Schema Release

AseXML Schema Working Group

Release r33

Draft Release Date: 8/11/2013

Final Release Date: 06/12/2013

Document History

Version	Date	Authors	Comments
0.1	03/12/13	Matthew Lohmann and Pius Kurian	Initial draft
1.1	05/12/13	Pius Kurian	Included Comments from Matthew Lohmann and Bevan Cole

Contents

1. Introduction

Version r33 of the aseXML schema has been developed from r32. This schema release is presented to aseXML Subscribers and Industry Participants for review, and to AEMO for approval, in accordance with the ASWG Terms of Reference.

2. Change Requests

The following ASWG Change Requests have been included in this schema release:

CR#	Description
54 v1.1	This Change Proposal is to make the version attribute of all transactions optional with a default value. This has already been done for some transactions, now the plan is to do the same for all remaining transactions. The original type assigned to the version attribute will be retained. During the process of identification of changes the following three variants of version attribute definition were found. They will be addressed as specified. • In most places the attribute is defined as use=required without any default. In these cases it will be made optional with default value. • In some places the attribute is defined as use=optional but no default value has been specified. The default value will be added in those cases. • In some places the attribute has been assigned a default value but the use=optional/required is not specified. The attribute will be made use=optional in those cases.
55 v1.4	A requirement of the Solar Forecasting project is that participants in the NEM are able to provide availability forecast data for intermittent generators by file rather than by existing web screens. AEMO has taken the view that such new file formats should reflect the industry strategy and follow the aseXML format, building on previous work done in this area.

These Change Requests are available from the ASWG or the aseXML website (http://au.groups.yahoo.com/group/aseXMLTech/files/aseXML Schemas/Schema Change Requests/) for review by all impacted parties.

3. Impact Summary

This table identifies the files, transactions and versioned types that are changed in this schema, where:

- Modified types - is a full list of types changed in this schema
- Derived types – is a list of any types that are derived from a modified type, and are therefore also modified by default
- Versioned types affected – is a list of all versioned types that will need to have the version attribute updated to use this schema
- Transactions potentially affected – is a list of all transactions that contain a modified type, either directly or via a type substitution
- Schema files affected – is a list of schema files that have been changed in some way for this schema.

3.1. CR 54.

Modified type	Derived types	Versioned types affected	Transactions potentially affected	Schema files affected
		CATSBulkDataRequest CATSBulkDataResponse	CATSBulkDataRequest CATSBulkDataResponse	BulkDataTool_r15.xsd
		DateRangeReportParameters (The following are currently defined as optional without a default value, default value needs to be added) CATSStandingDataQualityReportParameters MDMTMeterDataDeliveryReportParameters CATSSDRTrafficLightReportParameters	ReportRequest ReportResponse ReportRequest ReportResponse	CATSReports_r32.xsd

Modified type	Derived types	Versioned types affected	Transactions potentially affected	Schema files affected
		(The following are currently defined to have version attribute as optional without a default value, default value needs to be added to the attribute) DistributionLossFactorCodeRow CATSNetworkTariffCodeRow CATSStreamlinedCRCodeRow MSATSCodeValuesRow CATSChangeInitiationRuleRow CATSStandingDataAccessRuleRow CATSTransactionFieldValidationRow ElectricityNMIMasterRow ElectricityNMIMeterRow ElectricityNMIMeterRegisterRow ElectricityNMIMasterRowBDT ElectricityNMIMeterRowBDT ElectricityNMIRoleRowBDT ElectricityNMIMeterRegisterRowBDT	ReplicationNotification	CATSTableReplication_r31.xsd
		CurrentRetailerConfirmationRequest CurrentRetailerConfirmationResponse	CurrentRetailerConfirmationRequest CurrentRetailerConfirmationResponse	Common_r31.xsd
		SiteAccessDetails AmendMeterRouteDetails	CustomerDetailsRequest CustomerDetailsNotification AmendMeterRouteDetails	CustomerDetails_r32.xsd

Modified type	Derived types	Versioned types affected	Transactions potentially affected	Schema files affected
		(The following are currently defined to have version attribute as optional without a default value, default value needs to be added to the attribute) ElectricityServiceOrderType ServiceOrderRequestData ElectricityServiceOrderNotificationData ElectricityProvideMeterRequestData ElectricityVerifyMeterRequestData	 ServiceOrderRequest ServiceOrderResponse MeterDataMissingNotification MeterDataVerifyRequest	Electricity_r31.xsd
		FaultInformationRequest FaultNotification FaultOutageAdvice	FaultInformationRequest FaultNotification FaultOutageAdvice	Faults_r15.xsd
		GasServiceOrderType GasServiceOrderNotificationData GasMeterVerifyRequestData GasMeterVerifyResponseData GasSingleHistoryRequestData GasMeterNotification MeteredSupplyPointsCountUpdate	 ServiceOrderResponse MeterDataVerifyRequest MeterDataVerifyResponse MeterDataHistoryRequest GasMeterNotification MeteredSupplyPointsCountUpdate	Gas_r31.xsd

