

REMA Expert Group

**Recommendations to address the removal of
Asset Provision from MOP Services**

Version: 1.0

Status: Issued

Date: 30 May 2002

Document Reference: MDB_02_6_REMA

Document Control

Document Revision History

Date	Version	Reason for change
16/05/2002	0.1	First issue for circulation to the REMA Expert Group members
18/05/02	0.1.1	First issue with structure applied.
20/05/02	0.1.2	Second issue comments and structure combined.
24/05/02	0.2.2	Expert Group edit.
28/05/02	0.2.3	Services comments incorporated.
30/05/02	1.0	Issued version for MDB

Table of Contents

1. EXECUTIVE SUMMARY	5
2. INTRODUCTION AND PRINCIPLES	7
2.1 BACKGROUND	7
2.2 ORGANISATION	7
2.3 PURPOSE OF DOCUMENT	7
2.4 OBJECTIVES AND SCOPE	7
2.5 KEY PRINCIPLES	9
2.6 STEERING GROUP DEFINITIONS	9
2.6.1 <i>Definition of a Meter Asset Provider (MAP)</i>	10
2.6.2 <i>Definition of Meter Asset Maintainer (MAM)</i>	10
2.6.3 <i>Definition of Customer</i>	10
2.7 ASSUMPTIONS	10
2.7.1 <i>Terminology</i>	10
2.7.2 <i>Change of Metering Capability</i>	11
2.8 SOURCES	11
3. KEY ELECTRICITY SUPPLY PROCESSES IMPACTED BY MOP/MAP SPLIT	12
3.1 METHOD	12
3.2 FUNCTION OF A MAP	12
3.2.1 <i>MAP is not subject to appointment/ de-appointment</i>	12
3.2.2 <i>Acquisition of MAP services</i>	12
3.3 INDUSTRY PROCESSES EVALUATED	13
3.4 EXPERT GROUP RECOMMENDATIONS	14
3.4.1 <i>The Baseline Information Flow for Contractual Models</i>	14
3.4.2 <i>MRA Modification</i>	16
3.4.3 <i>MRA Agreed Procedures</i>	16
3.4.4 <i>Review of Data Flows</i>	16
3.4.5 <i>Working Practices</i>	19
3.4.6 <i>End to End Model</i>	19
3.5 IMPACT ON SETTLEMENTS	19
3.5.1 <i>Elexon Documentation</i>	19
3.5.2 <i>Agent Issues</i>	20
3.5.3 <i>Market Domain Data</i>	20
3.6 OTHER ISSUES AND CONSIDERATIONS	21
3.6.1 <i>Visibility of installed metering equipment to Suppliers and MOPs on Change of Agent (CoA)</i>	21
3.6.2 <i>The D0142</i>	21
3.6.3 <i>The D0150</i>	21
3.6.4 <i>Related MPANs</i>	21
3.6.5 <i>PPMIPs</i>	22
3.6.6 <i>Bulk Change of Agent</i>	22
4. REVISED PROCESSES	23
4.1 PROCESS DIAGRAMS	23
4.2 DIAGRAM NOTATION	23
4.3 NOTES ON ASSOCIATED PROCESSES/SCENARIOS	24

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

4.3.1	<i>Customer-owned Meters</i>	24
APPENDIX 1		25
	DXXX1	25
	DXXX2	28
APPENDIX 2		30
	D0150.....	30
	D0268.....	34
APPENDIX 3		37
PROCESS 1.	NEW CONNECTIONS	37
PROCESS 2.	CHANGE OF METER WITH NO CHANGE OF MAP	42
PROCESS 3.	CHANGE OF MOP [CoMOP].....	45
PROCESS 4.	CHANGE OF MAP AS A RESULT OF THE SALE OF A METER (THEREFORE NO CHANGE OF METER) [CoMAP]	47
PROCESS 5.	CHANGE OF MAP TRIGGERED BY CHANGE OF METER [CoMAP CoM]	50
PROCESS 6.	CHANGE OF SUPPLIER WITH NO OTHER CHANGES [CoS]	53
PROCESS 7.	CHANGE OF SUPPLIER COINCIDENT WITH CHANGE OF MOP [CoS CoMOP]	55
APPENDIX 4		57

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

1. Executive Summary

This report is the culmination of the REMA Expert Group work programme, to date, resulting from the Ofgem initiative 'Review of Electricity Metering Arrangements, November 2001.

Sections 2 and 3 describe in detail the scope, method, processes tested, recommendations and outstanding issues.

Section 4 provides guidelines to interpreting the Processes in Appendix 3, and the remaining Appendices also include layouts for the proposed new flows and modified existing flows.

The key recommendations and comments of the Expert Group are as follows:

- Two contractual frameworks and one solution;
- No new supplier flows, one minor mod to two existing flow(s);
 - MAP ID added to D0150, therefore requires MDD change;
 - Similar change to D0268 suggested.
- Industry may need to re-visit D0142 and related flow changes as a consequence;
- Distribution Licence Condition 7 met through change to D0150;
- No other changes required where supplier continues to take MOP from a single company;
- The term of MOP used currently will continue, as it covers Meter Asset Maintainer functionality;

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

- One new MOP to MAP flow:
 - To commence service provision;
 - To end service provision;
 - To notify Supplier ID;
 - To inform MAP of metering equipment installed / associated with the MPAN;
 - To inform MAP of metering equipment removed / dis-associated with the MPAN;
- One new MAP to MOP flow:
 - To inform of sale of "bulk" metering equipment.
- Flows in DTC format, but not necessarily using DTN;

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

2. Introduction and Principles

2.1 Background

The Review of Electricity Metering Arrangement (REMA) is an Ofgem initiative that commenced in November 2001. Ofgem instigated separate but complementary metering projects in both Gas and Electricity. A Steering Group for REMA was established and this later led to the establishment of an Expert Group. Further information is available on the Ofgem website.

In recognition of the impact on a functional cross-section of the Electricity market the established Groups had representatives from all sectors of the market. The attendees, their organisations and organisation types are listed in Appendix 4.

2.2 Organisation

The REMA Expert Group was established by the MRASCo Development Board (MDB) who set out the Terms of Reference. Steering Group members attended the Expert Group meetings and there are interchanges between the two groups on issues where guidance is sought and provided.

2.3 Purpose of Document

The purpose of this report is to convey to provide background on what and how the recommended Change Proposals have been derived from the Expert Group to date

2.4 Objectives and Scope

The primary objective of REMA is to deliver metering competition through commercial arrangements rather than a rigid governance framework, splitting meter asset provision and meter asset maintenance.

The business models defined by the Steering Group are illustrated in Diagram 1 and Diagram 2 below, and reflect the separation of the functions of meter ownership and provision, from meter maintenance.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

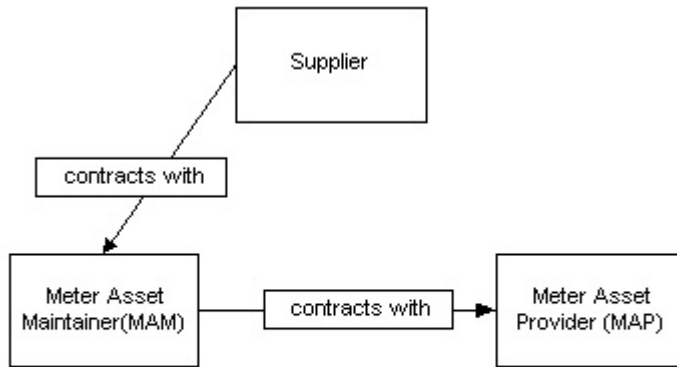


Diagram 1

The Supplier contracts with the Meter Asset Manager only. The Meter Asset Manager contracts with the Meter Asset Provider.

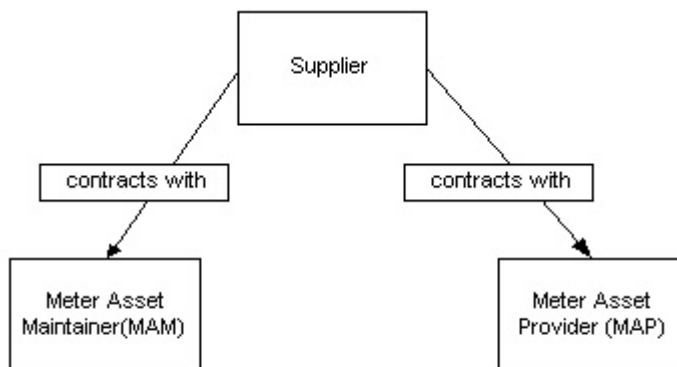


Diagram 2

The Supplier contracts with the Meter Asset Provider and the Meter Asset Manager.

