envelope>                                                    ©2018 OATI, Inc.
```

3.1.6   Failure Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadEntityResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/MRKT_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                </d2:Error>
                        </d2:OutputStruct>
                </d1:DownloadEntityResponse>
        </soap:Body>
</soap:Envelope>                                                    ©2018 OATI, Inc.
```

3.2   DownloadBA

3.2.1   Description

OATI webRegistry allows for the retrieval of Balancing Authorities (BAs) (replacement of CA_Registry.csv) through the web service. The *DownloadBA* method is accessible through the standard webRegistry web service mechanism. If Effective Date is not provided, this query will return the last published BAs.

3.2.2   Parameters

3.2.2.1   Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the BAs to be retrieved.

Element Name	Data Type/ Requirement	Description/ Notes
Version	String *Optional*	The version of the BAs to be retrieved (i.e., ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.2.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
ErrorXPath	String *Optional*	Pointer/path to specific input that cannot be processed successfully.
Success	Complex *Optional*	Element that encapsulates one or more BAStructs.
BAStruct	Complex *Required*	Element that encapsulates elements defining attributes for one BA.
ID	Integer *Required*	The unique System Identifier associated to the object registration. (Old Attribute Name: N/A)
LongName	String *Required*	Full official/legal Entity Role Code name. (Old Attribute Name: N/A)

Element Name	Data Type/ Requirement	Description/ Notes
Code	String *Required*	The code of the Entity role code registration. (Old Attribute Name: Tag_Code)
EntityName	String *Required*	The parent Entity responsible for this specific Entity Role Code. (Old Attribute Name: Entity_Name)
NERCID	Integer *Required*	Key that uniquely identifies a particular Entity within the current NERC registry. (Old Attribute Name: NERC_ID)
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the Entity registration. (Old Attribute Name: Begin_Date)
StopEffectiveDate	Date *Required*	The end date that delineates the time period of an Entity registration. (Old Attribute Name: End_Date)
ExpirationDate	Date *Optional*	The last date the code-role will be included in the publication if subscription is not renewed.
ReliabilityAreaName	String *Optional*	Reliability Area name of Entity Role Code registration. (Old Attribute Name: SC_Code)
ReliabilityRegionName	String *Optional*	Reliability Region name of Entity Role Code registration. (Old Attribute Name: Region)
MarketAreaName	String *Optional*	Market Area name of Entity Role Code registration. (Old Attribute Name: N/A)
InterconnectionName	String *Optional*	Interconnection name of Entity Role Code registration. (Old Attribute Name: N/A)
BA	String *Required*	Entity Role Code. (Old Attribute Name: N/A)
NHMBAMFlagStr	String *Optional*	Next Hour Market flag indicator. (Old Attribute Name: 0-NHMBAM_Flag)
MarketOperatorFlagStr	String *Optional*	Market Operator (MO) flag indicator. (Old Attribute Name: MarketOperatorFlag) In compliance with Version 1.8.3 of the electronic tagging specification, the MO legacy attribute will be deprecated on the e-Tag 1.8.2 retirement date. Entities wanting to perform the MO function on interchange transactions must register under the MO role.

Element Name	Data Type/ Requirement	Description/ Notes
PseudoCAFlagStr	String *Optional*	Psuedo CA flag indicator. (Old Attribute Name: Pseudo_CA)
Hr24ContactName	String *Required*	24-hour contact name for Entity business operations. (Old Attribute Name: Contact24)
Hr24ContactPhoneNbr	String *Required*	24-hour contact phone number for Entity business operations. (Old Attribute Name: Phone24)
Hr24ContactFaxNbr	String *Optional*	24-hour contact fax number for Entity business operations. (Old Attribute Name: Fax)
Alt1ContactName	String *Optional*	Alternative contact name for business operations. (Old Attribute Name: ALT1Desc)
Alt1ContactPhoneNbr	String *Optional*	Alternative contact phone number for business operations. (Old Attribute Name: ALT1Phone)
Alt1ContactFaxNbr	String *Optional*	Alternative contact fax number for Entity business operations. (Old Attribute Name: N/A)
Alt2ContactName	String *Optional*	Alternative contact name for business operations. (Old Attribute Name: ALT2Desc)
Alt2ContactPhoneNbr	String *Optional*	Alternative contact phone number for business operations. (Old Attribute Name: ALT2Phone)
Alt2ContactFaxNbr	String *Optional*	Alternative contact fax number for Entity business operations. (Old Attribute Name: N/A)
Alt3ContactName	String *Optional*	Alternative contact name for business operations. (Old Attribute Name: ALT3Desc)
Alt3ContactPhoneNbr	String *Optional*	Alternative contact phone number for business operations. (Old Attribute Name: ALT3Phone)
Alt3ContactFaxNbr	String *Optional*	Alternative contact fax number for Entity business operations. (Old Attribute Name: N/A)
AgentURL	String *Optional*	Tag Agent service URL for Entity Role Code registration. (Old Attribute Name: Agent_URL)
AuthorityURL	String *Optional*	Tag Authority service URL for Entity Role Code registration. (Old Attribute Name: Authority_URL)
ApprovalURL	String *Optional*	Tag Approval service URL for Entity Role Code registration. (Old Attribute Name: Approval_URL)

Element Name	Data Type/ Requirement	Description/ Notes
ForwardURL	String *Optional*	Tag Forwarding service URL for Entity Role Code registration. (Old Attribute Name: Forward_URL)
TaggingEntityID	Integer *Required*	The unique System Identifier associated to the object registration. (Old Attribute Name: TaggingEntityID)

3.2.3   Method Specific Error Codes

None.

3.2.4   Sample XML

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap=http://schemas.xmlsoap.org/soap/envelope/ xmlns:xsd=http://www.w3.org/2001/XMLSchema
xmlns:m0=http://www.oati.net/namespace/tvawtm/MRKT_WebServices>
        <soap:Body>
                <m:DownloadBA xmlns:m="http://www.oati.net/namespace">
                        <m0:EffectiveDate>09/10/2010</m0:EffectiveDate>
                </m:DownloadBA>
        </soap:Body>
</soap:Envelope>
```
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3.2.5   Successful Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadBAResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:BAStruct>
      <d2:ID>4745</d2:ID>
      <d2:LongName>BA Entity 1</d2:LongName>
      <d2 :Code>BAE1</d2 :Code>
      <d2:EntityName>BA Entity 1</d2:EntityName>
      <d2:NERCID>100058</d2:NERCID>
      <d2:StartEffectiveDate>02/29/2012</d2:StartEffectiveDate>
      <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
      <d2:ExpirationDate>05/13/2015</d2:ExpirationDate>
      <d2:ReliabilityAreaName>Area1</d2:ReliabilityAreaName>
      <d2:ReliabilityRegionName>Region1</d2:ReliabilityRegionName>
      <d2:MarketAreaName>MO</d2:MarketAreaName>
      <d2:InterconnectionName>EASTERN INTERCONNECTION</d2:InterconnectionName>
      <d2:BA>BAE1</d2:BA>
      <d2:NHMBAMFlagStr>No</d2:NHMBAMFlagStr>
      <d2:MarketOperatorFlagStr>No</d2:MarketOperatorFlagStr>
      <d2:PseudoCAFlagStr>No</d2:PseudoCAFlagStr>
      <d2:Hr24ContactName>Mark Thomas</d2:Hr24ContactName>
      <d2:Hr24ContactPhoneNbr>(763)201-2020</d2:Hr24ContactPhoneNbr>
      <d2:Hr24ContactFaxNbr>(763)201-2021</d2:Hr24ContactFaxNbr>
      <d2:Alt1ContactName>Nathan Hanes</d2:Alt1ContactName>
      <d2:Alt1ContactPhoneNbr>(763)201-2022</d2:Alt1ContactPhoneNbr>
      <d2:Alt2ContactName>Jason Long</d2:Alt2ContactName>
      <d2:Alt2ContactPhoneNbr>(763)201-2023</d2:Alt2ContactPhoneNbr>
      <d2:Alt3ContactName>Thomas Thorne</d2:Alt3ContactName>
      <d2:Alt3ContactPhoneNbr>(763)201-2024</d2:Alt3ContactPhoneNbr>
      <d2:AgentURL>https://www.agenttagging.net</d2:AgentURL>
      <d2:AuthorityURL>https://www.authoritytagging.net</d2:AuthorityURL>
      <d2:ApprovalURL>https://www.approvaltagging.net</d2:ApprovalURL>
      <d2:ForwardURL>https://www.forwardtagging.net</d2:ForwardURL>
      <d2:TaggingEntityID>100127</d2:TaggingEntityID>
     </d2:BAStruct>
    </d2:Success>
```
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```
    </d2:OutputStruct>
  </d1:DownloadBAResponse>
 </soap:Body>
</soap:Envelope>                                                                    ©2018 OATI, Inc.
```

3.2.6 Failure Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                    <d1:DownloadBAResponse xmlns:d1="http://www.oati.net/namespace">
                            <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/MRKT_WebServices">
                                    <d2:ReturnCode>1</d2:ReturnCode>
                                    <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                    <d2:Error>
                                            <d2:ErrorStruct>
                                                    <d2:ErrorCode>0</d2:ErrorCode>
                                                    <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                            </d2:ErrorStruct>
                                            <d2:ErrorStruct>
                                                    <d2:ErrorCode>0</d2:ErrorCode>
                                                    <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                            </d2:ErrorStruct>
                                    </d2:Error>
                            </d2:OutputStruct>
                    </d1:DownloadBAResponse>
        </soap:Body>
</soap:Envelope>                                                                    ©2018 OATI, Inc.
```

3.3 DownloadPSE

3.3.1 Description

OATI webRegistry allows for the retrieval of Purchasing Selling Entities (PSEs) (replacement of
PSE_Registry.csv) through the web service. The *DownloadPSE* method is accessible through the
standard webRegistry web service mechanism. If Effective Date is not provided, this query will
return the last published PSEs.

3.3.2 Parameters

3.3.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the PSEs to be retrieved.
Version	String *Optional*	The version of the PSEs to be retrieved (i.e. ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.3.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
ErrorXPath	String *Optional*	Pointer/path to specific input that cannot be processed successfully.
Success	Complex *Optional*	Element that encapsulates one or more BAStructs.
PSEStruct	Complex *Required*	Element that encapsulates elements defining attributes for one PSE.
ID	Integer *Required*	The unique System Identifier associated to the object registration. (Old Attribute Name: N/A)
LongName	String *Required*	Full official/legal Entity Role Code name. (Old Attribute Name: N/A)
Code	String *Required*	The code associated with the Entity Role Code registration. (Old Attribute Name: Tag_Code)

Element Name	Data Type/ Requirement	Description/ Notes
EntityName	String *Required*	The parent Entity responsible for this specific Entity Role Code. (Old Attribute Name: Entity_Name)
NERCID	Integer *Required*	Key that uniquely identifies a particular Entity within the current NERC registry. (Old Attribute Name: NERC_ID)
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the Entity registration. (Old Attribute Name: Begin_Date)
StopEffectiveDate	Date *Required*	The end date that delineates the time period of an Entity registration. (Old Attribute Name: End_Date)
ExpirationDate	Date *Optional*	The last date the code-role will be included in the publication if subscription is not renewed.
PSEType	String *Optional*	Subtype of Entity Role Code registration. (Old Attribute Name: N/A)
ReliabilityRegionName	String *Optional*	Reliability Region name of Entity Role Code registration. (Old Attribute Name: Region)
NHMBAMFlagStr	String *Optional*	Next Hour Market flag indicator. (Old Attribute Name: TaggingEntityID)
MarketOperatorFlagStr	String *Optional*	MO flag indicator. (Old Attribute Name: MarketOperatorFlag) In compliance with Version 1.8.3 of the electronic tagging specification, the MO legacy attribute will be deprecated on the e-Tag 1.8.2 retirement date. Entities wanting to perform the MO function on interchange transactions must register under the MO role.
PseudoCAFlagStr	String *Optional*	Psuedo CA flag indicator. (Old Attribute Name: Pseudo_CA)
Hr24ContactName	String *Required*	24-hour contact name for Entity business operations. (Old Attribute Name: Contact24)
Hr24ContactPhoneNbr	String *Required*	24-hour contact phone number for Entity business operations.

Element Name	Data Type/ Requirement	Description/ Notes
		(Old Attribute Name: Phone24)
Hr24ContactFaxNbr	String *Optional*	24-hour contact fax number for Entity business operations. (Old Attribute Name: Fax)
Alt1ContactName	String *Optional*	Alternative contact name for business operations. (Old Attribute Name: ALT1Desc)
Alt1ContactPhoneNbr	String *Optional*	Alternative contact phone number for business operations. (Old Attribute Name: ALT1Phone)
Alt1ContactFaxNbr	String *Optional*	Alternative contact fax number for Entity business operations. (Old Attribute Name: N/A)
Alt2ContactName	String *Optional*	Alternative contact name for business operations. (Old Attribute Name: ALT2Desc)
Alt2ContactPhoneNbr	String *Optional*	Alternative contact phone number for business operations. (Old Attribute Name: ALT2Phone)
Alt2ContactFaxNbr	String *Optional*	Alternative contact fax number for Entity business operations. (Old Attribute Name: N/A)
Alt3ContactName	String *Optional*	Alternative contact name for business operations. (Old Attribute Name: ALT3Desc)
Alt3ContactPhoneNbr	String *Optional*	Alternative contact phone number for business operations. (Old Attribute Name: ALT3Phone)
Alt3ContactFaxNbr	String *Optional*	Alternative contact fax number for Entity business operations. (Old Attribute Name: N/A)
AgentURL	String *Optional*	Tag Agent service URL for Entity registration. (Old Attribute Name: Agent_URL)
AuthorityURL	String *Optional*	Tag Authority service URL for Entity registration. (Old Attribute Name: Authority_URL)
ApprovalURL	String *Optional*	Tag Approval service URL for Entity registration. (Old Attribute Name: Approval_URL)
ForwardURL	String *Optional*	Tag Forwarding service URL for Entity registration. (Old Attribute Name: Forward_URL)

Element Name	Data Type/ Requirement	Description/ Notes
TaggingEntityID	Integer *Required*	The unique System Identifier associated to the object registration. (Old Attribute Name: TaggingEntityID)

3.3.3 Method Specific Error Codes

None.

3.3.4 Sample XML

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap=http://schemas.xmlsoap.org/soap/envelope/ xmlns:xsd=http://www.w3.org/2001/XMLSchema
xmlns:m0=http://www.oati.net/namespace/tvawtm/MRKT_WebServices>
        <soap:Body>
                <m:DownloadPSE xmlns:m="http://www.oati.net/namespace">
                        <m0:EffectiveDate>09/10/2010</m0:EffectiveDate>
                </m:DownloadPSE>
        </soap:Body>
</soap:Envelope>                                                                      ©2018 OATI, Inc.
```

3.3.5 Successful Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadPSEResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:PSEStruct>
      <d2:ID>4620</d2:ID>
      <d2:LongName>Test PSE Company No. 1</d2:LongName>
      <d2 :Code>PSE</d2 :Code>
      <d2:EntityName>Test PSE Company No. 1</d2:EntityName>
      <d2:NERCID>100022</d2:NERCID>
      <d2:StartEffectiveDate>02/13/2012</d2:StartEffectiveDate>
      <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
      <d2:ExpirationDate>05/13/2015</d2:ExpirationDate>
      <d2:PSEType>PSE</d2:PSEType>
      <d2:ReliabilityRegionName>TRRO</d2:ReliabilityRegionName>
      <d2:NHMBAMFlagStr>No</d2:NHMBAMFlagStr>
      <d2:MarketOperatorFlagStr>No</d2:MarketOperatorFlagStr>
      <d2:PseudoCAFlagStr>No</d2:PseudoCAFlagStr>
      <d2:Hr24ContactName>John Doe</d2:Hr24ContactName>
      <d2:Hr24ContactPhoneNbr>(763)201-0120</d2:Hr24ContactPhoneNbr>
      <d2:Hr24ContactFaxNbr>(763)201-0121</d2:Hr24ContactFaxNbr>
      <d2:Alt1ContactName>Mark Doe</d2:Alt1ContactName>
      <d2:Alt1ContactPhoneNbr>(763)201-0122</d2:Alt1ContactPhoneNbr>
      <d2:Alt2ContactName>Jane Doe</d2:Alt2ContactName>
      <d2:Alt2ContactPhoneNbr>(763)201-0123</d2:Alt2ContactPhoneNbr>
      <d2:Alt3ContactName>Chris Doe</d2:Alt3ContactName>
      <d2:Alt3ContactPhoneNbr>(763)201-0124</d2:Alt3ContactPhoneNbr>
      <d2:AgentURL>https://www.agenttagging.net</d2:AgentURL>
      <d2:AuthorityURL>https://www.authoritytagging.net</d2:AuthorityURL>
      <d2:ApprovalURL>https://www.approvaltagging.net</d2:ApprovalURL>
      <d2:ForwardURL>https://www.forwardtagging.net</d2:ForwardURL>
      <d2:TaggingEntityID>100068</d2:TaggingEntityID>
     </d2:PSEStruct>
    </d2:Success>
   </d2:OutputStruct>
  </d1:DownloadPSEResponse>
 </soap:Body>
</soap:Envelope>                                                                      ©2018 OATI, Inc.
```