Modified type	Derived types	Versioned types affected	Transactions potentially affected	Schema files affected
		(The following are currently defined to have default value for version attribute but the attribute is not defined as optional) HSMMonitorDataRequest HSMMonitorDataResponse HSMDataInventoryRequest HSMDataInventoryResponse HSMTriggersRequest HSMTriggersResponse HSMMonitorsRequest HSMMonitorsResponse	HSMMonitorDataRequest HSMMonitorDataResponse HSMDataInventoryRequest HSMDataInventoryResponse HSMTriggersRequest HSMTriggersResponse HSMMonitorsRequest HSMMonitorsResponse	HighSpeedMonitoring_r26.xsd
		(The following are currently defined to have version attribute as optional without a default value, default value needs to be added to the attribute) MDMTMissingDataReportParameters MDMTSettlementCaseDateRangeReportParameters MDMTLevel2SettlementReconciliationReportParameters	ReportRequest ReportResponse	MDMTReports_r31.xsd

Modified type	Derived types	Versioned types affected	Transactions potentially affected	Schema files affected
		MeterDataVerifyRequest MeterDataVerifyResponse MeterDataHistoryRequest MeterDataHistoryResponse AccountCreationNotification MeterReadInputNotification MeterDataMissingNotification MeterDataNotification SettlementDataNotification MeterReadingReferenceDataRequest MeterReadingReferenceDataResponse	MeterDataVerifyRequest MeterDataVerifyResponse MeterDataHistoryRequest MeterDataHistoryResponse AccountCreationNotification MeterReadInputNotification MeterDataMissingNotification MeterDataNotification SettlementDataNotification MeterReadingReferenceDataRequest MeterReadingReferenceDataResponse	MeterDataManagement_r29.xsd
		NetworkDUoSBillingNotification NetworkInvoiceNotification DisputeNotification RemittanceNotification DisputeResponse CreditNotification (The following are currently defined to have version attribute as optional without a default value, default value needs to be added to the attribute) NUOS EventCharge GSL ExcludedService InterestCharge	NetworkDUoSBillingNotification NetworkInvoiceNotification DisputeNotification RemittanceNotification DisputeResponse CreditNotification TBA	NetworkBilling_r15.xsd

Modified type	Derived types	Versioned types affected	Transactions potentially affected	Schema files affected
		NMIDiscoveryRequest NMIDiscoveryResponse NMIStandingDataRequest NMIStandingDataResponse NMIStandingDataUpdateNotification	NMIDiscoveryRequest NMIDiscoveryResponse NMIStandingDataRequest NMIStandingDataResponse NMIStandingDataUpdateNotification	NMIDataAccess_r31.xsd
		NOSBookingResponse (The following are currently defined to have version attribute as optional without a default value, default value needs to be added to the attribute) NOSBookingInfoRequest	NOSBookingResponse NOSBookingInfoRequest	NOSBooking_r28.xsd
		NOSEquipmentSubmission NOSEquipmentInfoRequest NOSEquipmentResponse	NOSEquipmentSubmission NOSEquipmentInfoRequest NOSEquipmentResponse	NOSEquipment_r18.xsd
		OneWayNotification	OneWayNotification	OneWayNotification_r25.xsd
		ReportRequest ReportResponse (The following is currently defined to have version attribute as optional without a default value, default value needs to be added to the attribute) GenericReportParameters	ReportRequest ReportResponse	Reports_r22.xsd
		ServiceOrderRequest ServiceOrderResponse FieldWorkNotification	ServiceOrderRequest SpecialReadRequest ServiceOrderResponse SpecialReadResponse	ServiceOrder_r17.xsd

Modified type	Derived types	Versioned types affected	Transactions potentially affected	Schema files affected
		ReplicationRequest ReplicationNotification	ReplicationRequest ReplicationNotification	TableReplication_r15.xsd

