WA B2B Procedure

Technical Delivery Specification

WA Version No:0.5~~11~~.4

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This document uses, as a baseline, the NEM Version 1.4 of the B2B Procedure Technical Delivery Specification.

CONTENTS

High-level statements

This document defines the Technical Delivery Specification supporting the operation of the WA electricity market B2B Procedures.

This document is based on the NEMMCO document B2B Procedure: Technical Delivery Specification, Version 1.4, Published 30 June 2007. This version of the NEMMCO document remains valid, save for the exceptions/deviations that are specified in the WA version.

This document uses **red** text to highlight where changes have been made to the baselined source document. Due to the limitations in page real estate that Acrobat documents put in place, there will be occasions where it will be necessary to insert or append pages. When this has to happen, it will not be practicable to renumber Acrobat page numbers. Accordingly, if significant information needs to be inserted on page 2, new pages 2a, 2b, etc. will be inserted between pages 2 and 3.

Within this B2B Procedure: Technical Delivery Specification document:

- **MSATS** should be taken to read "the Network Operator's systems that support standing data and customer transfer".
- **CATS** should be taken to read "the Network Operator's systems that support the transfer of customers under the Customer Transfer Code 2004."
- **DNSP** should be taken to read "the Network Operator".
- **NEMMCO** should be taken to read "the WA Network Operator, in its role as the market data manager."
- **NEMMCO B2B** should be taken to read "the B2B system operated within Western Australia by the Network Operator".
- **MDP** should be taken to read "Network Operator".
- **aseXML** should be taken to read "waeXML".
- **MSATS B2B Handler** should be taken to read "WA B2B Gateway".
- **National B2B Infrastructure** should be taken to read "WA B2B Infrastructure".
- **B2B Browser Application** should be taken to read "Metering Service Centre".
- **MSATS Procedures** refer to the schedule of documents that support the operation the WA Electricity Market. Part 4 of the Electricity Industry Metering Code 2005 Communication Rules defines this schedule.
- **Rules** should be taken to read as a reference to the Metering Code 2005 and the Customer Transfer Code 2004, plus all their subsidiary documents that give legal and regulatory foundation to the operation of the WA Electricity Market.

Document History

Version	Date	Author	Comments
0.4	10/7/2008	Western Power	This document is based on the NEMMCO document B2B Procedure: Technical Delivery Specification, Version 1.4, Published 30 June 2007
0.5	18/12/2008	Western Power	Minor adjustments following feedback from NEMMCO. To avoid confusion, references to NEMMCO and the National Electricity Rules have been changed or removed.

Interpretation

For details of the interpretation of key words, such as addresses, dates, times and field types, refer to the WA B2B Procedure: Technical Guidelines for B2B Procedures.

Documentation Conventions

Refer to the WA B2B Procedure: Technical Guidelines for B2B Procedures for the details of the documentation conventions.

1 INTRODUCTION

1.1 Document Structure

a. Section One provides an introduction to this Procedure;

b. Section Two describes requirements for Message and Transaction formats;

c. Section Three defines the Transactions model relevant to the use of the MSATS B2B Handler;

d. Section Four defines Transaction delivery requirements based on the use of the MSATS B2B Handler; and

e. Section Five describes contingency arrangements in the event of a problem with the National B2B Infrastructure.

1.2 Introduction

a. ~~This B2B Procedure: Technical Delivery Specification ("Procedure") is the subject of an Information Exchange Committee recommendation and has been approved by NEMMCO pursuant to and in accordance with clause 7.2A.5(a)(1) of the National Electricity Rules ("Rules").~~

b. This document comes into operation in accordance with the WA Electricity Industry Customer Transfer Code 2004 and the WA Electricity Industry Metering Code 2005 ("Rules").

c. This Procedure (including this provision) may only be amended in accordance with the change management procedure described in the Electricity Industry Metering Code 2005 Communication Rules~~clause 7.2A.3 of the Rules~~.

d. In the event of any inconsistency between this Procedure and the provisions of the Rules, the provisions of the Rules shall prevail to the extent of any inconsistency.

e. In the event of any inconsistency between this Procedure and the provisions of the relevant Metrology Procedure, the provisions of the Metrology Procedure shall prevail to the extent of any inconsistency.

f. ~~In the event of any inconsistency between this Procedure and the provisions of a MSATS Procedure the MSATS Procedure shall prevail to the extent of any inconsistency.~~

g. In the event of any inconsistency between this Procedure and the provisions of the provisions of the WA B2B Procedures: Technical Guidelines for B2B Procedures, unless this Procedure provides specially otherwise, the WA B2B Procedures: Technical Guidelines for B2B Procedures shall prevail to the extent of any inconsistency.

h. In this Procedure, a word or phrase which commences with capital letters has the meaning given to it:

1. as that term is defined in the Technical Guidelines for B2B Procedures; or
2. if no meaning is given to it in the Technical Guidelines for B2B Procedures, then as that term is defined in the Rules.

i. This Procedure shall be interpreted in accordance with the rules of interpretation set out in ~~clause 1.7 of~~ the Rules and the Technical Guidelines for B2B Procedures. Provisions which are placed in a square box coloured grey are provided by way of explanation and to assist readers and do not form any obligation on Participants nor do they affect the interpretation of this Procedure. Provisions which fall within a section entitled "Worked Example" are provided for assistance only and do not form any obligation on the Participants nor do they affect the interpretation of this Procedure.

1.3 Background

a. ~~NEMMCO~~ WA Network Operator must provide and operate the MSATS B2B Handler for the delivery of B2B Transactions. As required by this Procedure and the WA B2B Procedures, Participants must use the MSATS B2B Handler for B2B Transactions.

b. ~~The MSATS B2B Handler is essentially an extension of the MSATS Batch Handler (refer to 010905 - Technical Architecture Design Report v4.4, Appendix B - Batch Handler BI007 TSD for details).~~

c. The MSATS B2B Handler supports the transfer of compressed ("zipped") aseXML files directly between market Participants.

d. The functionality available via the MSATS B2B Handler includes:

1. The ability for B2B files to be sent directly to Participant directories, as specified;
2. Header and schema validation of files;
3. Support for specific B2B Transaction types; and
4. ~~Logging of handler activity in an activity log.~~

1.4 Purpose

a. The purpose of this Procedure is to define the technical requirements for the delivery of B2B Transactions using the MSATS B2B Handler.

b. This Procedure defines Participant interactions with the B2B infrastructure.

c. This Procedure also defines baseline configuration settings applicable to the MSATS B2B Handler for the delivery of (national) B2B Transactions (i.e. the configuration of the MSATS B2B Handler that is required by the industry to support ~~National~~ B2B Standards).

d. This Procedure also considers contingency arrangements relevant to Participants and the national B2B infrastructure.

1.5 Scope

a. This Procedure only applies to the B2B Transactions identified in Section 2 of this Procedure;

b. This Procedure does not apply to internal processes or technical infrastructure requirements, specific to the DNSP, Retailer or other relevant Participants, except where there are prescribed connectivity or contingency requirements.

1.6 Application of this Procedure

a. In accordance with and subject to the provisions in clause 1.6 of the Metering Code Participants~~, NEMMCO~~ and Metering Providers must comply with this Procedure except to the extent set out in paragraph 1.6~~7~~(b) below.

b. ~~In accordance with clause 7.2A.4(k) of the Rules~~ Participants may on such terms and conditions as agreed between them communicate a B2B Communication on a basis other than as set out in this Procedure, in which case the parties to the agreement need not comply with this Procedure to the extent that the terms and conditions agreed between them are inconsistent with this Procedure.

1.7 Enforceability of the Procedures

a. The Procedure is enforceable by the Economic Regulation Authority (ERA) in accordance with its powers under the Electricity Industry Metering Code 2005~~section 15 of the National Electricity Law~~.

1.8 Terminology and Definitions

a. The phrase "positive Acknowledgement" refers to an *ase:TransactionAcknowledgement* with a *Status* of either "Accept" or "Partial" or *ase:MessageAcknowledgement* with a *Status* of "Accept.

b. The phrase "negative Acknowledgement" refers to either an *ase:TransactionAcknowledgement* or *ase:MessageAcknowledgement* with a *Status* of "Reject", or an *ase:Event*.

c. The phrase "positive ase:MessageAcknowledgement" refers to an ase:MessageAcknowledgement with a Status of "Accept".

d. The phrase "positive ase: TransactionAcknowledgement" refers to an ase:TransactionAcknowledgement with a *Status* of either "Accept" or "Partial".

1.9 Related Documents

a. This Procedure has been prepared in conjunction with and should be read in conjunction with:

1. WA B2B Procedure: Technical Guidelines for B2B Procedures;
2. WA B2B Procedure: Service Order Process;
3. WA B2B Procedure: Meter Data Process;
4. WA B2B Procedure: Customer and Site Details Notification Process; and
5. Guidelines for Development of A Standard for Energy Transactions in XML (aseXML) v3.0. Also known as the 'aseXML Guidelines'. The current location of is: http://www.nemmco.com.au/aseXML/aseXMLv3_0.pdf.

b. Participants should also refer to the following documents. It should be noted that these documents have been prepared by way of assistance only and are not a legally binding document nor does it affect in any way the interpretation of this Procedure.

1. 010905 - Technical Architecture Design Report v4.4
2. National B2B Standards Framework
3. MSATS B2B Handler (published by NEMMCO)
4. The Infrastructure User Guide (published as part of the Western Australia Electricity Market Build Pack

1.10 Availability

a. Each Participant ~~and NEMMCO~~ agrees to use reasonable endeavours to make that portion of the ~~National~~ WA B2B Infrastructure over which they have control and for which they are responsible available at all times. However each Participant ~~and NEMMCO are~~ is not able to guarantee the provision of a continuous and fault free National B2B Infrastructure for various reasons, including:

1. the conduct of a user of the ~~National~~ WA B2B Infrastructure;
2. an electrical or telecommunications fault or failure;
3. an emergency or fault rectification procedure;
4. scheduled maintenance;
5. a fault, virus, security breach or breakdown;
6. an event of force majeure.

b. All obligations imposed on a Participant ~~and/or NEMMCO~~ in this Procedure must be read subject to clause 1.10 (a) above.

2 MESSAGE FORMAT REQUIREMENTS

2.1 Overview

a. B2B Procedures define a series of B2B interactions as Business Documents or Business Signals.

b. Business Documents are Notifications, Requests or Responses between Participants and contain important relevant business information.

c. Business Signals are used to indicate the receipt, acceptance/rejection of a Business Document.

d. Business Documents and Business Signals are mapped onto aseXML Transactions and Acknowledgements, respectively.

2.2 Transaction Formats

a. Participants must ensure that Business Documents are physically realised in aseXML as Transactions, in accordance with the ~~following~~ table on the following page:

~~Process Area~~	~~Business Document~~	~~aseXML Transaction~~	~~Transaction Group~~	~~Description~~
~~Meter Data~~	~~MeterData Notification~~	~~ase:MeterDataNotification~~	~~MTRD~~	~~Meter Readings (includes CSV component in a valid MDFF).~~
	~~ProvideMeterData Request~~	~~ase:MeterDataMissingNotification~~	~~MTRD~~	~~Request for meter data~~
	~~MeterDataVerify Request~~	~~ase:MeterDataVerifyRequest~~	~~MTRD~~	~~Request for meter data to be verified~~
~~Service Orders~~	~~ServiceOrder Request~~	~~ase:ServiceOrderRequest~~	~~SORD~~	~~Service Order Request (note, New Connections and Meter Adds/Alts service order requests are not relevant to NSW)~~
	~~ServiceOrder Response~~	~~ase:ServiceOrderResponse~~	~~SORD~~	~~Service Order Response~~
	~~ServiceOrder Appointment Notification~~	~~ase:ServiceOrderResponse~~	~~SORD~~	~~New Connection Appointment Notification (only used in SA)~~
~~Customer Data~~	~~CustomerDetails Notification~~	~~ase:CustomerDetails Notification~~	~~CUST~~	~~Customer Details Notification~~
	~~CustomerDetails Request~~	~~ase:CustomerDetailsRequest~~	~~CUST~~	~~Request for a customer details notification~~
	~~SiteAddress Notification~~	~~ase:AmendMeterRouteDetails/ AmendSiteAddressDetails~~	~~SITE~~	~~Updated site address details notification~~
	~~SiteAccess Notification~~	~~ase:AmendMeterRouteDetails/ AmendSiteAccessDetails~~	~~SITE~~	~~Updated site access details notification~~

~~2.3 Mapping Business Signals to aseXML Acknowledgements~~

~~a. Business Signals are physically realised in aseXML as Message and Transaction Acknowledgements (or negative Acknowledgements), in accordance with the following table:~~

Process Area	Business Document	aseXML Transaction	Transaction Group	Description
Meter Data	MeterData Notification	ase:MeterDataNotification	MTRD	Meter Readings (includes CSV component in a valid MDFF).
	ProvideMeterData Request	ase:MeterDataMissingNotification		Request for meter data
	MeterDataVerify Request	ase:MeterDataVerifyRequest		Request for meter data to be verified
Service Orders	ServiceOrder Request	ase:ServiceOrderRequest	SORD	Service Order Request
	ServiceOrder Response	ase:ServiceOrderResponse		Service Order Response
	ServiceOrder Appointment Notification	ase:ServiceOrderResponse		New Connection Appointment Notification (only used in SA)
Customer Data	CustomerDetails Notification	ase:CustomerDetails Notification	CUST	Customer Details Notification
	CustomerDetails Request	ase:CustomerDetailsRequest		Request for a customer details notification
	SiteAddress Notification	ase:AmendMeterRouteDetails/ AmendSiteAddressDetails	SITE	Updated site address details notification
	SiteAccess Notification	ase:AmendMeterRouteDetails/ AmendSiteAccessDetails		Updated site access details notification
Customer Transfer	WAElectricityCustomer TransferRequest	ase:WAElectricityCustomerTransfer Request	CATS	Request for a customer transfer
	WAElectricityCustomer TransferResponse	ase:WAElectricityCustomerTransfer Response		Customer transfer response
	WAElectricityCustomer TransferNotification	ase:WAElectricityCustomerTransfer Notification		Customer transfer notification
	WAElectricityCustomer TransferCancelRequest	ase:WAElectricityCustomerTransfer CancelRequest		Request to cancel a customer transfer
NMI Discovery	NMIDiscovery Request	ase:NMIDiscoveryRequest	NMID	NMI Discovery request
	NMIDiscovery Response	ase:NMIDiscoveryResponse		NMI Discovery response
Standing Data	NMIStandingData Request	ase:NMIStandingDataRequest		Request for NMI standing data
	NMIStandingData Response	ase:NMIStandingDataResponse		Response to a request for NMI standing data
	NMIStandingData UpdateNotification	ase:NMIStandingDataUpdateNotification		Updated NMI standing data notification

