Schema Change Request

Document ID 10

Change Type New Transactions

Title Network Outage Scheduler transactions

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Prepared By Nada Reinprecht

Priority

Notes

Document Control

Version	Date	Author	Summary of Change		
1.0	10 October	Nada Reinprecht	Change proposal		
	2003				
2.0	24 October	Nada Reinprecht	Approval proposal for Network Outage		
	2003	_	Scheduler Transactions		
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Document Status

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Glossary

Abbreviation	Description	
TNSP	Transmission Network Service Provider	
NOS	Network Outage Scheduler	

1. Change Proposal

This Change Proposal contains the request for inclusion of the Network Outage Scheduler (NOS) transactions in the aseXML schema. These transactions will enable exchange of the power network equipment and the outage bookings between the Transmission Network Providers (TNSPs) and NEMMCO.

1.1. Description of the proposed change

The proposed changes are listed in the following table.

Table 1-1, Proposed Changes

Item#	Change Description	Change Type				
Business (Business Changes					
1	Submission of outage bookings	New				
2	Alteration of outage bookings	New				
3	Withdrawal of outage bookings	New				
4	Submission of new network equipment	New				
5	Alteration of already submitted network equipment	New				

1.1.1 Outage Bookings

The TNSP submits an Outage Booking to NOS for co-ordination, assessment and subsequent approvals by NEMMCO.

Each outage booking may also be modified or withdrawn. The TNSP either SUBMITS or RESUBMITS an outage booking to;

- Register a new outage booking with NEMMCO Outage booking must be SUBMITTED.
- Register a new outage booking with NEMMCO for information only Outage booking must be SUBMITTED with an INFORMATION ONLY flag set.
- Modify (or supply additional) data for an existing outage booking Outage booking must be RESUBMITTED.
- Withdraw an existing outage booking.

Each booking is system validated on submission

Submissions of new outage bookings must contain the TNSP supplied Company Booking Id that is the unique identifier of the booking. The TNSP will refer to this ID when changing or amending the booking. NEMMCO will use this ID when sending back the validation details about the booking. Likewise subcomponents of booking also contain an identifier provided by the TNSP (ie: Outage Identifier, Note Identifier). The uniqueness rules for these identifiers are defined in the schema documentation. The bookings that pass validation are inserted into the NOS Outage Booking data structures. A successful validation reply message is generated sent to the initiating TNSP.

Resubmissions of existing outage bookings must include the Company Booking ID to identify the outage booking being updated. The resubmissions must also include sub-component identifiers to identify those booking sub-components being modified/removed. Resubmissions that pass validation are inserted into the NOS Outage Booking data structures. A successful validation reply message is generated and sent to the TNSP.

Submissions that fail validation are NOT inserted into the NOS Outage Booking data structures. An unsuccessful validation reply message incorporating error messages is generated and sent to the TNSP.

Outage booking can also be withdrawn. The transaction requesting the booking withdrawal must have the company booking id supplied by the initiator of the transaction. The transaction will be validated by the schema and the application and appropriate acknowledgement sent to the initiator of the transaction.

1.1.2 Equipment Maintenance

Equipment maintenance comprises of the maintenance of the stations and equipment including lines, units, transformers and other types of equipment.

The TNSP submits an equipment to NOS for incorporation into the equipment list. Each equipment submission includes a TNSP supplied equipment identifier. This identifier is used in outage booking submissions.

The TNSP either SUBMITS or RESUBMITS equipment to;

- Register new equipment with NEMMCO
- Modify the data associated with equipment

Each station & equipment submission must pass schema level validation before it will enter the NOS. On entry into NOS for processing an acknowledgement message will be sent to the transaction initiator to indicate that the submission has been received by the NOS.

The equipment submission must pass both system and user validation before it is incorporated into the NOS equipment data structures. Notification of NOS validation success or failure is initiated by the NOS user on processing the equipment submission at which time a validation message is generated and sent to the transaction initiator.

1.2. Reason for Change

- 1. To enable batch processing of the outage bookings
- 2. To enable batch maintenance of the stations and equipment.

Currently, the TNSPs maintain the outages and equipment in their systems and have to insert them again in the NEMMCO, browser based system when submitting, altering or withdrawing outage bookings or submitting a new equipment.

This requires manual processing, extensive time and work effort and reduces efficiency of the process.