3.2. CR 55

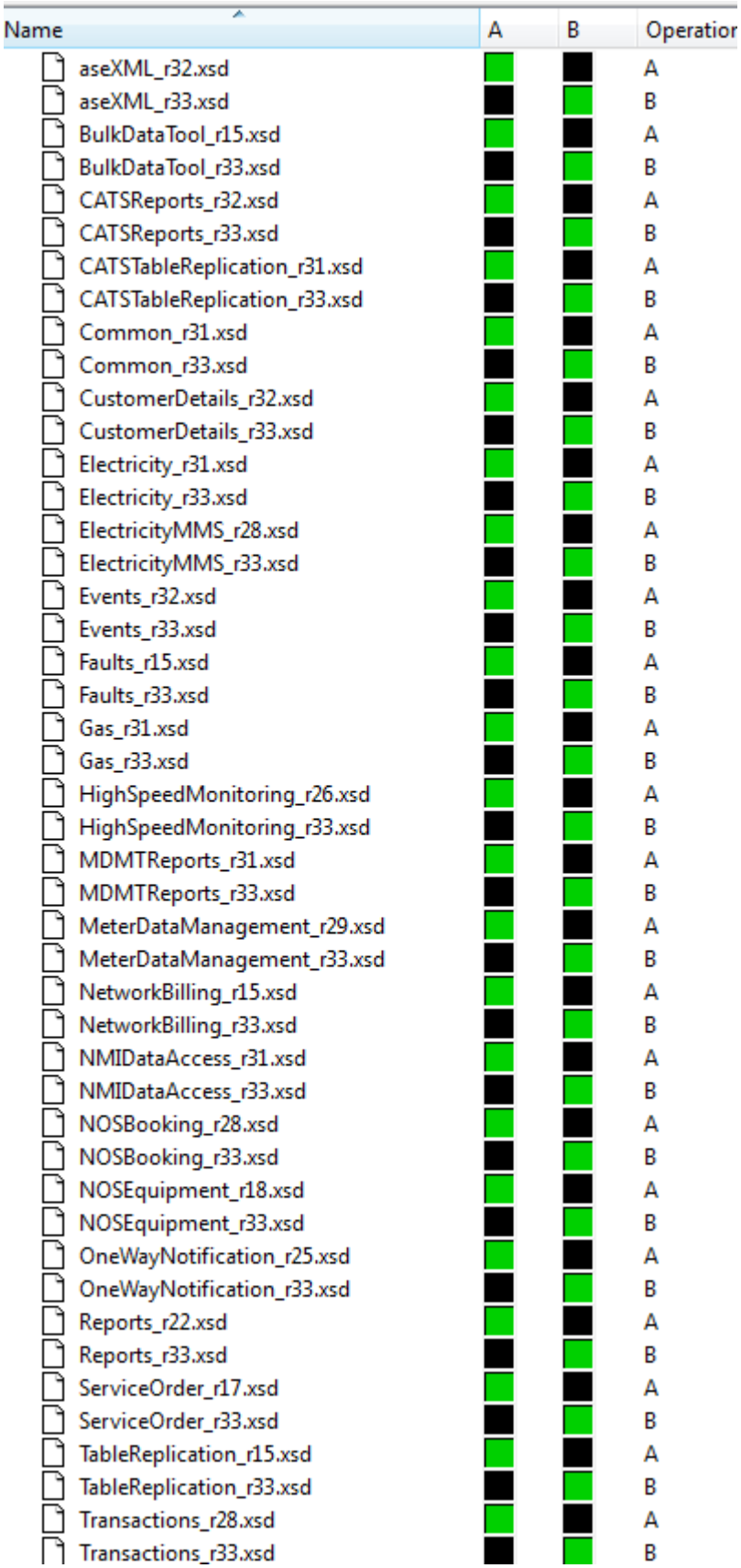
The change for Intermittent Gen Availability is an addition of a completely new Transaction, and the removal of an existing Transaction. However, the change will have no impact as the existing Transaction is not in active use by participant or AEMO systems. AEMO has never and will not accept Transactions of the existing MMSWindAvailabilityRequest type.

Modified type	Derived types	Versioned types affected	Transactions potentially affected	Schema files affected
Deprecated Complex Types MMSMtPasaWindAvailability MMSClusterWindAvailability MMSUpperLimitsWindAvailability MMSWindAvailabilityRequest New Complex Types MMSMtPasaIntermittentGenAvailability MMSClusterIntermittentGenAvailability MMSUpperLimitsIntermittentGenAvailability MMSIntermittentGenAvailabilityRequest			MMSWindAvailabilityRequest	ElectricityMMS_r33.xsd
Deprecated Complex Types MMSWindAvailabilityRequest New Complex Types MMSIntermittentGenAvailabilityRequest			MMSIntermittentGenAvailabilityRequest	Transactions_r33.xsd

4. File Change Summary

The following file changes are implemented to create the r32 schema version as shown in the comparison of directorys in the picture below taken from KDiff3:

- AseXml
- BulkDataTolls
- CATSReports
- CATSTableReplication
- Common
- CustomerDetails
- Events
- Faults
- Gas
- MeterDataManagement
- HighSpeedMonitoring
- MDMTReports
- MeterDataManagement
- NetworkBilling
- NMIDataAccess
- NOSBooking
- NOSEquipment
- OneWayNotification
- Reports
- ServiceOrder
- TableReplication
- Transactions



Name	A	B	Operation
aseXML_r32.xsd			A
aseXML_r33.xsd			B
BulkDataTool_r15.xsd			A
BulkDataTool_r33.xsd			B
CATSReports_r32.xsd			A
CATSReports_r33.xsd			B
CATSTableReplication_r31.xsd			A
CATSTableReplication_r33.xsd			B
Common_r31.xsd			A
Common_r33.xsd			B
CustomerDetails_r32.xsd			A
CustomerDetails_r33.xsd			B
Electricity_r31.xsd			A
Electricity_r33.xsd			B
ElectricityMMS_r28.xsd			A
ElectricityMMS_r33.xsd			B
Events_r32.xsd			A
Events_r33.xsd			B
Faults_r15.xsd			A
Faults_r33.xsd			B
Gas_r31.xsd			A
Gas_r33.xsd			B
HighSpeedMonitoring_r26.xsd			A
HighSpeedMonitoring_r33.xsd			B
MDMTReports_r31.xsd			A
MDMTReports_r33.xsd			B
MeterDataManagement_r29.xsd			A
MeterDataManagement_r33.xsd			B
NetworkBilling_r15.xsd			A
NetworkBilling_r33.xsd			B
NMIDataAccess_r31.xsd			A
NMIDataAccess_r33.xsd			B
NOSBooking_r28.xsd			A
NOSBooking_r33.xsd			B
NOSEquipment_r18.xsd			A
NOSEquipment_r33.xsd			B
OneWayNotification_r25.xsd			A
OneWayNotification_r33.xsd			B
Reports_r22.xsd			A
Reports_r33.xsd			B
ServiceOrder_r17.xsd			A
ServiceOrder_r33.xsd			B
TableReplication_r15.xsd			A
TableReplication_r33.xsd			B
Transactions_r28.xsd			A
Transactions_r33.xsd			B