2.3 Mapping Business Signals to aseXML Acknowledgements

a. Business Signals are physically realised in aseXML as Message and Transaction Acknowledgements (or negative Acknowledgements), in accordance with the following table:

Process Area	Business Signal	aseXML Equivalent	Description
All	*BusinessReceipt*	*ase:MessageAcknowledgement* Or *ase:Event*	A *BusinessReceipt* may be communicated as a *MessageAcknowledgement* or as an *Event*
	Business Acceptance/ Rejection	*ase:TransactionAcknowledgement*	

2.4 Message Format

a. An aseXML Message may contain one or more aseXML Transactions. A Participant must

1. Use reasonable endeavours to bundle Transactions in order to support efficient Message handling.
2. Ensure that bundling of Transactions does not reduce their ability to meet the Timing Requirements for the delivery of Transactions.
3. Ensure that only Transactions of the same Transaction Group are included in the same Message.
4. Use reasonable endeavours to ensure that only Transactions of the same Transaction Priority (as defined in each B2B Procedure) are included in the same Message.

b. A Participant must ensure that the Message *Priority* must match the Priority character in the file name (refer 4.13.a.1).

c. A Participant must ensure that an aseXML Message complies with the restrictions set out in Section 4 of this Procedure.

d. Only one aseXML version (as defined in the aseXML Guidelines) of a B2B Transaction will be implemented by Industry at any given time.

e. ~~NEMMCO must ensure that the MSATS B2B Handler generates a Hub Acknowledgement (.ac1 file or negative Acknowledgement) in the same version of the schema as the received Message. Where the schema version of the file cannot be determined by the B2B Handler, NEMMCO must ensure that the B2B Handler will generate the Hub Acknowledgement in a default schema version.~~

f. Participants must generate the Message acknowledgment in the current and approved version of the schema.

g. Participants must ensure that their B2B System is capable of receiving aseXML Messages in any version of the schema that is approved and effective for the applicable B2B Procedure pursuant to the aseXML Guidelines.

h. Participants must ensure that they generate aseXML Messages in a version of the schema that is approved and effective for the applicable B2B Procedure pursuant to the aseXML Guidelines.

i. An aseXML Message may contain one or more *BusinessAcceptance/Rejections*.

j. Participants may include *BusinessReceipts* and *BusinessAcceptance/Rejections* in the same aseXML Message. If *BusinessReceipts* and *BusinessAcceptance/Rejections* are included in the same aseXML message, then that message must be in the format of a Message Acknowledgement (see section 4.4.b).

k. ~~NEMMCO~~The Network Operator is not required to ensure that items 3.a, b, h, and j listed above are ~~not~~ validated by the MSATS B2B Handler.

3 TRANSACTION MODEL

3.1 Background

a. B2B Procedures have been developed based on Request/Response and Notification Business Transaction patterns to facilitate the electronic transfer of business documents.

b. These patterns have been adapted from the ebXML Business Process Specification (ebXML Process Spec), and UN/CEFACT Modelling Methodology (UMM).

c. Note that the way in which these Transaction patterns have been realised in aseXML is referred to as the Transaction Model and details the flow of aseXML Transactions and Acknowledgements between Participants via a centralised "hub" (the MSATS B2B Handler).

3.2 Transaction Flow Model

3.2.1 General aseXML conventions

a. Participants must ensure that all B2B interactions comply with the requirements for the aseXML protocol as defined in the aseXML Guidelines subject to the provisions of this Procedure.

b. A Participant must ensure that their aseXML Message Handler implements the Acknowledgement model as defined in the aseXML Guidelines, and subject to the provisions of this Procedure.

3.2.2 B2B Procedure conventions

a. A Participant receiving a Message must ensure that an *ase:MessageAcknowledgement* is generated for every aseXML Message (.zip file) received.

b. A Participant receiving a Transaction must ensure that an *ase:TransactionAcknowledgement* is generated for every Business Document that has passed validations associated with generating an *ase:MessageAcknowledgement*.

3.2.3 MSATS B2B Handler File Transfer and Acknowledgement Protocol

a. The MSATS B2B Handler facilitates the flow of aseXML Transactions and Acknowledgements between Participants using an extension of the MSATS File Exchange Protocol.

b. This protocol is illustrated for a variety of scenarios in Figure 1-Figure 8, and the associated text.

c. The activity diagrams (Figure 1, Figure 3, Figure 5 and Figure 7) illustrate each of the major activities and decision points of the protocol. These diagrams are then organised with corresponding sequence diagrams to illustrate four possible scenarios associated with Transaction and Acknowledgement delivery (note: this **does not** represent a complete list of possible scenarios):

1. Normal processing, i.e. no errors or schema validation failures.

2. Message containing aseXML Transactions fails schema validation at the MSATS B2B Handler.
3. The Outbox of the Recipient is full when checked by the MSATS B2B Handler.
4. *ase:MessageAcknowledgement* returned from Recipient to Initiator fails validation at the MSATS B2B Handler.

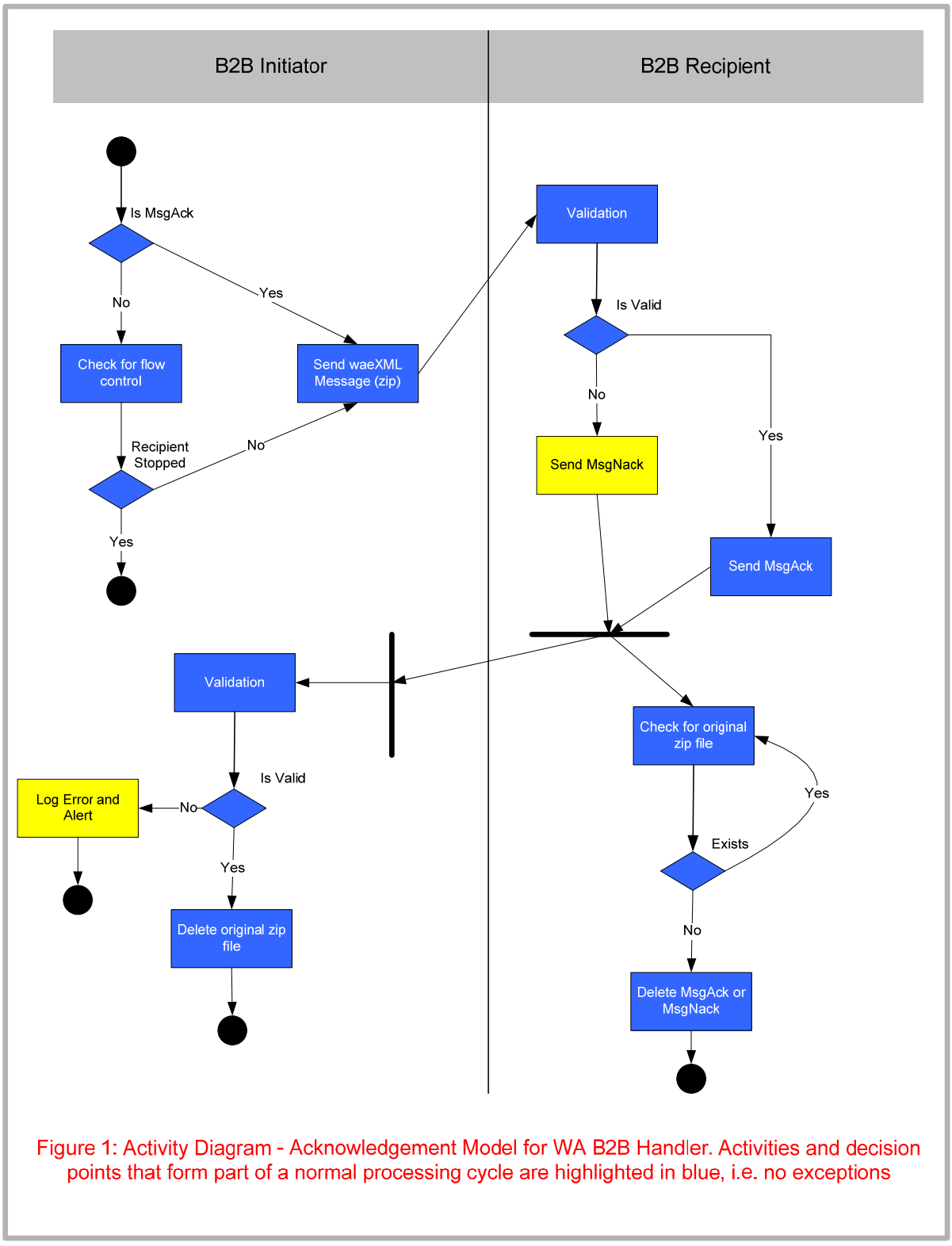


Figure 1: Activity Diagram - Acknowledgement Model for WA B2B Handler. Activities and decision points that form part of a normal processing cycle are highlighted in blue, i.e. no exceptions

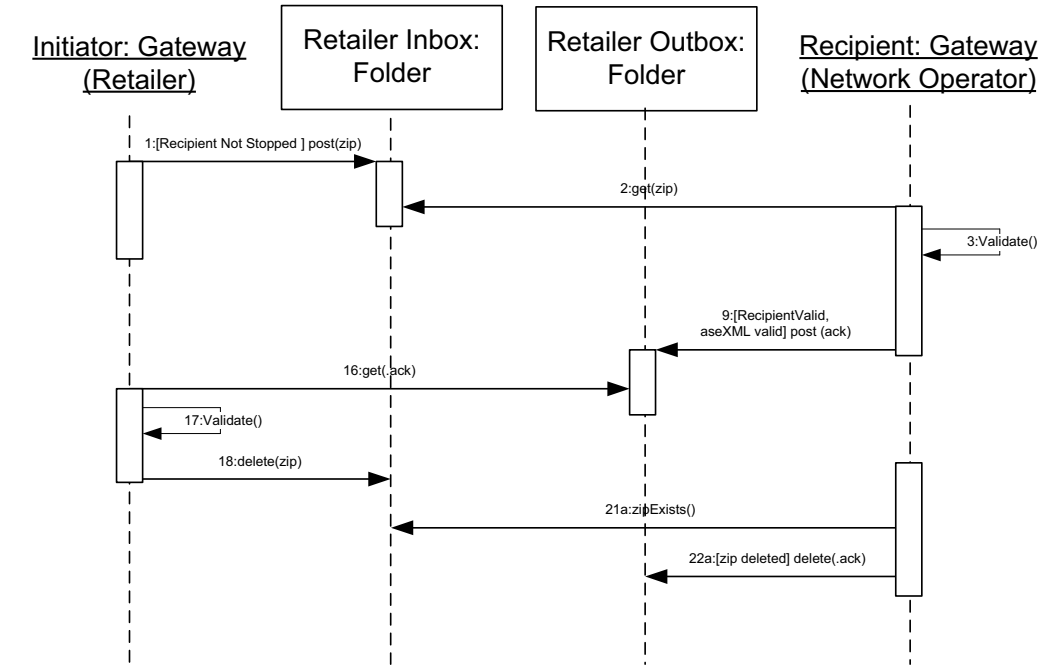


Figure 2a: Sequence Diagram 1 - Acknowledgement Model for WA B2B Handler normal processing scenario (**Retailer is initiator**)

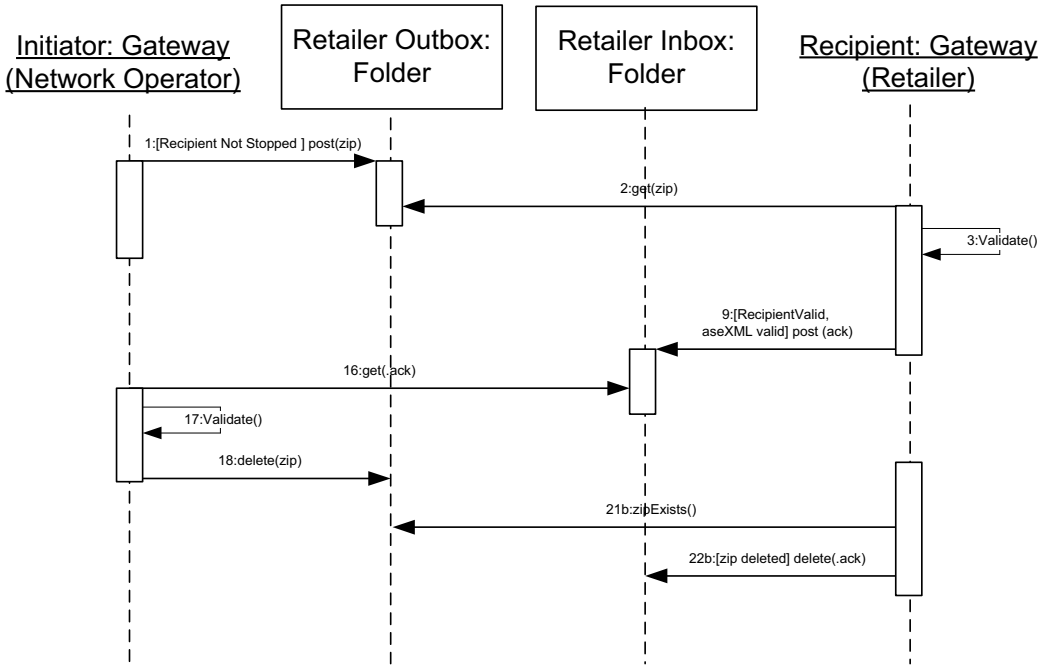


Figure 2b: Sequence Diagram 2 - Acknowledgement Model for WA B2B Handler normal processing scenario (**Network Operator is initiator**)

3.2.3.1 Default File Transfer and Acknowledgement Protocol – normal processing

a. Figure 1 (activity diagram) and Figure 2(a+b) (sequence diagrams) illustrate the normal processing scenario of the File Transfer and Acknowledgement Protocol as implemented by the MSATS B2B Handler.

b. The diagrams above illustrate the default behaviour of Participant Gateways and the MSATS B2B Handler.

c. The activities and decision points from Figure 1 that are involved in this scenario are highlighted in blue.

d. The steps which must be followed in a normal processing scenario, from the perspective of the Initiator, are as follows (where the step numbers equate to the steps in the sequence diagram):

Step 1: The Initiator must use reasonable endeavours to first check that the Recipient Participant is not Stopped (see Section 4.12.1 for the description of this term). If the Recipient is not Stopped the Initiator must transfer the Initiator's Message to the Initiator's MSATS B2B Handler Inbox. The Initiator must ensure that the Message is sent initially as a file with a ".tmp" extension, and renamed with a ".zip" extension upon completion of the copy process.