The two key objectives of the REMA Expert Group are:

- To progress industry solutions to support the introduction of effective metering competition in line with Ofgem's strategy for Metering in Gas and Electricity, including the split of MAP and MAM;
- Identify the impact of the Recommendations made by the Steering Group on the industry retail baseline;

This document identifies the key electricity industry processes impacted by the split of meter operations into Meter Asset Provision (MAP) and Meter Asset Maintenance (MAM). Changes are focussed on the new MAM/MAP communications that arise as a result of the MAM/MAP split.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

The Steering Group advised the Expert Group to:

- concentrate on the Non-half hourly market. However, where the Expert Group has an awareness of possible parallels with the Half Hourly market the Expert Group have recorded them;
- not develop solutions at this time to take account of persons requiring MAP or MAM services, where that person is not a Supplier, eg customer owned meters.

2.5 Key Principles

The REMA Expert Group adopted the following key principles:

- *Minimise change to industry process as a result of the MAM/MAP split;*
- *Minimise changes to industry documentation;*
- *Minimise impact and cost on industry Participants;*
- *The MAP will always be kept informed of the IDs of the Supplier and the MAM;*
- *Changes are focussed on the new MAM/MAP communications that arise as a direct result of the MAM/MAP split;*
- *The Principle of pushing data from the definitive source to all market participants requiring the data, as in the current design (e.g. D0150 from Meter Operators), continues rather than relying on another party such as a Supplier to forward it on to other market participants that require the same data.*

2.6 Steering Group Definitions

The REMA Steering Group provided a working definition of MAM and MAP, which was agreed by the Metering Competition Focus Group in December 2001, to the REMA Expert Group, which was tested as part of the Expert Group's work to define a solution. The following are the final Expert Group definitions, which are based in part on the Distribution Licence.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

2.6.1 Definition of a Meter Asset Provider (MAP)

A person or persons supplying electricity-metering equipment does not become the MAP proper for that metering equipment unless, or until such time as, the metering equipment is made available to a MAM for installation at a relevant metering position. Once a person has become a MAP for a piece of metering equipment they remain the MAP until such time as either: (a) they sell the metering equipment, (b) the metering equipment is returned to them by the MOP. In this way MAP equals meter owner and meter owner equals MAP.

The MAP is responsible for providing metering equipment, which is fit for the purposes of satisfying the settlements process, the requirements of the relevant Use of Systems Agreement and the relevant Acts and Regulations.

2.6.2 Definition of Meter Asset Maintainer (MAM)

The installation, commissioning, testing, repair, maintenance removal and replacement of metering equipment, as defined in Dist Licence 36 B Section 1 b.

2.6.3 Definition of Customer

The Customer means the end user of the electricity Supply.

2.7 Assumptions

2.7.1 Terminology

The MOP in the current baseline performs all the task of a Meter Asset Maintainer except meter ownership or provision. Hence, the terminology of MOP is used in this document to identify that MOP will continue post REMA implementation. The BSC-defined term 'Meter Operator Agent' (MOA) is exactly analogous to that of the MOP going forward, therefore the definition 'MOA' will remain unaltered in the Settlement documentation.

"MAM is exactly equivalent to MOP is exactly equivalent to MOA".

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

2.7.2 *Change of Metering Capability*

It is assumed that Ofgem will only permit Change of Metering Equipment under limited conditions, and that a change of metering equipment would not automatically happen on Change of Supply.

2.8 Sources

Ofgem's document 'Strategy for Metering' March 2001

Distribution Business Licence.

Electricity Metering Protocol Document (Steering Group)

RGMA straw man (Gas market equivalent of REMA).

Models devised for NHHDC/NHHDR.

HH experience.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

3. Key Electricity Supply Processes Impacted by MOP/MAP Split

3.1 Method

The Expert Group established a list of processes on which to devise solutions and then test them for completeness. A number of iterations were undertaken to marry the Principles, the scope and objectives and contractual models together. This process also allowed for definitions and Principles to be tested, clarified with the Steering Group and re-affirmed.

As conclusions were reached working through the list of processes, early processes were re-visited to check the validity of the conclusions.

3.2 Function of a MAP

A key determination in the working through to a solution were the properties associated with being a MAP. The conclusions reached and applied were as follows:

3.2.1 MAP is not subject to appointment/ de-appointment

The MAP is not an accredited Agent of the Supplier. He is a provider of metering services (supplying meters and associated equipment) for the MAM to install and therefore does not need to be subject to the standard supplier hub agency appointment/de-appointment process. Flow instructions will however be sent to the MAP from a MAM to either request commencement of services or termination of services either on his own behalf or on behalf of the supplier. All obligations and liabilities will be further described in the relevant commercial agreements.

The MAP ID associated with an item of metering equipment can only be changed as a result of either a Change of Asset or Change of Asset Owner.

3.2.2 Acquisition of MAP services.

The MAP is defined as the owner of the metering equipment. He is required to provide metering equipment that at the time of provision is "fit for purpose". The definition of "fit for purpose" to include compliance with the BSC, the relevant Use of System

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

Agreement, of an appropriate form including certification requirements to comply with the Electricity Act as modified by the Utility Act. The MAP retains ownership/ primary access to the certification information. Should the MAM require additional information in this respect, it will be provided via “commercial flows” of information. Industry participants need to consider whether it may be more appropriate to provide the information, linked specifically to the metering equipment provided by the MAP to the MOP and described within formalised DTC format flows of information. The MAP is responsible for disposal of assets returned to him from the MOP or their re-certification as appropriate and is therefore required to retain or give access to such records including Certification documentation as may be required to manage this requirement.

The MAP Id will only be linked to a MPAN once that equipment is installed at a premise. Once a person has become a MAP for a piece of metering equipment they remain the MAP until such time as either: (a) they sell the metering equipment, (b) the metering equipment is returned to them by the MOP.

3.3 Industry Processes Evaluated

The following are key industry processes against which the recommendations have been developed and ‘tested’ by the Expert Group:

- New Connections
- Removal of Meter(s)
- Change of Meter
- Change of MOP
- Change of MAP *[with no change of meter]*
- Change of MAP *[triggered by change of meter]*
- Change of Supplier without any other changes
- Change of Supplier coincident with Change of MOP

The Expert Group also considered the following industry processes; but they were discounted for the reasons given:

- Change of Supplier coincident with Change of MOP and Change of MAP. Change of Supplier coincident with Change of MOP and Change of MAP *[triggered by sale of meter]* – As the

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

Supplier will be unaware of the MAP Id until after the Start of Supply Date (SSD) it was thought that he would not be in a position to know if a Change of MAP was required.

- Change of Supplier coincident with Change of MOP and Change of MAP *[triggered by change of meter]*. As the Supplier will be unaware of the Meter Technical Details or MAP Id until after the Start of Supply Date (SSD) it was thought that he would not be in a position to know if a Change of Meter or MAP was required.
- Change of Measurement Class NHH to HH – this process effectively consists of four sub-processes, Remove NHH Meter, Install HH Meter, Change of MOP and Change of MAP. As the group covered the Remove NHH Meter, and also the Change of MOP and Change of MAP processes this was thought to be adequate.

The Expert Group also considered the process that may be required to support Metering Emergency Services completed by the Distributor, but concluded that at this time it was not possible to complete the review until the Steering Group provides further information. It was also realised that this issue of how emergency services should be handled has existed since the introduction of Agent Competition, which allows MOPs to operate out of area. This lack of an agreed process could be exacerbated by increased competition in metering services. This conclusion was endorsed by the REMA Steering Group and Ofgem and as a result, at the REMA Steering Group meeting on 21 May 2002, it was agreed that a group needed to be established to look at emergency services.

3.4 Expert Group Recommendations

3.4.1 *The Baseline Information Flow for Contractual Models*

The conclusion was reached was that the information flow does not have to match the contractual arrangements. By only introducing a single route for the flow of information it removes any chance of a Party receiving the same data twice or worse not at all. However, parties must recognise and ensure that the relevant liabilities are placed in each of the relevant agreements. This is particularly

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

important where the MAP may receive information from the supplier's appointed MOP affecting directly the value of commencement of supplier charging arrangements. The illustrations in diagrams 3 and 4 illustrate the information flow alongside the contractual models.