3.3.6 Failure Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadPSEResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/MRKT_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                </d2:Error>
                        </d2:OutputStruct>
                </d1:DownloadPSEResponse>
        </soap:Body>
</soap:Envelope>
```
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3.4 DownloadTSP

3.4.1 Description

OATI webRegistry allows for the retrieval of Transmission Service Providers (TSPs) (replacement of TSP_Registry.csv) through the web service. The *DownloadTSP* method is accessible through the standard webRegistry web service mechanism. If Effective Date is not provided, this query will return the last published TSPs.

3.4.2 Parameters

3.4.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the TSPs to be retrieved.
Version	String *Optional*	The version of the TSPs to be retrieved (i.e., ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.4.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate,

Element Name	Data Type/ Requirement	Description/ Notes
		FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
ErrorXPath	String *Optional*	Pointer/path to specific input that cannot be processed successfully.
Success	Complex *Optional*	Element that encapsulates one or more PSEStructs.
TSPStruct	Complex *Required*	Element that encapsulates elements defining attributes for one TSP.
ID	Integer *Required*	The unique System Identifier associated to the object registration. (Old Attribute Name: N/A)
LongName	String *Required*	Full official/legal Entity Role Code name. (Old Attribute Name: N/A)
Code	String *Required*	The code associated with the Entity Role Code registration. (Old Attribute Name: Tag_Code)
EntityName	String *Required*	The parent Entity responsible for this specific Entity Role Code. (Old Attribute Name: Entity_Name)
NERCID	Integer *Required*	Key that uniquely identifies a particular Entity within the current NERC registry. (Old Attribute Name: NERC_ID)

Element Name	Data Type/ Requirement	Description/ Notes
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the Entity registration. (Old Attribute Name: Begin_Date)
StopEffectiveDate	Date *Required*	The end date that delineates the time period of an Entity registration. (Old Attribute Name: End_Date)
ExpirationDate	Date *Optional*	The last date the code-role will be included in the publication if subscription is not renewed.
ReliabilityRegionName	String *Optional*	Reliability Region name of Entity Role Code registration. (Old Attribute Name: Region)
NHMBAMFlagStr	String *Optional*	Next Hour Market flag indicator. (Old Attribute Name: 0-NHMBAM_Flag)
MarketOperatorFlagStr	String *Optional*	MO flag indicator. (Old Attribute Name: MarketOperatorFlag) In compliance with version 1.8.3 of the electronic tagging specification, the MO legacy attribute will be deprecated on the e-Tag 1.8.2 retirement date. Entities wanting to perform the MO function on interchange transactions must register under the MO role.
Hr24ContactName	String *Required*	24-hour contact name for Entity business operations. (Old Attribute Name: Contact24)
Hr24ContactPhoneNbr	String *Required*	24-hour contact phone number for Entity business operations. (Old Attribute Name: Phone24)
Hr24ContactFaxNbr	String *Optional*	24-hour contact fax number for Entity business operations. (Old Attribute Name: Fax)
Alt1ContactName	String *Optional*	Alternative contact name for business operations. (Old Attribute Name: ALT1Desc)
Alt1ContactPhoneNbr	String *Optional*	Alternative contact phone number for business operations. (Old Attribute Name: ALT1Phone)
Alt1ContactFaxNbr	String *Optional*	Alternative contact fax number for Entity business operations. (Old Attribute Name: N/A)

Element Name	Data Type/ Requirement	Description/ Notes
Alt2ContactName	String *Optional*	Alternative contact name for business operations. (Old Attribute Name: ALT2Desc)
Alt2ContactPhoneNbr	String *Optional*	Alternative contact phone number for business operations. (Old Attribute Name: ALT2Phone)
Alt2ContactFaxNbr	String *Optional*	Alternative contact fax number for Entity business operations. (Old Attribute Name: N/A)
Alt3ContactName	String *Optional*	Alternative contact name for business operations. (Old Attribute Name: ALT3Desc)
Alt3ContactPhoneNbr	String *Optional*	Alternative contact phone number for business operations. (Old Attribute Name: ALT3Phone)
Alt3ContactFaxNbr	String *Optional*	Alternative contact fax number for Entity business operations. (Old Attribute Name: N/A)
AgentURL	String *Optional*	Tag Agent service URL for Entity registration. (Old Attribute Name: Agent_URL)
AuthorityURL	String *Optional*	Tag Authority service URL for Entity registration. (Old Attribute Name: Authority_URL)
ApprovalURL	String *Optional*	Tag Approval service URL for Entity registration. (Old Attribute Name: Approval_URL)
ForwardURL	String *Optional*	Tag Forwarding service URL for Entity registration. (Old Attribute Name: Forward_URL)
TaggingEntityID	Integer *Required*	The unique System Identifier associated to the object registration. (Old Attribute Name: TaggingEntityID)

3.4.3 Method Specific Error Codes

None.

3.4.4 Sample XML

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap=http://schemas.xmlsoap.org/soap/envelope/ xmlns:xsd=http://www.w3.org/2001/XMLSchema
xmlns:m0=http://www.oati.net/namespace/tvawtm/MRKT_WebServices>
        <soap:Body>
                <m:DownloadTSP xmlns:m="http://www.oati.net/namespace">
```

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```xml
                    <m0:EffectiveDate>09/10/2010</m0:EffectiveDate>
                </m:DownloadTSP>
        </soap:Body>
</soap:Envelope>
```
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3.4.5   Successful Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadTSPResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:TSPStruct>
      <d2:ID>4759</d2:ID>
      <d2:LongName>TSP Entity 1</d2:LongName>
      <d2 :Code>TSP1</d2 :Code>
      <d2:EntityName>TSP Entity 1</d2:EntityName>
      <d2:NERCID>100064</d2:NERCID>
      <d2:StartEffectiveDate>03/02/2012</d2:StartEffectiveDate>
      <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
      <d2:ExpirationDate>05/13/2015</d2:ExpirationDate>
      <d2:ReliabilityRegionName>Region1</d2:ReliabilityRegionName>
      <d2:NHMBAMFlagStr>No</d2:NHMBAMFlagStr>
      <d2:MarketOperatorFlagStr>No</d2:MarketOperatorFlagStr>
      <d2:Hr24ContactName>Jeff Doe</d2:Hr24ContactName>
      <d2:Hr24ContactPhoneNbr>(763)201-2020</d2:Hr24ContactPhoneNbr>
      <d2:Hr24ContactFaxNbr>(763)201-2021</d2:Hr24ContactFaxNbr>
      <d2:Alt1ContactName>Tim Doe</d2:Alt1ContactName>
      <d2:Alt1ContactPhoneNbr>(763)201-2021</d2:Alt1ContactPhoneNbr>
      <d2:Alt2ContactName>Gabe Doe</d2:Alt2ContactName>
      <d2:Alt2ContactPhoneNbr>(763)201-2022</d2:Alt2ContactPhoneNbr>
      <d2:Alt3ContactName>James Doe</d2:Alt3ContactName>
      <d2:Alt3ContactPhoneNbr>(763)201-2023</d2:Alt3ContactPhoneNbr>
      <d2:AgentURL>https://www.agenttagging.net</d2:AgentURL>
      <d2:AuthorityURL>https://www.authoritytagging.net</d2:AuthorityURL>
      <d2:ApprovalURL>https://www.approvaltagging.net</d2:ApprovalURL>
      <d2:ForwardURL>https://www.forwardtagging.net</d2:ForwardURL>
      <d2:TaggingEntityID>100136</d2:TaggingEntityID>
     </d2:TSPStruct>
    </d2:Success>
   </d2:OutputStruct>
  </d1:DownloadTSPResponse>
 </soap:Body>
</soap:Envelope>
```
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3.4.6   Failure Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadTSPResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/MRKT_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                </d2:Error>
                        </d2:OutputStruct>
                </d1:DownloadTSPResponse>
        </soap:Body>
</soap:Envelope>
```
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3.5 DownloadRC

3.5.1 Description

OATI webRegistry allows for the retrieval of Reliability Coordinators (RCs) (replacement of SC_Registry.csv) through the web service. The *DownloadRC* method is accessible through the standard webRegistry web service mechanism. If Effective Date is not provided, this query will return the last published RCs.

3.5.2 Parameters

3.5.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the RCs to be retrieved.
Version	String *Optional*	The version of the RCs to be retrieved (i.e., ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.5.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.

Element Name	Data Type/ Requirement	Description/ Notes
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
ErrorXPath	String *Optional*	Pointer/path to specific input that cannot be processed successfully.
Success	Complex *Optional*	Element that encapsulates one or more RCStructs.
RCStruct	Complex *Required*	Element that encapsulates elements defining attributes for one RC.
ID	Integer *Required*	The unique System Identifier associated to the object registration. (Old Attribute Name: N/A)
LongName	String *Required*	Full official/legal Entity Role Code name. (Old Attribute Name: N/A)
Code	String *Required*	The code associated with the Entity Role Code registration. (Old Attribute Name: Tag_Code)
EntityName	String *Required*	The parent Entity responsible for this specific Entity Role Code. (Old Attribute Name: Entity_Name)
NERCID	Integer *Required*	Key that uniquely identifies a particular Entity within the current NERC registry. (Old Attribute Name: NERC_ID)
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the Entity registration. (Old Attribute Name: Begin_Date)
StopEffectiveDate	Date *Required*	The end date that delineates the time period of an Entity registration. (Old Attribute Name: End_Date)
ExpirationDate	Date *Optional*	The last date the code-role will be included in the publication if subscription is not renewed.
ReliabilityArea	String *Required*	Reliability Area name of the Entity Role Code registration. (Old Attribute Name: N/A)
ReliabilityRegionName	String *Optional*	Reliability Region name of Entity Role Code registration.

Element Name	Data Type/ Requirement	Description/ Notes
		(Old Attribute Name: Region)
NHMBAMFlagStr	String *Optional*	Next Hour Market flag indicator. (Old Attribute Name: 0-NHMBAM_Flag)
MarketOperatorFlagStr	String *Optional*	This is a deprecated field for RCs. All RCs have this flag set to "No".
Hr24ContactName	String *Required*	24-hour contact name for Entity business operations. (Old Attribute Name: Contact24)
Hr24ContactPhoneNbr	String *Required*	24-hour contact phone number for Entity business operations. (Old Attribute Name: Phone24)
Hr24ContactFaxNbr	String *Optional*	24-hour contact fax number for Entity business operations. (Old Attribute Name: Fax)
Alt1ContactName	String *Optional*	Alternative contact name for business operations. (Old Attribute Name: ALT1Desc)
Alt1ContactPhoneNbr	String *Optional*	Alternative contact phone number for business operations. (Old Attribute Name: ALT1Phone)
Alt1ContactFaxNbr	String *Optional*	Alternative contact fax number for Entity business operations. (Old Attribute Name: N/A)
Alt2ContactName	String *Optional*	Alternative contact name for business operations. (Old Attribute Name: ALT2Desc)
Alt2ContactPhoneNbr	String *Optional*	Alternative contact phone number for business operations. (Old Attribute Name: ALT2Phone)
Alt2ContactFaxNbr	String *Optional*	Alternative contact fax number for Entity business operations. (Old Attribute Name: N/A)
Alt3ContactName	String *Optional*	Alternative contact name for business operations. (Old Attribute Name: ALT3Desc)
Alt3ContactPhoneNbr	String *Optional*	Alternative contact phone number for Business Operations. (Old Attribute Name: ALT3Phone)
Alt3ContactFaxNbr	String *Optional*	Alternative contact fax number for Entity Business Operations. (Old Attribute Name: N/A)
AgentURL	String *Optional*	Tag Agent service URL for Entity registration. (Old Attribute Name: Agent_URL)
AuthorityURL	String *Optional*	Tag Authority service URL for Entity registration.

Element Name	Data Type/ Requirement	Description/ Notes
		(Old Attribute Name: Authority_URL)
ApprovalURL	String *Optional*	Tag Approval service URL for Entity registration. (Old Attribute Name: Approval_URL)
ForwardURL	String *Optional*	Tag Forwarding service URL for Entity registration. (Old Attribute Name: Forward_URL)
TaggingEntityID	Integer *Required*	The unique System Identifier associated to the object registration. (Old Attribute Name: TaggingEntityID)

3.5.3 Method Specific Error Codes

None.

3.5.4 Sample XML

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap=http://schemas.xmlsoap.org/soap/envelope/ xmlns:xsd=http://www.w3.org/2001/XMLSchema
xmlns:m0=http://www.oati.net/namespace/tvawtm/MRKT_WebServices>
        <soap:Body>
                <m:DownloadRC xmlns:m="http://www.oati.net/namespace">
                        <m0:EffectiveDate>09/10/2010</m0:EffectiveDate>
                </m:DownloadRC>
        </soap:Body>
</soap:Envelope>
```
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3.5.5 Successful Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadRCResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:RCStruct>
      <d2:ID>4683</d2:ID>
      <d2:LongName>RC Company No. 1</d2:LongName>
      <d2 :Code>RC</d2 :Code>
      <d2:EntityName>RC Company No. 1</d2:EntityName>
      <d2:NERCID>100037</d2:NERCID>
      <d2:StartEffectiveDate>02/17/2012</d2:StartEffectiveDate>
      <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
      <d2:ExpirationDate>05/13/2015</d2:ExpirationDate>
      <d2:ReliabilityArea>Area1</d2:ReliabilityArea>
      <d2:ReliabilityRegionName>Region1</d2:ReliabilityRegionName>
      <d2:NHMBAMFlagStr>No</d2:NHMBAMFlagStr>
      <d2:MarketOperatorFlagStr>No</d2:MarketOperatorFlagStr>
      <d2:Hr24ContactName>Jane Doe</d2:Hr24ContactName>
      <d2:Hr24ContactPhoneNbr>(763)201-2020</d2:Hr24ContactPhoneNbr>
      <d2:Hr24ContactFaxNbr>(763)201-2021</d2:Hr24ContactFaxNbr>
      <d2:Alt1ContactName>Don Doe</d2:Alt1ContactName>
      <d2:Alt1ContactPhoneNbr>(763)201-2022</d2:Alt1ContactPhoneNbr>
      <d2:Alt2ContactName>Jessica Doe</d2:Alt2ContactName>
      <d2:Alt2ContactPhoneNbr>(763)201-2023</d2:Alt2ContactPhoneNbr>
```
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```
    <d2:Alt3ContactName>Patty Doe</d2:Alt3ContactName>
    <d2:Alt3ContactPhoneNbr>(763)201-2024</d2:Alt3ContactPhoneNbr>
    <d2:AgentURL>https://www.agenttagging.net</d2:AgentURL>
    <d2:AuthorityURL>https://www.authoritytagging.net</d2:AuthorityURL>
    <d2:ApprovalURL>https://www.approvaltagging.net</d2:ApprovalURL>
    <d2:ForwardURL>https://www.forwardtagging.net</d2:ForwardURL>
    <d2:TaggingEntityID>100098</d2:TaggingEntityID>
   </d2:RCStruct>
  </d2:Success>
 </d2:OutputStruct>
 </d1:DownloadRCResponse>
 </soap:Body>
</soap:Envelope>                                                    ©2018 OATI, Inc.
```

3.5.6 Failure Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadRCResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/MRKT_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                </d2:Error>
                        </d2:OutputStruct>
                </d1:DownloadRCResponse>
        </soap:Body>
</soap:Envelope>                                                    ©2018 OATI, Inc.
```

3.6   DownloadPORPOD

3.6.1 Description

OATI webRegistry allows for the retrieval of POR and POD points (replacement of POR_POD_Point.csv and POR_POD_Role.csv) through the web service. The *DownloadPORPOD* method is accessible through the standard webRegistry web service mechanism. If Effective Date is not provided, this query will return the last published POR and POD points.

3.6.2 Parameters

3.6.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the POR/PODs to be retrieved.
Version	String *Optional*	The version of the POR/PODs to be retrieved (i.e., ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.6.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
ErrorXPath	String *Optional*	Pointer/path to specific input that cannot be processed successfully.
Success	Complex *Optional*	Element that encapsulates one or more PORPODStructs.
PORPODStruct	Complex *Required*	Element that encapsulates elements defining attributes for one POR/POD.
ID	Integer *Required*	The unique System Identifier associated to the object registration. (Old Attribute Name: N/A)
NERCID	Integer *Required*	Key that uniquely identifies a particular Entity within the current NERC registry. (Old Attribute Name: NERC_ID)

Element Name	Data Type/ Requirement	Description/ Notes
Name	String *Required*	Name of transmission service point. (Old Attribute Name: PointName)
PointTypeName	PointTypeName *Required*	The transmission service point type. (Old Attribute Name: PORPODRoleID)
TSPTaggingEntityID	Integer Required	Key that uniquely identifies the Transmission Service Provider owner Entity. (Old Attribute Name: TSP_Entity_ID)
TSPName	String *Required*	The Transmission Service Provider owner of the service point. (Old Attribute Name: N/A)
BATaggingEntityID	Integer Optional	Key that uniquely identifies the DC Tie Operator Balancing Authority Entity. (Old Attribute Name: CA_Entity_ID)
BAName	String *Optional*	The DC Tie Operator Balancing Authority name. (Old Attribute Name: N/A)
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the object registration.(Old Attribute Name: CreationDate)
StopEffectiveDate	Date *Required*	The end date that delineates the time period of an object registration. (Old Attribute Name: DeactivationDate)
TaggingPointID	Integer *Required*	The unique System Identifier associated to the object registration. (Old Attribute Name: TaggingPointID)

3.6.3   Method Specific Error Codes

None.

3.6.4   Sample XML

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap=http://schemas.xmlsoap.org/soap/envelope/ xmlns:xsd=http://www.w3.org/2001/XMLSchema
xmlns:m0=http://www.oati.net/namespace/tvawtm/MRKT_WebServices>
        <soap:Body>
                <m:DownloadPORPOD xmlns:m="http://www.oati.net/namespace">
                        <m0:EffectiveDate>09/10/2010</m0:EffectiveDate>
                </m:DownloadPORPOD>
```