4.1. aseXML

- Changed aseXML namespace and file references to reflect r33 schema

4.2. Changes

Chg #	Item #	Description of change	Filename
CR 54	1	In cases where version attribute is defined as use=optional but does not have a default value defined, include default value The versioned types to be changed in each of the files are listed in an embedded spread sheet below Table 3-1.	BulkDataTool_r15.xsd CATSReports_r33.xsd Common_r33.xsd CustomerDetails_r33.xsd Faults_r33.xsd Gas_r33.xsd MeterDataManagement_r33.xsd NetworkBilling_r33.xsd NMIDataAccess_r33.xsd NOSBooking_r33.xsd NOSEquipment_r33.xsd OneWayNotification_r33.xsd Reports_r33.xsd ServiceOrder_r33.xsd TableReplication_r33.xsd
CR 54	2	Add the default value to attribute version for following complex types (which are already defined to have the version attribute as optional but do not have a default value) The versioned types to be changed in each of the files are listed in an embedded spread sheet below Table 3-1.	CATSReports_r33.xsd CATSTableReplication_r33.xsd Electricity_r33.xsd MDMTReports_r33.xsd MeterDataManagement_r33.xsd NOSBooking_r33.xsd NetworkBilling_r33.xsd Reports_r33.xsd
CR 54	3	In following cases where version attribute has a default value but use=optional/required is not specified, change it to use=optional The versioned types to be changed in each of the files are listed in an embedded spread sheet below Table 3-1.	HighSpeedMonitoring_r33.xsd
CR 54	4	Change the xmlns URN and version number of the schema	aseXML_r33.xsd
CR 54	5	Add simpleType r33	Events_r33.xsd
CR 55	1	Removed MMSWindAvailabilityRequest from the list of Transactions. Added MMSIntermittentGenAvailabilityRequest to the list of Transactions.	Transactions_r33.xsd
CR 55	2	ElectricityMMS_r28.xsd modified to contain new transaction and specific complex types	ElectricityMMS_r33.xsd
CR 55	3	Updated schema namespace to urn:aseXML:r33, new include to refer to the file added, and changed the version numbers of modified files.	aseXML_r33.xsd
CR 55	4	Add new type r33 for new schema version	Events_r33.xsd

Table 4-1 Change Log

4.2.1 Schema change description

Change Proposal 54 is to make the version attribute of all transactions optional with a default value. This has already been done for some transactions, now the plan is to do the same for all remaining transactions. The original type assigned to the version attribute will be retained.

Details of CR 55 are given below:

1. Schema File Transactions

… unmodified text removed for brevity …

~~<xsd:element name="MMSWindAvailabilityRequest" type="MMSWindAvailabilityRequest"/>~~

<xsd:element name="MMSIntermittentGenAvailabilityRequest" type="MMSIntermittentGenAvailabilityRequest"/>

2. Schema File ElectricityMMS_r33.xsd

This is a new file containing the definitions for intermittent gen availability.