Provision of the aseXML transactions for the booking and equipment processing will enable batch submission of bookings and the equipment. This will significantly reduce time and effort of TNSPs and improve the efficiency of the process.

1.3. Supplied Documents

1.3.1 Business process document

1.3.2 Data model

1.4. Impact assessments on Participant's systems

1.4.1 Business Impact

These transactions will be exchanged between Transmission Network Service Providers (TNSPs) and NEMMCO. Consequently, the Transmission Network Providers and NEMMCO will be only affected parties.

The introduction of these transactions will enable batch processing and consequently reduce time and effort required from TNSPs to perform the data transfer to NEMMCO.

1.4.2 Technical Impact

NEMMCO and TNSPs will need to build their gateways to send, receive and process the aseXML transactions.

1.5. Affected Configuration Items (Baseline)

1.5.1 Schema

As per ASWG decision, the baseline schema for these transactions is aseXML_r12.

2. Approval Proposal

2.1. Description of the proposed approval

The table below defines the action in relation to each change item as listed in the Description of the proposed change section.

Table 2-1, Proposed Change Approval

Item #	Proposal Notes	Category	Action
Business	Changes		
1	Submission of outage bookings	New	
2	Alteration of outage bookings	New	
3	Withdrawal of outage bookings	New	
4	Submission of new network equipment	New	
5	Alteration of already submitted network equipment	New	

2.2. Configuration Items (New Baseline)

2.2.1 Draft schema

Draft schema aseXML_r13nos attached.

2.2.2 Schema change description

The most of the schema change is isolated to the two new files: NOSEquipment and NOSBooking. The other chanaged files are: Transactions, Events, Header and aseXML.

2.2.2.1 Equipment submission

The equipment submission process is defined in the NOSEquipmentSubmission transaction.

The transaction allows user to submit data for the new power stations and various types of equipment: lines, transformers, generators, synchronous var compensators and others. The same transaction can be used to modify an existing equipment. The transaction mode of operation is defined by operationType attribute. The operation type can be: 'Submit', 'Resubmit'.

Multiple equipment of the same or different types can be submitted in one transaction. The identity constraint on the CompanyElementId prevents submission of duplicated equipment. The transaction has the following form:

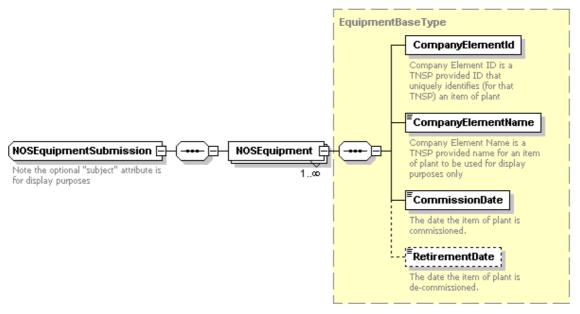


Figure 2-1 NOS Equipment Submission transaction

The EquipmentBaseType is used to represent Stations.

The NOSEquipmentType is derived from the EquipmentBaseType and represents the set of common components of all the NOS equipment. This type is used for NOSBreakingResistorType, NOSBusType, NOSCapacityType, NOSCircuitBreakerType, NOSIsolatorType, NOSLoadType, NOSReactorType, NOSStaticVarCompensatorType, NOSSynchronousCondenserType and NOSUnitType.

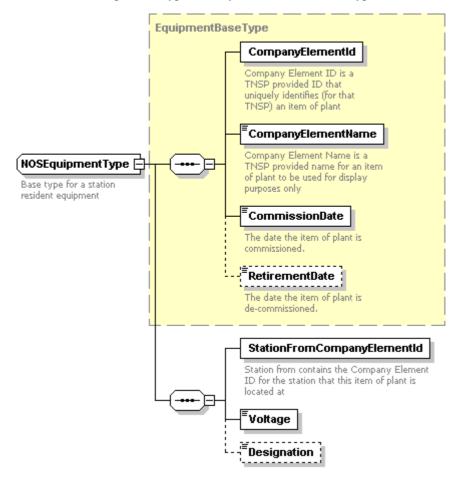


Figure 2-2 NOS Equipment Type

NOSLineType is derived from the NOSEquipmentType and has the following form:

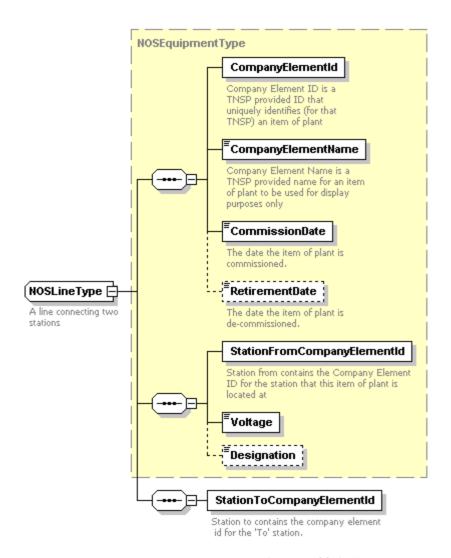


Figure 2-3 NOS Line Type

NOSTeeLineType is derived from NOSLineType and has the following form:

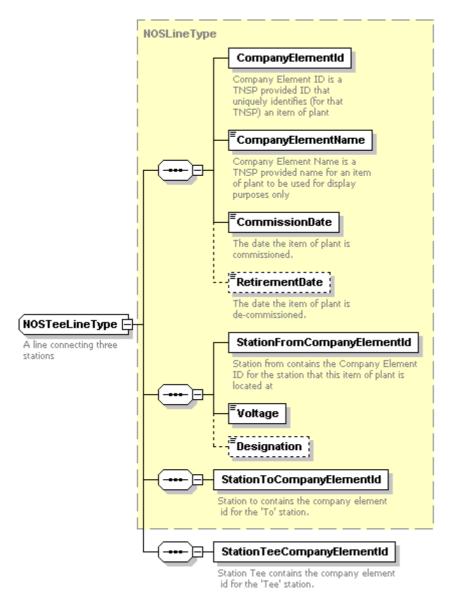


Figure 2-4 NOS Tee Line Type

NOSTwoWindingTransformerType is derived from the NOSEquipmentType and it has the following structure:

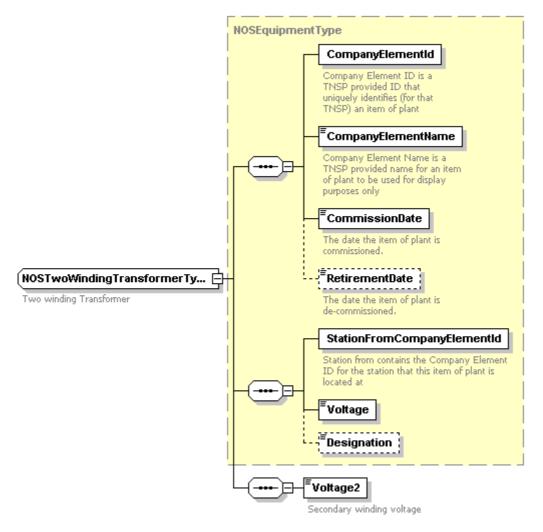
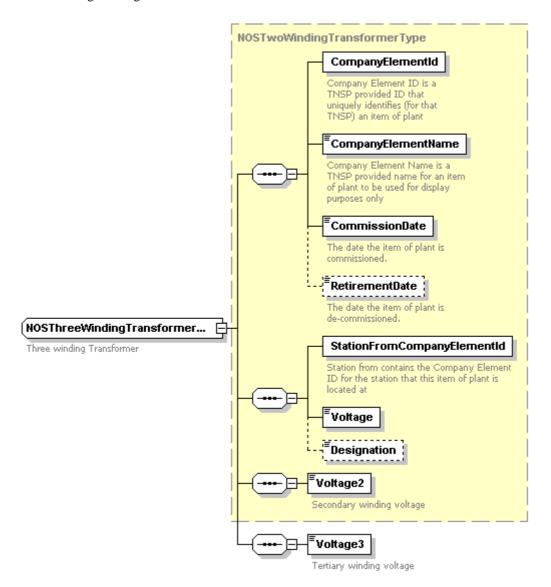


Figure 2-5 NOS Two winding transformers type

NOSThreeWindingTransformerType is derived from the NOSTwoWindingTransformerType and has the following structure:



2.2.2.2 NOS Booking

Outage booking can be submitted to NEMMCO using the NOS Outage Booking Request transaction. Multiple bookings can be submitted in one transaction. The booking consists of:

- o booking details
- o outage details
- o network elements
- o optional notes

The same transaction can be used to modify an existing booking and to withdraw the booking. The transaction mode of operation is defined by operationType attribute. The operation type can be: 'Submit', 'Resubmit' and 'Withdraw'.