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```
        </soap:Body>
</soap:Envelope>
```
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3.6.5 Successful Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadPORPODResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:PORPODStruct>
      <d2:ID>5606</d2:ID>
      <d2:NERCID>100064</d2:NERCID>
      <d2:Name>Example POD 1</d2:Name>
      <d2:PointTypeName>POD</d2:PointTypeName>
      <d2:TSPTaggingEntityID>100136</d2:TSPTaggingEntityID>
      <d2:TSPName>TSP1</d2:TSPName>
      <d2:BATaggingEntityID>100034</d2:BATaggingEntityID>
      <d2:BAName>BA1</d2:BAName>
      <d2:StartEffectiveDate>03/02/2012</d2:StartEffectiveDate>
      <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
      <d2:TaggingPointID>100063</d2:TaggingPointID>
     </d2:PORPODStruct>
    </d2:Success>
   </d2:OutputStruct>
  </d1:DownloadPORPODResponse>
 </soap:Body>
</soap:Envelope>
```
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3.6.6 Failure Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadPORPODResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/MRKT_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                </d2:Error>
                        </d2:OutputStruct>
                </d1:DownloadPORPODResponse>
        </soap:Body>
</soap:Envelope>
```
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3.7 DownloadSourceSink

3.7.1 Description

OATI webRegistry allows for the retrieval of Source and Sink points (replacement of Source_Sink_Point.csv and Source_Sink_Role.csv) through the web service. The *DownloadSourceSink* method is accessible through the standard webRegistry web service mechanism. If Effective Date is not provided, this query will return the last published Source and Sink points.

3.7.2 Parameters

3.7.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the Source/Sinks to be retrieved.
Version	String *Optional*	The version of the Source/Sinks to be retrieved (i.e. ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.7.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
ErrorXPath	String *Optional*	Pointer/path to specific input that cannot be processed successfully.
Success	Complex *Optional*	Element that encapsulates one or more SourceSinkStructs.

Element Name	Data Type/ Requirement	Description/ Notes
SourceSinkStruct	Complex *Required*	Element that encapsulates elements defining attributes for one Source/Sink.
ID	Integer *Required*	The unique System Identifier associated to the object registration. (Old Attribute Name: N/A)
NERCID	Integer *Required*	Key that uniquely identifies a particular Entity within the current NERC registry. (Old Attribute Name: NERC_ID)
Name	String *Required*	The name of the point object registration. (Old Attribute Name: PointName)
BATaggingEntityID	Integer *Required*	The unique System Identifier associated to the hosting Balancing Authority of the point registration. (Old Attribute Name: HostCATaggingID)
BAName	String *Required*	The hosting Balancing Authority name of the point registration. (Old Attribute Name: N/A)
ControlZoneName	String *Required*	The hosting control zone name of the point. (Old Attribute Name: N/A)
PSETaggingEntityID	Integer *Required*	The unique System Identifier associated to the PSE owner of the point. (Old Attribute Name: GPELSETaggingEntityID)
PSEName	String *Required*	Name of PSE owner of the point. (Old Attribute Name: N/A)
PointTypeName	PointTypeName *Required*	The point type of the object registration. (Old Attribute Name: SourceSinkRoleID)
MRDResourceID	Integer *Optional*	Market Redispatch Resource identifier of the object registration. (Old Attribute Name: MRDResourceID)
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the object registration. (Old Attribute Name: CreationDate)

Element Name	Data Type/ Requirement	Description/ Notes
StopEffectiveDate	Date *Required*	The end date that delineates the time period of an object registration. (Old Attribute Name: DeactivationDate)
TaggingPointID	Integer *Required*	The unique System Identifier associated to the object registration. (Old Attribute Name: TaggingPointID)
ApprovalTaggingEntityID	Integer *Optional*	The unique System Identifier associated to the Approval Entity of the point. (Old Attribute Name: ApprovalTaggingEntityID)
ApprovalTaggingEntityRole	String *Optional*	The role of the Approval Entity of the point. (Old Attribute Name: ApprovalTaggingEntityType)

3.7.3 Method Specific Error Codes

None.

3.7.4 Sample XML

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap=http://schemas.xmlsoap.org/soap/envelope/ xmlns:xsd=http://www.w3.org/2001/XMLSchema
xmlns:m0=http://www.oati.net/namespace/tvawtm/MRKT_WebServices>
        <soap:Body>
                <m:DownloadSourceSink xmlns:m="http://www.oati.net/namespace">
                        <m0:EffectiveDate>09/10/2010</m0:EffectiveDate>
                </m:DownloadSourceSink>
        </soap:Body>
</soap:Envelope>
```
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3.7.5 Successful Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadSourceSinkResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:SourceSinkStruct>
      <d2:ID>19099</d2:ID>
      <d2:NERCID>100016</d2:NERCID>
      <d2:Name>Sink1</d2:Name>
      <d2:BATaggingEntityID>100059</d2:BATaggingEntityID>
      <d2:BAName>BA Company1</d2:BAName>
      <d2:ControlZoneName>CZ1</d2:ControlZoneName>
      <d2:PSETaggingEntityID>100054</d2:PSETaggingEntityID>
      <d2:PSEName>TPSE</d2:PSEName>
      <d2:PointTypeName>Sink</d2:PointTypeName>
      <d2:MRDResourceID></d2:MRDResourceID>
      <d2:StartEffectiveDate>02/12/2012</d2:StartEffectiveDate>
      <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
      <d2:TaggingPointID>100015</d2:TaggingPointID>
```
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```
        <d2:ApprovalTaggingEntityID></d2:ApprovalTaggingEntityID>
        <d2:ApprovalTaggingEntityRole></d2:ApprovalTaggingEntityRole>
      </d2:SourceSinkStruct>
    </d2:Success>
  </d2:OutputStruct>
 </d1:DownloadSourceSinkResponse>
 </soap:Body>
</soap:Envelope>                                                    ©2018 OATI, Inc.
```

3.7.6 Failure Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/MRKT_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                </d2:Error>
                        </d2:OutputStruct>
                </d1:DownloadResponse>
        </soap:Body>
</soap:Envelope>                                                    ©2018 OATI, Inc.
```

3.8 DownloadProduct

3.8.1 Description

OATI webRegistry allows for the retrieval of Products (replacement of Product_Registry.csv) through the web service. The *DownloadProduct* method is accessible through the standard webRegistry web service mechanism. If Effective Date is not provided, this query will return the last published Product Registry.

3.8.2 Parameters

3.8.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the Product Registry to be retrieved.
Version	String *Optional*	The version of the Product registry to be retrieved (i.e., ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.8.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
ErrorXPath	String *Optional*	Pointer/path to specific input that cannot be processed successfully.
Success	Complex *Optional*	Element that encapsulates one or more ProductStructs.
ProductStruct	Complex *Required*	Element that encapsulates elements defining attributes for one Product.
ID	Integer *Required*	The unique System Identifier associated to the object registration. (Old Attribute Name: ProductID)
Name	Integer *Required*	The Name of the Product. (Old Attribute Name: Code)
Description	Integer *Required*	The description of the Product. (Old Attribute Name: Product)
ProductTypeID	String *Required*	The Product Type ID.

Element Name	Data Type/ Requirement	Description/ Notes
		(Old Attribute Name: ProductTypeID)
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the object registration. (Old Attribute Name: N/A)
StopEffectiveDate	Date *Required*	The end date that delineates the time period of an object registration. (Old Attribute Name: N/A)

3.8.3   Method Specific Error Codes

None.

3.8.4   Sample XML

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap=http://schemas.xmlsoap.org/soap/envelope/ xmlns:xsd=http://www.w3.org/2001/XMLSchema xmlns:m0=
http://www.oati.net/namespace/Registry/WREG_WebServices>
        <soap:Body>
                <m:DownloadProduct xmlns:m="http://www.oati.net/namespace">
                        <m0:EffectiveDate>09/10/2012</m0:EffectiveDate>
                </m:DownloadProduct>
        </soap:Body>
</soap:Envelope>                                                                    ©2018 OATI, Inc.
```

3.8.5   Successful Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1: DownloadProductResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:ProductStruct>
      <d2:ID>1</d2:ID>
      <d2:Name>G-F</d2:Name>
      <d2:Description>Generator, Firm</d2:Description>
      <d2:ProductTypeID>1</d2:ProductTypeID>
      <d2:StartEffectiveDate>12/13/2006</d2:StartEffectiveDate>
      <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
     </d2:ProductStruct>
    </d2:Success>
   </d2:OutputStruct>
  </d1:DownloadProductResponse>
 </soap:Body>
</soap:Envelope>                                                                    ©2018 OATI, Inc.
```

3.8.6   Failure Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/MRKT_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>            ©2018 OATI, Inc.
```

```xml
                              <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                           </d2:ErrorStruct>
                           <d2:ErrorStruct>
                              <d2:ErrorCode>0</d2:ErrorCode>
                              <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                           </d2:ErrorStruct>
                        </d2:Error>
                     </d2:OutputStruct>
                  </d1:DownloadResponse>
            </soap:Body>
      </soap:Envelope>
```
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3.9 DownloadTransmissionPath

3.9.1 Description

OATI webRegistry allows for the retrieval of Transmission Path (replacement of TransmissionPath.csv) through the web service. The *DownloadTransmissionPath* method is accessible through the standard webRegistry web service mechanism. If Effective Date is not provided, this query will return the last published Transmission Path Registry.

3.9.2 Parameters

3.9.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the Transmission Path registry to be retrieved.
Version	String *Optional*	The version of the Transmission Path registry to be retrieved (i.e. ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.9.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.

Element Name	Data Type/ Requirement	Description/ Notes
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
ErrorXPath	String *Optional*	Pointer/path to specific input that cannot be processed successfully.
Success	Complex *Optional*	Element that encapsulates one or more TransmissionPathStructs.
TransmissionPathStruct	Complex *Required*	Element that encapsulates elements defining attributes for one Path.
BATaggingEntityID	Integer *Required*	The unique System Identifier associated to the Scheduling Entity of the object registration. (Old Attribute Name: BA)
BAName	String *Required*	The name of the Scheduling Entity associated with the object registration. (Old Attribute Name: BAName)
TSPTaggingEntityID	Integer *Required*	The Tagging ID associated to the TSP of the object registration. (Old Attribute Name: TSP)
TSPName	String *Required*	The Name of the TSP associated to the object registration. (Old Attribute Name: TSPName)
PORTaggingPointID	Integer *Required*	The Tagging Point ID associated to the POR of the object registration. (Old Attribute Name: POR)
PORName	String *Required*	The Name of the POR associated to the object registration. (Old Attribute Name: PORName)

Element Name	Data Type/ Requirement	Description/ Notes
PODTaggingPointID	Integer *Required*	The Tagging Point ID of the POD associated to the object registration. (Old Attribute Name: POD)
PODName	String *Required*	The Name of the POD associated to the object registration. (Old Attribute Name: PODName)
Name	String *Required*	The Name associated to the object registration. (Old Attribute Name: PathName)
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the object registration. (Old Attribute Name: StartActiveTime)
StopEffectiveDate	Date *Required*	The end date that delineates the time period of an object registration. (Old Attribute Name: StopActiveTime)
ApprovalID	Integer *Optional*	The identification associated with the object approval. (Old Attribute Name: ApprovalID)
UpdateDT	Date *Required*	The Date and Time of the last update to the object registration. (Old Attribute Name: TimeOfLastUpdate)

3.9.3 Method Specific Error Codes

None.

3.9.4 Sample XML

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap=http://schemas.xmlsoap.org/soap/envelope/ xmlns:xsd=http://www.w3.org/2001/XMLSchema xmlns:m0=
http://www.oati.net/namespace/Registry/WREG_WebServices>
        <soap:Body>
                <m:DownloadTransmissionPath xmlns:m="http://www.oati.net/namespace">
                        <m0:EffectiveDate>05/20/2013</m0:EffectiveDate>
                </m:DownloadTransmissionPath>
        </soap:Body>
</soap:Envelope>
```
©2018 OATI, Inc.

3.9.5 Successful Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1: DownloadTransmissionPathResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:TransmissionPathStruct>
```
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```
        <d2:BATaggingEntityID>37</d2:BATaggingEntityID>
        <d2:BAName>AEW1</d2:BAName>
        <d2:TSPTaggingEntityID>987686</d2:TSPTaggingEntityID>
        <d2:TSPName>SSE</d2:TSPName>
        <d2:PORTaggingPointID>987666</d2:PORTaggingPointID>
        <d2:PORName>PORPOD1</d2:PORName>
        <d2:PODTaggingPointID>987664</d2:PODTaggingPointID>
        <d2:PODName>POD2</d2:PODName>
        <d2:Name>SSEPath1 </Name>
        <d2:StartEffectiveDate>04/03/2013</d2:StartEffectiveDate>
        <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
        <d2:ApprovalID>0</d2:ApprovalID>
        <d2:UpdateDT>2013-04-03 17:39:37.263</UpdateDT>
      </d2: TransmissionPathStruct>
    </d2:Success>
  </d2:OutputStruct>
 </d1:DownloadTransmissionPathResponse>
</soap:Body>
</soap:Envelope>                                                    ©2018 OATI, Inc.
```

3.9.6   Failure Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/MRKT_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                </d2:Error>
                        </d2:OutputStruct>
                </d1:DownloadResponse>
        </soap:Body>
</soap:Envelope>                                                    ©2018 OATI, Inc.
```

3.10 DownloadBAAdjacency

3.10.1 Description

OATI webRegistry allows for the retrieval of Balancing Authority Adjacencies (BAAs) (replacement of BAAdjacency.csv) through the web service. The *DownloadBAAdjacency* method is accessible through the standard webRegistry web service mechanism. If Effective Date is not provided, this query will return the last published BAA Registry.

3.10.2 Parameters

3.10.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the BA Adjacency registry to be retrieved.
Version	String *Optional*	The version of the BA Adjacency registry to be retrieved (i.e.,

Element Name	Data Type/ Requirement	Description/ Notes
		ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.10.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one Effective Date, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
ErrorXPath	String *Optional*	Pointer/path to specific input that cannot be processed successfully.
Success	Complex *Optional*	Element that encapsulates one or more BAAdjacencyStructs.
BAAdjacencyStruct	Complex *Required*	Element that encapsulates elements defining attributes for one BA Adjacency.
FromBATaggingEntityID	Integer *Required*	The unique System Identifier associated to the From BA of the object registration. (Old Attribute Name: FromBA)

Element Name	Data Type/ Requirement	Description/ Notes
FromBAName	String *Required*	The name of the From BA associated with the object registration. (Old Attribute Name: FromBAName)
FromSourceTaggingPointID	Integer *Optional*	The Tagging Point ID associated with the Source of the object registration. (Old Attribute Name: PODSource)
FromSourceName	String *Optional*	The Name of the Source associated with the object registration. (Old Attribute Name: PODSourceName)
FromPODTaggingPointID	Integer *Optional*	The Tagging Point ID associated with the POD of the object registration. (Old Attribute Name: PODSource)
FromPODName	String *Optional*	The Name of the POD associated with the object registration. (Old Attribute Name: PODSourceName)
ToBATaggingEntityID	Integer *Required*	The unique System Identifier associated to the Adjacent BA of the object registration. (Old Attribute Name: ToBA)
ToBAName	String *Required*	The name of the Adjacent BA associated with the object registration. (Old Attribute Name: ToBAName)
ToSinkTaggingPointID	Integer *Optional*	The Tagging Point ID associated with the Sink of the object registration. (Old Attribute Name: PORSink)
ToSinkName	String *Optional*	The name of the Sink associated with the object registration. (Old Attribute Name: PORSinkName)
ToPORTaggingPointID	Integer *Optional*	The Tagging Point ID associated with the POR of the object registration. (Old Attribute Name: PORSink)
ToPORName	String *Optional*	The name of the POR associated with the object registration. (Old Attribute Name: PORSinkName)

Element Name	Data Type/ Requirement	Description/ Notes
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the object registration. (Old Attribute Name: StartActiveTime)
StopEffectiveDate	Date *Required*	The end date that delineates the time period of an object registration. (Old Attribute Name: StopActiveTime)
ApprovalID	String *Optional*	The identification associated with the object approval. (Old Attribute Name: ApprovalID)
UpdateDT	Date *Required*	The Date and Time of the last update to the object registration. (Old Attribute Name: TimeOfLastUpdate)

3.10.3 Method Specific Error Codes

None.

3.10.4 Sample XML

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap=http://schemas.xmlsoap.org/soap/envelope/ xmlns:xsd=http://www.w3.org/2001/XMLSchema xmlns:m0=
http://www.oati.net/namespace/Registry/WREG_WebServices>
        <soap:Body>
                <m:DownloadBAAdjacency xmlns:m="http://www.oati.net/namespace">
                        <m0:EffectiveDate>05/20/2013</m0:EffectiveDate>
                </m: DownloadBAAdjacency>
        </soap:Body>
</soap:Envelope>                                                                    ©2018 OATI, Inc.
```

3.10.5 Successful Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1: DownloadBAAdjacencyResponse xmlns:d1="http://www.oati.net/namespace">
    <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
     <d2:ReturnCode>0</d2:ReturnCode>
     <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
     <d2:Success>
      <d2:BAAdjacencyStruct>
       <d2:FromBATaggingEntityID>1639</d2:FromBATaggingEntityID >
       <d2:FromBAName>AMIL</d2:FromBAName>
       <d2:ToBATaggingEntityID>37</d2:ToBATaggingEntityID >
       <d2:ToBAName>AEW1</d2:ToBAName>
       <d2:ToSinkTaggingPointID>987681</d2:ToSinkTaggingPointID>
       <d2:ToSinkName>1639</d2:ToSinkName>
       <d2:StartEffectiveDate>04/03/2013</d2:StartEffectiveDate>
       <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
       <d2:ApprovalID>0</d2:ApprovalID>
       <d2:UpdateDT>2013-04-03 17:39:37.250</d2:UpdateDT>
      </d2:BAAdjacencyStruct>
     </d2:Success>
    </d2:OutputStruct>
  </d1: DownloadBAAdjacencyResponse>
 </soap:Body>
</soap:Envelope>                                                                    ©2018 OATI, Inc.
```

3.10.6 Failure Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/MRKT_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                </d2:Error>
                        </d2:OutputStruct>
                </d1:DownloadResponse>
        </soap:Body>
</soap:Envelope>
```
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3.11 DownloadPODPORAdjacency

3.11.1 Description

OATI webRegistry allows for the retrieval of POD-POR Adjacencies (replacement of PODPORAdjacency.csv) through the web service. The *DownloadPODPORAdjacency* method is accessible through the standard webRegistry web service mechanism. If Effective Date is not provided, this query will return the last published POD-POR Adjacency Registry.

3.11.2 Parameters

3.11.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the PODPOR Adjacency registry to be retrieved.
Version	String *Optional*	The version of the PODPOR Adjacency registry to be retrieved (i.e., ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.11.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate,

Element Name	Data Type/ Requirement	Description/ Notes
		FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
ErrorXPath	String *Optional*	Pointer/path to specific input that cannot be processed successfully.
Success	Complex *Optional*	Element that encapsulates one or more PODPORAdjacencyStructs.
PODPORAdjacencyStruct	Complex *Required*	Element that encapsulates elements defining attributes for one PODPOR Adjacency.
FromTSPTaggingEntityID	Integer *Required*	The unique System Identifier associated to the TSP of the object registration. (Old Attribute Name: PODTSP)
FromTSPName	String *Required*	The name of the TSP associated to the object registration. (Old Attribute Name: PODTSPName)
FromPODTaggingPointID	Integer *Required*	The Tagging Point ID of the POD associated to the object registration. (Old Attribute Name: POD)
FromPODName	String *Required*	The name of the POD associated to the object registration. (Old Attribute Name: PODName)
ToTSPTaggingEntityID	Integer *Required*	The unique System Identifier associated to the adjacent TSP of the object registration.

Element Name	Data Type/ Requirement	Description/ Notes
		(Old Attribute Name: PORTSP)
ToTSPName	String *Required*	The name of the adjacent TSP associated to the object registration. (Old Attribute Name: PORTSPName)
ToPORTaggingPointID	Integer *Required*	The Tagging Point ID of the adjacent POR associated to the object registration. (Old Attribute Name: POR)
ToPORName	String *Required*	The name of the adjacent POR associated to the object registration. (Old Attribute Name: PORName)
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the object registration. (Old Attribute Name: StartActiveTime)
StopEffectiveDate	Date *Required*	The end date that delineates the time period of an object registration. (Old Attribute Name: StopActiveTime)
ApprovalID	Integer *Optional*	The identification associated with the object approval. (Old Attribute Name: ApprovalID)
UpdateDT	Date *Required*	The Date and Time of the last update to the object registration. (Old Attribute Name: TimeOfLastUpdate)

3.11.3 Method Specific Error Codes

None.

3.11.4 Sample XML

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap=http://schemas.xmlsoap.org/soap/envelope/ xmlns:xsd=http://www.w3.org/2001/XMLSchema xmlns:m0=
http://www.oati.net/namespace/Registry/WREG_WebServices>
        <soap:Body>
                <m:DownloadPODPORAdjacency xmlns:m="http://www.oati.net/namespace">
                        <m0:EffectiveDate>05/20/2013</m0:EffectiveDate>
                </m:DownloadPODPORAdjacency>
        </soap:Body>
</soap:Envelope>                                                                                   ©2018 OATI, Inc.
```