Step 2: ~~NEMMCO~~The Recipient must ~~ensure that the MSATS B2B Handler~~ read the compressed file (.zip) from the Initiator Inbox.

Step 3: ~~NEMMCO~~The Recipient must ~~ensure that the MSATS B2B Handler~~ decompress the B2B file and validate it as described in section 4.9.

~~Step 4: NEMMCO must ensure that the MSATS B2B Handler checks that the Recipient, as specified in the *To* field, has space for the Message in their Outbox.~~

~~Step 5: If the Message fails one of the validations outlined in steps 3 and 4 above, then the relevant Participant must comply with Sections 3.2.3.2 and 3.2.3.3 of this Procedure. In all other circumstances, NEMMCO must ensure that the MSATS B2B Handler copies (via a .tmp file) the unmodified ".zip" file from the Inbox of the Initiator to the Outbox of the Recipient.~~

~~Step 6: Upon successful completion of the ".zip" file copy, NEMMCO must ensure that the MSATS B2B Handler writes a Hub Acknowledgement to the Outbox of the Initiator, as notification of the successful transfer. NEMMCO must ensure that the Hub Acknowledgement is an *ase:MessageAcknowledgement* addressed from the MSATS B2B Handler, and is written as an uncompressed file with an ".ac1" extension (via a .tmp file). Participants are under no obligation to process this file.~~

~~Step 7: The Recipient must use reasonable endeavours to retrieve the ".zip" file from the Outbox.~~

~~Step 8: The Recipient must decompress the ".zip" file and must validate the contents of the aseXML Message. This validation may include aseXML schema validation, e.g. the Recipient may confirm the contents of the *To* and *From* fields of the aseXML Message for validity.~~

Step 9: If the received aseXML Message fails validation then the Recipient must generate a negative *ase:MessageAcknowledgement* or *ase:Event* and post this as an uncompressed ".ack" file to their MSATS B2B Handler Inbox. In the case of validation failure, no further processing of the Message contents is required by the Recipient. If the Message passes validation then the Recipient must generate a positive *ase:MessageAcknowledgement* and again post this to their Inbox. In this case, the Recipient must continue with further processing of the aseXML Transactions contained within the Message.

1. In either case the Recipient must ensure that any ".ack" file generated has an identical file name to the received ".zip" file, except in the case where there is substitution of the ".ack" file extension.
2. A Recipient must ensure that an Acknowledgement file is initially written to the Inbox with a ".tmp" extension, and is only renamed with an ".ack" extension upon completion of the "Put" process.

~~Step 10: NEMMCO must ensure that the MSATS B2B Handler retrieves the ".ack" file from the Inbox of the Recipient.~~

~~Step 11: NEMMCO must ensure that the MSATS B2B Handler performs aseXML schema validation on the ".ack" file, and validates the contents of the aseXML *To* and *From* fields. In the case of validation failure the file must be dealt with in accordance with Section 3.2.3.4 of this Procedure.~~

~~Step 12: If the ".ack" file passes validation, NEMMCO must ensure that the MSATS B2B Handler copies the ".ack" file, unmodified, from the Inbox of the Recipient to the Outbox of the Initiator.~~

~~Step 13: NEMMCO must ensure that the MSATS B2B Handler then deletes the corresponding ".zip" file from the Outbox of the Recipient. Identification of matching ".ack" and ".zip" files is achieved by file name comparison.~~

~~Step 14: The Recipient must use reasonable endeavours to verify that the ".zip" file has been removed from their Outbox. If at the time of verification the "zip" file has not been removed, the Recipient must use reasonable endeavours to verify its removal on the next "cycle".~~

~~Step 15: If the ".zip" file has been removed from a Recipient's Outbox, the Recipient must use reasonable endeavours to delete the corresponding ".ack" file from their Inbox. Identification of matching ".zip" and ".ack" files is achieved by file name comparison.~~

Step 16: The Initiator must use reasonable endeavours to retrieve the ".ack" file from their Outbox.

Step 17: The Initiator must validate the contents of the ".ack" file. This validation should include, but is not restricted to, aseXML schema validation.

Step 18: If the ".ack" does not pass validation the Recipient must use reasonable endeavours to follow the same steps as outlined for the MSATS B2B Handler in Section 3.2.3.3 of this Procedure. Otherwise, if the ".ack" is valid, the Recipient must use reasonable endeavours to delete the corresponding ".zip" file from their Inbox. Identification of the correct ".zip" file is achieved by filename comparison of ".zip" and ".ack" files in the Inbox and Outbox, respectively.

~~Step 19: NEMMCO must ensure that the MSATS B2B Handler verifies if the ".zip" file has been removed from the Inbox of the Initiator. If during this verification the MSATS B2B Handler determines that the zip file has not been removed, NEMMCO must ensure the MSATS B2B Handler checks again for its removal on the next "cycle".~~

~~Step 20: If the ".zip" file has been removed, NEMMCO must ensure that the MSATS B2B Handler deletes the corresponding ".ack" and ".ac1" files from the Outbox of the Initiator. Identification of matching ".zip" and ".ack" or ".ac1" files is achieved by file name comparison.~~

Step 21a: The Recipient must use reasonable endeavours to verify that the ".zip" file has been removed from their Inbox (Retailer initiated). If at the time of verification the "zip" file has not been removed, the Recipient must use reasonable endeavours to verify its removal on the next "cycle".

Step 22a: If the ".zip" file has been removed from a Recipient's Inbox (Retailer initiated), the Recipient must use reasonable endeavours to delete the corresponding ".ack" file from their Outbox. Identification of matching ".zip" and ".ack" files is achieved by file name comparison.

Step 21b: The Recipient must use reasonable endeavours to verify that the ".zip" file has been removed from their Outbox (Network Operator initiated). If at the time of verification the "zip" file has not been removed, the Recipient must use reasonable endeavours to verify its removal on the next "cycle".

Step 22b: If the ".zip" file has been removed from a Recipient's Outbox (Network Operator initiated), the Recipient must use reasonable endeavours to delete the corresponding ".ack" file from their Inbox. Identification of matching ".zip" and ".ack" files is achieved by file name comparison.

3.2.3.2 File Transfer and Acknowledgement Protocol – validation failure of B2B aseXML Message

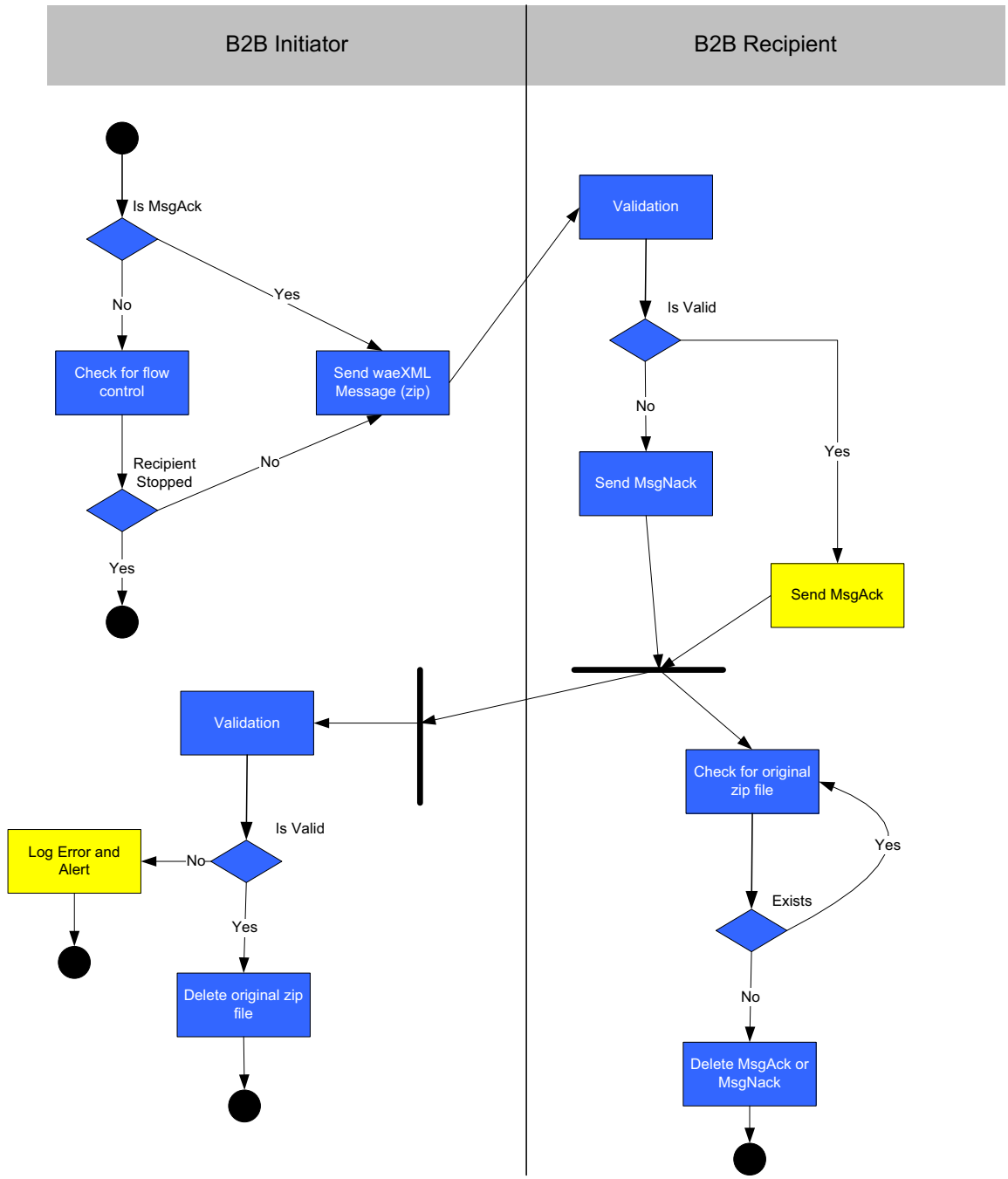


Figure 3: Activity Diagram - Acknowledgement Model for WA B2B Handler for scenario (highlighted in blue) where invalid aseXML message received from initiating gateway

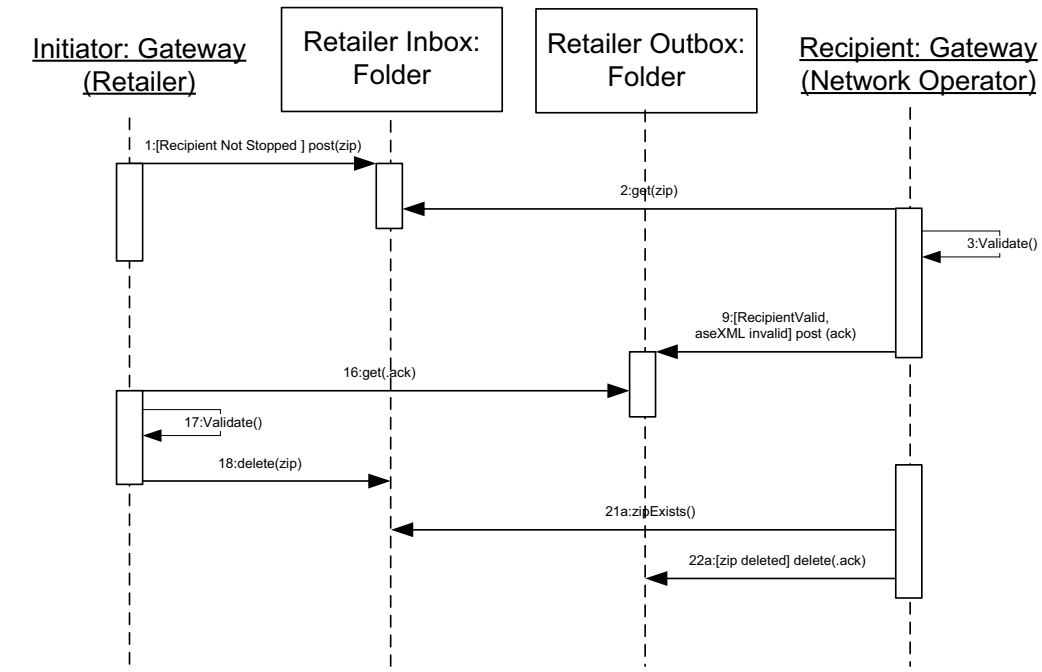


Figure 4a: Sequence Diagram 1 - Acknowledgement Model for WA B2B Handler where invalid aseXML Message received from initiating gateway (**Retailer is initiator**)