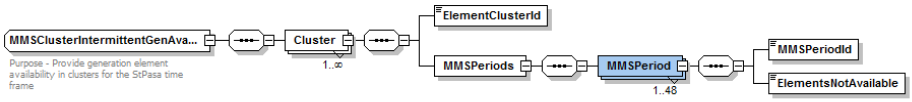


Figure 4-1 MMSClusterIntermittentGenAvailability

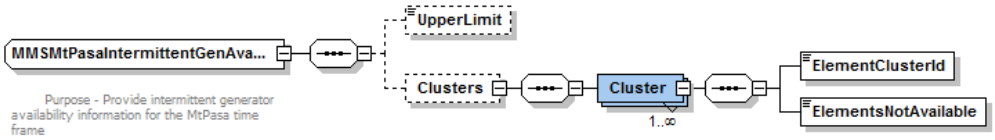


Figure 4-2 MMSMtPasaIntermittentGenAvailability

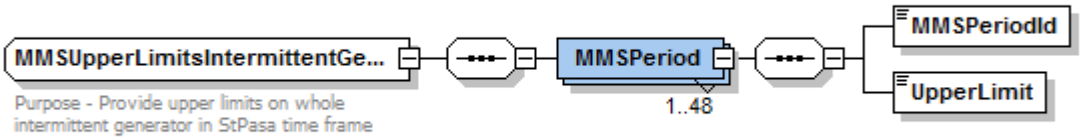


Figure 4-3 MMSUpperLimitsIntermittentGenAvailability

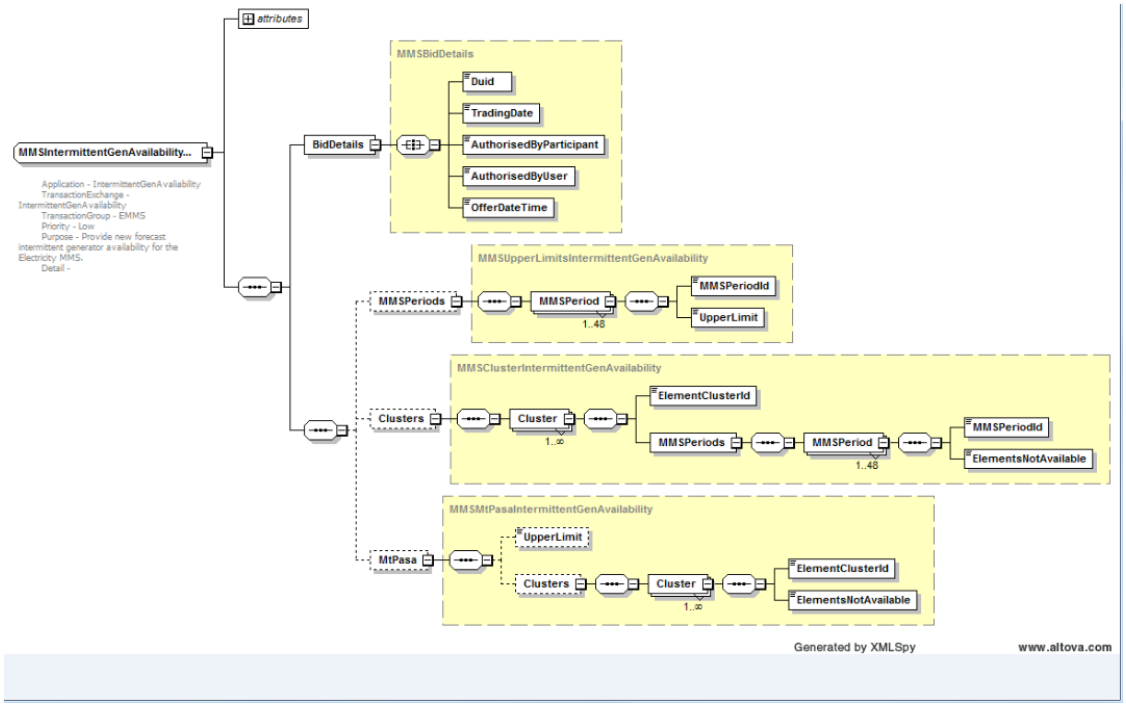


Figure 4-4 MMSIntermittentGenAvailabilityRequest

4.2.1.1.1 Text View

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <xsd:annotation>
    <xsd:documentation>
      This schema file is part of the aseXML schema set, and is subject to the terms
      and conditions that are detailed in the aseXML_r*.xsd schema file with which this file is
      used
    </xsd:documentation>
  </xsd:annotation>
  <xsd:annotation>
    <xsd:documentation>
~~Purpose - Define the transaction exchanges needed by the "EMMS Wind Availability Loader" application~~
~~Detail - This schema contains the necessary transaction exchange to support a request~~
~~to change the forecast wind farm availability.~~

~~The essential information is in BidDetails and identifies the wind farm by "Duid" and the time frame by~~
~~"TradingDate". The other tags are essential.~~

~~The rest of the win availability is in three sections, all and any can occur. Periods allows the half hourly~~
~~upper limits on the wind farm to be specified. Clusters allows the half hourly number of turbines out of service~~
~~in each cluster of the wind farm. A cluster is usually a set of turbines of the same tytpe and a wind farm can~~
~~have more than one cluster.~~
      Purpose - Define the transaction exchanges needed by the "EMMS IntermittentGenAvailability Loader" application
      Detail - This schema contains the necessary transaction exchange to support a request
      to change the forecast wind farm availability.

      The essential information is in BidDetails and identifies the intermittent generator by "Duid" and the time frame by
      "TradingDate". The other tags are essential.

      The rest of the intermittent gen availability is in three sections, all and any can occur. Periods allows the half hourly
      upper limits on the intermittent generator to be specified. Clusters allows the half hourly number of cluster elements out of service
      in each cluster of the intermittent generator. A cluster is usually a set of generation elements of the same type and an
      intermittent generator can have more than one cluster.

      The MtPasa section defines the same information defined for one market day.

    </xsd:documentation>
  </xsd:annotation>
  <!--MMS Types-->
~~<xsd:complexType name="MMSMtPasaWindAvailability">~~
  <xsd:complexType name="MMSMtPasaIntermittentGenAvailability">
    <xsd:annotation>
      <xsd:documentation>
~~Purpose - Provide wind availability information for the MtPasa time frame~~
        Purpose - Provide intermittent generator availability information for the MtPasa time frame
      </xsd:documentation>
```