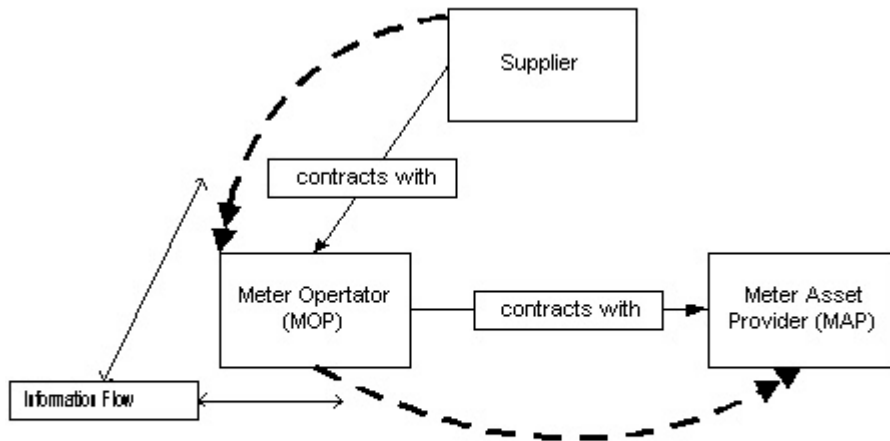


Diagram 3

The Supplier contracts with the Meter Asset Manager only. The Meter Asset Manager contracts with the Meter Asset Provider.

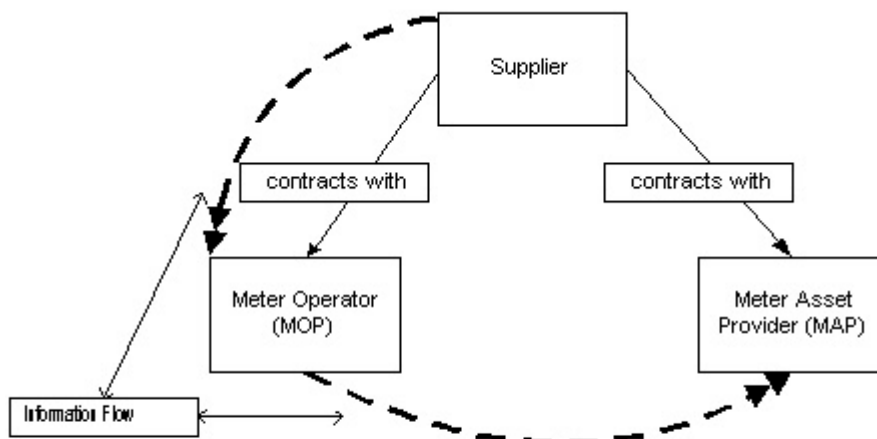


Diagram 4

The Supplier contracts with the Meter Asset Provider and the Meter Asset Manager. Information flow will be the same irrespective of contractual model.

The solution provides an available audit trail to the MAP either via the Supplier or the MOP.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

3.4.2 MRA Modification

It is proposed that there is a change to the definition of 'Meter Operator' to tie in with principle of MAM functionality matching the existing understanding of MOP without provision/ownership aspects.

It is proposed the sub-clause, quoted below, is deleted from the MRA:

- (i) provide metering equipment whether by way of sale, hire or loan;

3.4.3 MRA Agreed Procedures

There are no changes required to MRA Agreed Procedures.

3.4.4 Review of Data Flows

The Expert Group considered it better to have simpler flows rather than have more complex flows that then ran into difficulties in everyday usage, such as the D0148.

It is noted that there is a reciprocal impact on Elexon's SVA Catalogue as noted in 3.5. In addition there will be requirement for Market Participant Role Code and Market Participant Id to be in MDD. See 3.5.3 also.

In the diagrams in Appendix 3 the purely commercial flows of information have been given a 3-letter acronym, eg RFM, in the diagrams and are indicative of a transaction. See 3.4.4.2 for a full list of these flows.

These flows could be implemented as industry flows in the event that MOPs and MAPs decide that they should be standardised across all participants.

3.4.4.1 New DTC Flows

The new DTC flows are for communication between MOP and MAP for the main purposes of:

- notifying each party of the other's identity,
- identifying the supplier to the MAP,
- informing the MAP what assets owned by the MAP have been installed or removed and

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

- allow the charging for those assets to start or stop.

It is recognised by the Expert Group that there may be associated metering equipment assets installed, which for MAP charging purposes have been identified in the construction of the new flows. The Expert Group recognised this information may be of interest to other market participants, such as Suppliers, in the future.

These flows can be used for both NHH and HH metering. The layout of these flows is included in Appendix 1.

Two new DTC flows (DXXX1 & DXXX2) need to be defined to ensure the flow of information in the correct format. The benefit of using a DTC-like structure is that it delivers form, consistency and a basis for automation. The details of these flows are given in Appendix 1.

MPAN has been included in flows to the MAP so the MAP knows where its assets are installed. It will be for the MAP to decide whether it requires the metering point address to also be sent, as available to the MOP at the time of despatch of the flow.

Meter Operators can choose to not formally implement the new MOP to MAP and MAP to MOP flows for MPANs where they have both MOP and MAP responsibility. If the MAP is a customer the MOP will record this against the meter and the flow of information would typically be by letter or other communication. If the MAP is a party to the DTSA, then communication could be, but not necessarily, over the DTN. As with all other DTC flows communications exchange can be by other pre-agreed communications media such as email, and to be covered in bi-lateral agreements.

- DXXX1 Notification of MOP, Supplier and metering assets installed by the MAM to the MAP.
- DXXX2 Notification of MAP (owner of assets) to the MAM.

The structures have mandatory requirements where it is the minimum transfer of information but have had optional items built in to allow for 'best practice'. The flows not only enable or assist in asset tracking but also in charging.

The timing of use of the flows will depend upon the context as illustrated in Appendix 3, Process Notes and Diagrams.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

3.4.4.2 Commercial Flows

The following commercial flows appear in the diagrams in Appendix 3.

RFM	Request for Metering Equipment
MDN	Metering Equipment Delivery Note
RFC	Request for Metering Equipment Collection
MCD	Metering Equipment Collection Details

3.4.4.3 Modified Existing Baseline Flows

The proposed solution requires only one change to any existing DTC flow (D0150). This flow was chosen to convey the MAP Id to Suppliers and Distribution Businesses for two reasons, firstly it is an existing flow that relates specifically to the details of the meter installed at a metering point and secondly the use and triggers for the sending of the flow are already mandated in existing Industry products, ie the current timing and triggers can operate.

It should be noted that the way the flow is constructed and completed for new meter/ reconfiguration, or removal, means the MAP Id will have to be added to the flow twice, once in Group 290 and once in Group 08A Meters Removed. The positioning of the J-items is mindful of aiming to minimise impact on NHH DC processing, as they do not need the MAP Id.

The Expert Group were mindful of parallel requirements in the Half Hourly market and strongly suggest that modifications to the D0268 should mirror the recommendations made for the D0150. It is therefore the intention to table equivalent changes for the D0268 for MDB to consider separately.

The Expert Group is aware of other changes to the D0150 approved by industry and of proposed changes to the D0268. It is recommended by the Expert Group where practical that any accepted REMA proposals be combined with them to maximise efficiency and economy of implementation.

It is expected that the D0149/D0150 will continue to be sent as a pair as in current practice (see Annex C of the DTC).

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

3.4.5 Working Practices

Working Practices will be reviewed after MDB determination but the following list gives an initial indication at this stage:

WP9 – Related MPANs.

WP66 and WP116 - CoMC NHH to HH for handling return of meter;

WP73 – Value of reading type on D0010;

WP76 – NHH Meter Id Serial Number;

WP122 NHH New Connections, which is already the subject of work through the Supplier and Distribution Inter-Operation Group (SDIG).

3.4.6 End to End Model

The End to End Model is being reviewed and this will be completed following decisions made by industry and will include indicative diagrams for contextual use of Dxxx1, Dxxx2 and the Commercial Flows.

3.5 Impact on Settlements

3.5.1 Elexon Documentation

The BSC-defined term 'Meter Operator Agent' (MOA) is exactly analogous to that of the MOP going forward, therefore the definition 'MOA' will remain unaltered in the Settlement documentation. MAPs will not be classed as Supplier Agents in the usual sense so they will not need to be accredited. In practice MAPs have existed in the Half Hourly market since competitive meter operations were introduced in 1994 and fundamentally remain invisible to Settlements. The existence of MAPs does not directly impact on the Settlement definition and therefore it is not proposed that it is included in the BSC.