3.11.5 Successful Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
                                                                                                  ©2018 OATI, Inc.
```

```
 <soap:Body>
  <d1: DownloadPODPORAdjacencyResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:PODPORAdjacencyStruct>
      <d2:FromTSPTaggingEntityID>987686</d2:FromTSPTaggingEntityID >
      <d2:FromTSPName>SSE</d2:FromTSPName>
      <d2:FromPODTaggingPointID>987664</d2:FromPODTaggingPointID>
      <d2:FromPODName>POD2</d2:FromPODName>
      <d2:ToTSPTaggingEntityID>987686</d2:ToTSPTaggingEntityID>
      <d2:ToTSPName>SSE</d2:ToTSPName>
      <d2:ToPORTaggingPointID>987666</d2:ToPORTaggingPointID>
      <d2:ToPORName>PORPOD1</d2:ToPORName>
      <d2:StartEffectiveDate>03/27/2013</d2:StartEffectiveDate>
      <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
      <d2:ApprovalID>0</d2:ApprovalID>
      <d2:UpdateDT>2013-03-27 21:51:40.097</d2:UpdateDT>
     </d2:PODPORAdjacencyStruct>
    </d2:Success>
   </d2:OutputStruct>
  </d1:DownloadPODPORAdjacencyResponse>
 </soap:Body>
</soap:Envelope>
```
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3.11.6 Failure Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/MRKT_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                </d2:Error>
                        </d2:OutputStruct>
                </d1:DownloadResponse>
        </soap:Body>
</soap:Envelope>
```
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3.12 DownloadSinkPODAdjacency

3.12.1 Description

OATI webRegistry allows for the retrieval of POD-Sink Adjacencies (replacement of SinkPODAdjacency.csv) through the web service. The *DownloadSinkPODAdjacency* method is accessible through the standard webRegistry web service mechanism. If Effective Date is not provided, this query will return the last published POD-Sink Adjacency Registry.

3.12.2 Parameters

3.12.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the PODSink Adjacency registry to be retrieved.
Version	String *Optional*	The version of the PODSink Adjacency registry to be retrieved (i.e., ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.12.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
ErrorXPath	String *Optional*	Pointer/path to specific input that cannot be processed successfully.

Element Name	Data Type/ Requirement	Description/ Notes
Success	Complex *Optional*	Element that encapsulates one or more SinkPODAdjacencyStructs.
SinkPODAdjacencyStruct	Complex *Required*	Element that encapsulates elements defining attributes for one POD-Sink Adjacency.
FromBATaggingEntityID	Integer *Required*	The unique System Identifier associated to the From BA of the object registration. (Old Attribute Name: BA)
FromBAName	String *Required*	The name of the BA associated to the object registration. (Old Attribute Name: BAName)
FromPSETaggingEntityID	Integer *Required*	The unique System Identifier associated to the From PSE of the object registration. (Old Attribute Name: PSE)
FromPSEName	String *Required*	The name of the From PSE associated to the object registration. (Old Attribute Name: PSEName)
FromSinkTaggingPointID	Integer *Required*	The Tagging Point ID of the From Sink associated to the object registration. (Old Attribute Name: Sink)
FromSinkName	String *Required*	The name of the From Sink associated to the object registration. (Old Attribute Name: SinkName)
ToTSPTaggingEntityID	Integer *Required*	The unique System Identifier associated to the adjacent TSP of the object registration. (Old Attribute Name: TSP)
ToTSPName	String *Required*	The name of the adjacent TSP associated to the object registration. (Old Attribute Name: TSPName)
ToPODTaggingPointID	Integer *Required*	The Tagging Point ID of the adjacent POD associated to the object registration. (Old Attribute Name: POD)
ToPODName	String *Required*	The name of the adjacent POD associated to the object registration. (Old Attribute Name: PODName)

Element Name	Data Type/ Requirement	Description/ Notes
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the object registration. (Old Attribute Name: StartActiveTime)
StopEffectiveDate	Date *Required*	The end date that delineates the time period of an object registration. (Old Attribute Name: StopActiveTime)
ApprovalID	Integer *Optional*	The identification associated with the object approval. (Old Attribute Name: ApprovalID)
UpdateDT	Date *Required*	The Date and Time of the last update to the object registration. (Old Attribute Name: TimeOfLastUpdate)

3.12.3 Method Specific Error Codes

None.

3.12.4 Sample XML

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap=http://schemas.xmlsoap.org/soap/envelope/ xmlns:xsd=http://www.w3.org/2001/XMLSchema xmlns:m0=
http://www.oati.net/namespace/Registry/WREG_WebServices>
        <soap:Body>
                <m:DownloadSinkPODAdjacency xmlns:m="http://www.oati.net/namespace">
                        <m0:EffectiveDate>09/10/2012</m0:EffectiveDate>
                </m:DownloadSinkPODAdjacency>
        </soap:Body>
</soap:Envelope>
```
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3.12.5 Successful Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1: DownloadSinkPODAdjacencyResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:SinkPODAdjacencyStruct>
      <d2:FromBATaggingEntityID>37</d2:FromBATaggingEntityID >
      <d2:FromBAName>AEW1</d2:FromBAName>
      <d2:FromPSETaggingEntityID>987654</d2:FromPSETaggingEntityID>
      <d2:FromPSEName>TSEY01</d2:FromPSEName>
      <d2:FromSinkTaggingPointID>987681</d2:FromSinkTaggingPointID>
      <d2:FromSinkName>Sink1</d2:FromSinkName>
      <d2:ToTSPTaggingEntityID>987686</d2:ToTSPTaggingEntityID>
      <d2:ToTSPName>SSE</d2:ToTSPName>
      <d2:ToPODTaggingPointID>987664</d2:ToPODTaggingPointID>
      <d2:ToPODName>POD2</d2:ToPODName>
      <d2:StartEffectiveDate>04/03/2013</d2:StartEffectiveDate>
      <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
      <d2:ApprovalID>0</d2:ApprovalID>
      <d2:UpdateDT>2013-04-03 17:39:37.323</d2:UpdateDT>
     </d2:SinkPODAdjacencyStruct>
    </d2:Success>
```
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```
     </d2:OutputStruct>
  </d1:DownloadSinkPODAdjacencyResponse>
 </soap:Body>
</soap:Envelope>                                                              ©2018 OATI, Inc.
```

3.12.6 Failure Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/MRKT_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                </d2:Error>
                        </d2:OutputStruct>
                </d1:DownloadResponse>
        </soap:Body>
</soap:Envelope>                                                              ©2018 OATI, Inc.
```

3.13 DownloadSourcePORAdjacency

3.13.1 Description

OATI webRegistry allows for the retrieval of Source-POR Adjacencies (replacement of SourcePORAdjacency.csv) through the web service. The *DownloadSourcePORAdjacency* method is accessible through the standard webRegistry web service mechanism. If Effective Date is not provided, this query will return the last published Source-POR Adjacency Registry.

3.13.2 Parameters

3.13.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the SourcePOR Adjacency registry to be retrieved.
Version	String *Optional*	The version of the SourcePOR Adjacency registry to be retrieved (i.e., ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.13.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
ErrorXPath	String *Optional*	Pointer/path to specific input that cannot be processed successfully.
Success	Complex *Optional*	Element that encapsulates one or more SourcePORAdjacencyStructs.
SourcePORAdjacencyStruct	Complex *Required*	Element that encapsulates elements defining attributes for one SourcePOR Adjacency.
FromBATaggingEntityID	Integer *Required*	The unique System Identifier associated to the From BA of the object registration. (Old Attribute Name: BA)
FromBAName	String *Required*	The name of the From BA associated to the object registration. (Old Attribute Name: BAName)

Element Name	Data Type/ Requirement	Description/ Notes
FromPSETaggingEntityID	Integer *Required*	The unique System Identifier associated to the From PSE of the object registration. (Old Attribute Name: Code)
FromPSEName	String *Required*	The name of the From PSE associated to the object registration. (Old Attribute Name: PSEName)
FromSourceTaggingPointID	Integer *Required*	The Tagging Point ID of the From Source associated to the object registration. (Old Attribute Name: Source)
FromSourceName	String *Required*	The name of the From Source associated to the object registration. (Old Attribute Name: SourceName)
ToTSPTaggingEntityID	Integer *Required*	The unique System Identifier associated to the adjacent TSP of the object registration. (Old Attribute Name: TSP)
ToTSPName	String *Required*	The name of the adjacent TSP associated to the object registration. (Old Attribute Name: TSPName)
ToPORTaggingPointID	Integer *Required*	The Tagging Point ID of the adjacent POR associated to the object registration. (Old Attribute Name: POR)
ToPORName	String *Required*	The name of the adjacent POR associated to the object registration. (Old Attribute Name: PORName)
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the object registration. (Old Attribute Name: StartActiveTime)
StopEffectiveDate	Date *Required*	The end date that delineates the time period of an object registration. (Old Attribute Name: StopActiveTime)
ApprovalID	Integer *Optional*	The identification associated with the object approval. (Old Attribute Name: ApprovalID)
UpdateDT	Date *Required*	The Date and Time of the last update to the object registration.

Element Name	Data Type/ Requirement	Description/ Notes
		(Old Attribute Name: TimeOfLastUpdate)

3.13.3 Method Specific Error Codes

None.

3.13.4 Sample XML

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap=http://schemas.xmlsoap.org/soap/envelope/ xmlns:xsd=http://www.w3.org/2001/XMLSchema xmlns:m0=
http://www.oati.net/namespace/Registry/WREG_WebServices>
        <soap:Body>
                <m:DownloadSourcePORAdjacency xmlns:m="http://www.oati.net/namespace">
                        <m0:EffectiveDate>05/20/2013</m0:EffectiveDate>
                </m:DownloadSourcePORAdjacency>
        </soap:Body>
</soap:Envelope>                                                                              ©2018 OATI, Inc.
```

3.13.5 Successful Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1: DownloadSourcePORAdjacencyResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:SourcePORAdjacencyStruct>
      <d2:FromBATaggingEntityID>37</d2:FromBATaggingEntityID >
      <d2:FromBAName>AEW1</d2:FromBAName>
      <d2:FromPSETaggingEntityID>987654</d2:FromPSETaggingEntityID>
      <d2:FromPSEName>TSEY01</d2:FromPSEName>
      <d2:FromSourceTaggingPointID>987681</d2:FromSourceTaggingPointID>
      <d2:FromSourceName>Sink1</d2:FromSourceName>
      <d2:ToTSPTaggingEntityID>987686</d2:ToTSPTaggingEntityID>
      <d2:ToTSPName>SSE</d2:ToTSPName>
      <d2:ToPORTaggingPointID>987664</d2:ToPORTaggingPointID>
      <d2:ToPORName>POD2</d2:ToPORName>
      <d2:StartEffectiveDate>04/03/2013</d2:StartEffectiveDate>
      <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
      <d2:ApprovalID>0</d2:ApprovalID>
      <d2:UpdateDT>2013-04-03 17:39:37.313</d2:UpdateDT>
     </d2:SourcePORAdjacencyStruct>
    </d2:Success>
   </d2:OutputStruct>
  </d1:DownloadSourcePORAdjacencyResponse>
 </soap:Body>
</soap:Envelope>                                                                              ©2018 OATI, Inc.
```

3.13.6 Failure Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/MRKT_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>0</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
```

```
                                    </d2:ErrorStruct>
                                </d2:Error>
                            </d2:OutputStruct>
                        </d1:DownloadResponse>
                    </soap:Body>
</soap:Envelope>                                                    ©2018 OATI, Inc.
```

3.14 DownloadACA

3.14.1 Description

OATI webRegistry allows for the retrieval of Authorized Certification Authority (ACA) certificate information through the web service. The *DownloadACA* method is accessible through the standard webRegistry web service mechanism. If Effective Date is not provided, this query will return the last published ACA certificate registry.

3.14.2 Parameters

3.14.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the ACA registry to be retrieved.
Version	String *Optional*	The version of the ACA registry to be retrieved (i.e., ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.14.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.

Element Name	Data Type/ Requirement	Description/ Notes
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
ErrorXPath	String *Optional*	Pointer/path to specific input that cannot be processed successfully.
Success	Complex *Optional*	Element that encapsulates one or more ACAStructs.
ACAStruct	Complex *Required*	Element that encapsulates elements defining attributes for one SourcePOR Adjacency.
ID	String *Required*	The unique System Identifier associated to the PKICA's certificate registration. (Old Attribute Name: N/A)
PKICATaggingEntityID	String *Required*	The Entity Code of the PKICA associated to the certificate registration. (Old Attribute Name: N/A)
PKICACode	String *Required*	The registered certificate PKICA role code. (Old Attribute Name: N/A)
PKICAName	String *Required*	Full official/legal Entity Role Code name. (Old Attribute Name: N/A)
CertificateURL	String *Required*	The URL location of the registered certificate. (Old Attribute Name: N/A)
CertificateType	String *Required*	The certificate type. (Old Attribute Name: N/A)
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the certificate registration. (Old Attribute Name: N/A)
StopEffectiveDate	Date *Required*	The end date that delineates the time period of the certificate registration. (Old Attribute Name: N/A)

3.14.3 Method Specific Error Codes

None.

3.14.4 Sample XML

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap=http://schemas.xmlsoap.org/soap/envelope/ xmlns:xsd=http://www.w3.org/2001/XMLSchema xmlns:m0=
http://www.oati.net/namespace/Registry/WREG_WebServices>
          <soap:Body>
                    <m:DownloadACA xmlns:m="http://www.oati.net/namespace">
                              <m0:EffectiveDate>08/13/2013</m0:EffectiveDate>
                    </m:DownloadACA>
          </soap:Body>
</soap:Envelope>                                                                          ©2018 OATI, Inc.
```

3.14.5 Successful Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1: DownloadACAResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:ACAStruct>
      <d2:ID>100012_ROOT_1</d2:ID>
      <d2:PKICATaggingEntityID>100012</d2:PKICATaggingEntityID>
      <d2:PKICACode>TCAO</d2:PKICACode>
      <d2:PKICAName>Test Certificate Authority Organization</d2:PKICAName>
      <d2:CertificateURL>http://certs.tcao.com/repository/testcert1.crt</d2:CertificateURL>
      <d2:CertificateType>ROOT</d2:CertificateType>
      <d2:StartEffectiveDate>04/03/2013</d2:StartEffectiveDate>
      <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
     </d2:ACAStruct>
    </d2:Success>
   </d2:OutputStruct>
  </d1:DownloadACAResponse>
 </soap:Body>
</soap:Envelope>                                                                          ©2018 OATI, Inc.
```

3.14.6 Failure Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
          <soap:Body>
                    <d1:DownloadResponse xmlns:d1="http://www.oati.net/namespace">
                              <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/MRKT_WebServices">
                                        <d2:ReturnCode>1</d2:ReturnCode>
                                        <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                        <d2:Error>
                                                  <d2:ErrorStruct>
                                                            <d2:ErrorCode>0</d2:ErrorCode>
                                                            <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                                  </d2:ErrorStruct>
                                                  <d2:ErrorStruct>
                                                            <d2:ErrorCode>0</d2:ErrorCode>
                                                            <d2:ErrorCodeDesc>String</d2:ErrorCodeDesc>
                                                  </d2:ErrorStruct>
                                        </d2:Error>
                              </d2:OutputStruct>
                    </d1:DownloadResponse>
          </soap:Body>
</soap:Envelope>                                                                          ©2018 OATI, Inc.
```

3.15 DownloadASP

3.15.1 Description

OATI webRegistry allows for the retrieval of Application Service Provider (ASP) information through the web service. The *DownloadASP* method is accessible through the standard webRegistry web service mechanism. If Effective Date or Version is not provided, this query will return the last published ASP registry.

3.15.2 Parameters

3.15.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the ASP registry to be retrieved.
Version	String *Optional*	The version of the ASP registry to be retrieved (i.e. ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.15.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.

Element Name	Data Type/ Requirement	Description/ Notes
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
ErrorXPath	String *Optional*	Pointer/path to specific input that cannot be processed successfully.
Success	Complex *Optional*	Element that encapsulates one or more ASPStructs.
ASPStruct	Complex *Required*	Element that encapsulates elements defining attributes for one ASP registration.
ID	Integer *Required*	The unique System Identifier associated to the ASP's registration. (Old Attribute Name: N/A)
LongName	String *Required*	The Long Name of the ASP Entity. (Old Attribute Name: N/A)
NERCID	Date *Required*	The NERC ID associated with the ASP. (Old Attribute Name: N/A)
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the ASP registration. (Old Attribute Name: N/A)
StopEffectiveDate	Date *Required*	The end date that delineates the time period of the ASP registration. (Old Attribute Name: N/A)
ExpirationDate	Date *Optional*	The last date the code-role will be included in the publication if subscription is not renewed.
HR24ContactName	String *Required*	The 24 Hour Contact name for the ASP Registration. (Old Attribute Name: N/A)
HR24ContactPhoneNbr	String *Required*	The 24 Hour Contact Phone Number of the ASP Registration. (Old Attribute Name: N/A)
Hr24ContactFaxNbr	String *Required*	The 24 Hour Contact Fax Number of the ASP Registration. (Old Attribute Name: N/A)
Alt1ContactName	String *Optional*	The first Alternate Contact Name of the ASP Registration. (Old Attribute Name: N/A)
Alt1ContactPhoneNbr	String *Optional*	The first Alternate Contact Phone Number of the ASP Registration.