Each outage booking may have multiple outages, outage equipment and the multiple sets of notes.

Identity constraint on CompanyBookingId prevents submission of the duplicate bookings.

Identity constraint on the CompanyOutageId ensures unique outages relative to booking.

Identity constraint on the CompanyElementId ensures unique network elements (equipment) relative to the booking.

Identity constraint on the CompanyNoteId ensures unique notes relative to booking or outage.

2.2.2.2.1 Booking submission transaction

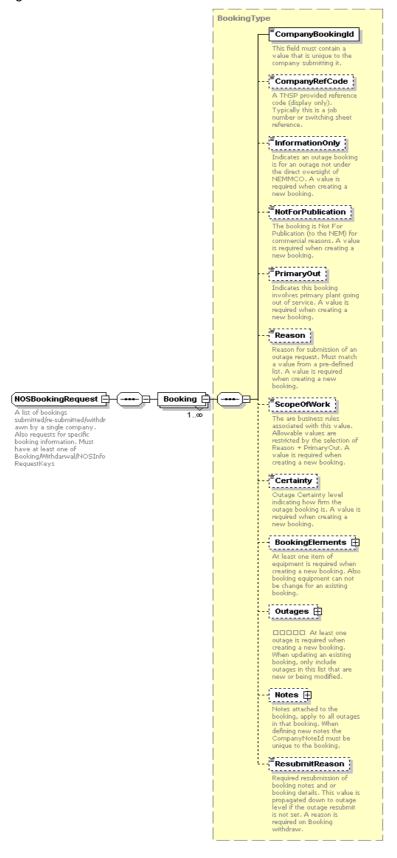


Figure 2-6 NOS Booking Submission transaction

Outages are represented using the OutageType:

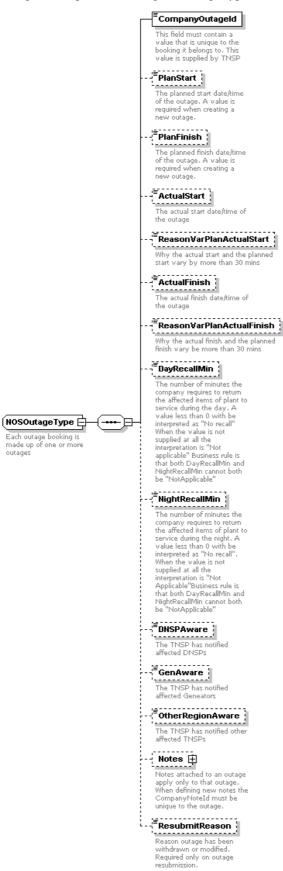


Figure 2-7 NOS Outage Type

The outage equipment is described by the BookingElementType:

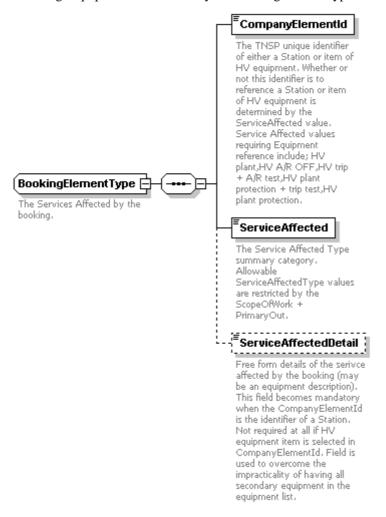


Figure 2-8 Booking element type

The booking and the outage in the booking can have the notes attached. The note has the following form:

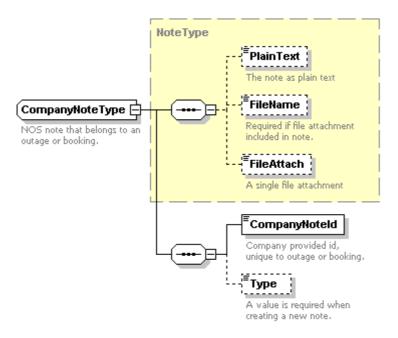


Figure 2-9 Company Note Type

2.2.3 Change log

The following changes have been implemented:

Chg No	Description	FileName	Item#
1	aseXML namespace change to urn:aseXML:r13	aseXML	All
2	Events_r13, Header_r13, NOSBooking_r13, NOSEquipment_r13, Transactions_r13 included in the main aseXML file	aseXML	All
2	Added type definition for Release Identifier value "r13"	Events	All
3	Added new transaction group: OUTG	Header	All
4	Two new transactions: NOSBookingRequest and NOSEquipmentSubmission added to the list of the transactions.	Transactions	All
4	New transaction NOSBookingRequest developed	NOSBooking	1,2,3
	Developed the following complex types: NoteType, CompanyNoteType, NOSOutageType, BookingElementType and BookingType	NOSBooking	1,2,3
6	Developed following container types: CompanyNotes, Outages and BookingElements	NOSBooking	1,2,3
7	Developed following simple types: EnumBookingElementServiceAffectedType, EnumCompanyNoteType, EnumReasonType, EnumResubmitReasonType, EnumCertaintyType, EnumScopeOfWorkType, CompanyElementIdType, CompanyOutageIdType, CompanyBookingType, CompanyNoteIdType, CompanyRefCodeType.	NOSBooking	1,2,3
8	New transaction NOSEquipmentSubmission developed.	NOSEquipment	4,5
	Developed the following complex types: EquipmentBaseType, NOSStationType, NOSEquipmentType, NOSBreakingResistorType, NOSBusType, NOSCapacitorType, NOSCircuitBreakerType, NOSIsolatorType, NOSLoadType, NOSReactorType, NOSStaticVarCompensatorType, NOSSYnchronousCondenserType, NOSUnitType, NOSLineType, NOSTeeLineType, NOSTwoWindingTransformerType and NOSThreeWindingTransformerType.	NOSEquipment	4,5

2.3. Test

2.3.1 Test Platforms

The new schema has been tested using the following platforms as advised by ASWG:

- o XMLSpy 5.3
- o MSXML4 SP1
- o Xerces 1.4.4 and 2.2.1

2.3.2 Test Cases

The following NOS specific test cases have been developed and tested against all the above parsers.

- o NOSAck_r13.xml
- o NOSBooking_r13.xml
- o NOSBookingDeleteOutageFromRepeating_r13.xml
- NOSBookingOutageActualUpdate_r13.xml
- NOSBookingWithAttachment_r13.xml
- o NOSEquipmentSubmitType_r13.xml
- o NOSNack_r13.xml
- o NOSWithDrawBooking_r13.xml

The following existing example files have also been tested against the new schema using the above parsers.

- o AccCreationNotification_r13.xml
- o AmendMeterRouteDetails(RouteChange)_r13.xml
- o AmendMeterRouteDetails(SiteAccess)_r13.xml
- o AmendMeterRouteDetails(SiteAddress)_r13.xml
- o CATSChangeAlertToNFRO_r13.xml
- o CATSChangeAlertToVENCorp_r13.xml
- CATSChangeRequestAlternateRetro_r13.xml
- o CATSChangeRequestAlternate_r13.xml
- CATSChangeRequestRetro_r13.xml
- o CATSChangeRequestStandingDataResponseRetro_r13.xml
- CATSChangeRequestStandingDataResponse_r13.xml
- o CATSChangeRequest_r13.xml
- o CATSChangeResponse_r13.xml
- o CATSChangeWithdrawal_r13.xml
- CATSDataRequest_r13.xml
- CATSNoticeOfReadFailure_r13.xml
- o CATSNotificationCDB_r13.xml
- o CATSNotificationCFRO_r13.xml
- o CATSNotificationCompletedCDB_r13.xml