The D0150 and D0268 flows in the BSC SVA Data Catalogue, as already noted in 3.4.4, will require minor alteration to include the MAP ID. The MAP-MOP flows DXXX1 and DXXX2 do not impact Settlement systems and so will not be included.

In order to provide the necessary governance in relation to the responsibilities of participants at metering points, a Non Half Hourly Metering Code of Practice may be required. The information in this Code of Practice will be largely based on the Metering Protocol

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

document produced by the REMA Steering Group, which includes a definition of metering equipment and ownership, responsibility and access boundaries.

3.5.2 Agent Issues

It is noted that the processes have a dependency for MOPs to receive and process D0151s in a timely manner. The Expert Group note there is a move to remove the dependency between D0151 and D0170 dataflows on the Change of Agent process. Under the Change of Supplier process in BSCPs 502 and 504 there is no stated requirement, nor timeframe, for sending the D0151 de-appointment data flow from the Supplier to their incumbent Agent but the Dxxx1 flows are both dependent on receipt on processing of D0151s under CoS and CoS coincident with CoA. The Expert Group believes these should be reflected in the Elexon products as Agents build applications to support their Accreditation. It should also be noted there is an MRA Obligation for Suppliers to terminate their Agents on a Change of Supply.

3.5.3 Market Domain Data

There are requirements for a new 'MAP' Role Code and MAP Participant IDs to be recorded in Market Domain Data. There is also a requirement for a process to allow new MAPs to have their information loaded in to MDD. This is required because the MAP is not an agent to any party, as described in 3.2.1.

A Change Proposal to MDD will be required and a process to populate the D0269/D0270 to include the data.

The role code and MPID are required to allow flows between MOP and MAP to be sent over the DTN where it has been agreed bi-laterally between the MOP and MAP.

A means of identifying a customer owned meter to recipients of the D0150 was considered desirable and it was suggested an MPID be created for this, such as CUST, with the operational address being used to complete "MPAN Address".

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

3.6 Other Issues and Considerations

3.6.1 *Visibility of installed metering equipment to Suppliers and MOPs on Change of Agent (CoA).*

MOPs newly appointed and/or through the CoA process may be appointed to sites where they were not previously appointed. In current market operations where a MOP finds metering equipment they do not support the MOP is able to change the metering equipment without any recourse or further cost to the Supplier, providing the MOP meets the functional requirements for Supply purposes.

Under the new arrangements the MOP will only be able to change metering equipment under the following conditions:

- change of function (tariff change);
- to meet statutory re-certification requirements.

3.6.2 *The D0142*

The D0142 was noted by the Expert Group as providing sufficient information for a MOP only to derive the functional metering requirement that a Supplier is requesting and only when working within the MOP's historical area. The Expert Group concluded the D0142 is insufficient where a MOP expands operations in to other regions. The Association of Meter Operators are being consulted on a way forward.

One likely change is for the MTC to be added to the D0142. It was considered unnecessary for the D0150 to contain this information on the return flow as Suppliers have the means to derive the MTC in current operations.

3.6.3 *The D0150*

As noted earlier the Associated Equipment Details may be of interest to Suppliers, for example, in the future and could be added to the flow.

3.6.4 *Related MPANs*

In the situation where there is one meter and multiple MPANs, such as switched demand through an Economy 10 tariff, the Expert Group believes the MAP only needs to know the main/'leading' MPAN for

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

charging once for the metering equipment. Working Practice 9, 'Related Metering Points' is being re-visited.

3.6.5 PPMIPs

There are no flows between MOPs and PPMIPs in the current industry baseline, thus there should be no impact on PPMIPs

3.6.6 Bulk Change of Agent

If the industry decides to implement a facility for the bulk transfer of agents, the processes will need to be reviewed in the light of the industry design for such a transfer.

Work is in hand within the Elexon Change Process (Elexon reference P63) to evaluate this option.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

4. Revised Processes

This section provides guidance on interpretation, notation, and the level of detail shown in the diagrams to provide clarity for analysis in Appendix 3.

4.1 Process Diagrams

Diagrams and supporting notes follow for each of the processes (Appendix 3).

The following should be noted with respect to the diagrams:

- the diagrams do not take account of every variation as specified in the Working Practices or End-to-End diagrams
- with respect to the sequence of flows, a 'typical' sequence has been used rather than absolute timelines
- the triggers for the sending of the new flows are identified in the notes
- the processes do not take account of any industry changes that have been approved but not yet implemented (e.g. D0131 changes).
- not all flows used in the existing processes have been included for reasons of space and clarity.

4.2 Diagram Notation

The following notation has been adopted for all diagrams:

- current industry flows are shown using a black/solid line;
- new DTC flows are shown using a blue line in dash/dot format;
- new commercial flows are shown using a red dotted line;
- where a flow with identical content is being sent to more than one participant, it is shown as a 'spur' off a single flow;
- where the same flow type is being sent to more than one participant but the content differs, then this is shown as two separate flows;
- optional flows are indicated by the use of brackets around the flow number;
- the flows shown in the NHH scenarios are the Credit meter flows; but this does not preclude the use of the equivalent Pre-Payment Flows.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

4.3 Notes on Associated Processes/Scenarios

4.3.1 *Customer-owned Meters*

No changes to the above processes are currently thought to be needed to handle customer-owned meters other than that communication with the customer (MAP). These communications will not be via formal flows. (It should however be noted that the EG has not robustly tested customer ownership in reviewing the various scenarios discussed earlier in this paper and therefore takes no liability for any omission in process or data exchange. This stance was taken by the EG as a direct result of guidance provided by the SG).

In the D0150 the MAP ID may contain an MPID such as 'CUST' to denote customer, thus MOPs will know that they may not need to send DTC flows.

On Change of Tenancy where the customer owns the meter the Expert Group believes the meter is assumed to be part of the fixtures and fittings of the property (in the same way as light fittings, storage heaters, etc.), the new occupier will become the new owner of the meter, unless the previous tenant arranges for the meter to be removed on leaving the property. It is recommended that Ofgem notify the Law Society.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

Appendix 1

Proposed New DTC Dataflows

DXXX1

Flow Name:	Notification of Meter Operator, Supplier and Metering Assets installed/removed by the MOP to the MAP
Flow Description:	This is a notification to the MAP of the Mop, Supplier and Meter Assets
Flow Ownership:	MRA

From	To	Version
MOP	MAP	x.x

Data Items:

Reference	Item Name
J0012	Additional Information
Jxxxx	Associated Equipment Serial Number
Jxxxx	Associated Equipment Type
J0048	Contract Reference
J0848	Date of Meter Installation
J1269	Date of Meter Removal
J0210	Effective from Date {MOA}
J0049	Effective from Settlement Date {REGI}
J0360	Effective to Date {MOA}
J0410	Manufacturers Make & Type
J0004	Meter Id (Serial Number)
J0178	Meter Operator Id
J1036	Metering Point Address Line 1
J1037	Metering Point Address Line 2
J1038	Metering Point Address Line 3
J1039	Metering Point Address Line 4
J1040	Metering Point Address Line 5
J1041	Metering Point Address Line 6
J1042	Metering Point Address Line 7
J1043	Metering Point Address Line 8
J1044	Metering Point Address Line 9
J0263	Metering Point Postcode
J0003	MPAN Core

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

J0275	Service Level Reference
J0274	Service Reference
J0084	Supplier Id
J0716	Timing Device Id (Serial Number)

Flow Structure:

Group	Group Description	Range	Condition	L1	L2	L3	L4	L5	L6	L7	L8	Item Name
xxx	Meter Operator Details	1	If Commencement of Meter Operator	G								
					1							Meter Operator Id
					1							Effective from Date {MOA}
xxx	Meter Operator Details	1	If Termination of Meter Operator	G								
					1							Meter Operator Id
					1							Effective to Date {MOA}
Xxx	MPAN Cores	1-*		G								
						1						MPAN Core
						0						Metering Point Address Line 1
						0						Metering Point Address Line 2
						0						Metering Point Address Line 3
						0						Metering Point Address Line 4
						0						Metering Point Address Line 5
						0						Metering Point Address Line 6
						0						Metering Point Address Line 7
						0						Metering Point Address Line 8
						0						Metering Point Address Line 9
						0						Metering Point Postcode
						0						Additional Information
						1						Supplier Id
						1						Effective from Settlement Date {REGI}
						0						Contract Reference
						0						Service Reference
						0						Service Level Reference
xxx	Meter Details	1-*				G						
							1					Meter Id (Serial Number)
							1					Manufacturers Make & Type
							0					Timing Device Id
xxx	Associated Equipment Details	0-*				G						
								1				Associated Equipment Type
								1				Associated Equipment Serial Number
xxx	Installation Date	0-1	If Meter Installed				G					
								1				Date of Meter Installation
xxx	Removal Date	0-1	If Meter Removed				G					
								1				Date of Meter Removal

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

Notes:

The optionality of the MPAN Address will be determined by the MAP in the bilateral agreement between the MAP and MAM or the agreement between the MAP and the supplier as appropriate in the circumstances.