Element Name	Data Type/ Requirement	Description/ Notes
		(Old Attribute Name: N/A)
Alt1ContactFaxNbr	String *Required*	The first Alternate Contact Fax Number of the ASP registration. (Old Attribute Name: N/A)
Alt2ContactContactName	String *Optional*	The second Alternate Contact Name of the ASP registration. (Old Attribute Name: N/A)
Alt2ContactPhoneNbr	String *Optional*	The second Alternate Contact Phone Number of the ASP Registration. (Old Attribute Name: N/A)
Alt2ContactFaxNbr	String *Optional*	The first Alternate Contact Fax Number of the ASP registration. (Old Attribute Name: N/A)
Alt3ContactContactName	String *Optional*	The third Alternate Contact Name of the ASP registration. (Old Attribute Name: N/A)
Alt3ContactPhoneNbr	String *Optional*	The third Alternate Contact Phone Number of the ASP Registration. (Old Attribute Name: N/A)
Alt3ContactFaxNbr	String *Optional*	The third Alternate Contact Fax Number of the ASP registration. (Old Attribute Name: N/A)

3.15.3 Method Specific Error Codes

None.

3.15.4 Sample XML

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:m0="http://www.oati.net/namespace/Registry/WREG_WebServices">
<soap:Body>
                <m:DownloadASP xmlns:m="http://www.oati.net/namespace">
                        <m0:Version>Active</m0:Version>
                </m:DownloadASP>
        </soap:Body>
</soap:Envelope>
```
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3.15.5 Successful Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1: DownloadASPResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:ASPStruct>
      <d2:ID>432</d2:ID>
      <d2:LongName>Open Access Technology International Inc.</d2:LongName>
      <d2:NERCID>100027</d2:NERCID>
      <d2:StartEffectiveDate>10/31/2012</d2:StartEffectiveDate>
      <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
      <d2:ExpirationDate>05/13/2015</d2:ExpirationDate>
```
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```
        <d2:Hr24ContactName>OATI Support</d2:Hr24ContactName>
        <d2:Hr24ContactPhoneNbr>(763)201-2020</d2:Hr24ContactPhoneNbr>
        <d2:Hr24ContactFaxNbr>(763)201-2020</d2:Hr24ContactFaxNbr>
        <d2:Alt1ContactName></d2:Alt1ContactName>
        <d2:Alt1ContactPhoneNbr></d2:Alt1ContactPhoneNbr>
        <d2:Alt1ContactFaxNbr></d2:Alt1ContactFaxNbr>
        <d2:Alt2ContactName></d2:Alt2ContactName>
        <d2:Alt2ContactPhoneNbr></d2:Alt2ContactPhoneNbr>
        <d2:Alt2ContactFaxNbr></d2:Alt2ContactFaxNbr>
        <d2:Alt3ContactName></d2:Alt3ContactName>
        <d2:Alt3ContactPhoneNbr></d2:Alt3ContactPhoneNbr>
        <d2:Alt3ContactFaxNbr></d2:Alt3ContactFaxNbr>
      </d2:ASPStruct>
    </d2:Success>
  </d2:OutputStruct>
 </d1:DownloadASP   Response>
</soap:Body>
</soap:Envelope>                                                    ©2018 OATI, Inc.
```

3.15.6 Failure Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadASPResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/WREG_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>105</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>Invalid Version</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                <d2:Error>
                        </d2:OutputStruct>
                </d1:DownloadASPResponse>
        </soap:Body>
</soap:Envelope>                                                    ©2018 OATI, Inc.
```

3.16 DownloadControlZone

3.16.1 Description

OATI webRegistry allows for the retrieval of Control Zone information through the web service. The *DownloadControlZone* method is accessible through the standard webRegistry web service mechanism. If Effective Date or Version is not provided, this query will return the last published Control Zone registry.

3.16.2 Parameters

3.16.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the ASP registry to be retrieved.
Version	String *Optional*	The version of the ASP registry to be retrieved (i.e., ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.16.2.3 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
ErrorXPath	String *Optional*	Pointer/path to specific input that cannot be processed successfully.
Success	Complex *Optional*	Element that encapsulates one or more ASPStructs.
ControlZoneStruct	Complex *Required*	Element that encapsulates elements defining attributes for one Control Zone registration.
ID	Integer *Required*	The unique System Identifier associated to the ControlZone registration. (Old Attribute Name: N/A)
Name	String *Required*	The Name of the ControlZone. (Old Attribute Name: N/A)
BAName	String *Required*	The BA role code associated with the Control Zone. (Old Attribute Name: N/A)

Element Name	Data Type/ Requirement	Description/ Notes
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the ASP registration. (Old Attribute Name: N/A)
StopEffectiveDate	Date *Required*	The end date that delineates the time period of the ASP registration. (Old Attribute Name: N/A)

3.16.3 Method Specific Error Codes

None.

3.16.4 Sample XML

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:m0="http://www.oati.net/namespace/Registry/WREG_WebServices">
<soap:Body>
                <m:DownloadControlZone xmlns:m="http://www.oati.net/namespace">
                        <m0:Version>Active</m0:Version>
                </m:DownloadControlZone>
        </soap:Body>
</soap:Envelope>
```
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3.16.5 Successful Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1: DownloadASPResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
      <d2:ControlZoneStruct>
       <d2:ID>191</d2:ID>
       <d2:Name>TBA</d2:Name>
       <d2:BAName>TBA</d2:BAName>
       <d2:StartEffectiveDate>03/07/2012</d2:StartEffectiveDate>
       <d2:StopEffectiveDate>01/01/2020</d2:StopEffectiveDate>
      </d2:ControlZoneStruct>
     </d2:Success>
    </d2:OutputStruct>
   </d1:DownloadControlZoneResponse>
 </soap:Body>
</soap:Envelope>
```
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3.16.6 Failure Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadControlZoneResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/WREG_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>105</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>Invalid Version</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                <d2:Error>
                        </d2:OutputStruct>
                </d1:DownloadControlZoneResponse>
```
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```
        </soap:Body>
</soap:Envelope>
```
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3.17 DownloadERO

3.17.1 Description

OATI webRegistry allows for the retrieval of Electric Reliability Organization (ERO) information through the web service. The *DownloadERO* method is accessible through the standard webRegistry web service mechanism. If Effective Date or Version is not provided, this query will return the last published ERO registry.

3.17.2 Parameters

3.17.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the ERO registry to be retrieved.
Version	String *Optional*	The version of the ERO registry to be retrieved (i.e., ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.17.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.

Element Name	Data Type/ Requirement	Description/ Notes
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
Success	Complex *Optional*	Element that encapsulates one or more EROStructs.
EROStruct	Complex *Required*	Element that encapsulates elements defining attributes for one ERO entity.
ID	Integer *Required*	The unique System Identifier associated to the ERO role code. (Old Attribute Name: N/A)
LongName	String *Required*	The Long Name of the ERO role code. (Old Attribute Name: N/A)
Code	String *Required*	The registered ERO Role Code. (Old Attribute Name: N/A)
EntityName	String *Required*	The Entity Name of the ERO. (Old Attribute Name: N/A)
NERCID	Integer *Required*	The NERC ID associated with the ERO Entity. (Old Attribute Name: N/A)
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the ERO entity. (Old Attribute Name: N/A)
StopEffectiveDate	Date *Required*	The stop date that delineates the time period of the ERO entity. (Old Attribute Name: N/A)
ExpirationDate	Date *Optional*	The last date the code-role will be included in the publication if subscription is not renewed.
HR24ContactName	String *Required*	The 24 Hour Contact name of ERO entity. (Old Attribute Name: N/A)
HR24ContactPhoneNbr	String *Required*	The 24 Hour Contact Phone Number of the ERO entity. (Old Attribute Name: N/A)
Hr24ContactFaxNbr	String *Required*	The 24 Hour Contact Fax Number of the ERO entity. (Old Attribute Name: N/A)

Element Name	Data Type/ Requirement	Description/ Notes
Alt1ContactName	String *Optional*	The first Alternate Contact Name of the ERO entity. (Old Attribute Name: N/A)
Alt1ContactPhoneNbr	String *Optional*	The first Alternate Contact Phone Number of the ERO entity. (Old Attribute Name: N/A)
Alt1ContactFaxNbr	String *Required*	The first Alternate Contact Fax Number of the ERO Entity. (Old Attribute Name: N/A)
Alt2ContactContactName	String *Optional*	The second Alternate Contact Name of the ERO entity. (Old Attribute Name: N/A)
Alt2ContactPhoneNbr	String *Optional*	The second Alternate Contact Phone Number of the ERO entity. (Old Attribute Name: N/A)
Alt2ContactFaxNbr	String *Optional*	The first Alternate Contact Fax Number of the ERO entity. (Old Attribute Name: N/A)
Alt3ContactContactName	String *Optional*	The third Alternate Contact Name of the ERO entity. (Old Attribute Name: N/A)
Alt3ContactPhoneNbr	String *Optional*	The third Alternate Contact Phone Number of the ERO entity. (Old Attribute Name: N/A)
Alt3ContactFaxNbr	String *Optional*	The third Alternate Contact Fax Number of the ERO entity. (Old Attribute Name: N/A)

3.17.3 Method Specific Error Codes

None.

3.17.4 Sample XML

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:m0="http://www.oati.net/namespace/Registry/WREG_WebServices">
<soap:Body>
                <m:DownloadERO xmlns:m="http://www.oati.net/namespace">
                        <m0:Version>Active</m0:Version>
                </m: DownloadERO>
        </soap:Body>
</soap:Envelope>
```
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3.17.5 Successful Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadEROResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:EROStruct>
```
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```xml
            <d2:ID >432</d2:ID >
            <d2:LongName >Reliability Corporation</d2:LongName >
            <d2:Code>EROC</d2:Code>
            <d2:EntityName>Electric Reliability Council</d2:EntityName >
            <d2:NERCID>2</d2:NERCID>
            <d2:StartEffectiveDate>11/06/2012</d2:StartEffectiveDate>
            <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
            <d2:ExpirationDate>05/13/2015</d2:ExpirationDate>
            <d2:Hr24ContactName>OATI Support</d2:Hr24ContactName>
            <d2:Hr24ContactPhoneNbr>(763)201-2020</d2:Hr24ContactPhoneNbr>
            <d2:Hr24ContactFaxNbr>(763)201-2020</d2:Hr24ContactFaxNbr>
            <d2:Alt1ContactName>Contact1</d2:Alt1ContactName>
            <d2:Alt1ContactPhoneNbr>(763)201-2020</d2:Alt1ContactPhoneNbr >
            <d2:Alt1ContactFaxNbr>(763)201-2020< Alt1ContactFaxNbr>
            <d2:Alt2ContactName>Contact2</d2:Alt1ContactName>
            <d2:Alt2ContactPhoneNbr>(763)201-2020</d2:Alt2ContactPhoneNbr>
            <d2:Alt2ContactFaxNbr>(763)201-2020</d2:Alt2ContactFaxNbr>
            <d2:Alt3ContactName>Contact3</d2:Alt3ContactName>
            <d2:Alt3ContactPhoneNbr>(763)201-2020</d2:Alt3ContactPhoneNbr>
            <d2:Alt3ContactFaxNbr>(763)201-2020</d2:Alt3ContactFaxNbr>
         </d2:EROStruct>
      </d2:Success>
    </d2:OutputStruct>
  </d1:DownloadEROResponse>
 </soap:Body>
</soap:Envelope>                                                           ©2018 OATI, Inc.
```

3.17.6 Failure Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadEROResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/WREG_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>105</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>Invalid Version</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                </d2:Error>
                        </d2:OutputStruct>
                </d1:DownloadEROResponse>
        </soap:Body>
</soap:Envelope>                                                           ©2018 OATI, Inc.
```

3.18 DownloadInterconnection

3.18.1 Description

OATI webRegistry allows for the retrieval of Interconnection information through the web service. The *DownloadInterconnection* method is accessible through the standard webRegistry web service mechanism. If Effective Date or Version is not provided, this query will return the last published Interconnection registry.

3.18.2 Parameters

3.18.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the Interconnection registry to be retrieved.
Version	String *Optional*	The version of the Interconnection registry to be retrieved (i.e., ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.18.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
Success	Complex *Optional*	Element that encapsulates one or more InterconnectionStructs.

Element Name	Data Type/ Requirement	Description/ Notes
InterconnectionStruct	Complex *Required*	Element that encapsulates elements defining attributes for one Interconnection registration.
ID	Integer *Required*	The unique System Identifier associated to the Interconnection registration. (Old Attribute Name: N/A)
Name	String *Required*	The Long Name of the Interconnection registration. (Old Attribute Name: N/A)
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the Interconnection registration. (Old Attribute Name: N/A)
StopEffectiveDate	Date *Required*	The stop date that delineates the time period of the Interconnection registration. (Old Attribute Name: N/A)

3.18.3 Method Specific Error Codes

None.

3.18.4 Sample XML

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:m0="http://www.oati.net/namespace/Registry/WREG_WebServices">
<soap:Body>
                    <m:DownloadInterconnection xmlns:m="http://www.oati.net/namespace">
                            <m0:Version>Active</m0:Version>
                    </m: DownloadInterconnection>
        </soap:Body>
</soap:Envelope>                                                                      ©2018 OATI, Inc.
```

3.18.5 Successful Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadInterconnectionResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:InterconnectionStruct>
      <d2:ID >27</d2:ID >
      <d2:Name>Eastern Interconnection.</d2:Name>
      <d2:StartEffectiveDate>11/06/2012</d2:StartEffectiveDate>
      <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
     </d2:InterconnectionStruct>
    </d2:Success>
   </d2:OutputStruct>
  </d1:DownloadInterconnectionResponse>
 </soap:Body>
</soap:Envelope>                                                                      ©2018 OATI, Inc.
```

3.18.6 Failure Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadInterconnectionResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/WREG_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>105</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>Invalid Version</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                <d2:Error>
                        </d2:OutputStruct>
                </d1:DownloadInterconnectionResponse>
        </soap:Body>
</soap:Envelope>                                                                                        ©2018 OATI, Inc.
```

3.19 DownloadMO

3.19.1 Description

OATI webRegistry allows for the retrieval of MO information through the web service. The DownloadMO method is accessible through the standard webRegistry web service mechanism. If Effective Date or Version is not provided, this query will return the last published MO registry.

3.19.2 Parameters

3.19.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the MO registry to be retrieved.
Version	String *Optional*	The version of the MO registry to be retrieved (i.e., ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.19.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.

Element Name	Data Type/ Requirement	Description/ Notes
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
Success	Complex *Optional*	Element that encapsulates one or more MOStructs.
MOStruct	Complex *Required*	Element that encapsulates elements defining attributes for one Interconnection registration.
ID	Integer *Required*	The unique System Identifier associated to the MO registration. (Old Attribute Name: N/A)
LongName	String *Required*	The Long Name of the MO registration. (Old Attribute Name: N/A)
Code	String *Required*	The MO role code. (Old Attribute Name: N/A)
EntityName	String *Required*	The Name of the MO Entity. (Old Attribute Name: N/A)
NERCID	Integer *Required*	The NERC ID associated with the MO Entity. (Old Attribute Name: N/A)
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the MO registration. (Old Attribute Name: N/A)
StopEffectiveDate	Date *Required*	The stop date that delineates the time period of the MO registration. (Old Attribute Name: N/A)
ExpirationDate	Date *Optional*	The last date the code-role will be included in the publication if subscription is not renewed.
HR24ContactName	String *Required*	The 24 Hour Contact name of the MO. (Old Attribute Name: N/A)

Element Name	Data Type/ Requirement	Description/ Notes
HR24ContactPhoneNbr	String *Required*	The 24 Hour Contact Phone Number of the MO. (Old Attribute Name: N/A)
Hr24ContactFaxNbr	String *Required*	The 24 Hour Contact Fax Number of the MO. (Old Attribute Name: N/A)
Alt1ContactName	String *Optional*	The first Alternate Contact Name of the MO. (Old Attribute Name: N/A)
Alt1ContactPhoneNbr	String *Optional*	The first Alternate Contact Phone Number of the MO. (Old Attribute Name: N/A)
Alt1ContactFaxNbr	String *Required*	The first Alternate Contact Fax Number of the MO. (Old Attribute Name: N/A)
Alt2ContactContactName	String *Optional*	The second Alternate Contact Name of the MO. (Old Attribute Name: N/A)
Alt2ContactPhoneNbr	String *Optional*	The second Alternate Contact Phone Number of the MO. (Old Attribute Name: N/A)
Alt2ContactFaxNbr	String *Optional*	The second Alternate Contact Fax Number of the MO. (Old Attribute Name: N/A)
Alt3ContactContactName	String *Optional*	The third Alternate Contact Name of the MO. (Old Attribute Name: N/A)
Alt3ContactPhoneNbr	String *Optional*	The third Alternate Contact Phone Number of the MO. (Old Attribute Name: N/A)
Alt3ContactFaxNbr	String *Optional*	The third Alternate Contact Fax Number of the MO. (Old Attribute Name: N/A)
AgentURL	String *Optional*	Tag Agent service URL for Entity Role Code registration. (Old Attribute Name: Agent_URL)
ApprovalURL	String *Optional*	Tag Approval service URL for Entity Role Code registration. (Old Attribute Name: Approval_URL)
TaggingEntityID	Integer *Required*	The unique System Identifier associated to the object registration.
TSPAssociations	Complex *Optional*	Element that encapsulates one or more TSP elements.
TSP	Complex *Optional*	Element that encapsulates the Name and ID of a TSP that is associated with the MO.

Element Name	Data Type/ Requirement	Description/ Notes
BAAssociations	Complex *Optional*	Element that encapsulates one or more BA elements.
BA	Complex *Optional*	Element that encapsulates the Name and ID of a BA that is associated with the MO.
Name	String *Optional*	The Name of a BA or TSP that is associated with the MO.
ID	Integer *Optional*	The ID of a BA or TSP that is associated with the MO.

3.19.3 Method Specific Error Codes

None.

3.19.4 Sample XML

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:m0="http://www.oati.net/namespace/Registry/WREG_WebServices">
<soap:Body>
                    <m:DownloadMO xmlns:m="http://www.oati.net/namespace">
                            <m0:Version>Active</m0:Version>
                    </m: DownloadMO>
        </soap:Body>
</soap:Envelope>
```