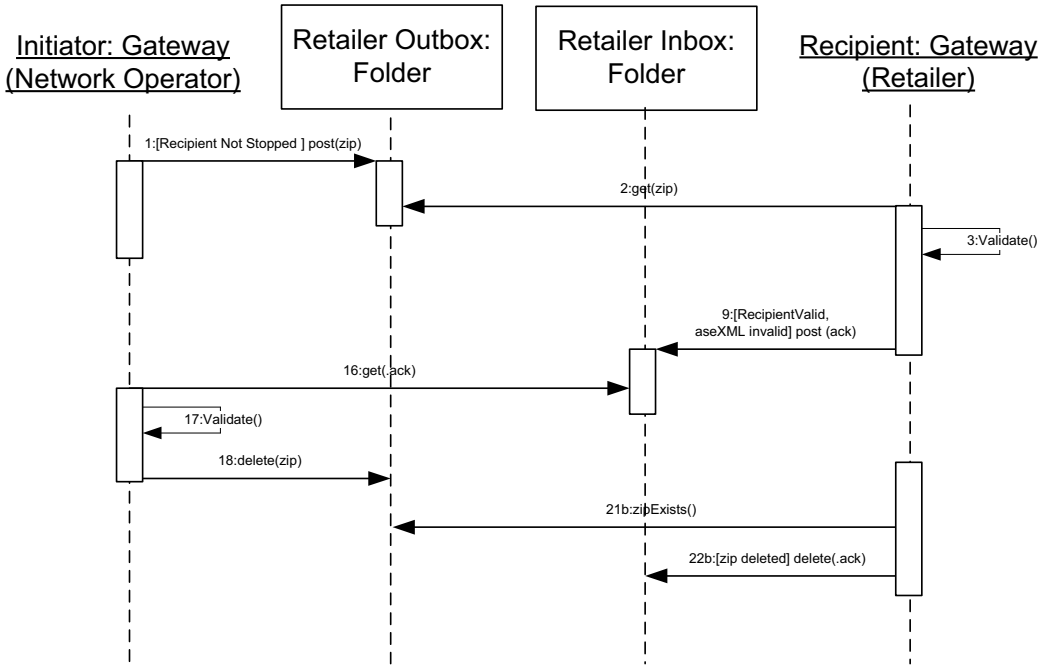


Figure 4b: Sequence Diagram 2 - Acknowledgement Model for WA B2B Handler where invalid aseXML Message received from initiating gateway (**Network Operator is initiator**)

a. Figure 3 and Figure 4(a+b) illustrate the scenario where the aseXML B2B Message fails aseXML schema validation by the MSATS B2B Handler. This process would also occur where validation of the aseXML *To* and *From* fields failed.

b. Steps 1-3 are the same as described in Section 3.2.3.1.

c. Step 9: ~~NEMMCO must ensure that the MSATS B2B Handler~~Recipent writes a negative *ase:MessageAcknowledgement*, or standalone *ase:Event* to the Outbox of the Initiator, as an uncompressed ".ack" file. An appropriate *ase:Code* identifies where the Outbox of the Recipient is full (*ase:Code*="111") or where the header is incorrect (*ase:Code*="7") or schema invalid (*ase:Code*="2").

d. Steps 16-18~~5-9~~ are the same as described in steps 16-18~~20~~ of Section 3.2.3.1.

e. Steps 21 a+b are the same as described in steps 21 a+b of Section 3.2.3.1

f. Steps 22 a+b are the same as described in steps 22 a+b of Section 3.2.3.1

3.2.3.3 Participant Inbox or Outbox Full (Network Operator Check)

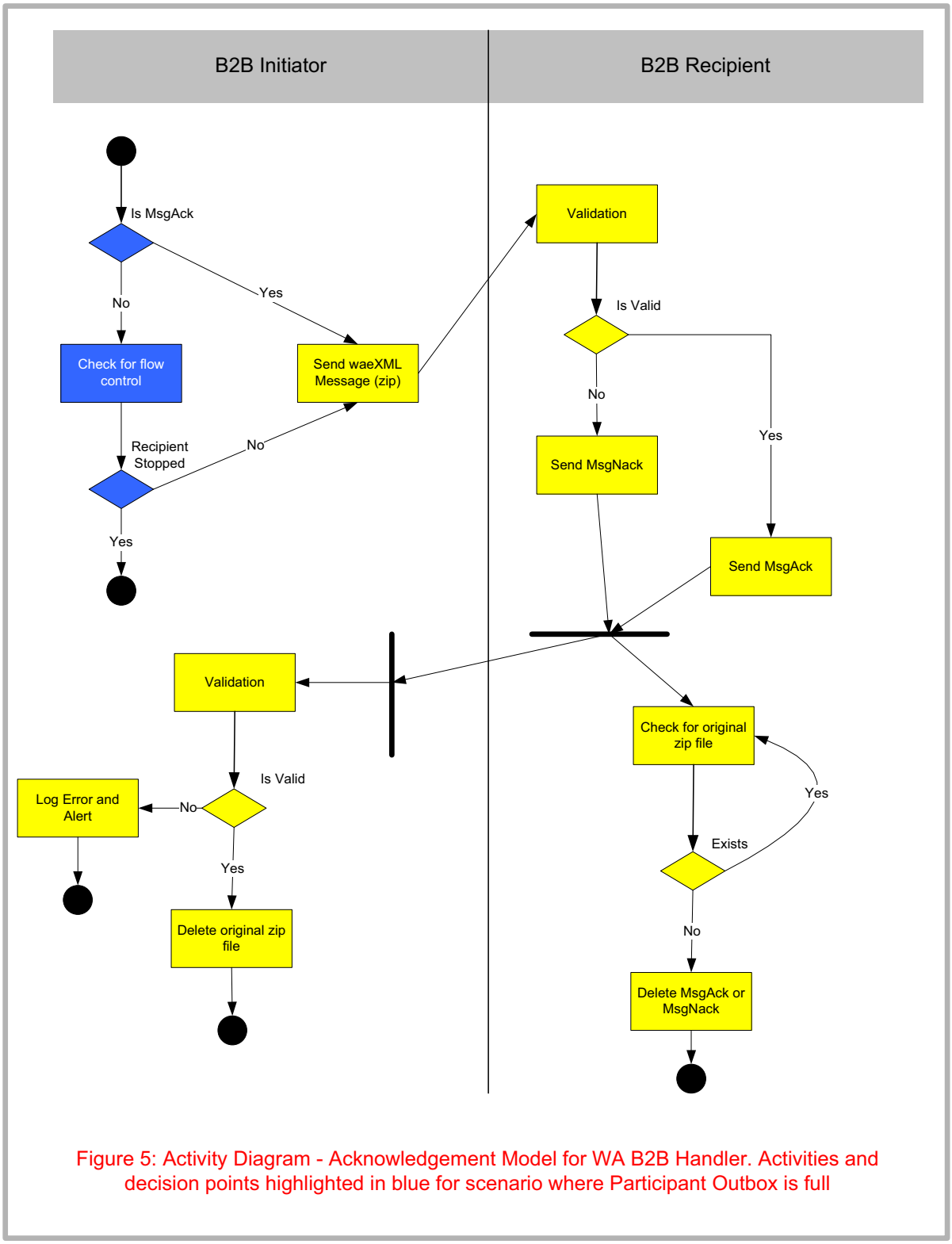


Figure 5: Activity Diagram - Acknowledgement Model for WA B2B Handler. Activities and decision points highlighted in blue for scenario where Participant Outbox is full

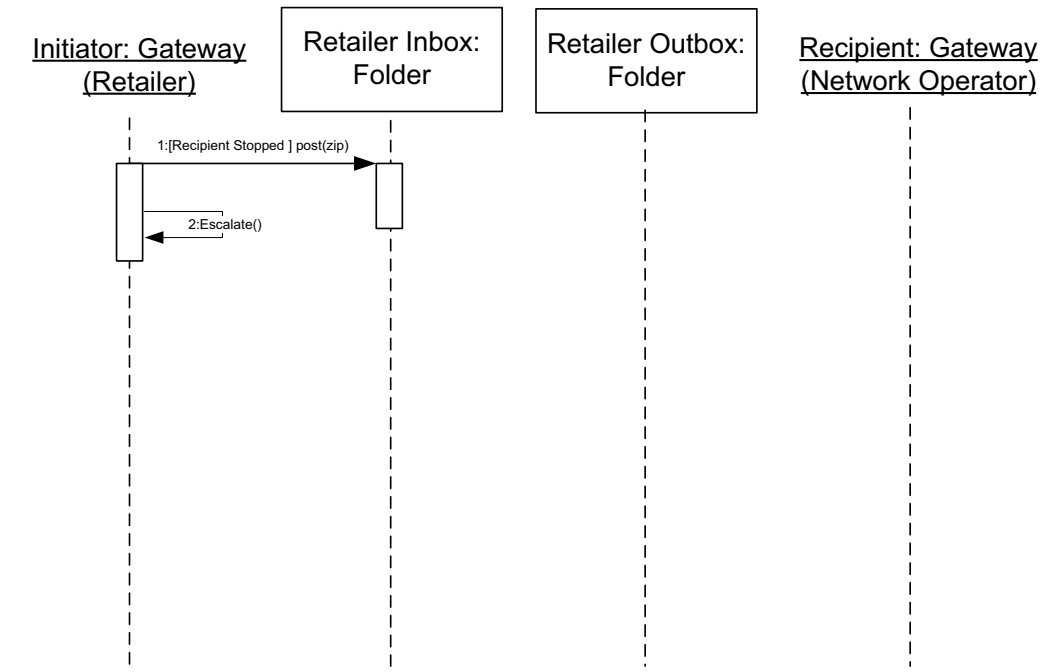


Figure 6a: Sequence Diagram 1 - Acknowledgement Model for WA B2B Handler for scenario where the Recipient Outbox is full (**Retailer is initiator**)

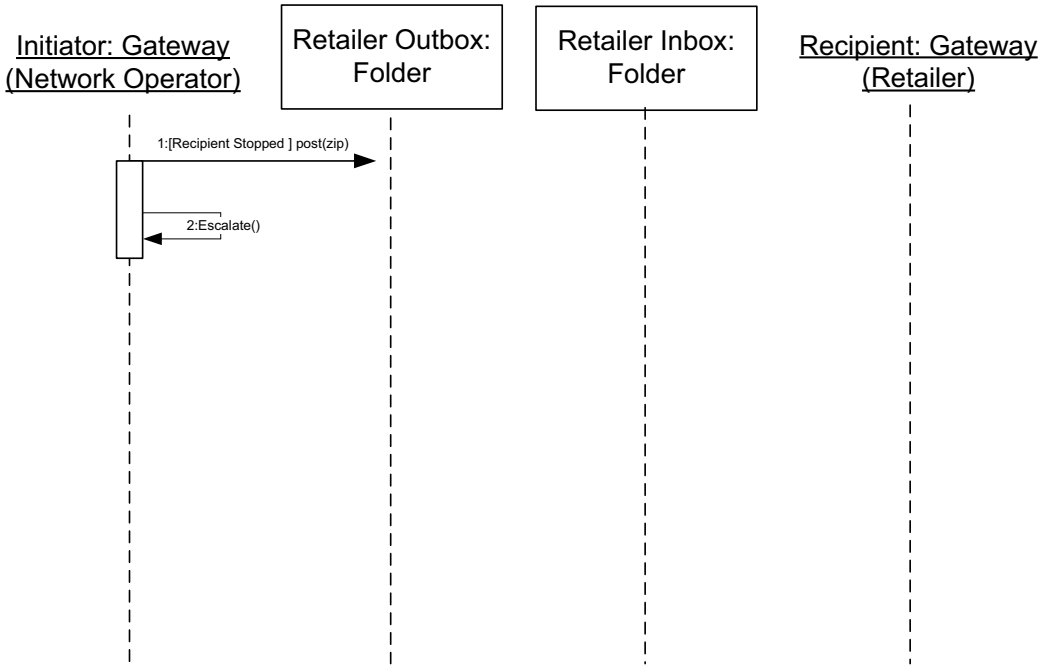


Figure 6b: Sequence Diagram 2 - Acknowledgement Model for WA B2B Handler for scenario where the Recipient Outbox is full (**Network Operator is initiator**)

a. Figure 5 and Figure 6a+b illustrate the scenario where the MSATS B2B Handler determines that the Recipient has exceeded the flow control file limit that allows them to receive an aseXML Message, or ".zip" file.
Note: this check is only performed for aseXML Messages containing Transactions and *ase:TransactionAcknowledgements*. The check is not performed on ".ack" files containing only *ase:MessageAcknowledgements*.

b. Step 1~~-4 are~~ is the same as described in Section 3.2.3.1.