- o CATSNotificationPendingCFRO_r13.xml
- CATSNotificationWithdrawalCDB r13.xml
- o CATSNotificationWithdrawalCFRO_r13.xml
- CATSNotification_r13.xml
- o CATSObjectionNotification_r13.xml
- o CATSObjectionRequest_r13.xml
- o CATSObjectionResponse_r13.xml
- o CATSObjectionWithdrawal_r13.xml
- ChangeRequestAllFieldsMeterConfig_r13.xml
- o ChangeRequestAllFields_r13.xml
- o CreditBalanceInvoiceNotification _r13_nsw_m.xml
- o CreditBalanceInvoiceNotification _r13_sa_m.xml
- CreditBalanceInvoiceNotification_r13_nsw_m.xml
- o CreditBalanceInvoiceNotification_r13_sa_m.xml
- o CurrentRetailerConfirmationRequest_r13.xml
- o CurrentRetailerConfirmationResponse_r13.xml
- o CustomerComplaintNotification_r13_a.xml
- CustomerComplaintNotification_r13_m.xml
- o CustomerDetailsNotification_r13_a.xml
- o DisputeNotification_r13_nsw_a.xml
- o DisputeNotification_r13_nsw_m.xml
- o DisputeNotification_r13_sa_a.xml
- o DisputeNotification_r13_sa_m.xml
- o DisputeNotification_r13_vic_a.xml
- o DisputeNotification_r13_vic_m.xml
- o DisputeResponse_r13_vic_a.xml
- DisputeResponse_r13_vic_m.xml
- o DisputeStatusChangeNotification_r13_nsw_a.xml
- o DisputeStatusChangeNotification_r13_nsw_m.xml
- $o \quad Dispute Status Change Notification_r13_sa_a.xml$
- o DisputeStatusChangeNotification_r13_sa_m.xml
- o ExcludedServiceNotification r13 sa a.xml
- o ExcludedServiceNotification_r13_sa_m.xml
- FieldWorkNotification_r13.xml
- o MDMReportRM11_r13.xml
- o MDMReportRM16_r13.xml
- o MDMReportRM21_r13.xml
- o MeterDataHistoryRequest_r13.xml
- MeterDataHistoryResponse_r13.xml
- o MeterDataMissingNotification_r13.xml

- o MeterDataNotification_r13.xml
- o MeterDataResponse_r13.xml
- o MeterDataVerifyRequest_r13.xml
- o MeterDataVerifyResponse_r13.xml
- o MeteredSupplyPointsCount_r13.xml
- o MeterNotificationMeterFix_r13.xml
- o MeterNotificationMeterRemoval r13.xml
- o MeterReadInputNotification_r13.xml
- o NetworkBillIingNotification_r13_nsw_a.xml
- o NetworkBillIngNotification_r13_nsw_m.xml
- o NetworkBillIngNotification_r13_sa_a.xml
- o NetworkBillIngNotification_r13_sa_m.xml
- o NetworkBillIingNotification_r13_vic_a.xml
- o NetworkBillIingNotification_r13_vic_m.xml
- o NetworkDUoSBillingNotification_DisputeRes_r13.xml
- o NetworkDUoSBillingNotification_Dispute_r13.xml
- o NetworkDUoSBillingNotification_PaymentAdvice_r13.xml
- NetworkDUoSBillingNotification_r13.xml
- o NMIDiscoveryFollowup_r13.xml
- o NMIDiscoveryRequestAddr(HETH)_r13.xml
- o NMIDiscoveryRequestAddr(ISLD)_r13.xml
- o NMIDiscoveryRequestDPID_r13.xml
- NMIDiscoveryRequestMeter_r13.xml
- o NMIDiscoveryResponse_r13.xml
- o NMIStandingDataRequest_r13.xml
- o NMIStandingDataResponseMeterConfig_r13.xml
- o NMIStandingDataResponse_r13.xml
- $o \quad NMIS tanding Data Update Notification Response_r13.xml\\$
- o NMIStandingDataUpdateNotification_r13.xml
- o OutstandingInvoiceNotification_r13_nsw_a.xml
- o OutstandingInvoiceNotification_r13_nsw_m.xml
- o OutstandingInvoiceNotification r13 sa a.xml
- o OutstandingInvoiceNotification_r13_sa_m.xml
- o RemittanceNotification_r13_nsw_a.xml
- o RemittanceNotification_r13_nsw_m.xml
- RemittanceNotification_r13_sa_a.xml
- o RemittanceNotification_r13_sa_m.xml
- o RemittanceNotification_r13_vic_a.xml
- o RemittanceNotification_r13_vic_m.xml
- o ReplicationNotificationAddress_r13.xml