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3.19.5 Successful Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadMOResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:MOStruct>
      <d2:ID >4597</d2:ID>
      <d2:LongName >The Market Operator </d2:LongName >
      <d2:Code>TMO</d2:Code>
      <d2:EntityName>The Market Operator</d2:EntityName >
      <d2:NERCID>583</d2:NERCID>
      <d2:StartEffectiveDate>04/02/2012</d2:StartEffectiveDate>
      <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
      <d2:ExpirationDate>05/13/2015</d2:ExpirationDate>
      <d2:Hr24ContactName>OATI Support</d2:Hr24ContactName>
      <d2:Hr24ContactPhoneNbr>(763)201-2020</d2:Hr24ContactPhoneNbr>
      <d2:Hr24ContactFaxNbr>(763)201-2020</d2:Hr24ContactFaxNbr>
      <d2:Alt1ContactName></d2:Alt1ContactName>
      <d2:Alt1ContactPhoneNbr></d2:Alt1ContactPhoneNbr >
      <d2:Alt1ContactFaxNbr>< Alt1ContactFaxNbr>
      <d2:Alt2ContactName></d2:Alt1ContactName>
      <d2:Alt2ContactPhoneNbr></d2:Alt2ContactPhoneNbr>
      <d2:Alt2ContactFaxNbr></d2:Alt2ContactFaxNbr>
      <d2:Alt3ContactName></d2:Alt3ContactName>
      <d2:Alt3ContactPhoneNbr></d2:Alt3ContactPhoneNbr>
      <d2:Alt3ContactFaxNbr></d2:Alt3ContactFaxNbr>
      <d2:AgentURL>https://spapp.tag.oati.com/oati/tagging.wml</d2:AgentURL>
      <d2:ApprovalURL>https://spapp.tag.oati.com/oati/tagging.wml</d2:ApprovalURL>
      <d2:TaggingEntityID>12345</d2:TaggingEntityID >
      <d2:TSPAssociations>
       <d2:TSP>
        <d2:ID>4599</d2:ID>
        <d2:Name>TTSP</d2:Name>
       </d2:TSP>
      </d2:TSPAssociations>
```

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```
        <d2:BAAssociations>
         <d2:BA>
          <d2:ID>5678</d2:ID>
          <d2:Name>BBSP</d2:Name>
         </d2:BA>
        </d2:BAAssociations>
       </d2:MOStruct>
      </d2:Success>
     </d2:OutputStruct>
   </d1:DownloadMOResponse>
 </soap:Body>
</soap:Envelope>                                                          ©2018 OATI, Inc.
```

3.19.6 Failure Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadMOResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/WREG_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>105</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>Invalid Version</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                <d2:Error>
                        </d2:OutputStruct>
                </d1:DownloadMOResponse>
        </soap:Body>
</soap:Envelope>                                                          ©2018 OATI, Inc.
```

3.20 DownloadMRDResource

3.20.1 Description

OATI webRegistry allows for the retrieval of Market Redispatch (MRD) Resource information through the web service. The DownloadMRDResource method is accessible through the standard webRegistry web service mechanism. The DownloadMRDResource method returns a static set of defined MRD Resources.

3.20.2 Parameters

3.20.2.1 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.

Element Name	Data Type/ Requirement	Description/ Notes
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
Success	Complex *Optional*	Element that encapsulates one or more MRDResourceStructs.
MRDResourceStruct	Complex *Required*	Element that encapsulates elements defining attributes for one MRD Resource object.
MRDResourceID	Integer *Required*	The MRD Resource ID associated to the MRD Resource. (Old Attribute Name: MRDResourceID)
CommonName	String *Required*	The Common Name of the MRD Resource. (Old Attribute Name: Common_Name)
ResourceName	String *Required*	The Resource Name for the MRD Resource. (Old Attribute Name: RESOURCE_NAME)
HR24ContactName	String *Optional*	The 24 Hour Contact name of the MRD Resource. (Old Attribute Name: Contact24)
ResourcePhoneNbr	String *Optional*	The Resource Phone Number contact of the MRD Resource. (Old Attribute Name: RESOURCE_PHONE)
ResourceFaxNbr	String *Optional*	The Resource Fax Number contact of the MRD Resource. (Old Attribute Name: RESOURCE_FAX)

3.20.4 Method Specific Error Codes

None.

3.20.5 Sample XML

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:m0="http://www.oati.net/namespace/Registry/WREG_WebServices">
<soap:Body>
                        <m:DownloadMRDResource xmlns:m="http://www.oati.net/namespace">
        </soap:Body>
</soap:Envelope>                                                                    ©2018 OATI, Inc.
```

3.20.6 Successful Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadMRDResourceResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:MRDResourceStruct>
      <d2:MRDResourceID >1001</d2:ID>
      <d2:CommonName >01AESWAR 138 1</d2:CommonName>
      <d2:ResourceName>AP_01AESWAR 138_1 </d2:ResourceName>
      <d2:HR24Contactname>Real Time Dispatche</d2: HR24Contactname>
      <d2: ResourcePhoneNbr ></d2: ResourcePhoneNbr>
      <d2: ResourceFaxNbr ></d2: ResourceFaxNbr>
     </d2:MRDResourceStruct>
    </d2:Success>
   </d2:OutputStruct>
  </d1:DownloadMRDResourceResponse>
 </soap:Body>
</soap:Envelope>                                                                    ©2018 OATI, Inc.
```

3.20.7 Failure Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadMRDResourceResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/WREG_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>105</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>Invalid Version</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                <d2:Error>
                        </d2:OutputStruct>
                </d1:DownloadMRDResourceResponse>
        </soap:Body>
</soap:Envelope>                                                                    ©2018 OATI, Inc.
```

3.21 DownloadTransmissionPath

3.21.1 Description

OATI webRegistry allows for the retrieval of Transmission Path information through the web service. The DownloadTransmissionPath method is accessible through the standard webRegistry

web service mechanism. If Effective Date or Version is not provided, this query will return the last published Transmission Path registry.

3.21.2 Parameters

3.21.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the Download Path to be retrieved.
Version	String *Optional*	The version of the MO registry to be retrieved (i.e. ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.21.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.

Element Name	Data Type/ Requirement	Description/ Notes
Success	Complex *Optional*	Element that encapsulates one or more TransmissionPathStructs.
TransmissionPathStruct	Complex *Required*	Element that encapsulates elements defining attributes for one Transmission Path.
BATaggingEntityID	Integer *Required*	The BA Tagging Entity ID associated to BA Role Code of the Transmission Path object. (Old Attribute Name: N/A)
BAName	String *Required*	The BA Role Code of the Transmission Path object. (Old Attribute Name: N/A)
TSPTaggingEntityID	Integer *Required*	The TSP Entity ID associated to the TSP Role Code of the Transmission Path object. (Old Attribute Name: N/A)
TSPName	String *Required*	The TSP name of the Transmission Path object. (Old Attribute Name: N/A)
PORTaggingPointID	Integer *Required*	The POR Tagging Point ID associated to the POR of the Transmission Path. (Old Attribute Name: N/A)
PORName	String *Required*	The POR Name associated to the POR of the Transmission Path. (Old Attribute Name: N/A)
PODTaggingPointID	String *Required*	The POD Tagging Point ID associated to the POD of the Transmission Path. (Old Attribute Name: N/A)
PODName	String *Required*	The POD Name associated to the POD of the Transmission Path. (Old Attribute Name: N/A)
Name	String *Required*	The Name of the Transmission Path. (Old Attribute Name: N/A)
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the Transmission Path registration. (Old Attribute Name: N/A)
StopEffectiveDate	Date *Required*	The stop date that delineates the time period of the Transmission Path registration. (Old Attribute Name: N/A)
ApprovalID	Integer *Required*	The Approval ID of the Transmission Path. (Old Attribute Name: N/A)

Element Name	Data Type/ Requirement	Description/ Notes
UpdateDT	Date *Required*	The last Update Date Time of the Transmission Path registration. (Old Attribute Name: N/A)

3.21.3 Method Specific Error Codes

None.

3.21.4 Sample XML

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:m0="http://www.oati.net/namespace/Registry/WREG_WebServices">
<soap:Body>
                <m:DownloadTransmissionPath xmlns:m="http://www.oati.net/namespace">
                <m0:EffectiveDate>12/19/2013</m0:EffectiveDate>
        </soap:Body>
</soap:Envelope>                                                                       ©2018 OATI, Inc.
```

3.21.5 Successful Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadTransmissionPathResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:TransmissionPathStruct>
      <d2:BATaggingEntityID>480</d2:BATaggingEntityIDID>
      <d2:BAName>LDBA</d2:BAName>
      <d2:TSPTaggingEntityID>481</TSPTaggingEntityID>
      <d2:TSPName>LDTP</d2:TSPName>
      <d2:PODTaggingPointID>2277</d2: PORTaggingPointID>
      <d2:PORName>AD1</d2:PORName>
      <d2:PODTaggingPointID>1087</d2:PODTaggingPointID>
      <d2:PODName>LD2</d2:PODName>
      <d2:Name>LDBA/AD1/LD2/LDTP</d2:Name>
      <d2:StartEffectiveDate>07/09/2013</d2:StartEffectiveDate>
      <d2:StopEffectiveDate>01/01/2013</d2:StopEffectiveDate>
      <d2:ApprovalID>0</d2:ApprovalID>
      <d2:UpdateDT>2013-07-02T20:52:22.0Z</d2:UpdateDT>
     </d2:TransmissionPathStruct>
    </d2:Success>
   </d2:OutputStruct>
  </d1:DownloadTransmissionPathResponse>
 </soap:Body>
</soap:Envelope>                                                                       ©2018 OATI, Inc.
```

3.21.6 Failure Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadTransmissionPathResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/WREG_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                        <d2:ErrorStruct>
                                                <d2:ErrorCode>105</d2:ErrorCode>
                                                <d2:ErrorCodeDesc>Invalid Version</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                <d2:Error>
                        </d2:OutputStruct>
                </d1:DownloadTransmissionPathResponse>                                 ©2018 OATI, Inc.
```

```
      </soap:Body>
</soap:Envelope>
```

3.22 DownloadPKICA

3.22.1 Description

OATI webRegistry allows for the retrieval of PKI Certification Authority information through the web service. The DownloadPKICA method is accessible through the standard webRegistry web service mechanism. If Effective Date or Version is not provided, this query will return the last publication registry version.

3.22.2 Parameters

3.22.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the PKICA registry to be retrieved.
Version	String *Optional*	The version of the PKICA registry to be retrieved (i.e., ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.22.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.

Element Name	Data Type/ Requirement	Description/ Notes
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
Success	Complex *Optional*	Element that encapsulates one or more PKICAStructs.
PKICAStruct	Complex *Required*	Element that encapsulates elements defining attributes for one PKICA object.
ID	Integer *Required*	The Unique ID associated to the PKICA registration. (Old Attribute Name: N/A)
LongName	String *Required*	The Long Name of the PKICA registration. (Old Attribute Name: N/A)
Code	String *Required*	The Code associated to the PKICA role registration. (Old Attribute Name: N/A)
EntityName	String *Required*	The name of the Entity associated to the PKICA role registration. (Old Attribute Name: N/A)
NERCID	Integer *Required*	The NERC ID of the PKICA registration. (Old Attribute Name: N/A)
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the Transmission Path registration. (Old Attribute Name: N/A)
StopEffectiveDate	Date *Required*	The stop date that delineates the time period of the Transmission Path registration. (Old Attribute Name: N/A)
ExpirationDate	Date *Optional*	The last date the code-role will be included in the publication if subscription is not renewed.
HR24ContactName	String *Required*	The 24 Hour Contact Name of the PKICA registration. (Old Attribute Name: N/A)
HR24ContactPhoneNbr	String *Required*	The 24 hour Contact Phone Number of the PKICA registration. (Old Attribute Name: N/A)

Element Name	Data Type/ Requirement	Description/ Notes
Hr24ContactFaxNbr	String *Required*	The 24 hour Fax Number of the PKICA registration. (Old Attribute Name: N/A)
Alt1ContactName	String *Optional*	The first Alternate Contact Phone Number of the PKICA registration. (Old Attribute Name: N/A)
Alt1ContactPhoneNbr	String *Optional*	The first Alternate Contact Phone Number of the PKICA registration. (Old Attribute Name: N/A)
Alt1ContactFaxNbr	String *Optional*	The first Alternate Contact Fax Number of the PKICA registration. (Old Attribute Name: N/A)
Alt2ContactContactName	String *Optional*	The second Alternate Contact Phone Number of the PKICA registration. (Old Attribute Name: N/A)
Alt2ContactPhoneNbr	String *Optional*	The second Alternate Contact Phone Number of the PKICA registration. (Old Attribute Name: N/A)
Alt2ContactFaxNbr	String *Optional*	The second Alternate Contact Fax Number of the PKICA registration. (Old Attribute Name: N/A)
Alt3ContactContactName	String *Optional*	The third Alternate Contact Phone Number of the PKICA registration (Old Attribute Name: N/A)
Alt3ContactPhoneNbr	String *Optional*	The third Alternate Contact Phone Number of the PKICA registration (Old Attribute Name: N/A)
Alt3ContactFaxNbr	String *Optional*	The third Alternate Contact Fax Number of the PKICA registration. (Old Attribute Name: N/A)

3.22.3 Method Specific Error Codes

None.

3.22.4 Sample XML

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:m0="http://www.oati.net/namespace/Registry/WREG_WebServices">
<soap:Body>
                <m:DownloadPKICA xmlns:m="http://www.oati.net/namespace">
                <m0:Version>Active</m0:Version>
                <m:DownloadPKICA>
        </soap:Body>
</soap:Envelope>
```

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3.22.5 Successful Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadPKICAResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:PKICAStruct>
      <d2:ID>4586</d2:ID>
      <d2:LongName>Open Access Technology International INC</d2:LongName>
      <d2:Code>OATI</d2:Code>
      <d2:EntityName> Open Access Technology International INC </d2:EntityName>
      <d2:NERCID>100006</d2: NERCID>
      <d2:StartEffectiveDate>12/15/2013</d2:StartEffectiveDate>
      <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
      <d2:ExpirationDate>05/13/2015</d2:ExpirationDate>
      <d2:Hr24ContactName>webCARES Support2</d2:Hr24ContactName>
      <d2:Hr24ContactPhoneNbr>763-201-2020</d2:Hr24ContactPhoneNbr>
      <d2:Hr24ContactFaxNbr>763-201-2020</d2:Hr24ContactFaxNbr>
      <d2:Alt1ContactName></d2:Alt1ContactName>
      <d2:Alt1ContactName></d2:Alt1ContactName>
      <d2:Alt1ContactName></d2:Alt1ContactName>
      <d2:Alt2ContactName></d2:Alt2ContactName>
      <d2:Alt2ContactName></d2:Alt2ContactName>
      <d2:Alt2ContactName></d2:Alt2ContactName>
      <d2:Alt3ContactName></d2:Alt3ContactName>
      <d2:Alt3ContactName></d2:Alt3ContactName>
      <d2:Alt3ContactName></d2:Alt3ContactName>
     </d2:PKICAStruct>
    </d2:Success>
   </d2:OutputStruct>
  </d1:DownloadPKICAResponse>
 </soap:Body>
</soap:Envelope>
```
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3.22.6 Failure Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadPKICAResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/WREG_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                <d2:ErrorStruct>
                                <d2:ErrorCode>105</d2:ErrorCode>
                                <d2:ErrorCodeDesc>Invalid Version</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                        <d2:Error>
                        </d2:OutputStruct>
                </d1: DownloadPKICAResponse>
        </soap:Body>
</soap:Envelope>
```
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3.23 DownloadPORPODPointType

3.23.1 Description

OATI webRegistry allows for the retrieval POR POD Point Type information through the web service. The DownloadPORPODPointType method is accessible through the standard webRegistry web service mechanism.

3.23.2 Parameters

3.23.2.1 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
Success	Complex *Optional*	Element that encapsulates one or more PointTypeStructs.
PointTypeStruct	Complex *Required*	Element that encapsulates elements defining attributes for one Point Type object.
PointTypeID	Integer *Required*	The ID associated to the point type. (Old Attribute Name: PORPODRoleID)
PointTypeName	String *Required*	The name describing the type of point. (Old Attribute Name: PORPODRoleDesc)

3.23.3 Method Specific Error Codes

None.

3.23.4 Sample XML

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:m0="http://www.oati.net/namespace/Registry/WREG_WebServices">
<soap:Body>
                    <m:DownloadPPODPODPointType xmlns:m="http://www.oati.net/namespace">
        </soap:Body>
</soap:Envelope>
```
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3.23.5 Successful Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadPPODPODPointTypeResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:PointTypeStruct>
      <d2:PointTypeID>1</d2:PointTypeID>
      <d2:PointTypeName>POR</d2:PointTypeName>
     </d2:PointTypeStruct>
     <d2:PointTypeStruct>
      <d2:PointTypeID>2</d2:PointTypeID>
      <d2:PointTypeName>POD</d2:PointTypeName>
     </d2:PointTypeStruct>
     <d2:PointTypeStruct>
      <d2:PointTypeID>3</d2:PointTypeID>
      <d2:PointTypeName>POR/POD</d2:PointTypeName>
     </d2:PointTypeStruct>
    </d2:Success>
   </d2:OutputStruct>
  </d1:DownloadPPODPODPointTypeResponse>
 </soap:Body>
</soap:Envelope>
```
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3.24 DownloadRegistryVersion

3.24.1 Description

OATI webRegistry allows for the retrieval of the publication Registry Version information through the web service. The DownloadRegistryVersion method is accessible through the standard webRegistry web service mechanism. If Effective Date or Version is not provided, this query will return the last published registry version.

3.24.2 Parameters

3.24.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the publication registry version to be retrieved.

Element Name	Data Type/ Requirement	Description/ Notes
Version	String *Optional*	The version of the publication Registry Version to be retrieved (i.e., ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.24.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
Success	Complex *Optional*	Element that encapsulates one or more RegistryVersionTypeStructs.
RegistryVersionStruct	Complex *Required*	Element that encapsulates elements defining attributes for one Registry Version object.
VersionID	Integer *Required*	The Version ID associated to the Registry Version object. (Old Attribute Name: N/A)
VersionCode	String *Required*	The Version Code of the Registry Version object.