~~c. Step 5: NEMMCO must ensure that the MSATS B2B Handler~~Recipient ~~writes a negative *ase:MessageAcknowledgement*, or standalone *ase:Event* to the Outbox of the Initiator, as an uncompressed ".ack" file. An appropriate *ase:Code* identifies where the Outbox of the Recipient is full (*ase:Code*="111").~~

~~d. Steps 6-810 are the same as described in steps 16-1820 of Section 3.2.3.1.~~

c. Step 2: The impacted party should contact the relevant Participant

3.2.3.4 File Transfer and Acknowledgement Protocol – ase:MessageAcknowledgement validation failure

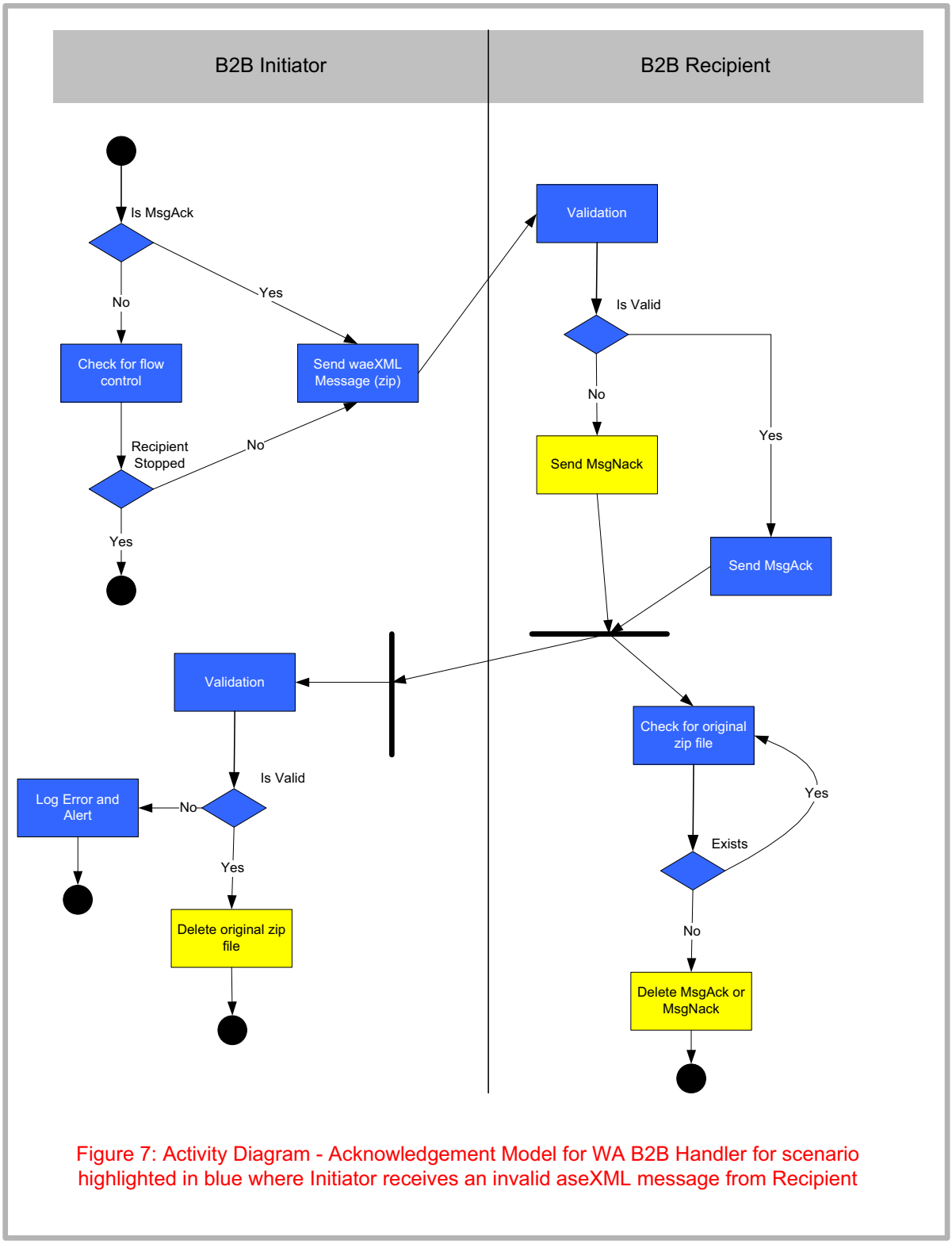


Figure 7: Activity Diagram - Acknowledgement Model for WA B2B Handler for scenario highlighted in blue where Initiator receives an invalid aseXML message from Recipient

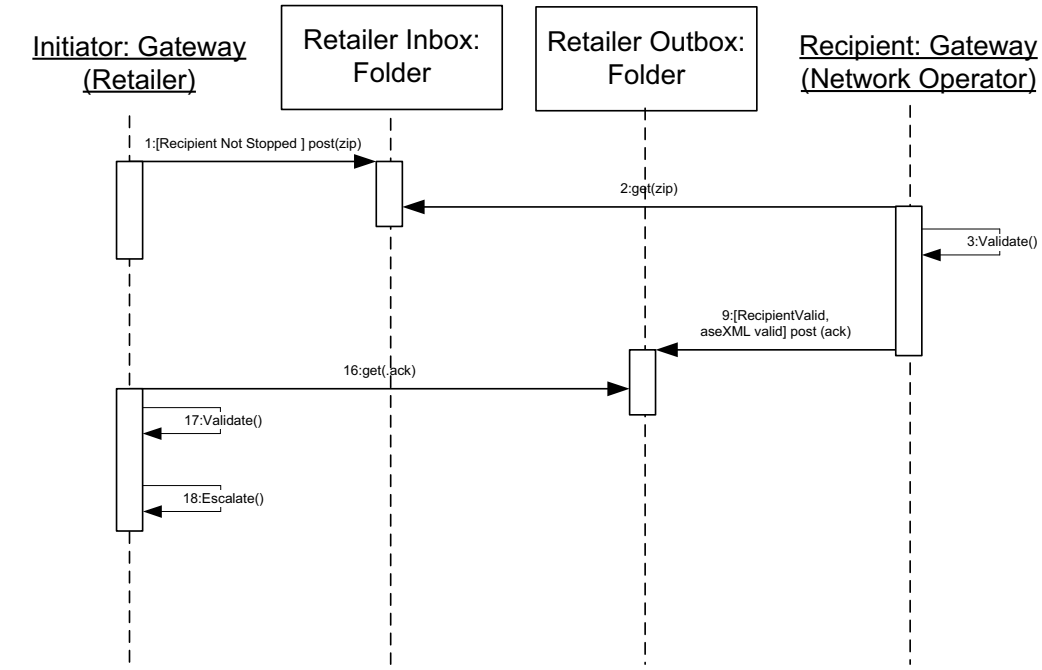


Figure 8a: Sequence Diagram 1 - Acknowledgement Model for WA B2B Handler where Initiator receives invalid aseXML Message ACK from Recipient (**Retailer is initiator**)

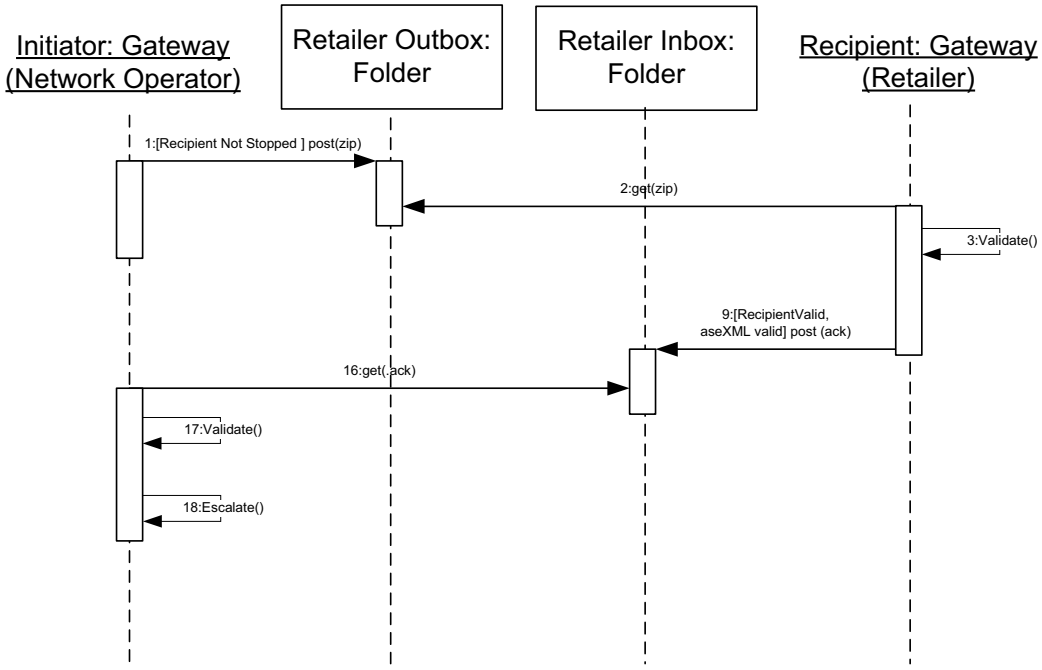


Figure 8b: Sequence Diagram 2 - Acknowledgement Model for WA B2B Handler where Initiator receives invalid aseXML Message ACK from Recipient (**Network Operator is initiator**)

a. Figure 7 and Figures 8a+b illustrate the scenario where the *ase:MessageAcknowledgement* fails validation:

1. Schema validation failure of either an *ase:MessageAcknowledgement* or standalone *ase:Event*.
2. Invalid Participant in *To* field – the value in the *To* field does not match the B2B Initiator.

b. Steps 1-17~~1~~: These are the same as for the "default" scenario, and are not repeated here (see Section 3.2.3.1).
Note: the following steps are applicable to both ~~NEMMCO and a~~ Participants upon validation failure of an *ase:MessageAcknowledgement*.

~~c.~~ ~~Step 182: Upon *ase:MessageAcknowledgement* validation failure NEMMCO must ensure that the MSATS B2B e-Hub logs an error Message. The relevant Participant will be advised by the notification mechanism to be agreed by industry and published by NEMMCO.~~

~~1. The Initiator of the ".ack" must remove the offending ".ack" file from the Inbox and, if necessary, replace it with a valid ".ack" file to allow the file exchange process to complete. NEMMCO must ensure that the MSATS B2B Handler does not transfer the offending ".ack" file to the Outbox of the Initiator of the original Message.~~

c. Step 18: The impacted party should contact the relevant Participant

3.2.4 Worked Example of the Transaction Model applied to a Request and Response B2B interaction

a. The following diagram (Figure 9) illustrates the full service order request/response process (without exceptions) using the prescribed Transaction model (with Messages sent via the MSATS B2B Handler):

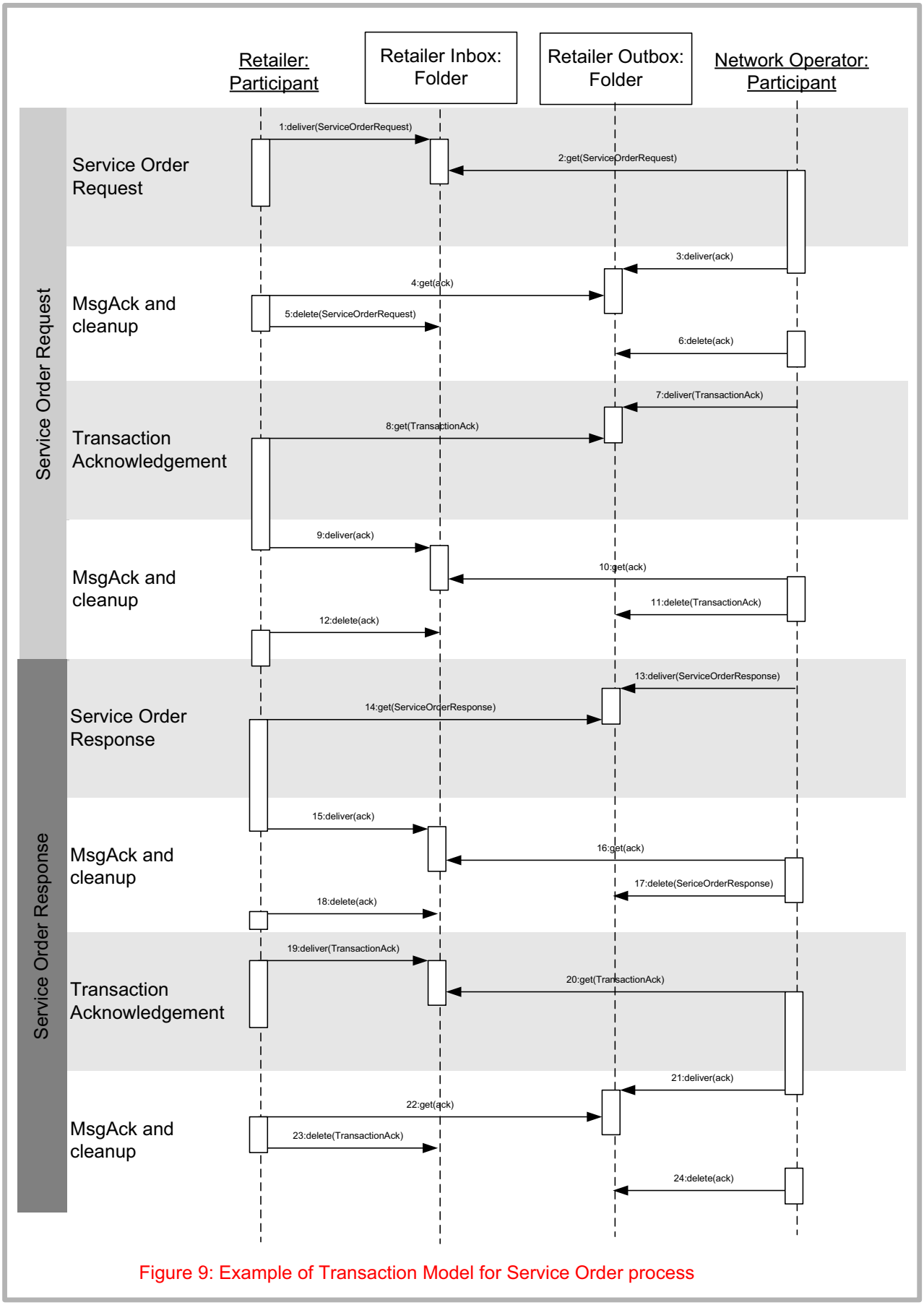


Figure 9: Example of Transaction Model for Service Order process

3.3 aseXML Error Reporting and Handling

a. Participants must ensure that error reporting and handling complies with aseXML Guidelines subject to the provisions of this Procedure.

3.4 aseXML Events

a. All aseXML Transaction Acknowledgements and some response Transactions may contain the aseXML Event element; usage must be as defined in the aseXML Guidelines.

b. Participants must use reasonable endeavours to ensure that a Generic Event Code is only used where a specific Event Code does not apply.

3.5 A Summary of Transaction Model Exception Points

a. The following table summarises the key exception points through the Transaction Model. Participants must use reasonable endeavours to comply with the actions to be taken as set out in the following table.