```
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="UpperLimit" type="UpperLimit" minOccurs="0"/>
      <xsd:element name="Clusters" minOccurs="0">
        <xsd:complexType>
          <xsd:sequence>
            <xsd:element name="Cluster" minOccurs="1"  maxOccurs="unbounded">
              <xsd:complexType>
                <xsd:sequence>
~~                  <xsd:element name="TurbineClusterId" type="TurbineClusterId"/>~~
~~                  <xsd:element name="TurbinesNotAvailable" type="TurbinesNotAvailable"/>~~
                  <xsd:element name="ElementClusterId" type="ElementClusterId"/>
                  <xsd:element name="ElementsNotAvailable" type="ElementsNotAvailable"/>
                </xsd:sequence>
              </xsd:complexType>
            </xsd:element>
          </xsd:sequence>
        </xsd:complexType>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
~~<xsd:complexType name="MMSClusterWindAvailability">~~
  <xsd:complexType name="MMSClusterIntermittentGenAvailability">
    <xsd:annotation>
~~<xsd:documentation>Purpose - Provide wind turbine availability in clusters for the MtPasa time frame</xsd:documentation>~~
      <xsd:documentation>Purpose - Provide generation element availability in clusters for the MtPasa time frame</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="Cluster" maxOccurs="unbounded">
        <xsd:complexType>
          <xsd:sequence>
~~            <xsd:element name="TurbineClusterId" type="TurbineClusterId"/>~~
            <xsd:element name="ElementClusterId" type="ElementClusterId"/>
            <xsd:element name="MMSPeriods">
              <xsd:complexType>
                <xsd:sequence>
                  <xsd:element name="MMSPeriod" nillable="false" maxOccurs="48">
                    <xsd:complexType>
                      <xsd:sequence>
                        <xsd:element name="MMSPeriodId" type="MMSPeriodId"/>
~~                        <xsd:element name="TurbinesNotAvailable" type="TurbinesNotAvailable"/>~~
                        <xsd:element name="ElementsNotAvailable" type="ElementsNotAvailable"/>
                      </xsd:sequence>
                    </xsd:complexType>
                  </xsd:element>
                </xsd:sequence>
              </xsd:complexType>
            </xsd:element>
          </xsd:sequence>
        </xsd:complexType>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
~~<xsd:complexType name="MMSUpperLimitsWindAvailability">~~
  <xsd:complexType name="MMSUpperLimitsIntermittentGenAvailability">
    <xsd:annotation>
      <xsd:documentation>Purpose - Provide upper limits on whole intermittent generator in StPasa time frame</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="MMSPeriod" maxOccurs="48">
        <xsd:complexType>
          <xsd:sequence>
            <xsd:element name="MMSPeriodId" type="MMSPeriodId"/>
            <xsd:element name="UpperLimit" type="UpperLimit"/>
          </xsd:sequence>
        </xsd:complexType>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="MMSBidDetails">
    <xsd:annotation>
~~<xsd:documentation>Purpose - Defines the market day and wind farm and other essential details for bid</xsd:documentation>~~
      <xsd:documentation>Purpose - Defines the market day and intermittent generator and other essential details for bid</xsd:documentation>
    </xsd:annotation>
    <xsd:all>
      <xsd:element name="Duid" type="Duid" nillable="false"/>
      <xsd:element name="TradingDate" type="xsd:date" nillable="false"/>
      <xsd:element name="AuthorisedByParticipant" type="AuthorisedByParticipant" nillable="false"/>
      <xsd:element name="AuthorisedByUser" type="AuthorisedByUser" nillable="false"/>
      <xsd:element name="OfferDateTime" type="xsd:dateTime" nillable="false"/>
```

```
    </xsd:all>
  </xsd:complexType>
  <!-- Transaction Types -->
~~<xsd:complexType name="MMSWindAvailabilityRequest">~~
  <xsd:complexType name="MMSIntermittentGenAvailabilityRequest">
    <xsd:annotation>
      <xsd:documentation>
~~Application - WindAvaliability~~
~~TransactionExchange - WindAvailability~~
~~TransactionGroup - EMMS~~
~~Priority - Low~~
~~Purpose - Provide new forecast wind availability for the Electricity MMS.~~
~~Detail -~~
        Application – IntermittentGenAvailability
        TransactionExchange - IntermittentGenAvailability
        TransactionGroup - EMMS
        Priority - Low
        Purpose - Provide new forecast intermittent generator availability for the Electricity MMS.
        Detail -