Catalogue release change takes effect	CP No.	Brief description of the change and its reason
.	****	Data Flow Created

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

DXXX2

Flow Name:	Notification of Meter Asset Provider
Flow Description:	This is a notification sent by the Old MAP to inform the MOP the identity of the New MAP for particular metering equipment.
Flow Ownership:	MRA

From	To	Version
MAP	MOP	x.x

Data Items:

Reference	Item Name
J0012	Additional Information
Jxxxx	Associated Equipment Serial Number
Jxxxx	Associated Equipment Type
J0048	Contract Reference
Jxxxx	Effective from Date {MAPA}
J0410	Manufacturers Make & Type
J0004	Meter Id (Serial Number)
J0003	MPAN Core
J0275	Service Level Reference
J0274	Service Reference
J0716	Timing Device Id (Serial Number)

Flow Structure:

Group	Group Description	Range	Condition	L1	L2	L3	L4	L5	L6	L7	L8	Item Name
xxx	MAP Details	1		G								
					1							Meter Asset Provider Id
					1							Effective from Date {MAPA}
xxx	MPAN Cores	1-*		G								
						1						MPAN Core
						0						Additional Information
						0						Contract Reference
						0						Service Reference
						0						Service Level Reference
xxx	Meter Details	1-*				G						
							1					Meter Id (Serial Number)
							1					Manufacturers Make & Type
							0					Timing Device Id

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

MRASCo	Recommendations to address the removal of Asset Provision from MOP Services
---------------	--

Group	Group Description	Range	Condition	L1	L2	L3	L4	L5	L6	L7	L8	Item Name
xxx	Associated Equipment Details	0-*					G					
								1				Associated Equipment Type
								1				Associated Equipment Serial Number

Catalogue release change takes effect	CP No.	Brief description of the change and its reason
**	****	Data Flow created.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

Appendix 2

Modified Data Flows

D0150

Changed Marked Against DTCCP 3128

Flow Reference: D0150

Version Number: 001 **Status:** Operational

Flow Name: Non Half-hourly Meter Technical Details

Flow Description: Meter technical details for Non Half-hourly.

Flow Ownership: MRA

From	To	Version
Distributor	MOP	3.1
MOP	Distributor	2.0
MOP	MOP	2.0
MOP	NHHDC	2.0
MOP	Supplier	2.0

Data Items:

Reference	Item Name
J0476	Associated Meter Id
J0477	Associated Meter Register Id
J0462	Certification Date
J0463	Certification Expiry Date
J0382	Channel Number
J0385	Communications Address
J0386	Communications Method
J0454	CT Ratio
J0848	Date of Meter Installation
J1269	Date of Meter Removal
J1254	Effective from Settlement Date {MSMTD}
J1268	Effective From Settlement Date {MSNSFC}
J0300	Effective from Settlement Date {SCON}
J0080	Energisation Status
J0408	Main/Check Indicator
J0480	Maintenance Date
J0410	Manufacturers Make & Type
J0082	Measurement Class Id
J0103	Measurement Quantity Id
J****	Meter Asset Provider Id
J0418	Meter COP
J0461	Meter COP Dispensation
J0501	Meter Current Rating
J0004	Meter Id (Serial Number)
J0419	Meter Location
J0010	Meter Register Id

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

J0475	Meter Register Multiplier
J0474	Meter Register Type
J0483	Meter Type
J1267	Metering System Non Settlement Functionality Code
J0003	MPAN Core
J0008	Nature of Maintenance
J0478	Number of Register Digits
J0465	Outstation COP
J0467	Outstation COP Dispensation
J0468	Outstation Encryption Key
J0428	Outstation Id
J0469	Outstation Number of Channels
J0470	Outstation Password A
J0464	Outstation PIN
J0471	Outstation Type
J0432	Pulse Multiplier
J0098	Retrieval Method
J0722	Retrieval Method Effective Date
J0076	Standard Settlement Configuration Id
J0134	Tele-Switch/Clock Indicator
J0716	Timing Device Id (Serial Number)
J0455	VT Ratio

Flow Structure:

Group	Group Description .	Range	Condition	1	2	3	4	5	6	7	8	Item Name ...
288	MPAN Cores	1-*		G								
					1							MPAN Core
					1							Effective from Settlement Date {MSMTD}
					N							Measurement Class Id
					1							Energisation Status
289	SSCs	1	If meter at metering point	G								
						1						Standard Settlement Configuration Id
						1						Effective from Settlement Date {SCON}
						O						Metering System Non Settlement Functionality Code
						O						Effective From Settlement Date {MSNSFC}
762	Metering Point Maintenance History	0-1		G								
						1						Maintenance Date
						1						Nature of Maintenance
290	Meter/Retrieval Method Details	1-*	If meter at metering point	G								
						1						Meter Id (Serial Number)
						N						Meter COP
						N						Meter COP Dispensation
						1						Meter Current Rating
						1						Meter Location
						1						Manufacturers Make & Type
						N1						Meter Asset Provider Id Outstation Id
						N						Communications Address
						N						Communications Method
						N						Outstation PIN
						N						Outstation COP
						N						Outstation COP Dispensation
						N						Outstation Encryption
						N						Outstation Number of Channels
						N						Outstation Password A
						N						Outstation Type
						O						VT Ratio
						1						Meter Type
						O						Date of Meter Installation
						O						Certification Date
						O						Certification Expiry Date

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

Group	Group Description .	Range	Condition	1	2	3	4	5	6	7	8	Item Name ...
						O						Timing Device Id (Serial Number)
						N						Tele-Switch/Clock Indicator
						1						Retrieval Method
						1						Retrieval Method Effective Date
291	CT Ratio	1	If NOT whole current meter			G						
							1					CT Ratio
293	Meter Register Details	1-*				G						
							1					Meter Register Id
							1					Meter Register Type
							1					Measurement Quantity Id
							1					Meter Register Multiplier
							N					Main/Check Indicator
							1					Number of Register Digits
							N					Associated Meter Id
							N					Associated Meter Register
295	Meter Channels	0-*	If Half Hourly Meters			G						
							N					Channel Number
							N					Measurement Quantity Id
							N					Pulse Multiplier
296	Metering System Maintenance History	0-*				G						
							1					Maintenance Date
							1					Nature of Maintenance
08A	Meters Removed	0-*				G						
							1					Meter Id (Serial Number)
							1					Date of Meter Removal
							1					Meter Asset Provider Id

Version History:

Catalogue release change takes effect	CP No.	Brief description of the change and its reason
Version 3.1	1140	New Group added 'Metering Point Maintenance History'. G0296 renamed as 'Metering System Maintenance History'.
Version 3.1	1172	Removed all instances of this flow from the Old HHDC and Old NHHDC to the New HHDC and New NHHDC. This information is not passed in this manner.
Version 3.1	1263	Data Item and Group 'Current Rating' removed and 'Meter Current Rating' added to Group
Version 3.1	1315	Flow occurrences from the Supplier to the Distributor, HHDC, NHHDC and PRS Agent removed. Incorrectly added into prior version of the DTC.
Version 3.1	1457	MOP to New Supplier added as a flow occurrence.
Version 3.1	1621	Effective from Settlement Date {SSC} changed to Effective from Settlement Date {SCON}.
Version 3.1	1624	Distributor to MOP flow added as Distributor may change a meter.
Version 3.1	1645	MOP to Generator/Distributor (Scotland) included to cover the Scottish Market requirements.
Version 3.1	1974	G0290 renamed to meter/retrieval method details and retrieval data items moved from D0149. G0295 made for 'half hourly only'.
Version 3.1	1976	Notes amended to clarify use of this flow and its data items. Flow Structure amended.
Version 3.1	1976	Data Item 'Commissioning Required' added to flow at L3 (optional).
Version 3.1	1976	Data Items J0443 Supply Voltage and J0427 Number of Phases removed as these are site and not meter details. Data Item J0078 and its group removed as it is settlement and not meter related. This is covered within flow D0149.
Version 3.1	2049	Energisation Status added to flow.
Version 3.1	2056	Flow corrected as per JPW A CR1974
Version 3.2	2312	All flow occurrences to HHDC removed.
Version 4.0	2201	Data Item 'Connection Date' replaced by 'Date of Meter Installation' as optional, and 'Disconnection Date' replaced by 'Date of Meter Removal'.
Version 4.0	2569	Data item 'Metering System Non Settlement Functionality Code' added to group 289.
Version 4.0	2599	Various half-hourly related data items have been made 'null' in group 290. Conditions of groups 289 and 293 removed. Flow name changed to 'Non Half-hourly Meter Technical Details' and flow description changed. Group 289 description changed.
Version 4.0	2609	Data items 'Effective from Settlement Date {MSMC}' and 'Measurement Class Id' have been made 'null' in group 288.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