Exception	Who needs to take action	Action to be taken
1. Initiator determines that intended Recipient of a B2B Message has reached flow control limit.	Initiator	Once relevant Timing Requirements are exceeded, raise issue with appropriate technical contact for Recipient, as indicated by B2B Contacts List.
2. B2B Message sent by Initiator fails MSATS B2B Handler validation.	Initiator	Address the indicated reason for failure and resend.
~~3. An MSATS B2B Handler ".ac1" Acknowledgement not received in response to a B2B Message sent by Initiator. See Section 4.10 for Timing Requirements.~~	~~Initiator~~	~~Contact NEMMCO to raise issue of potential performance issue.~~
4. B2B Message sent by Initiator fails Business Receipt validation by the Recipient, ie Initiator receives a negative ase: *MessageAcknowledgement*	Initiator	Address the indicated reason for failure and resend.
5. *Ase:MessageAcknowledgement* not received in response to a B2B Transaction. Participants should refer to the Section 4.10 for Timing Requirements.	Initiator	Raise potential performance issue with appropriate technical contact for Recipient, as indicated by B2B Contacts List.

Exception	Who needs to take action	Action to be taken
6. *Ase:TransactionAcknowledgement* not received within appropriate timeframe from posting a B2B Message to the MSATS B2B Handler (and all intermediary events have occurred successfully). (Participants should refer to the B2B Procedures for specific Timing Requirements, however the Business Acceptance/Rejection is typically required within one business day.)	Initiator	Raise non-delivery issue with appropriate technical contact for Recipient, as indicated by B2B Contacts List.

4 TRANSACTION DELIVERY REQUIREMENTS

4.1 The Use of File Based Messaging

a. The National B2B Infrastructure implements file based messaging.

b. Participants must ensure that all aseXML Messages are transmitted as files and adhere to the requirements stated throughout this Procedure.

4.2 Delivery Mechanisms

a. With the exception of the CustomerDetailsReconciliation Business Document, Participants must ensure that all B2B Transactions and Acknowledgements are sent via the MSATS B2B Handler in accordance with the requirements of this Procedure, subject to contingency provisions set out in section 5 of this Procedure.

1. The delivery method for the use of the CustomerDetailsReconciliation Transaction, and associated Acknowledgements (if any), must be in accordance with any agreement between the Participants in respect of the delivery of the CustomerDetailsReconciliation.

b. The National B2B Infrastructure used to deliver B2B Transactions supports "once and once only delivery". Subject to 4.14:

1. Participants must not re-use *ase:MessageID* where they have received a Message Acknowledgement from the Recipient for that Message.

2. Participants must not re-use *ase:TransactionID* where they have received a Transaction Acknowledgement from the Recipient for that Transaction.

c. Participants acknowledge and accept that Transactions and Acknowledgements may be delivered to a Participant out of sequence. Participant systems must not assume a given delivery sequence. Refer to the B2B Procedures for any specific out of sequence handling requirements.

4.3 Participant Addressing

a. Participants must issue B2B Messages using valid ParticipantIDs (as published by ~~NEMMCO~~ the IMO) in the *ase:To* and *ase:From* fields of the Message header.

b. Participants must ensure that ParticipantIDs used relate to the appropriate role for the NMI for the B2B Message (e.g. a Retailer ParticipantID must not be used in the *ase:From* field for an ase:MeterDataNotification).

c. Participants must ensure that the Participant IDs used in Request and Response Transactions match. That is, the *ase:From* Participant ID in the Request (e.g. ase:ServiceOrderRequest) must be the same as the *ase:To* Participant ID in the Response (e.g. ase:ServiceOrderResponse). Participants must ensure that Participant IDs used in any Acknowledgements match the Transaction to which they relate.

4.4 Compression

a. Participants must send all aseXML Messages containing aseXML Transactions as compressed files with a ".zip" extension. Participants may send Transaction Acknowledgements either in the same format as aseXML Transactions or, if sent at the same time as corresponding Message Acknowledgements, in the format described in 4.4.b. Standalone Transaction Acknowledgements must be sent as compressed files.

b. Participants must send all Message Acknowledgements as an .ack ~~or .ac1~~ files that are not compressed.

c. Participants must send all standalone ase:Events as .ack files that are not compressed.

d. Participants must ensure that any zip file sent is not password protected.

e. Participants must ensure that the path name is not included in the zip file.

f. Participants must ensure that the zip file only contains one aseXML file.

g. Participants must ensure that any embedded file has the same name as the zip file, with an ".xml" extension.

h. Participants acknowledge and accept that items e, f, and g listed above are shall not be validated by the MSATS B2B Handler.

4.5 Overview of MSATS B2B Handler Functionality

4.5.1 Functional Overview

a. The MSATS B2B Handler provides the functionality of a "mailbox" service distributing B2B files directly between valid market Participants.

b. ~~NEMMCO~~The Network Operator must ensure that the functionality of the MSATS B2B Handler includes:

1. The ability for B2B files to be sent directly to Participant directories ("Inbox") as specified.

2. ~~Header and schema validation of files.~~

3. ~~Production of a negative Hub Acknowledgement in the case of B2B Message failure.~~

4. A subdirectory that contains flow control files (.stp files) identifying Participants who are Stopped.

5. (By reading this subdirectory before lodging a new file and not lodging files for stopped Participants, an Initiator can avoid receiving a negative Acknowledgement).

   If a Participant that a B2B Transaction is being sent to has reached its file limit, the B2B file transfer fails and a negative hub Acknowledgement is sent to the B2B Initiator. (This limit is configurable per Participant and is independent of MSATS file limits.)

6. Support for specific B2B Transaction types.

7. ~~Logging of MSATS B2B Handler activity in an activity log (not the MSATS database).~~

~~8. Creation of a B2B e-Hub Acknowledgement file with a different extension (.ac1) is created to signify the successful transfer of a B2B Transaction to the intended Recipient. That is, the .ac1 file contains a positive *ase:MessageAcknowledgement*. The intended Recipient signifies successful reception of the B2B file by creation of an Acknowledgement file with an .ack extension, which is then copied to the B2B Initiator.~~

c. Where a Recipient's Inbox contains an invalid *ase:MessageAcknowledgement(s)* or invalid standalone *ase:Event(s)*, the Recipient can still initiate Transactions by lodging ".zip" files into their Inbox (refer 3.2.3.4). These .zip files will be delivered. The Recipient will also continue to receive Transactions, but the MSATS B2B Handler will not deliver the corresponding *ase:MessageAcknowledgements*. This will eventually result in the flow control limit being exceeded if the error(s) is not resolved.

4.6 Authentication and Non-repudiation

a. Non-repudiation seeks to ensure tamper proof delivery and authentication of the Initiator. ~~NEMMCO~~ The Network Operator must ensure that this is supported by the MSATS B2B Handler as follows:

1. Network isolation is provided by the use of the National B2B Infrastructure that is a private, isolated and secure network. The National B2B Infrastructure is only capable of being accessed by authorised Participants.

~~2. Participant Network Authentication whereby, once connected to the National B2B Infrastructure, a Participant may only gain access to the MSATS B2B Handler via userID and password authentication.~~

~~3. Manual non-repudiation is also supported by the persistence of every B2B Transaction that is processed by the MSATS B2B Handler.~~

4. All aseXML Transactions and Acknowledgements are delivered by the MSATS B2B Handler with no modification.

4.7 Priority of aseXML Messages

a. Unless otherwise specified in another B2B Procedure, Participants must ensure that:

1. All fully tagged aseXML Transactions are sent as Medium Priority aseXML documents.

2. All aseXML wrapped CSV Transactions are sent as Low Priority aseXML documents.

b. Participants must ensure that the ase:*MessageAcknowledgements* and ase:*TransactionAcknowledgements* are the same priority as the Initiating Message.

c. Participants acknowledge and accept that items 4.7 (a) and 4.7 (b) listed above shall not be validated by the MSATS B2B Handler.

4.8 Size of aseXML Messages

a. Participants must ensure that Messages containing B2B aseXML Transactions do not exceed an uncompressed Message size of 1 MB.

~~b.~~ ~~Participants acknowledge and accept that the MSATS B2B Handler will reject Messages that exceed the 1MB limit. NEMMCO must use reasonable endeavours to ensure that the MSATS B2B Handler rejects Messages which exceed 1MB with an Event Code (*ase:Code*) of "6", i.e. "Message too big".~~

4.9 Validation

4.9.1 Scenarios for Initial Transfer of B2B zip file

a. The MSATS B2B Handler provides a mailbox service for B2B Transactions. The initiating step of the B2B file handling protocol is largely concerned with the information that is stored in the header of a B2B Transaction file. The header fields are used as the addressing data that determines whom the B2B Transaction goes to. ~~NEMMCO~~ The Network Operator must ensure that the MSATS B2B Handler does not process the contents of a B2B Transaction file (excepting the header). The .zip file, as delivered to the MSATS B2B Handler, is passed to the receiver unchanged.

b. The following validations apply to incoming B2B files. When one of these validations is not satisfied either the file is **ignored** or a **negative acknowledgment** is created.

4.9.1.1 Validate Sending Participant

a. Participants must ensure that their Inboxes have been configured for B2B operation. Participants acknowledge and accept that the B2B e-Hub will only handle incoming files from the Inboxes of Participants that have been configured for B2B operation.

b. Participants acknowledge and accept that files submitted by Participants who are not configured for B2B operation shall be ignored without error by the B2B e-Hub.

4.9.1.2 Validate Transaction Group in File Name

a. Participants must ensure that they use a Transaction Group in their filename which has been configured for B2B operation. Participants acknowledge and accept that the B2B e-Hub shall only handle incoming files from Participants that use a Transaction Group in their filename that has been configured for B2B operation. Files submitted with Transaction Groups other than those configured for B2B operation shall be ignored without error by the B2B e-Hub. ~~Files submitted with Transaction Groups that are used by other systems, such as MSATS, where a common Inbox is used, may be processed by those systems and reported by those systems as an error.~~

4.9.1.3 Validate zip file

a. ~~NEMMCO~~Participants must ensure that they ~~MSATS B2B Handler~~ send~~s~~ a standalone *ase:Event* (with the *EventCode* = 5) to the Sender in response to the receipt of a corrupted zip file.

4.9.1.4 Validate XML payload

~~a.~~ ~~NEMMCO must ensure that if the XML payload is not well formed or schema invalid the MSATS B2B Handler produces a negative Acknowledgement. NEMMCO must ensure that the MSATS B2B Handler also checks that the payload is less then 1MB.~~

4.9.1.5 Validate Participant Id in the <From> Field

a. Each Participant must ensure that the Participant Id in the <From> field of the header is the same as the owner of the Inbox. Participants acknowledge and accept that a failure to comply with this clause will result in the MSATS B2B Handler producing a negative acknowledgment.

4.9.1.6 Validate Participant Id in the <To> Field

a. Each Participant must ensure that the Participant Id in the <To> field is a Participant Id which has been configured for B2B operation. Participants acknowledge and accept that a failure to comply with this clause will result in the MSATS B2B Handler producing a negative acknowledgment.

4.9.1.7 ~~Recipients Outbox is at the file limit~~

~~a. If the Outbox of the Participant in the <To> field has exceeded its file limit and a B2Bholdinp.stp file has been created, NEMMCO must ensure that the MSATS B2B Handler produces a negative Acknowledgement, which is returned to the sender.~~

4.9.2 Scenarios for Transfer of Recipient Acknowledgement

a. Participants and the MSATS B2B Handler may produce Acknowledgement files in two formats: one containing an aseXML header with Transaction and Message Acknowledgements, or alternatively an event description. This section describes scenarios for both types of Acknowledgement file.

4.9.2.1 Acknowledgement with aseXML header

a. Participants and the MSATS B2B Handler must produce Acknowledgements with an aseXML header that contain (among other things) information about whom the Acknowledgement is going to and from whom the Acknowledgement is coming. ~~NEMMCO~~ Participants must ensure that the MSATS B2B Handler then validates the <From> and <To> fields in the acknowledgment against the <To> and <From> fields in the zip file in the Outbox with a corresponding file name.

b. Participants acknowledge and accept that where these validations fail, the ack file is not processed and the acknowledging Participant shall be skipped for further Acknowledgement processing. If the zip file in the Outbox cannot be opened or parsed for any reason, then these validations shall fail.

4.9.2.2 Acknowledgement With Event Info

a. Participants acknowledge and accept that Acknowledgements do not have aseXML header information in them. The MSATS B2B Handler shall use information in the header of the zip file to determine which Participant to send the Recipient Acknowledgement to. It then reverses the <To> and <From> fields to determine whom the 2nd level Acknowledgement needs to go to. If the zip file in the Outbox cannot be opened or parsed for any reason then this mechanism will fail, the ack file will not be delivered and the acknowledging Participant is skipped for further Acknowledgement processing.

4.9.3 Other validation details

a. If a Message is schema invalid, Participants must ensure that either an aseXML *ase:MessageAcknowledgement* or standalone *ase:Event* is returned to the Initiator, as described in Section 11 of the aseXML Guidelines.

4.10 Timing Requirements

a. With the exception of periods covered by any industry agreed outage period, Participants must use reasonable endeavours to adhere to the Timing Requirements stated in this Section and as prescribed by the relevant B2B Procedure.

b. Timing requirements for the delivery of aseXML Transactions and Acknowledgements via the National B2B Infrastructure are summarised below in Figure 10 and the associated table. The diagram illustrates the ~~three~~ two Acknowledgement cycles. ~~The batch or polling cycle of the hub is also indicated, but t~~The ~~equivalent~~ batch and processing timings of Participants are not illustrated.