Element Name	Data Type/ Requirement	Description/ Notes
		(Old Attribute Name: N/A)
EffectiveDate	String *Required*	The effective date of the Registry Version retrieved. (Old Attribute Name: N/A)
PublicationMethodCode	String *Required*	The Publication Method Code of the Registry Version. "S" – Scheduled Publication "U" – Unscheduled Publication (Old Attribute Name: N/A)
PublicationStatus	String *Required*	The Publication Status of the Registry Version. (Old Attribute Name: N/A)
PublicationDT	Date *Required*	The Date and Time of the Registry Version publication. (Old Attribute Name: N/A)

3.24.3 Method Specific Error Codes

None.

3.24.4 Sample XML

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:m0="http://www.oati.net/namespace/Registry/WREG_WebServices">
<soap:Body>
                <m:DownloadRegistryVersion xmlns:m="http://www.oati.net/namespace">
                 <m0:Version>Active</m0:Version>
                <m:DownloadRegistryVersion>


        </soap:Body>
</soap:Envelope>                                                                            ©2018 OATI, Inc.
```

3.24.5 Successful Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadRegistryVersionResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:RegistryVersionStruct>
      <d2:VersionID>728</d2:VersionID>
      <d2:VersionCode>728_20131220_S</d2:VersionCode>
      <d2:PublicationMethodCode>S</d2:PublicationMethodCode>
      <d2:PublicationStatus>ACTIVE</d2:PublicationStatus>
      <d2:PublicationDT>2013-12-19T06:00:03.oz</d2:PublicationDT>
     <d2:RegistryVersionStruct>
    </d2:Success>
   </d2:OutputStruct>
  </d1:DownloadRegistryVersionResponse>
 </soap:Body>
</soap:Envelope>                                                                            ©2018 OATI, Inc.
```

3.24.6 Failure Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadRegistryVersionResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/WREG_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                <d2:ErrorStruct>
                                <d2:ErrorCode>105</d2:ErrorCode>
                                <d2:ErrorCodeDesc>Invalid Version</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                        <d2:Error>
                        </d2:OutputStruct>
                </d1: DownloadRegistryVersionResponse>
        </soap:Body>
```
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3.25 DownloadRRO

3.25.1 Description

OATI webRegistry allows for the retrieval of Regional Reliability Organization (RRO) through the web service. The DownloadRRO method is accessible through the standard webRegistry web service mechanism. If Effective Date or Version is not provided, this query will return the last published RRO registry.

3.25.2 Parameters

3.25.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the RRO registry to be retrieved.
Version	String *Optional*	The version of the entities to be retrieved (i.e., ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.25.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome

Element Name	Data Type/ Requirement	Description/ Notes
		means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
Success	Complex *Optional*	Element that encapsulates one or more RROStructs.
RROStruct	Complex *Required*	Element that encapsulates elements defining attributes for one RRO object.
ID	Integer *Required*	The ID of the RRO registration. (Old Attribute Name: N/A)
LongName	String *Required*	The Long Name of the RRO registration. (Old Attribute Name: N/A)
Code	String *Required*	The code associated to the RRO role registration. Old Attribute Name: N/A)
Entity Name	String *Required*	The name of the Entity associated to the RRO role registration. Old Attribute Name: N/A)
NERCID	Integer *Required*	The NERC ID associated to the Entity of the RRO role registration. Old Attribute Name: N/A)
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the RRO role registration. (Old Attribute Name: N/A)

Element Name	Data Type/ Requirement	Description/ Notes
StopEffectiveDate	Date *Required*	The stop date that delineates the time period of the RRO role registration. (Old Attribute Name: N/A)
ExpirationDate	Date *Optional*	The last date the code-role will be included in the publication if subscription is not renewed.
Region	String *Required*	The Region of the RRO registration. Old Attribute Name: N/A)
Hr24ContactName	String *Required*	The 24 Hour Contact Name of the RRO. Old Attribute Name: N/A)
Hr24ContactPhoneNbr	String *Required*	The 24 Hour Contact Phone Number of the RRO. Old Attribute Name: N/A)
Hr24ContactFaxNbr	String *Required*	The 24 Hour Contact Fax Number RRO. Old Attribute Name: N/A)
Alt1ContactName	String *Optional*	The First Alternative Name of the RRO. Old Attribute Name: N/A
Alt1ContactPhoneNbr	String *Optional*	The First Alternative Contact Phone Number of the RRO. Old Attribute Name: N/A)
Alt1ContactFaxNbr	String *Optional*	The First Alternative Fax Number RRO. Old Attribute Name: N/A)
Alt2ContactName	String *Optional*	The Second Alternative Name of the RRO. Old Attribute Name: N/A
Alt2ContactPhoneNbr	String *Optional*	The Second Alternative Contact Phone Number of the RRO. Old Attribute Name: N/A)
Alt2ContactFaxNbr	String *Optional*	The Second Alternative Fax Number RRO. Old Attribute Name: N/A)
Alt3ContactName	String *Optional*	The Third Alternative Name of the RRO. Old Attribute Name: N/A
Alt3ContactPhoneNbr	String *Optional*	The Third Alternative Contact Phone Number of the RRO. Old Attribute Name: N/A)
Alt3ContactFaxNbr	String *Optional*	The Third Alternative Fax Number RRO. Old Attribute Name: N/A)

3.25.3 Method Specific Error Codes

None.

3.25.4 Sample XML

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:m0="http://www.oati.net/namespace/Registry/WREG_WebServices">
<soap:Body>
                    <m:DownloadRRO xmlns:m="http://www.oati.net/namespace">
                    <m0:Version>Active</m0:Version>
                    <m:DownloadRRO>
          </soap:Body>
</soap:Envelope>                                                                    ©2018 OATI, Inc.
```

3.25.5 Successful Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadRROResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:RROStruct>
      <d2:ID>488</d2:ID>
      <d2:LongName>Reliability Org</d2:LongName>
      <d2:Code>TRRO</d2:Code>
      <d2:EntityName>Reliability Org</d2:EntityName>
      <d2:NERCID>100016</d2: NERCID>
      <d2:StartEffectiveDate>02/15/2013</d2:StartEffectiveDate>
      <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
      <d2:ExpirationDate>05/13/2015</d2:ExpirationDate>
      <d2:Region>TRRO</d2:Region>
      <d2:Hr24ContactName>Support2</d2:Hr24ContactName>
      <d2:Hr24ContactPhoneNbr>763-201-2020</d2:Hr24ContactPhoneNbr>
      <d2:Hr24ContactFaxNbr>763-201-2020</d2:Hr24ContactFaxNbr>
      <d2:Alt1ContactName></d2:Alt1ContactName>
      <d2:Alt1ContactName></d2:Alt1ContactName>
      <d2:Alt1ContactName></d2:Alt1ContactName>
      <d2:Alt2ContactName></d2:Alt2ContactName>
      <d2:Alt2ContactName></d2:Alt2ContactName>
      <d2:Alt2ContactName></d2:Alt2ContactName>
      <d2:Alt3ContactName></d2:Alt3ContactName>
      <d2:Alt3ContactName></d2:Alt3ContactName>
      <d2:Alt3ContactName></d2:Alt3ContactName>
     </d2:RROStruct>
    </d2:Success>
   </d2:OutputStruct>
  </d1:DownloadRROResponse>
 </soap:Body>
</soap:Envelope>                                                                    ©2018 OATI, Inc.
```

3.25.6 Failure Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
          <soap:Body>
                    <d1:DownloadRROResponse xmlns:d1="http://www.oati.net/namespace">
                              <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/WREG_WebServices">
                                        <d2:ReturnCode>1</d2:ReturnCode>
                                        <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                        <d2:Error>
                                        <d2:ErrorStruct>
                                        <d2:ErrorCode>105</d2:ErrorCode>
                                        <d2:ErrorCodeDesc>Invalid Version</d2:ErrorCodeDesc>
                                                  </d2:ErrorStruct>
                                                  <d2:Error>
                                                                                       ©2018 OATI, Inc.
                              </d2:OutputStruct>
```

3.26 DownloadPendingEntity

3.26.1 Description

OATI webRegistry allows for the retrieval of new Pending Entity registrations through the web service. The DownloadPendingEntity method is accessible through the standard webRegistry web service mechanism. If Effective Date or Version is not provided, this query will return the last published Pending Entity registry.

3.26.2 Parameters

3.26.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the Pending Entity registry to be retrieved.
Version	String *Optional*	The version of the entities to be retrieved (i.e., ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.26.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.

Element Name	Data Type/ Requirement	Description/ Notes
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
Success	Complex *Optional*	Element that encapsulates one or more Pending EntityStructs.
EntityStruct	Complex *Required*	Element that encapsulates elements defining attributes for one Pending Entity registration.
ID	Integer *Required*	The unique System Identifier associated to the object registration. (Old Attribute Name: N/A)
Entity_Type	String *Optional*	The business role associated with the Entity registration. (Old Attribute Name: Entity_Type)
NERCID	Integer *Required*	Key that uniquely identifies a particular Entity within the current NERC registry. (Old Attribute Name: NERC_ID)
DUNS	String *Optional*	DUNS Number associated to the Entity, which uniquely identifies the Entity. (Old Attribute Name: Duns)
ShortName	String *Required*	An abbreviated official/legal Entity name/code. (Old Attribute Name: Entity_Code)
LongName	String *Required*	Full official/legal Entity name. (Old Attribute Name: Entity_Name)
EntityCodeRole	EntityCodeRole *Required*	The Entity Code-Role(s) associated with the Entity registration. (Old Attribute Name: N/A)
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the Entity registration. (Old Attribute Name: Begin_Date)
StopEffectiveDate	Date *Required*	The end date that delineates the time period of an Entity registration. (Old Attribute Name: End_Date)
InitialDate	Date *Required*	The first date the Entity is effective. (Old Attribute Name: Initial_Date)

Element Name	Data Type/ Requirement	Description/ Notes
URL	String *Optional*	An address of Entity's web page if available. (Old Attribute Name: Entity_URL)
PredecessorName	String *Optional*	Name of associations with existing registered entities, which gave rise to a formation of the new Entity. (Old Attribute Name: N/A)
AddressLine1	String *Required*	Mailing address of Entity's business location. (Old Attribute Name: Address_Line_One)
AddressLine2	String *Optional*	Mailing address of Entity's business location. (Old Attribute Name: Address_Line_Two)
City	String *Required*	City of Entity's business location. (Old Attribute Name: City)
State	String *Required*	State of Entity's business location. (Old Attribute Name: State)
PostalCode	String *Required*	Postal Code of Entity's business location. (Old Attribute Name: Zip_Code)
CountryCode	String *Required*	Country Code of Entity's business location. (Old Attribute Name: Country)
PrimaryContactName	String *Required*	Name of primary contact for Entity business operations. (Old Attribute Name: Prim_Contact)
PrimaryContactPhoneNbr	String *Required*	Phone number of primary contact for Entity business operations. (Old Attribute Name: Prim_Phone)
PrimaryContactFaxNbr	String *Optional*	Fax number of primary contact for Entity business operations. (Old Attribute Name: Prim_Fax)
PrimaryContactEmail	String *Required*	Email address of primary contact for Entity business operations. (Old Attribute Name: Prim_Email)
AdminContactName	String *Optional*	Name of administrative contact for Entity business operations. (Old Attribute Name: Admin_Contact)
AdminContactPhoneNbr	String *Optional*	Phone number of administrative contact for Entity business operations. (Old Attribute Name: Admin_Phone)

Element Name	Data Type/ Requirement	Description/ Notes
AdminContactFaxNbr	String *Optional*	Fax number of administrative contact for Entity business operations. (Old Attribute Name: Admin_Fax)
AdminContactEmail	String *Optional*	Email address of administrative contact for Entity business operations. (Old Attribute Name: Admin_Email)
TaggingEntityID	Integer *Required*	The unique System Identifier associated to the object registration. (Old Attribute Name: Record_ID)

3.26.3 Method Specific Error Codes

None.

3.26.4 Sample XML

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:m0="http://www.oati.net/namespace/Registry/WREG_WebServices">
<soap:Body>
            <m:DownloadPendingEntity xmlns:m="http://www.oati.net/namespace">
            <m0:Version>Active</m0:Version>
            <m:DownloadPendingEntity>
        </soap:Body>
</soap:Envelope>
```
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3.26.5 Successful Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadPendingEntityRepsonse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:EntityStruct>
      <d2:ID>5115</d2: ID>
      <d2:Entity_Type>Observer</d2:Entity_Type>
      <d2:NERCID>100157</d2:NERCID>
      <d2:Duns>4444</d2:Duns>
      <d2:ShortName>T777</d2:ShortName>
      <d2:LongName>Test1234</d2:LongName>
      <d2:EntityCodeRole>T777</d2:EntityCodeRole >
      <d2:StartEffectiveDate>T777</d2:StartEffectiveDate >
      <d2:StopEffectiveDate>T777</d2:StopEffectiveDate >
      <d2:InitialDate>T777</d2 InitialDate>
      <d2:URL>T777</d2:URL>
      <d2:PredecessorName>T777</d2:PredecessorName>
      <d2:AdressLine1>T777</d2:AdressLine1>
      <d2:AdressLine2>T777</d2:AdressLine2>
      <d2:City>Blaine</d2:City>
      <d2:State>MN</d2:State>
      <d2:PostalCode>55443</d2:PostalCode>
      <d2:CountryCode>United State</d2:CountryCode>
      <d2:PrimaryContactName>Jane Doe</d2:PrimaryContactName>
      <d2:PrimaryPhoneNbr>7632012020</d2PrimaryPhoneNbr>
      <d2:PrimaryFaxNbr>7632012020</d2PrimaryFaxNbr>
      <d2:PrimaryContactEmail>test@test.com</d2:PrimaryContactEmail>
```
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```
      <d2:AdminContactName> Jane Doe</d2:AdminContactName>
      <d2:AdminPhoneNbr>7632012020</d2AdminPhoneNbr>
      <d2:AdminFaxNbr>7632012020</d2AdminFaxNbr>
      <d2:AdminContactEmail>test@test.com</d2:AdminContactEmail>
      <d2:TaggingEntityID>T777</d2:TaggingEntityID>
    <d2:EntityStruct>
   </d2:Success>
  </d2:OutputStruct>
 </d1:DownloadRROResponse>
</soap:Body>
</soap:Envelope>                                                          ©2018 OATI, Inc.
```

3.26.6 Failure Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadRegistryVersionResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/WREG_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                <d2:ErrorStruct>
                                <d2:ErrorCode>105</d2:ErrorCode>
                                <d2:ErrorCodeDesc>Invalid Version</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                        <d2:Error>
                        </d2:OutputStruct>
                </d1: DownloadRegistryVersionResponse>
        </soap:Body>                                                      ©2018 OATI, Inc.
```

3.27 DownloadPendingEntityCodeRole

3.27.1 Description

OATI webRegistry allows for the retrieval of new Pending Entity Code Role registration through the web service. The DownloadPendingEntityCodeRole method is accessible through the standard webRegistry web service mechanism. If Effective Date or Version is not provided, this query will return the last published Pending Entity Code Role registry.

3.27.2 Parameters

3.27.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the Pending Entity Code Role registry to be retrieved.
Version	String *Optional*	The version of the entities to be retrieved (i.e., ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.27.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
Success	Complex *Optional*	Element that encapsulates one or more BAStructs.
BAStruct	Complex *Required*	Element that encapsulates elements defining attributes for one Pending Entity Code Role registration.
ID	Integer *Required*	The unique System Identifier associated to the object registration. (Old Attribute Name: N/A)
LongName	String *Required*	Full official/legal Entity Role Code name. (Old Attribute Name: N/A)

Element Name	Data Type/ Requirement	Description/ Notes
Code	String *Required*	The code of the Entity role code registration. (Old Attribute Name: Tag_Code)
EntityName	String *Required*	The parent Entity responsible for this specific Entity Role Code. (Old Attribute Name: Entity_Name)
NERCID	Integer *Required*	Key that uniquely identifies a particular Entity within the current NERC registry. (Old Attribute Name: NERC_ID)
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the Entity registration. (Old Attribute Name: Begin_Date)
StopEffectiveDate	Date *Required*	The end date that delineates the time period of an Entity registration. (Old Attribute Name: End_Date)
ReliabilityAreaName	String *Optional*	Reliability Area name of Entity Role Code registration. (Old Attribute Name: SC_Code)
ReliabilityRegionName	String *Optional*	Reliability Region name of Entity Role Code registration. (Old Attribute Name: Region)
MarketAreaName	String *Optional*	Market Area name of Entity Role Code registration. (Old Attribute Name: N/A)
InterconnectionName	String *Optional*	Interconnection name of Entity Role Code registration. (Old Attribute Name: N/A)
BA	String *Optional*	Entity Role Code. (Old Attribute Name: N/A)
NHMBAMFlagStr	String *Optional*	Next Hour Market flag indicator. (Old Attribute Name: 0-NHMBAM_Flag)
MarketOperatorFlagStr	String *Optional*	MO flag indicator. (Old Attribute Name: MarketOperatorFlag) In compliance with Version 1.8.3 of the electronic tagging

Element Name	Data Type/ Requirement	Description/ Notes
		specification, the MO legacy attribute will be deprecated on the e-Tag 1.8.2 retirement date. Entities wanting to perform the MO function on interchange transactions must register under the MO role.
PseudoCAFlagStr	String *Optional*	Psuedo CA flag indicator. (Old Attribute Name: Pseudo_CA)
Hr24ContactName	String *Required*	24-hour contact name for Entity business operations. (Old Attribute Name: Contact24)
Hr24ContactPhoneNbr	String *Required*	24-hour contact phone number for Entity business operations. (Old Attribute Name: Phone24)
Hr24ContactFaxNbr	String *Optional*	24-hour contact fax number for Entity business operations. (Old Attribute Name: Fax)
Alt1ContactName	String *Optional*	Alternative contact name for business operations. (Old Attribute Name: ALT1Desc)
Alt1ContactPhoneNbr	String *Optional*	Alternative contact phone number for business operations. (Old Attribute Name: ALT1Phone)
Alt1ContactFaxNbr	String *Optional*	Alternative contact fax number for Entity business operations. (Old Attribute Name: N/A)
Alt2ContactName	String *Optional*	Alternative contact name for business operations. (Old Attribute Name: ALT2Desc)
Alt2ContactPhoneNbr	String *Optional*	Alternative contact phone number for business operations. (Old Attribute Name: ALT2Phone)
Alt2ContactFaxNbr	String *Optional*	Alternative contact fax number for Entity business operations. (Old Attribute Name: N/A)
Alt3ContactName	String *Optional*	Alternative contact name for business operations. (Old Attribute Name: ALT3Desc)
Alt3ContactPhoneNbr	String *Optional*	Alternative contact phone number for business operations. (Old Attribute Name: ALT3Phone)

Element Name	Data Type/ Requirement	Description/ Notes
Alt3ContactFaxNbr	String *Optional*	Alternative contact fax number for Entity business operations. (Old Attribute Name: N/A)
AgentURL	String *Optional*	Tag Agent service URL for Entity Role Code registration. (Old Attribute Name: Agent_URL)
AuthorityURL	String *Optional*	Tag Authority service URL for Entity Role Code registration. (Old Attribute Name: Authority_URL)
ApprovalURL	String *Optional*	Tag Approval service URL for Entity Role Code registration. (Old Attribute Name: Approval_URL)
ForwardURL	String *Optional*	Tag Forwarding service URL for Entity Role Code registration. (Old Attribute Name: Forward_URL)
TaggingEntityID	Integer *Required*	The unique System Identifier associated to the object registration. (Old Attribute Name: TaggingEntityID)

3.27.3 Method Specific Error Codes

None.