      </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="BidDetails" type="MMSBidDetails"/>
      <xsd:sequence>
~~<xsd:element name="MMSPeriods" type="MMSUpperLimitsWindAvailability" minOccurs="0"/>~~
~~<xsd:element name="Clusters" type="MMSClusterWindAvailability" minOccurs="0"/>~~
~~<xsd:element name="MtPasa" type="MMSMtPasaWindAvailability" minOccurs="0"/>~~
        <xsd:element name="MMSPeriods" type="MMSUpperLimitsIntermittentGenAvailability" minOccurs="0"/>
        <xsd:element name="Clusters" type="MMSClusterIntermittentGenAvailability" minOccurs="0"/>
        <xsd:element name="MtPasa" type="MMSMtPasaIntermittentGenAvailability" minOccurs="0"/>
      </xsd:sequence>
    </xsd:sequence>
~~<xsd:attribute name="version" type="r28" use="optional" default="r28"/>~~
    <xsd:attribute name="version" type="r33" use="optional" default="r33"/>
  </xsd:complexType>
  <xsd:simpleType name="Duid">
    <xsd:annotation>
      <xsd:documentation>
        Id for windfarm
      </xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string"/>
  </xsd:simpleType>
  <xsd:simpleType name="AuthorisedByParticipant">
    <xsd:annotation>
      <xsd:documentation>
        Participant providing authorisation
      </xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string"/>
  </xsd:simpleType>
  <xsd:simpleType name="AuthorisedByUser">
    <xsd:annotation>
      <xsd:documentation>
        User providing authorisation
      </xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string"/>
  </xsd:simpleType>
~~<xsd:simpleType name="TurbineClusterId">~~
  <xsd:simpleType name="ElementClusterId">
    <xsd:annotation>
      <xsd:documentation>
~~Id for turbine clusters of windfarms~~
        Id for element clusters of intermittent generators
      </xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string"/>
  </xsd:simpleType>
  <xsd:simpleType name="UpperLimit">
    <xsd:annotation>
      <xsd:documentation>
~~Upper limit on the output turbines~~
        Upper limit on the output elements
      </xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:integer">
      <xsd:minInclusive value="-1"/>
    </xsd:restriction>
  </xsd:simpleType>
```

~~<xsd:simpleType name="TurbinesNotAvailable">~~
<xsd:simpleType name="ElementsNotAvailable">
<xsd:annotation>
<xsd:documentation>
~~To specify number of turbines which are not available~~
To specify number of generation elements which are not available
</xsd:documentation>
</xsd:annotation>
<xsd:restriction base="xsd:integer">
<xsd:minInclusive value="0"/>
</xsd:restriction>
</xsd:simpleType>
<xsd:simpleType name="MMSPeriodId">
<xsd:annotation>
<xsd:documentation>
Id for half hourly interval of the day. The term period is MMS is deeply ingrained in MMS nomenclature.
</xsd:documentation>
</xsd:annotation>
<xsd:restriction base="xsd:integer">
<xsd:minInclusive value="1"/>
<xsd:maxInclusive value="48"/>
</xsd:restriction>
</xsd:simpleType>
</xsd:schema>

3. Schema File aseXml

<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns="urn:aseXML:**r33**" xmlns:xsd="http://www.w3.org/2001/XMLSchema" targetNamespace="urn:aseXML:**r33**">
<xsd:annotation>
<xsd:documentation>
Purpose — Top level aseXML schema

… *unmodified text removed for brevity* …

</xsd:documentation>
</xsd:annotation>
~~<xsd:include schemaLocation="Events_r32.xsd">~~
<xsd:include schemaLocation="Events_r33.xsd">
<xsd:annotation>
<xsd:documentation>
Purpose — Include data types for status reporting
</xsd:documentation>
</xsd:annotation>
</xsd:include>

… *unmodified text removed for brevity* …
~~<xsd:include schemaLocation="ElectricityMMS_r28.xsd">~~
<xsd:include schemaLocation="ElectricityMMS_r33.xsd">
<xsd:annotation>
<xsd:documentation>
Purpose - Include data types for Electricity MMS transactions
</xsd:documentation>
</xsd:annotation>
</xsd:include
Purpose - Include data types for gas market wholesale functionality.
… *unmodified text removed for brevity* …

~~<xsd:include schemaLocation="Transactions_r28.xsd">~~
<xsd:include schemaLocation="Transactions_r33.xsd">
<xsd:annotation>
<xsd:documentation>
Purpose - Include data types for carrying transactions within aseXML
</xsd:documentation>
</xsd:annotation>
</xsd:include>
… *unmodified text removed for brevity* …

4. Schema File Events

Text added is given in bold:
… *unmodified text removed for brevity* …
<xsd:simpleType name="r33">
<xsd:annotation>
<xsd:documentation>Purpose - Release r33 identifier.</xsd:documentation>
</xsd:annotation>
<xsd:restriction base="ReleaseIdentifier">