- o ReplicationNotificationCATSChangeResponse_r13.xml
- o ReplicationNotificationCATSStreamlinedCRCodes_r13.xml
- o ReplicationNotificationMeterConfig_r13.xml
- o ReplicationNotificationMeter_r13.xml
- o ReplicationNotificationNetworkTariffCodes_r13.xml
- o ReplicationNotificationStandingDataAccessRules_r13.xml
- o ReportRequestMeterConfig_r13.xml
- o ReportResponseNMIMasterMeterConfig_r13.xml
- o Seq06ObjectionNotification_r13.xml
- o ServiceOrderRequest(MeterFix)_r13.xml
- o ServiceOrderRequest(NewConnection)_r13.xml
- o ServiceOrderResponse(Completion)_r13.xml
- o ServiceOrderResponse(Initial)_r13.xml
- SnapshotReportMasterDataStreams_r13.xml
- o SO.Request.DEENRGISE_r13_p1c_a.xml
- o SO.Request.DEENRGISE_r13_p1c_m.xml
- $\circ \quad SO. Request. DEENRGISE_r13_p1_m.xml$
- o SO.Request.DEENRGISE_r13_sa_m.xml
- o SO.Request.DEENRGISE_r13_vic_a.xml
- o SO.Request.DEENRGISE_r13_vic_m.xml
- o SO.Request.NEWCONNECT_r13c_m.xml
- o SO.Request.NEWCONNECT_r13_a.xml
- SO.Request.NEWCONNECT_r13_vic_a.xml
- $\circ \quad SO. Request. NEWCONNECT_r13_vic_m.xml$
- o SO.Response.DEENERGISE_r13c_a.xml
- SO.Response.DEENERGISE_r13c_m.xml
- SO.Response.DEENERGISE_r13_vic_a.xml
- o SO.Response.DEENERGISE_r13_vic_m.xml
- o SpecialReadRequest_r13.xml
- o SpecialReadResponse(NoAccess)_r13.xml
- o SpecialReadResponse_r13.xml
- o TransAck r13.xml
- o TxnNAck_r13.xml

3. Proposal Assessment

3.1. Test

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

3.1.1 Test Platforms

Supplied samples have been tested using the following parsers:

- o MSXML 4.0 SP1
- o Xerces 1.4.1
- o Xerces 2.2.1
- o XMLSpy 4.3

3.1.2 Test Cases

The following NOS specific test cases have been tested successfully against all the above parsers.

- o NOSAck_r13.xml
- o NOSBooking_r13.xml
- o NOSBookingDeleteOutageFromRepeating_r13.xml
- o NOSBookingOutageActualUpdate_r13.xml
- NOSBookingWithAttachment_r13.xml
- NOSEquipmentSubmitType_r13.xml
- o NOSNack_r13.xml
- o NOSWithDrawBooking_r13.xml

Have also run all xml sample docs through the above parsers using the R13-draft5 schema.

3.2. Dependency analysis

Item#	Transactions Impacted	Derived Type Impacted	Schema Filename	Modified Types	Base Type	Used by "Parent" Types
1	NOSBookingRequest	N/A	NOSBooking*.xsd			
2	NOSBookingRequest	N/A	NOSBooking*.xsd			
3	NOSBookingRequest	N/A	NOSBooking*.xsd			
4	NOSEquipmentSubmission	N/A	NOSBooking*.xsd			
5	NOSEquipmentSubmission	N/A	NOSBooking*.xsd			

3.3. Conformance Report

The ASWG completes the conformance report validating each proposed new schema file against the published aseXML guidelines.

Table 3-1, Change Proposal Conformance Details

Schema Filename	Impacted by Item #	
aseXML_r*.xsd	1,2,3,4,5	Conforms
NOSBooking*.xsd	1,2,3,4,5	Conforms

4. Review Disposition

The ASWG assists developers with schema related queries and confirms appropriateness of development against criteria.

4.1. Description of Changes - Approved and Accepted

Table 4-1, Review Notes for proposed approvals

Item#	Review Notes	Status
1		
2		
3		

Note: Item# is a reference to items listed in the Description of the proposed approval.

4.2. Impact assessments on Participant's systems

The ASWG seeks the market participants' input on the expected business and technical impacts.

4.2.1 Business Impact

4.2.2 Technical Impact

4.3. Supplied Documents

5. Resolution

The ASWG provides a resolution for each change item contained in the Approval Proposal. The resolution is forwarded to the Originator for implementation considerations as required by respective Change Management Process.

5.1. Changes Approved and Accepted

The ASWG compiles the list of change items proposed for approval together with their resolution status in the table below.

Table 5-1, Change Resolution

Item#	Resolution Notes	Status
1	Submission of outage bookings	Approved
2	Alteration of outage bookings	Approved
3	Withdrawal of outage bookings	Approved
4	Submission of new network equipment	Approved
5	Alteration of already submitted network equipment	Approved

Note: Item# is a reference to items listed in the Description of Changes - Approved and Accepted.