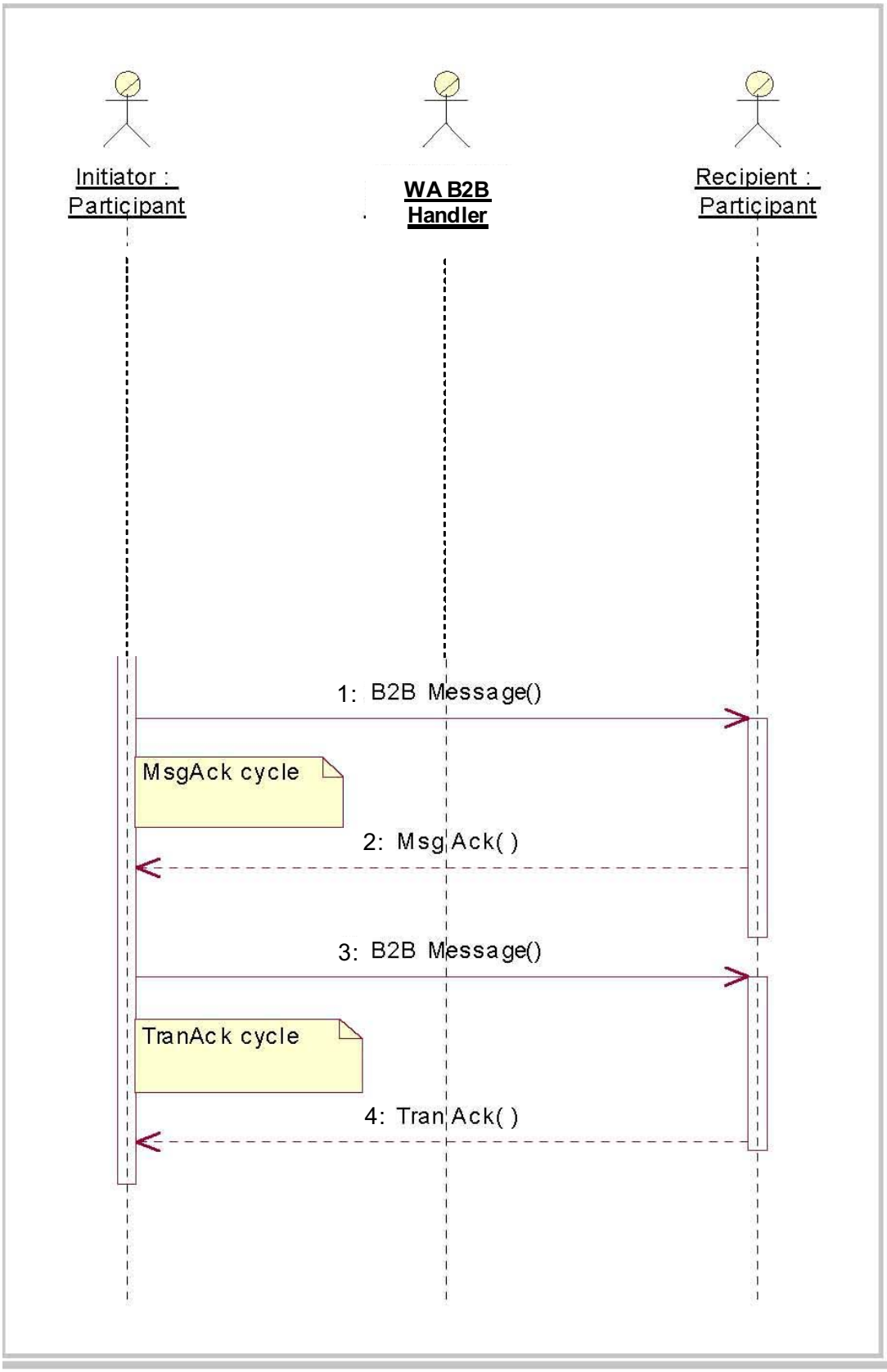


Figure 10: Summary of Timing Requirements for 2 delivery cycles of B2B Messages and Acknowledgements via the MSATS B2B Handler.

c. The following maximum Timing Requirements apply to the Acknowledgement cycles. Participants ~~and NEMMCO~~ must meet these Timing Requirements for a minimum of 95% of Transactions during a rolling 5 business day period, or the industry Timing Requirements otherwise agreed. This requirement is based on an agreed industry loading scenario which ~~NEMMCO has~~ is published to industry.

Cycle	Low Priority Transactions	Medium Priority Transactions	High Priority Transactions	Responsibility
~~Hub Transmission Time~~	~~30 minutes~~	~~15 minutes~~	~~5 minutes~~	~~NEMMCO~~
MsgAck Cycle Time	240 minutes	60 minutes	30 minutes	Participant
TransAck Cycle Time	By end of next business day	By end of next business day	60 minutes	Participant

~~1. The Hub Transmission Time is the time from a Participant placing a file in their Inbox to the Handler moving the file to the other Participant's Outbox.~~

~~2. This time can be measured by the time taken for an .ae1 to be placed in the Sender's Outbox in the circumstances where an .ae1 file is produced.~~

~~3. For a valid Message, the MsgAck Cycle Time includes two Hub Transmission Times.~~

~~4. For a valid Message, the TransAck Cycle Time includes two Hub Transmission Times.~~

d. A Business Document is deemed to have been received by a Participant on the date and time set out in the *ase:MessageDate* contained in the corresponding .ack~~1~~ file. A Participant's obligations under the relevant B2B Procedure are deemed to commence at that time (the *ase:MessageDate* contained in the corresponding .ack~~1~~ file).

e. A Participant must ensure that an *ase:MessageAcknowledgement* for a Request is not sent in the same file as the Response to the Request.

f. A Participant must ensure that an *ase:TransactionAcknowledgement* for a Request is not sent in the same file as the Response to the Request.

4.11 Transaction Logging

~~a. The MSATS B2B Handler provides a complete audit trail of the delivery and Acknowledgement of a B2B Message/Message Acknowledgement cycle to support the non-repudiation requirements. The MSATS B2B Handler stores the following information to support the Logging requirements.~~

~~b. NEMMCO must ensure that the MSATS B2B Handler stores the following information to support the Logging requirements.~~

~~Data Being Logged~~	~~Source of Data~~
~~User identification fields~~	~~FROM and TO fields in aseXML header~~
~~Timing fields~~	~~Date Time Created~~ ~~Date Time acknowledged~~
~~Incoming Message ID~~	~~XML header~~
~~Hub Acknowledgement Receipt ID~~	~~Allocated by MSATS and returned to Participant in Acknowledgement – unique B2B receipt ID – this is only for .ac1 or negative .ack files generated by B2B Handler.~~
~~Outgoing Receipt ID~~	~~Extracted from Recipient Acknowledgement from Participant – returned to Initiator~~
~~Transaction Group~~	~~XML header~~
~~Date/time of delivery of Message~~	~~.ac1 *ase:MessageDate*~~
~~Message priority~~	~~File name~~

4.12 Flow Control Management

a. ~~NEMMCO~~ The Network Operator must ensure that the MSATS B2B Handler supports the timely delivery of B2B Transactions as detailed in section 4.10.

4.12.1 MSATS B2B Handler Flow Control Management

a. ~~NEMMCO~~ The Network Operator must ensure that the MSATS B2B Handler provides the following flow control management functionality. This functionality is a protection mechanism against file overloading of a Recipient's Outbox.

b. ~~NEMMCO~~The Network Operator must ensure that the MSATS B2B Handler's flow control management functionality is based on the use of "flow control" files. Two types of flow control files must be used. The first flow control file is named "B2Bholdinp.stp" and is located in the Recipient's Outbox. The second flow control file contains the name of the Recipient who is at the warning limit (ParticipantID_holdinp.stp) and must be located in a special directory "stopbox" located at the same level as Inbox and Outbox and repeated for each Participant.

c. ~~NEMMCO~~The Network Operator must ensure that when the number of unacknowledged B2B zip files in a Participant Outbox exceeds a configurable Warning level, the MSATS B2B Handler creates a flow control file of the form ParticipantID_holdinp.stp in the stopbox directory for each B2B Participant. On a subsequent flow control file processing cycle, when the number of unacknowledged B2B .zip files in a Participants Outbox exceeds a configurable High level set by ~~NEMMCO~~the Network Operator for that Participant, ~~NEMMCO~~ the Network Operator must ensure that the MSATS B2B Handler writes a flow control file (B2Bholdinp.stp) to that ~~Participant~~'s Outbox. ~~NEMMCO~~ The Network Operator must ensure that when the number of files subsequently drops below a certain Lower level, the MSATS B2B Handler removes the B2Bholdinp.stp flow control file and Message file movements recommence. On a subsequent cycle of the flow control file processing, the MSATS B2B Handler must remove the ParticipantID_holdinp.stp from all Participant stopbox directories if the number of B2B outstanding files is below the lower level. ~~NEMMCO~~ The Network Operator configures the Warning, High and Lower flow control file levels for each Participant.

d. The ParticipantID_holdinp.stp file acts as a flow control mechanism so that an Initiator can check before lodging if a Participant is at the Warning flow control file limit. The reason that it must be created in a cycle before the B2B holdinp.stp file is so a race condition is avoided. Similarly, it must be removed after the B2Bholdinp.stp file. The flow control file processing runs as a separate configurable process, with a frequent cycle. It is important to only do the two types of flow control files in separate cycles to ensure that the stopbox can stop the flow before the Participant is totally stopped. All of this requires careful tuning by both the MSATS B2B Handler and Participant Gateways.

e. The B2Bholdinp.stp file acts to signal to the Participant that further B2B file movements to their Outbox has ceased, as a flag to the MSATS B2B Handler to deny further file movements to this Outbox and create rejection acknowledgment to the B2B Message file Initiator.

4.13 MSATS B2B Handler File Naming Convention

a. Participants must use the following file naming convention when using the MSATS B2B Handler:

1. The MSATS B2B Handler file naming convention is defined by the following regular expression:

   [0-9_a-z]{1,4}[h|m|l][0-9_a-z]{1,30}[.](tmp|zip|ack|ac1)

   where:

   The first four (4) characters represent the Transaction Group.

   The fifth character represents the Priority, h = High, m = Medium, l = Low

   The remaining 30 characters represent the unique identifier of the Message file.

2. The Recipients Outbox is a shared namespace for all Initiator's files. To avoid name collisions Participants must ensure that the Participant Id of the sending Participant is contained at the start of the remaining 30 characters used for Message uniqueness.

3. Participants must use their own and appropriate Participant Id in the 30 character unique identifier.

4. For Example: sordmalinta__wpntwrks20061228_00002.xml or **sordmwpntwrksalinta__20061228_00099.xml.**

   NB: See WA Infrastructure guide for more file naming details.

5. Participants must only use lowercase characters in file names. Participants acknowledge and accept that the MSATS B2B Handler recognises and processes incoming ".zip" files by their four character Transaction group. An invalid Transaction Group file name prefix will cause the ".zip" file to be ignored.

6. Participants must ensure that the file names are unique. A Participant may only reuse a file name if the original file was not acknowledged by the Recipient.

4.14 Handling of duplicate or resent Transactions and Messages

a. ~~NEMMCO~~The Network Operator and Participants must handle any duplicate Transactions and Messages in accordance with the aseXML Guidelines (specifically sections 10.3.5, 10.4.5 and 10.6).

b. With the exception of an ase:ServiceOrderResponse, a Participant may correct a Business Document and resend it using the same data provided that:

1. The original Business Document was rejected via a negative *ase:MessageAcknowledgement* or negative *ase:TransactionAcknowledgement*; and

2. A new *ase:MessageID* and *ase:TransactionID* is used.

~~3. A Participant must only resend an *ase:MessageID* if the original was rejected by the MSATS B2B Handler; that is, if an .ac1 file is received for a Message, a new *ase:MessageID* must be used for resent Messages.~~

c. A Participant must ensure that if they receive a negative Business Receipt and/or Business Rejection that they undertake the action specified in the table below if the rejection relates to an individual error situation. Where multiple errors occur due to system malfunctions, the affected Participants must contact each other and agree a resolution of the situation.

d. Action Matrix following negative Business Receipts and Business Rejections

Transaction	Event	Reason/Outcome	Action[1]
Any	Hub sends *ase:Event*	Reason: Recipient is stopped	Sender waits until the Recipient is no longer stopped and then resends original Message, or may issue a new Message.
		Any reason other than Recipient is stopped.	Sender corrects and resends as a new Message. Sender may allocate a new *RequestID* or *ServiceOrderNumber*, if applicable.

[1] Allocation of a new Service Order Number and method of confirming acceptance is a business process decision.

Transaction	Event	Reason/Outcome	Action[1]
	Hub sends standalone *ase:Event*	File transport error prevents uncompression of Message	Sender resends original Message, or may issue a new Message.
	Recipient sends standalone *ase:Event*	File transport error prevents uncompression of Message.	If due to transportation error from Hub to Receiver (i.e. when the Receiver copies the file locally from the Hub Outbox) – then Hub will deliver the event to the **sender** of the original Message. The hub will also clean up the zip file in the Recipient's Outbox. If due to a hub copy failure from Inbox to Outbox (extremely unlikely due to integrity checks performed by the hub) – then the *ase:Event* will be treated as a 'bad acknowledgment" requiring manual intervention – see section 4.9.2.1.
Business Document	Recipient sends negative *BusinessReceipt* (*ase:MessageAcknowledgement*)	Any reason.	Sender corrects and resends as a new Message. If a Request Transaction, the Sender may allocate a new *RequestID* or *RetServiceOrder*, if applicable.
	Recipient sends negative *BusinessAcceptance/Rejection* (*ase:TransactionAcknowledgement*)	Sender accepts the reason for the Business Rejection.	Sender corrects and resends as a new Message. If a Request Transaction, the Sender must allocate a new *RequestID* or *RetServiceOrder*.
		Recipient admits error (ie. incorrect rejection).	The Sender resends as a new Message. If a Request Transaction, the Sender must allocate a new *RequestID* or *RetServiceOrder*.
ServiceOrder Response	Retailer sends negative *BusinessAcceptance/Rejection* (*ase:TransactionAcknowledgement*)	DNSP accepts the reason for the Business Rejection	The Service Provider and the Retailer negotiate a resolution of the reason for the rejection, with the agreed resolution being reflected in each party's systems.
		Retailer admits error (ie. incorrect rejection).	

4.15 Timestamps

a. Participants must ensure that:

1. the "+hh:mm" component of *ase:MessageDateTime* = ~~+10~~+08.00; and
2. the "+hh:mm" component of *ase:TransactionDateTime* = ~~+10~~+08.00.