Catalogue release change takes effect	CP No.	Brief description of the change and its reason
Version 4.0	2610	Data item 'Tele Switch/Clock Indicator' has been made 'null' in group 290.
Version 4.0	2611	Data item 'Main/Check Indicator' has been made 'null' in group 293.
Version 4.0	2614	Data items 'Associated Meter Id' and 'Associated Meter Register Id' have been made 'null' in group 293.
Version 4.0	2616	Data item 'Commissioning Required' removed from group 290.
Version 4.0	2617	Add data item 'Effective from Settlement Date {MSNSFC}' to group 289 as per CR 2849.
Version 4.0	2619	Group 08A added as a child of group 288 as per CR 2849.
Version 4.0	2697	Flow occurrence from MOP to Distributor (Scotland) removed.
Version 4.0	2739	Data Item 'Date of Meter Removal' removed from group 290 and group 290 range changed to
Version 4.0	2747	Flow occurrence from MOP to Generator (Scotland) removed.
Version 4.0	2849	Flow notes changed.
Version 4.2	2917	Data Item 'Effective from Settlement Date {MSMC}' replaced by 'Effective from Settlement Date {MSMTD}' and made mandatory.
Version 6.2	3103	Removed 'Does not apply to ERS' from Notes
Version 7.0	3083	Condition 'If meter at metering point' added to Group 289 and 290. Range of Group 762 changed from 0* to 0-1. Range of Group 290 changed from 0 to 1-*. Data Items J0382, J0103 and J0432 made null in Group 295.
Version 7.0	3093	Original Notes removed and Notes 'See Annex C for Flow Notes' added.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

D0268

Changed Marked against DTCPs 3131, 3132/3133 & 3135

Flow Reference: D0268

Version Number: 001 Status Operational

Flow Name: Half Hourly Meter Technical Details

Flow Description: Half Hourly Meter Technical Details are transferred when there is a change in equipment, configuration or upon change of Agent.

Flow Ownership: MRA

From	To	Version
MOP	Distributor	3.2
MOP	Generator (Scotland)	4.0
MOP	HHDC	3.2
MOP	MOP	3.2
MOP	Supplier	3.2

Data Items:

Reference	Item Name
J0476	Associated Meter Id
J0477	Associated Meter Register Id
J1260	Baud Rate
J0382	Channel Number
J0385	Communications Address
J0386	Communications Method
J****	Complex Site Indicator
J0454	CT Ratio
J1269	Date of Meter Removal
J0307	Effective from Settlement Date {MSMC}
J1254	Effective from Settlement Date {MSMTD}
J0080	Energisation Status
J0410	Manufacturers Make & Type
J0082	Measurement Class Id
J0103	Measurement Quantity Id
Jxxxx	<u>Meter Asset Provider Id</u>
J0418	Meter COP
J0501	Meter Current Rating
J1025	Meter Equipment/Service Location
J0004	Meter Id (Serial Number)
J0010	Meter Register Id
J0475	Meter Register Multiplier
J0003	MPAN Core
J0427	Number of Phases
J0478	Number of Register Digits
J0428	Outstation Id
J0469	Outstation Number of Channels

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

Reference	Item Name
J1256	Outstation Number of Dials
J0470	Outstation Password A
J1257	Outstation Password B
J1258	Outstation Password C
J0464	Outstation PIN
J0471	Outstation Type
J1261	Previous MPAN Core
J1262	Previous Outstation Id
J0432	Pulse Multiplier
J1255	System Voltage
J0455	VT Ratio

Flow Structure:

Group	Group Description	Range	Condition	L1	L2	L3	L4	L5	L6	L7	L8	Item Name
01A	MPAN Cores	1-*		G								
					1							MPAN Core
					1							Effective from Settlement Date {MSMTD}
					1							Measurement Class Id
					1							Effective from Settlement Date {MSMC}
					1							Energisation Status
					1							Meter COP
					1							Complex Site Indicator
					O							Meter Equipment/Service Location
					O							VT Ratio
					O							CT Ratio
					1							System Voltage
					1							Number of Phases
02A	Outstation Details	1-*	If Meter at metering point	G								
						1						Outstation Id
						1						Outstation Type
						1						Outstation Number of Channels
						1						Outstation Number of Dials
						O						Outstation PIN
						O						Outstation Password A
						O						Outstation Password B
						O						Outstation Password C
						1						Communications Method
						O						Communications Address
						O						Baud Rate
						O						Previous MPAN Core
						O						Previous Outstation Id
03A	Meter Details	1-*	If Meter at metering point	G								
						1						Meter Id (Serial Number)
						O						Manufacturers Make & Type
						O						Meter Current Rating
						<u>1</u>						<u>Meter Asset Provider Id</u>
04A	Meter Register Details	1-*		G								
						1						Meter Register Id
						1						Outstation Id

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

Group	Group Description	Range	Condition	L1	L2	L3	L4	L5	L6	L7	L8	Item Name
							1					Channel Number
							1					Pulse Multiplier
							1					Meter Register Multiplier
							1					Measurement Quantity Id
							1					Number of Register Digits
							O					Associated Meter Id
							O					Associated Meter Register Id
***	Meters Removed	O -*			G							
							1					Meter Id (Serial Number)
							1					Date of Meter Removal
							<u>1</u>					<u>Meter Asset Provider Id</u>

Notes:	<p>Manufacturers Make & Type optional as Outstation Type is coded. Meter Current Rating must be provided only for a whole current meter. CT Ratio must be provided only for CT meters. Meters which are removed will be included in Group ***, and are only sent in response to their removal (i.e. the removal of a meter is only notified once).</p>
---------------	---

Version History:

Catalogue release change takes effect	CP No.	Brief description of the change and its reason
Version 3.2	2314	New flow created.
Version 4.0	2741	Flow occurrence from MOP to Generator (Scotland) added.
Version *.*	3131	Mandatory Data Item Complex Site Indicator (J****) added to Group 01A
Version *.*	3132	Data Item Communications Method (J0386) made mandatory in Group 02A
Version *.*	3135	Condition added to Group 02A and 03A. Group *** added as a child of Group 01A. Notes added regarding Meter Removal.
Version *.*	****	Meter Asset Provider Id added to

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

Appendix 3

Process Notes & Diagrams

Process 1. New Connections

- RFM and MDN are commercial flows. Where the MAP and MOP are different, arrangements for the delivery of metering equipment will be by commercial agreement. It is not expected that an instance of these two flows will occur for each meter installation but rather that a MOP will request meters in batches.
- The MOP will request metering equipment from the MAP based on the contractual relationship he has with the Supplier. If the MOP has a contract to provide both MOP and MAP services then he will select the MAP of his choice. If the MOP has just to provide MOP services he will source the meter from the MAP specified by the Supplier. This information would typically be contained in the contract between the Supplier and MOP and could also be conveyed to the MOP by way of the Contract Reference, Service Reference and Service Level Reference data items in the appointment data flow (D0155) sent by the Supplier.
- A DXXX1 is sent from the MOP to the MAP to inform the MAP that the listed meters have been installed and who the Supplier is. In this case, the Installed Date group must be completed. This flow will be triggered by the same event that causes a MOP to send the Meter Technical Details to the new Supplier (i.e. D0149/D0150 for NHH, D0268 for HH). The requirement to send this information to the MAP is both to inform on where its assets have been installed and to provide the MAP with appropriate information for billing purposes.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

- The Supplier will be advised of the MAP Id as this is contained in the Meter Technical Details (i.e. D0150 for NHH, D0268 for HH). This caters for Suppliers who wish to be invoiced for MAP services directly being able to reconcile their charges.
- The Distribution Business will be advised of the MAP Id as this is contained in the Meter Technical Details (i.e. D0150 for NHH, D0268 for HH). This allows the Distribution Business to comply with the Distribution Licence Condition 7.