```
                <xsd:enumeration value="r33"/>
            </xsd:restriction>
        </xsd:simpleType>
```

5. Schema Manifest

The table below shows the schema files included in this release. Files that have been added, removed or modified for this release are marked.

File	Modified
Acknowledgements_r15.xsd	N
aseXML_r33.xsd	Y
BAR_r31.xsd	N
BulkDataTool_r33.xsd	Y
CATSReports_r33.xsd	Y
CATSTableReplication_r33.xsd	Y
ClientInformation_r15.xsd	N
Common_r33.xsd	Y
CustomerDetails_r33.xsd	Y
CustomerTransfer_r29.xsd	N
ElectricityHighSpeedMonitoring_r26.xsd	N
ElectricityMasterStandingData.xsd	N
ElectricityMMS_r33.xsd	Y
Electricity_r25.xsd	N
Enumerations.xsd	N
Events_r33.xsd	Y
HighSpeedMonitoring_r33.xsd	Y
Faults_r33.xsd	Y
GasMarketWholesale_r31.xsd	N
Gas_r29.xsd	N
Header_r28.xsd	N
HighSpeedMonitoring_r33.xsd	Y
MarketWholesale_r20.xsd	N
MDMTReports_r33.xsd	Y
MeterDataManagement_r33.xsd	Y
NetworkBilling_r33.xsd	Y
NMIDataAccess_r33.xsd	Y
NOSAssessment_r28.xsd	N
NOSBooking_r33.xsd	Y
NOSCommon_r28.xsd	N
NOSEquipment_r33.xsd	Y
OneWayNotification_r33.xsd	Y
Reports_r33.xsd	Y
ServiceOrder_r33.xsd	Y
TableReplication_r33.xsd	Y
Transactions_r33.xsd	Y

6. Schema Test

6.1. Test Platforms

The new schema has been tested using the following platforms:

- XMLSpy 2010
- MSXML4
- MSXML6
- Xerces 2.2.1 and 2.9.1

6.2. Test

The ASWG ensures that all recommended parsers on relevant platforms can successfully validate the proposed schema.

6.2.1 Test Platforms

Supplied samples have been tested using the following parsers:

- MSXML 6.0
- Xerces 2.2.1
- Xerces 2.9.1
- XMLSpy 2010 (Actual test was done on XMLSpy2012 rel.2 since the XMLSpy 2010 is not available)

6.2.2 Test Cases

New Specific Test Cases:

- DisputeNotification_r33_vic_a.xml
- DisputeResponse_r33_vic_a.xml
- DisputeResponse_r33_vic_a_Invalid.xml
- MDMReportRM11_r33.xml
- MDMReportRM11_r33_Invalid.xml
- MDMReportRM16_r33.xml
- MeterDataNotificationConsumption_r33.xml
- NEMWholesale_MMSIntermittentAvailability_01_r33.xml
- NEMWholesale_MMSIntermittentAvailability_02_r33.xml
- NEMWholesale_MMSIntermittentAvailability_03_r33.xml
- NEMWholesale_MMSIntermittentAvailability_big_r33.xml
- NEMWholesale_MMSIntermittentAvailabilityRequest_Corrupt_Invalid_r33.xml
- NEMWholesale_MMSIntermittentAvailabilityRequest_Missing_ClusterID_Invalid_r33.xml
- NMIDiscoveryRequestMeter_r33.xml
- NMIDiscoveryResponse_r33.xml
- NMIStandingDataRequest_r33.xml
- NMIStandingDataResponse_r33.xml
- ReplicationNotificationCATSStreamlinedCRCodes_r33.xml

6.2.3 Test Process

1. Obtain a copy of the 5 existing regression test suite XML files
    a. nem_samples_r32.zip
    b. nem_wholesale_samples_r32.zip
    c. nemb2b_samples_r32.zip
    d. sawa_samples_r32.zip
    e. vicgas_samples_r32.zip

2. Obtain a copy of the new R33 test suite XML files
3. Unzip all test XML files a folder
4. Replace “xmlns:ase="urn:aseXML:r32” with “xmlns:ase="urn:aseXML:r33”
5. Replace “xsi:schemaLocation="urn:aseXML:r32 http://www.nemmco.com.au/aseXML/schemas/r32/aseXML_r32.xsd” with “xsi:schemaLocation="urn:aseXML:r33 “http://www.nemmco.com.au/aseXML/schemas/r33/aseXML_r33.xsd”
6. Check files with XMLSpy bypassing the url referencing and point specifically to the schema using project properties.
7. Check every single test XML file individually to detect variances in the samples.
8. Updated samples so that they validate
9. Copy then update sample files by replace “xsi:schemaLocation="urn:aseXML:r33 http://www.nemmco.com.au/aseXML/schemas/r33/aseXML_r33.xsd” with “xsi:schemaLocation="urn:aseXML:r33 S:/ aseXML_r33.xsd”
10. Check every single test XML file individually to detect variances in the above xsi:schemaLocation approach, e.g. hardcoded “F:/<filename>” instances and other occurrences not picked up by the standard search/replace above need to be manually fixed. It would be good if a single search/replace could be used for this step, and the test XML files had consistent headers.
11. Run the test process using the 4 supported XML Toolkits.
12. Check output log for any successful parse results, as well as expected or unexpected errors.

6.2.4 Test Results

All OK on all Test Platforms, see section ~~6.2.1~~6.2.1

- All test XML files intended to fail, typically with “Invalid” as part of the file name, failed as expected.
- All other test files passed with no parse error.

6.2.5 Character Classification

Pattern restriction is enforced by regular expressions in some places in aseXML schema. That makes knowing the precise set of classification of characters important. It is particularly important in the testing process. In some quick tests using simple Pattern class in JAVA – not fully fledged JAVA parsers – some differences vis-à-vis XML Spy were reported. These tests were performed to validate the data stored in database against aseXML type definitions. Some characters that were treated differently between JAVA Pattern class and XML Spy were $ + |. XML Spy accepted them as punctuation characters but JAVA Pattern class rejected. Note, these three characters are only a few examples of difference, not an exhaustive list. As explained below, further investigations revealed that XML Spy is correct as per the XML standard.

The XML standards depend upon Unicode specifications for the purpose of this classification. The complete list of classification of Unicode characters in various classes can be found at http://www.unicode.org/.

To download the classification for any particular version of classification, start from directory listing at http://www.unicode.org/Public and traverse down the tree of the concerned version to download the zip (usually named ucd.zip) which contains all the documents for that version. The zip for version 6.2.0 resides at http://www.unicode.org/Public/6.2.0/ucd/. The document in this zip, usually named UnicodeData.txt, contains entire classification of all Unicode characters, having a line per Unicode character, with semi-colon delimited fields in each line. Explanation of fields can be found in the documentation in the zip (UCD.html). To view this UnicodeData.txt document conveniently, start Excel and open the document. While opening the document Excel will ask for information about the file contents. In response specify the document to be semicolon delimited with each column of the document being text. The column C of the Excel spreadsheet specifies the character classification. Note, while opening the file in Excel if each column is not specified to be text then Excel may format some information incorrectly.

The classification of the extended ASCII characters for version 6.2.0 of Unicode is provided here in an Excel spreadsheet :

UnicodeData_6.2.0_
ASCII_Character_cla

The classifications starting with L signify letters, starting with N signify digits, starting with P signify punctuations, starting with S signify symbols and those starting with C signify control characters. Note, the spread sheet does not contain all the fields (columns) from the UnicodeData.txt file.

7. ASWG Endorsement

With a quorum established the ASWG voted to endorse schema r33, with the included aseXML Change Requests. The voting results are forwarded to AEMO for approval. When 75% of those ASWG members vote to endorse a schema it represents an ASWG recommendation for that schema. AEMO will not reject an ASWG recommendation without first consulting with the ASWG.

The results of the ASWG vote for the final schema to be released are as follows:

Date of Vote: 06/12/2013

Option	# Votes	% Vote
For	5	100
Against	0	0
Abstained	0	0
Total Members Present (Total of 6 voting members)	5	100%

8. AEMO Approval

The schema approval and approval date are identified below

Status	Date	Authorised by
Approved – The schema has been approved by AEMO and is formally released for use	13/12/13	Steve Trone Group Manager IT Development