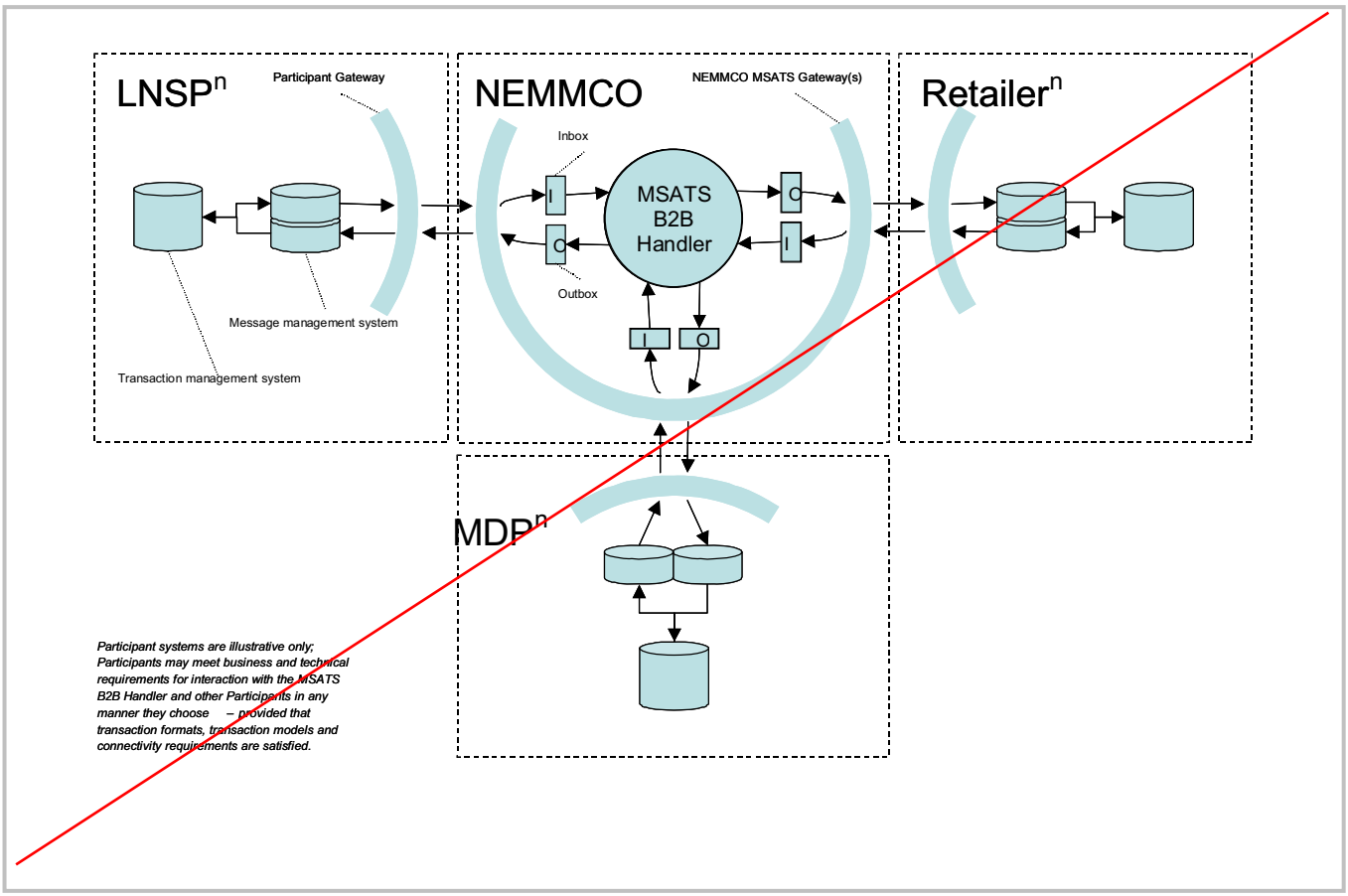
b. ~~The time zone selected for date/time stamps within Transactions will be at the discretion of the Participant sending the Transaction. The sending Participant must ensure that the combination of the time and time zone accurately communicates the point in time being defined. For example, 2005-02-11T12:15:23.000+10:00 sent for a NMI in NSW refers to a local time of 13:15:23 on the 11/02/2005 (since Daylight Savings is active).~~

The time zone for date/time stamps within Transactions will be set to yyyy-mm-ddThh:mm:ss+08:00. All date/time stamps for NMIs in Western Australia are to be expressed as Western Standard Time, including during periods where Daylight Savings Time is in effect.

5 CONTINGENCY RECOVERY REQUIREMENTS

5.1 ~~Overview of National B2B Infrastructure~~

a. ~~The following diagram illustrates the components of the National B2B Infrastructure that are covered by contingency requirements:~~



~~b.~~ ~~As shown, the term "National B2B Infrastructure" relates to centralised B2B e-Hub as well as components (hardware and software) maintained by Participants.~~

5.2 Need for Contingency Arrangements

a. The use of a National B2B Infrastructure, coupled with the use of aseXML B2B Transactions, has been assumed as the basis for the realisation of ~~National~~ WA B2B Procedures.

b. A series of contingency arrangements have been defined to cover situations when National B2B Infrastructure performance (IT systems and communications) does not meet the needs and priorities of Participants (and their Customers).

c. These contingency arrangements take account of:

1. Time frame and responsibility to advise system problems and to activate contingency arrangement;
2. Prioritisation of Transactions;
3. Alternate delivery method(s) and format;
4. Escalation process and timing for lengthy or persistent problems; and the
5. Handling of contingency Transactions once normal operations resume.

d. Also relevant to the contingency arrangements is the reduction of situations requiring contingency arrangements:

1. Steps to ensure an appropriate level of performance, integrity, robustness and redundancy of any national B2B infrastructure and systems; and
2. Potential steps Participants may take to improve their internal performance, integrity, robustness, and redundancy relevant to the B2B Procedures.

5.3 Basic Principles for Contingency Arrangements

a. The basic principle underlying the contingency arrangements detailed in this Procedure is that the Participant activates its contingency arrangements to minimise any adverse impact on other Participants and to itself.

b. Participants must ensure that the contingency arrangements of that Participant preserve normal business operations of other Participants whenever possible and practicable.

1. Participants must use reasonable endeavours to ensure that that Participant's contingency arrangements preserve the Message format, Transaction models and general delivery requirements detailed earlier in this Procedure.
2. Participants receiving Business Documents via a contingency delivery method must use reasonable endeavours to respond using the normal delivery method, and not the contingency method originally used.

5.4 Overview of Major Contingency Requirements

5.4.1 Participants

a. Participants must use reasonable endeavours to establish internal contingency arrangements to minimise disruption to other market Participants in the event of a material internal infrastructure failure. Participants must use reasonable endeavours to process Messages and Acknowledgements within the timeframes prescribed in this Procedure and elsewhere in the B2B Procedures.

b. Where a Participant is unable to process Messages and/or Acknowledgements within timeframes prescribed in this Procedure or any other B2B Procedure, that Participant must as soon as reasonably practicable to inform affected parties and:

1. detail actions and timeframes to recover; and
2. negotiate appropriate intermediate working arrangements.

c. An alternative mechanism for a Participant to manage Messages in their MSATS B2B Handler Inbox and Outbox shall be provided to Participants. This mechanism is called the ~~B2B Browser Application~~Metering Service Centre / Web Portal.

d. In the event of a series of failures, which prevent a Participant from accessing the MSATS B2B Handler (and the ~~B2B Browser Application~~ Metering Service Centre is effectively unavailable), urgent B2B Messages may be sent via email as aseXML attachments (as a last resort).

5.5 Major Failure Events and Contingency Steps

a. The following table identifies key failure events and the contingency steps that Participants and ~~NEMMCO~~ the Network Operator must follow (in the order shown):

Failure event	Contingency steps
Central MSATS B2B Handler ("hub") failure.	1. ~~NEMMCO supports multiple "backup hubs". In the event of a failure of the operating MSATS B2B Handler, which prevents the business timings being achieved, NEMMCO will switch to a back-up hub.~~ 2. In the unlikely event that all MSATS B2B Handlers become unavailable, Participants should defer non-urgent Messages and send all urgent B2B Messages as compressed aseXML email attachments, without password protection, adhering to the requirements specified later in this Section. 3. If the MSATS B2B Handler fails, ~~NEMMCO~~ the Network Operator must notify all Participants. When the MSATS Handler is available after a failure, ~~NEMMCO~~ the Network Operator should notify all Participants.
Participant communications link failure Or Participant gateway failure	4. Participants should maintain at least one alternative communication link between their internal ~~National~~ Infrastructure components and the MSATS B2B handler gateways. 5. In the event of a communications failure between a Participant and the MSATS B2B Handler (including any appropriate contingency communications infrastructure), the Participant should then seek to defer non-urgent B2B Messages and must raise any urgent Messages via the industry-supported "~~B2B~~ Browser Application". 6. Where the ~~B2B~~ Browser Application is unavailable, Participants should raise urgent B2B Messages as compressed aseXML email attachment, without password protection adhering to the requirements specified later in this Section.

Failure event	Contingency steps
Participant unable to issue *ase:MessageAcknowledgements*	7. Where a Participant has a temporary inability to respond to a B2B Transaction with a Message Acknowledgement, the Participant must notify any affected parties and must send the *ase:MessageAcknowledgements* as soon as they are able to. 8. ~~Should the temporary problem be ongoing then Participants should utilise the B2B Browser Application to acknowledge Messages.~~ 9. Note that it is likely that the Participant expecting the Message Acknowledgement would raise the issue first.
Participant unable to issue *ase:TransactionAcknowledgements*	10. ~~Where a Participant has a temporary inability to respond to a B2B Transaction with a Transaction Acknowledgement, the Participant should manually process Transactions via the B2B Browser Application to issue negative *ase:TransactionAcknowledgements*. The Initiator of the original Transaction will assume acceptance of the Transaction unless a negative *ase:TransactionAcknowledgement* is received.~~ 11. ~~Should the temporary problem be ongoing then Participants should utilise the B2B Browser Application to acknowledge Transactions.~~ 12. Note that it is likely that the Participant expecting the Transaction Acknowledgement would raise the issue first.
Participant unable to do the requested activity.	13. Refer to the appropriate B2B Procedures for details of the appropriate Business Rejection or Response requirements.

Failure event	Contingency steps
Participant unable to issue BusinessDocuments.	14. The first level of contingency should involve the activation of backup system/service (if available). Participants should maintain at least one alternative means of raising Business Documents. 15. In the event of a failure of the primary and backup mechanism to generate a Business Document, the B2B Browser Application may be used. 16. In the event of a further failure with the B2B Browser Application, and as a last resort, the Participant may create and send a Business Document as a compressed aseXML email attachment, without password protection adhering to the requirements specified later in this Section.

5.6 Contingency Messages

a. Participants must ensure that any Messages produced by a contingency system are normal aseXML messages and be issued pursuant to the B2B Procedures. This includes the generation of ase:Transactions, *ase:MessageAcknowledgements* and *ase:TransactionAcknowledgements*. Participants acknowledge and accept that this means Participants must have more than one method of producing aseXML messages.

5.7 Use of the B2B Browser Application as a Contingency Solution

a. During a contingency event, a Participant must use reasonable endeavours to raise any urgent Messages via the B2B Browser Application. Participants may also utilise the B2B Browser Application for other Transactions as appropriate.

5.8 Use of Email as a Contingency Solution

a. Participants may use email during a contingency event provided that emails are only used where the B2B Browser Application is unavailable.

b. Any Participant moving to the usage of email as a contingency solution must notify all affected Participants.

c. Participants must ensure that aseXML Transactions are sent as compressed attachments to an email Message.

d. Participants must ensure that any email Message sent pursuant to and in accordance with clause 5.8 is sent to the appropriate email address specified in the B2B Contacts List.

e. Participants must ensure that only one attachment is sent per email.

f. Participants must ensure that the subject line of the email contains the file name of the attached Message, in accordance with paragraph 4.13 of this Procedure.

g. Any Business Document sent by email does not require a Business Receipt. A Participant may provide an email equivalent of a receipt or an acceptance/rejection.

5.9 Use of Telephone and Fax

a. The use of phone or fax as part of the process is detailed in the relevant B2B Procedure.

5.10 Notification and activation requirements

5.10.1 General requirements

a. Activation of contingency arrangements specific to Participants is at the that Participant's discretion, provided the required failover timeframes are achieved. :

1. A Participant affected by a contingency event must contact other Participants as necessary to address any operational issues associated with the outage;
2. A Participant affected by a contingency event must advise other Participants of the resumption of normal processes as soon as practicable after these have resumed;
3. Notification to the affected Participants will be by the mechanism to be agreed and published by ~~NEMMCO~~ the Network Operator; and

5.10.2 Service Orders

a. In the case of Transactions included in the Service Orders WA B2B Procedure, a Participant affected by a contingency event must:

1. Advise other Participants of system problems within 2 hours of becoming aware of the problem.
2. Provide at least twice daily updates to other Participants via the industry agreed notification process.

5.10.3 Meter Data

a. In the case of Transactions included in the Meter Data WA B2B Procedure, a Participant affected by a contingency event must:

1. Advise other Participants of system problems within 24 hours of becoming aware of the problem. Notification will be by email to the nominated addresses of affected Participants.
2. Provide daily updates to other Participants via the notification process.

5.11 Prioritisation of Transactions

a. Prioritisation of Transactions is supported by the B2B Procedures and is supported primarily as a technical requirement to differentiate "small" aseXML-based Messages from potentially "large" aseXML-wrapped CSV Messages.

b. Retailers may choose to prioritise their Requests based on the level of automation of their contingency solution.

1.	If Retailer system failure delays delivery of Requests, the Retailer must recognise that the DNSP may not be able to meet the originally requested / regulated timeframe.

5.12 Handling of contingency Transactions once normal operations resume

a. No duplicates Transactions are allowed. That is, if a Participant sends a Transaction via a contingency system, that Participant must not resend that Transaction using normal delivery systems (or even an alternative contingency system).

End of Document