3.27.4 Sample XML

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:m0="http://www.oati.net/namespace/Registry/WREG_WebServices">
<soap:Body>
                <m:DownloadPendingentityCodeRole xmlns:m="http://www.oati.net/namespace">
                <m0:Version>Active</m0:Version>
                <m:DownloadPendingEntityCodeRole>
        </soap:Body>
</soap:Envelope>
```
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3.27.5 Successful Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadPendingEntityCodeRole xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:BAStruct>
      <d2:ID>4598</d2:ID>
      <d2:LongName>OATI</d2:LongName>
      <d2:Code>TRRO</d2:Code>
      <d2:EntityName>OATI</d2:EntityName>
      <d2:NERCID>583</d2: NERCID>
      <d2:StartEffectiveDate>02/15/2013</d2:StartEffectiveDate>
```
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```
        <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
        <d2:ReliabilityAreaName></d2:ReliabilityAreaName>
        <d2:ReliabilityRegionName></d2:ReliabilityRegionName>
        <d2:MarketAreaName></d2:MarketAreaName >
        <d2:InterconnectionName></d2:InterconnectionName >
        <d2:BA>T777</d2:BA>
        <d2:NHMBAMFlagStr>webCARES Support2</d2:NHMBAMFlagStr>
        <d2:MarketOperatorFlagStr>webCARES Support2</d2:MarketOperatorFlagStr>
        <d2:PseudoCAFlag>webCARES Support2</d2:PseudoCAFlag>
        <d2:Hr24ContactName>webCARES Support2</d2:Hr24ContactName>
        <d2:Hr24ContactPhoneNbr>763-201-2020</d2:Hr24ContactPhoneNbr>
        <d2:Hr24ContactFaxNbr>763-201-2020</d2:Hr24ContactFaxNbr>
        <d2:Alt1ContactName></d2:Alt1ContactName>
        <d2:Alt1ContactName></d2:Alt1ContactName>
        <d2:Alt1ContactName></d2:Alt1ContactName>
        <d2:Alt2ContactName></d2:Alt2ContactName>
        <d2:Alt2ContactName></d2:Alt2ContactName>
        <d2:Alt2ContactName></d2:Alt2ContactName>
        <d2:Alt3ContactName></d2:Alt3ContactName>
        <d2:Alt3ContactName></d2:Alt3ContactName>
        <d2:Alt3ContactName></d2:Alt3ContactName>
      </d2:BAStruct>
    </d2:Success>
  </d2:OutputStruct>
 </d1:DownloadPendingEntityCodeRole>
 </soap:Body>
</soap:Envelope>                                                    ©2018 OATI, Inc.
```

3.27.6 Failure Response

```
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
        <soap:Body>
                <d1:DownloadPendingEntityCodeRoleResponse xmlns:d1="http://www.oati.net/namespace">
                        <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/WREG_WebServices">
                                <d2:ReturnCode>1</d2:ReturnCode>
                                <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
                                <d2:Error>
                                <d2:ErrorStruct>
                                <d2:ErrorCode>105</d2:ErrorCode>
                                <d2:ErrorCodeDesc>Invalid Version</d2:ErrorCodeDesc>
                                        </d2:ErrorStruct>
                                        <d2:Error>
                        </d2:OutputStruct>
                </d1:DownloadPendingEntityCodeRoleResponse>
        </soap:Body>
</soap:Envelope>                                                    ©2018 OATI, Inc.
```

3.28 DownloadSourceSinkPointType

3.28.1 Description

OATI webRegistry allows for the retrieval of Source Sink Point Type information through the web service. The DownloadSourceSinkPointType method is accessible through the standard webRegistry web service mechanism.

3.28.2 Parameters

3.28.2.1 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.

Element Name	Data Type/ Requirement	Description/ Notes
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully and SUCCESS outcome means the retrieval have been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
Success	Complex *Optional*	Element that encapsulates one or more VersionTypeStructs.
PointTypeStruct	Complex *Required*	Element that encapsulates elements defining attributes for one Source Sink Point Type object. (Old Attribute Name: N/A)
PointTypeID	Integer *Required*	The ID associated to the Source Sink Point Type. (Old Attribute Name: SourceSinkRoleID)
PointTypeName	String *Required*	The Name of the Source Sink Point Type. (Old Attribute Name: SourceSinkRoleDesc)

3.28.3 Method Specific Error Codes

None.

3.28.4 Sample XML

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:m0="http://www.oati.net/namespace/Registry/WREG_WebServices">
<soap:Body>
                    <m:DownloadSourceSinkPointType xmlns:m="http://www.oati.net/namespace">
        </soap:Body>
</soap:Envelope>
```
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3.28.5 Successful Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadSourceSinkPointType xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2:PointTypeStruct>
      <d2:PointTypeID>1</d2:PointTypeID>
      <d2:PointTypeName>Source</d2:PointTypeName>
     </d2:PointTypeStruct>
     <d2:PointTypeStruct>
      <d2:PointTypeID>2</d2:PointTypeID>
      <d2:PointTypeName>Sink</d2:PointTypeName>
     </d2:PointTypeStruct>
     <d2:PointTypeStruct>
      <d2:PointTypeID>3</d2:PointTypeID>
      <d2:PointTypeName>Source/Sink</d2:PointTypeName>
     </d2:PointTypeStruct>
    </d2:Success>
   </d2:OutputStruct>
  </d1:DownloadPendingEntityCodeRole>
 </soap:Body>
</soap:Envelope>
```
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3.29 DownloadPseudoTie

3.29.1 Description

OATI webRegistry allows for the retrieval of Pseudo-Tie information through the web service. The DownloadPseudoTie method is accessible through the standard webRegistry web service mechanism.

3.29.2 Parameters

3.29.2.1 Input Parameters

Element Name	Data Type/ Requirement	Description/ Notes
EffectiveDate	Date *Optional*	The effective date of the Pseudo-Tie registry to be retrieved.

Element Name	Data Type/ Requirement	Description/ Notes
Version	String *Optional*	The version of the Pseudo-Tie to be retrieved (i.e., ACTIVE, PENDING, FUTURE, or ARCHIVED).

3.29.2.2 Output Parameters

Element Name	Data Type/ Requirement	Description/ Notes
OutputStruct	Complex *Required*	Element that encapsulates the output elements.
ReturnCode	ReturnCode *Required*	The outcome of the processing of the method. 0 for SUCCESS and 1 for FAILURE. Since the payload can only have one EffectiveDate, FAILURE outcome means the retrieval cannot be processed successfully; SUCCESS outcome means the retrieval has been processed successfully.
ReturnCodeDesc	ReturnCodeDesc *Required*	The outcome of the processing of the method in string. The possible values are SUCCESS or FAILURE.
Error	Complex *Optional*	Element that encapsulates one or more ErrorStruct elements.
ErrorStruct	Complex *Required*	Element that encapsulates the error information.
ErrorCode	Integer *Required*	The error code based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section.
ErrorCodeDesc	String *Required*	The error code description based on the list provided in 'Method Specific Error Codes' section or in 'Generic Error Codes' section. In addition, additional error messages will be included as well if needed.
Success	Complex *Optional*	Element that encapsulates one or more VersionTypeStructs.
PseudoTieStruct	Complex *Required*	Element that encapsulates elements defining attributes for one Pseudo-Tie object. (Old Attribute Name: N/A)

Element Name	Data Type/ Requirement	Description/ Notes
ID	Integer *Required*	The unique ID associated to the Pseudo-Tie. (Old Attribute Name: N/A)
PseudoTieComment	String *Required*	The comment associated to the Pseudo-Tie. (Old Attribute Name: N/A)
IsExistingPseudoTie	String *Required*	Indicates if the Pseudo-Tie object is an existing Pseudo-Tie. (Old Attribute Name: N/A)
SourceBAName	String *Required*	Name of the Source service point's BA. (Old Attribute Name: N/A)
SourceName	String *Required*	Name of the Source service point. (Old Attribute Name: N/A)
SourceRCName	String *Optional*	Name of the Source service point's RC. (Old Attribute Name: N/A)
SourceContractNbr	String *Optional*	Contract number associated to the Source segment. (Old Attribute Name: N/A)
SinkBAName	String *Required*	Name of the Sink service point's BA. (Old Attribute Name: N/A)
SinkName	String *Required*	The Name of the Sink service point. (Old Attribute Name: N/A)
SinkRCName	String *Optional*	Name of the Sink service point's RC.
SinkContractNbr	String *Optional*	The contract number associated the Sink segment. (Old Attribute Name: N/A)
StartEffectiveDate	Date *Required*	The start date that delineates the time period of the Pseudo-Tie registration. (Old Attribute Name: N/A)
StopEffectiveDate	Date *Required*	The end date that delineates the time period of the Pseudo-Tie registration. (Old Attribute Name: N/A)

Element Name	Data Type/ Requirement	Description/ Notes
PseudoTieSegments	Complex *Required*	Element that encapsulates elements defining attributes for Pseudo-Tie Segment objects. (Old Attribute Name: N/A)
PseudoTieSegment	Complex *Required*	Element that encapsulates elements defining attributes for one Pseudo-Tie Segment object. (Old Attribute Name: N/A)
SegmentNbr	Integer *Required*	The segment number. (Old Attribute Name: N/A)
TSPName	String *Required*	The name of the TSP associated to the POR and POD of the segment. (Old Attribute Name: N/A)
PORName	String *Required*	The name of the POR service point of the segment. (Old Attribute Name: N/A)
PODName	String *Required*	The name of the POD service point of the segment. (Old Attribute Name: N/A)
BAName	String *Required*	The name of the BA (Scheduling Entity) associated to the POR and POD of the segment. (Old Attribute Name: N/A)
RCName	String *Optional*	The name of the RC associated to the BA of the segment. (Old Attribute Name: N/A)
ContractNbr	String *Required*	The contract number associated the segment. (Old Attribute Name: N/A)

3.29.3 Method Specific Error Codes

None.

3.29.4 Sample XML

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:m0="http://www.oati.net/namespace/Registry/WREG_WebServices">
<soap:Body>
        <m:DownloadPseudoTie xmlns:m="http://www.oati.net/namespace">
        <m0:Version>Active</m0:Version>
        <m:DownloadPendingEntityCodeRole>
        </soap:Body>
</soap:Envelope>
```

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3.29.5 Successful Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadPendingEntityCodeRole xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/Registry/WREG_WebServices">
    <d2:ReturnCode>0</d2:ReturnCode>
    <d2:ReturnCodeDesc>SUCCESS</d2:ReturnCodeDesc>
    <d2:Success>
     <d2: PseudoTieStruct>
      <d2:ID>20</d2:ID>
      <d2:PseudoTieComment>test tie</d2:PseudoTieComment>
      <d2:IsExistingPseudoTie>Yes</d2:IsExistingPseudoTie>
      <d2:SourceBAName>BA1</d2:SourceBAName>
      <d2:SourceName>AECC21Source2</d2:SourceName>
      <d2:SourceRCName>BYOR2</d2:SourceRCName>
      <d2:SourceContractNbr></d2:SourceContractNbr>
      <d2:SinkBAName>QUSL</d2:SinkBAName>
      <d2:SinkName>QUSL2</d2:SinkName>
      <d2:SinkRCName>MISO</d2:SinkRCName>
      <d2:SinkContractNbr></d2:SinkContractNbr>
      <d2:StartEffectiveDate>04/13/2015</d2:StartEffectiveDate>
      <d2:StopEffectiveDate>01/01/3000</d2:StopEffectiveDate>
      <d2:PseudoTieSegments>
       <d2:PseudoTieSegment>
        <d2:SegmentNbr>1</d2:SegmentNbr>
        <d2:TSPName>BYOT</d2:TSPName>
        <d2:PORName>BYOEPoint1</d2:PORName>
        <d2:PODName>BYOEPoint2</d2:PODName>
        <d2:BAName>NPP</d2:BAName>
        <d2:RCName>QUSL</d2:RCName>
        <d2:ContractNbr>ABC</d2:ContractNbr>
       </d2:PseudoTieSegment>
       <d2:PseudoTieSegment>
        <d2:SegmentNbr>2</d2:SegmentNbr>
        <d2:TSPName>BYOT</d2:TSPName>
        <d2:PORName>BYOEPoint5</d2:PORName>
        <d2:PODName>BYOEPoint7</d2:PODName>
        <d2:BAName>NPP</d2:BAName>
        <d2:RCName>QUSL</d2:RCName>
        <d2:ContractNbr>wer23</d2:ContractNbr>
       </d2:PseudoTieSegment>
       <d2:PseudoTieSegment>
        <d2:SegmentNbr>3</d2:SegmentNbr>
        <d2:TSPName>BYOT</d2:TSPName>
        <d2:PORName>BYOEPoint8</d2:PORName>
        <d2:PODName>BYOEPoint5</d2:PODName>
        <d2:BAName>NPP</d2:BAName>
        <d2:RCName>QUSL</d2:RCName>
        <d2:ContractNbr>4545</d2:ContractNbr>
       </d2:PseudoTieSegment>
      </d2:PseudoTieSegments>
     </d2:PseudoTieStruct>
    </d2:Success>
   </d2:OutputStruct>
  </d1:DownloadPseudoTieResponse>
 </soap:Body>
</soap:Envelope>
```

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3.29.6 Failure Response

```xml
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
 <soap:Body>
  <d1:DownloadPseudoTieResponse xmlns:d1="http://www.oati.net/namespace">
   <d2:OutputStruct xmlns:d2="http://www.oati.net/namespace/webRegistry/WREG_WebServices">
    <d2:ReturnCode>1</d2:ReturnCode>
    <d2:ReturnCodeDesc>FAILURE</d2:ReturnCodeDesc>
    <d2:Error>
    <d2:ErrorStruct>
    <d2:ErrorCode>105</d2:ErrorCode>
    <d2:ErrorCodeDesc>Invalid Version</d2:ErrorCodeDesc>
     </d2:ErrorStruct>
     <d2:Error>
   </d2:OutputStruct>
  </d1:DownloadPseudoTieResponse>
 </soap:Body>
</soap:Envelope>
```

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4. Specific Data Type Definitions

Data Type Name	Base Type	Description/ Notes
EntityCodeRole	String	Enumerations with possible values of the list of Roles (e.g., BA, TSP, etc.).
PointTypeName	String	Enumerations with possible values of POR, POD, Source, Sink, or Both.
Date	String	Only positive integers are allowed (i.e., regular expression pattern of [0-1][0-9]/[0-3][0-9]/[0-9][0-9][0-9][0-9]).
ReturnCode	String	Only 1 or 0 is allowed (i.e., regular expression pattern of [0-1]). 1 = FAILURE; 0 = SUCCESS.
ReturnCodeDesc	String	Enumerations with possible values of SUCCESS or FAILURE.

5. Specific Element Name Definitions

Element Name	Data Type	Additional Description/ Notes
StartEffectiveDate	Date	The first date the version of the registered object will be available for inclusion in the publication. The registered object is valid at 00:00 CST on the date of which the object is published.
StopEffectiveDate	Date	The registered object is valid for the entire duration of the StopEffectiveDate. Only until the next date after the StopEffectiveDate (at 00:00) is the registered object not valid.

6. Generic Error Codes

- 100 – Invalid Date

- 105 – Invalid Version

- 110 – Effective Date must be specified if you are downloading Future or Archived publication

- 115 – No objects can be found that matches the specified criteria

- 900 – Schema Validation Error

- 990 – Another Instance of the method is currently running

- 995 – Internal Error

7. OATI webRegistry Technical Guide Changes Log

Version	Change Type	Description/ Notes
v2.2	Addition	Added Section – webRegistry Technical Guide Changes Log. Added Section – Specific Element Name Definitions
V3.0	Update & Addition	Update Section – webRegistry FTP File Content (Retirement of CSV and MDB publication files.) Added web service method – DownloadASP, DownloadControlZone, DownloadERO, DownloadInterconnection, DownloadMO, DownloadMRDResource, DownloadPKICA, DownloadPORPODPointType, DownloadRegistryVersion, DownloadRRO, DownloadPendingEntity, DownloadPendingEntityCodeRole, DownloadSourceSinkPointType
V3.1	Addition	Added XML files description section 6.4.22 through 6.4.42 Added ExpirationDate element to XML – ERO.xml, PKICA.xml, RRO.xml, ASP.xml, PSE.xml, BA.xml, MO.xml, RC.xml, TSP.xml Added ExpirationDate element to web service response – DownloadASP, DownloadBA, DownloadERO, DownloadMO, DownloadPKICA, DownloadPSE, DownloadRC, DownloadRRO, DownloadTSP
V4.0	Addition	Added web service method – DownloadPseudoTie Added XML files description Section 7.4.43
V5.0	Deletion	Removed Section 7.0 – XML Information Removed Section 8.0 - Existing TSIN Registry CSV Attributes Removed Section 9.0 – Existing WECC Registry CSV Attributes
V6.0	Update & Addition	Removed references to TSIN in XML descriptions. Updated to include changes for the MO change

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