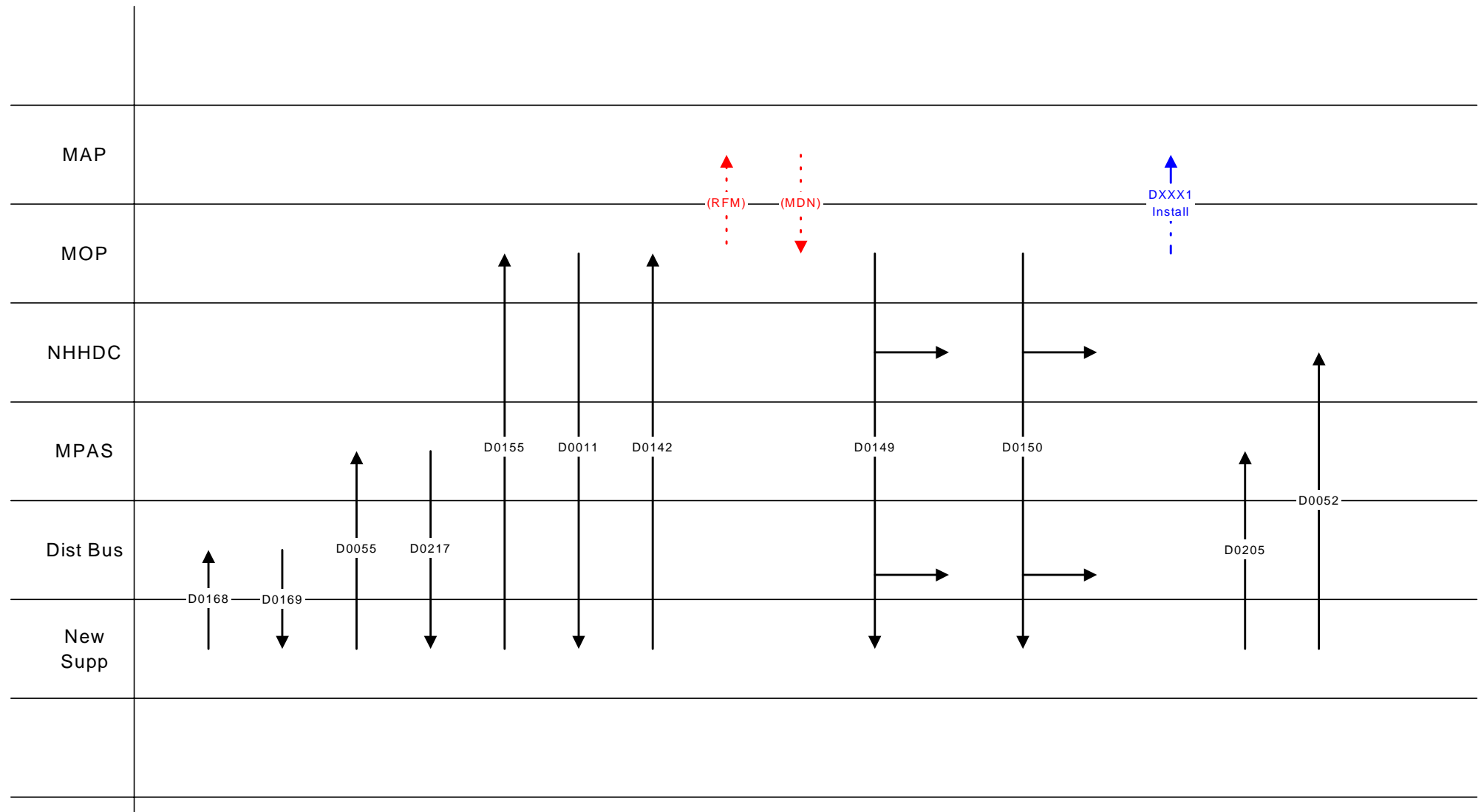
Notes:

(1) The date of meter installation (contained in optional group Installation Date on the DXXX1, which must be included in this instance) may be different from the delivery date of the meter from the MAP (already notified on the MDN). Any difference between delivery date and installation date is a commercial issue and will be separately managed between the MOP and the MAP.

(2) This action may be unnecessary where the MOP and the MAP are the same organisation.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA



MRASCo Confidential

Process: NHH New Connection

Version: 1.1 dated 15th May 2002

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

Remove Meters

- A DXXX1 is sent from the MOP to the MAP to inform the MAP that the listed meters have been removed and who the Supplier was. In this case, the Removal Date group must be completed. This flow will be triggered by the same event that causes a MAM to send the Meter Technical Details to the Supplier (i.e. D0149/D0150 for NHH, D0268 for HH).
- RFC and MCD are optional for this process but would have to occur at some point, whenever the MAP and MOP are NOT the same company, in order to handle removed meter collection. It is not expected that an instance of these two flows will occur for each meter removal but rather that a MOP will return meters in batches.
- The Supplier will be advised of the 'Old' MAP Id as this is contained in the Meter Technical Details (i.e. D0150 for NHH, D0268 for HH). This caters for Suppliers who wish to be invoiced for MAP services directly being able to reconcile their charges.
- The Distribution Business will be advised of the 'Old' MAP Id as this is contained in the Meter Technical Details (i.e. D0150 for NHH, D0268 for HH). This allows the Distribution Business to comply with the Distribution Licence Condition 7.

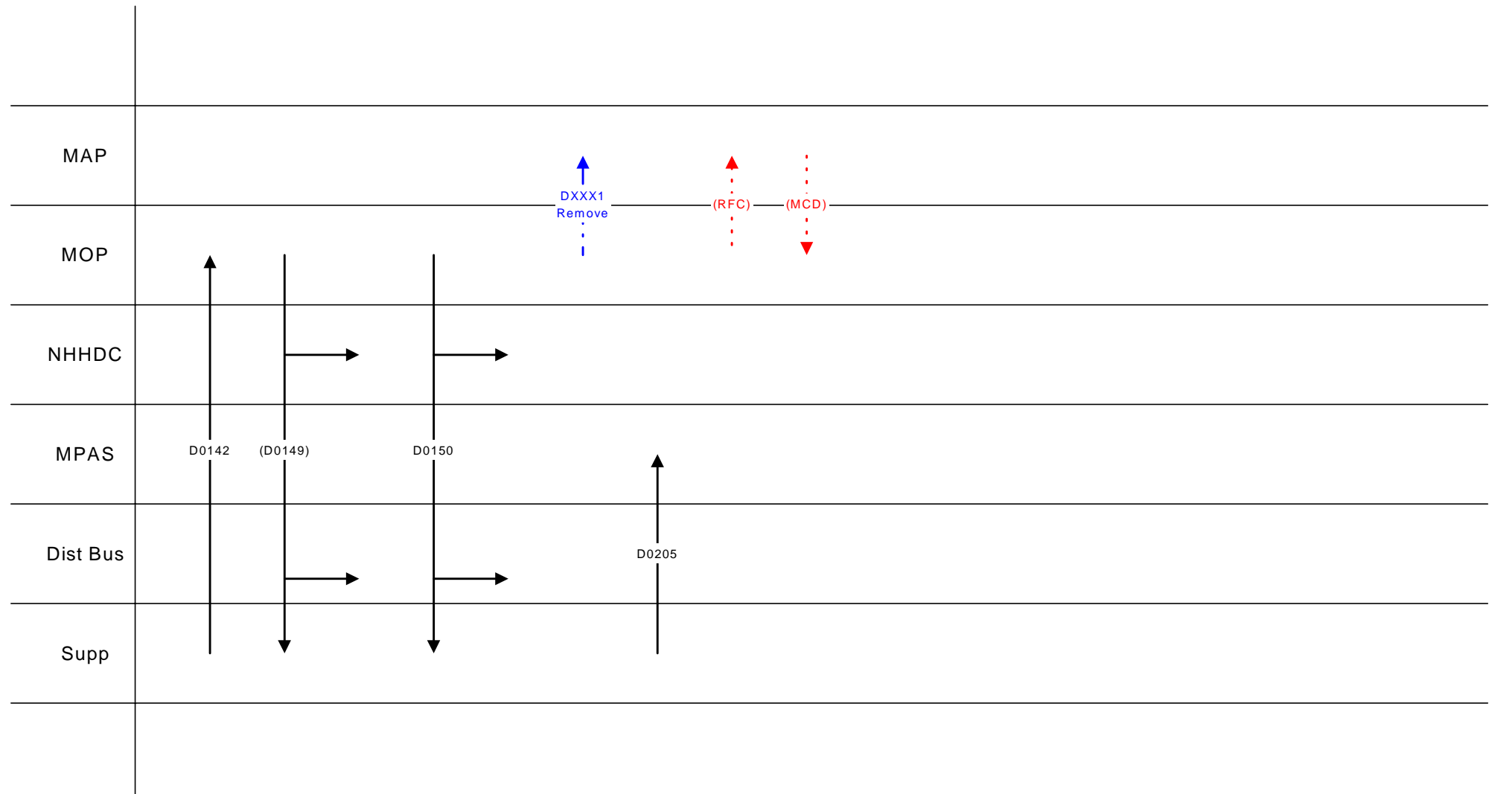
Notes:

(1) The date of meter removal (contained in optional group Removal Date on the DXXX1, which must be included in this instance) may be different from the date of the meter being returned to the MAP (notified on the RFC). Any difference between collection date and removal date is a commercial issue and will be separately managed between the MOP and the MAP.

(2) This action may be unnecessary where the MOP and the MAP are the same organisation.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA



MRASCo Confidential

Version:	1.0	Process: NHH Remove Meters	Version: 1.1 dated 15th May 2002	Date: 30 May 2002
Status:	Issued		Document Reference:	MDB_02_6_REMA

Process 2. Change of Meter with no Change of MAP

- RFM and MDN are commercial flows. Where the MAP and MOP are different, arrangements for the delivery of metering equipment will be by commercial agreement. It is not expected that an instance of these two flows will occur for each meter installation but rather that a MOP will request meters in batches.
- The MOP will request metering equipment from the MAP based on the contractual relationship he has with the Supplier. If the MOP has a contract to provide both MOP and MAP services then he will select the MAP of his choice. If the MOP has just to provide MOP services he will source the meter from the MAP specified by the Supplier. This information would typically be contained in the contract between the Supplier and MOP and could also be conveyed to the MOP by way of the Contract Reference, Service Reference and Service Level Reference data items in the appointment data flow (D0155) sent by the Supplier.
- The MOP sends the MAP a DXXX1 to let him know when and where a meter has been installed and who the Supplier is. In this case, the Installed Date group must be completed. This flow will be triggered by the same event that causes a MAM to send the Meter Technical Details to the Supplier (i.e. D0149/D0150 for NHH, D0268 for HH).
- The Supplier will be advised of the MAP Id as this is contained in the Meter Technical Details (i.e. D0150 for NHH, D0268 for HH). This caters for Suppliers who wish to be invoiced for MAP services directly being able to reconcile their charges.
- The Distribution Business will be advised of the MAP Id as this is contained in the Meter Technical Details (i.e. D0150 for NHH, D0268 for HH). This allows the Distribution Business to comply with the Distribution Licence Condition 7.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

- A DXXX1 is sent from the MOP to the MAP to inform the MAP that the listed meters have been removed and who the Supplier was. In this case, the Removal Date group must be completed. This flow will be triggered by the same event that causes a MAM to send the Meter Technical Details to the Supplier (i.e. D0149/D0150 for NHH, D0268 for HH).
- RFC and MCD are optional for this process but would have to occur at some point, whenever the MAP and MOP are NOT the same company, in order to handle removed meter collection. It is not expected that an instance of these two flows will occur for each meter removal but rather that a MOP will return meters in batches.

Notes:

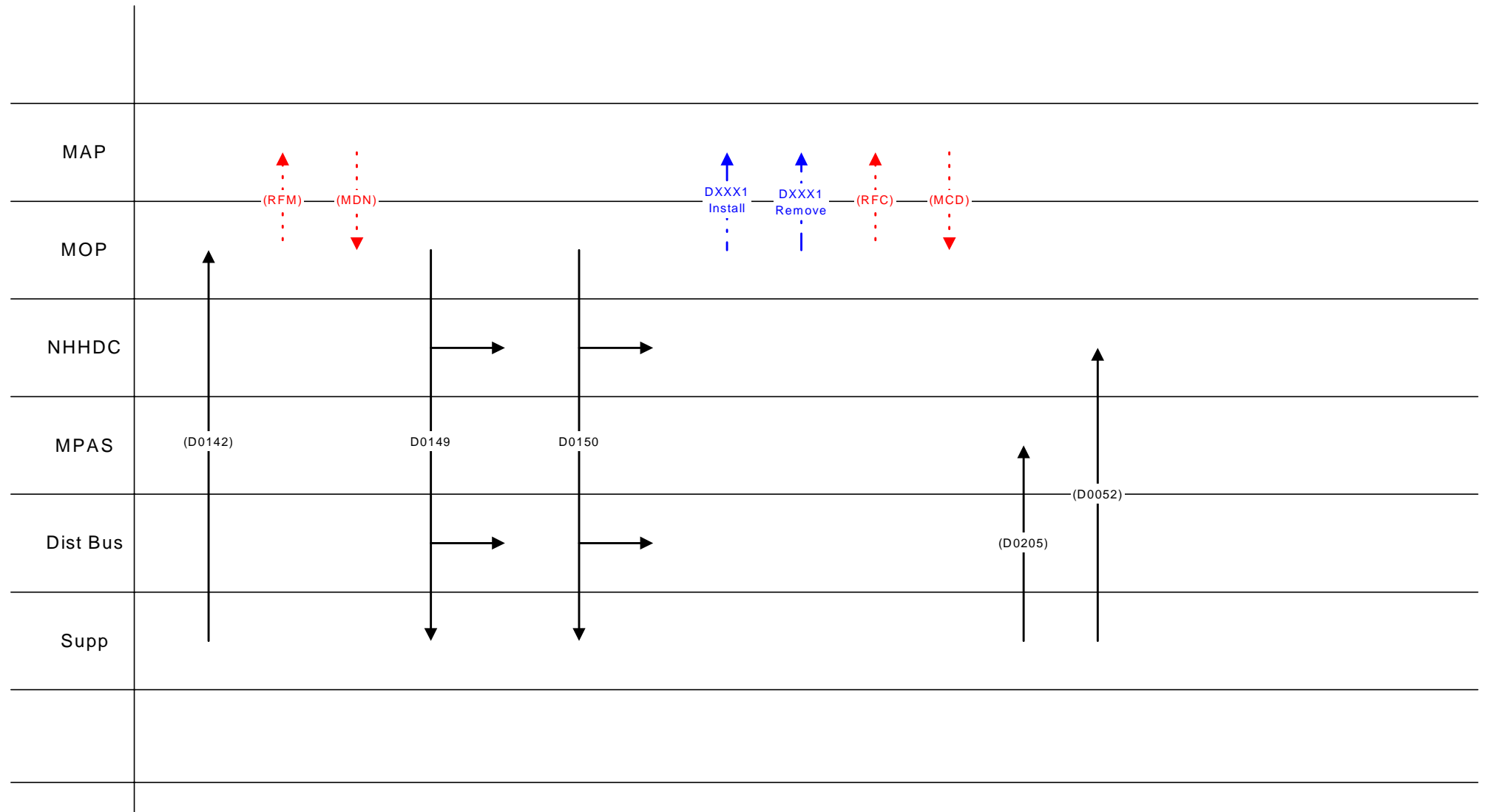
(1) The date of meter installation (contained in optional group Installation Date on the DXXX1, which must be included in this instance) may be different from the delivery date of the meter from the MAP (already notified on the MDN). Any difference between delivery date and installation date is a commercial issue will be managed between the MOP and the MAP.

(2) The date of meter removal (contained in optional group Removal Date on the DXXX1, which must be included in this instance) may be different from the date of the meter being returned to the MAP (notified on the RFC). Any difference between collection date and removal date is a commercial issue and will be managed between the MOP and the MAP.

(3) This action may be unnecessary where the MOP and the MAP are the same organisation.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA



Process: NHH Change of Meter (CoM)

MRASCo Confidential Version: 1.1 dated 15th May 2002

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

Process 3. Change of MOP [CoMOP]

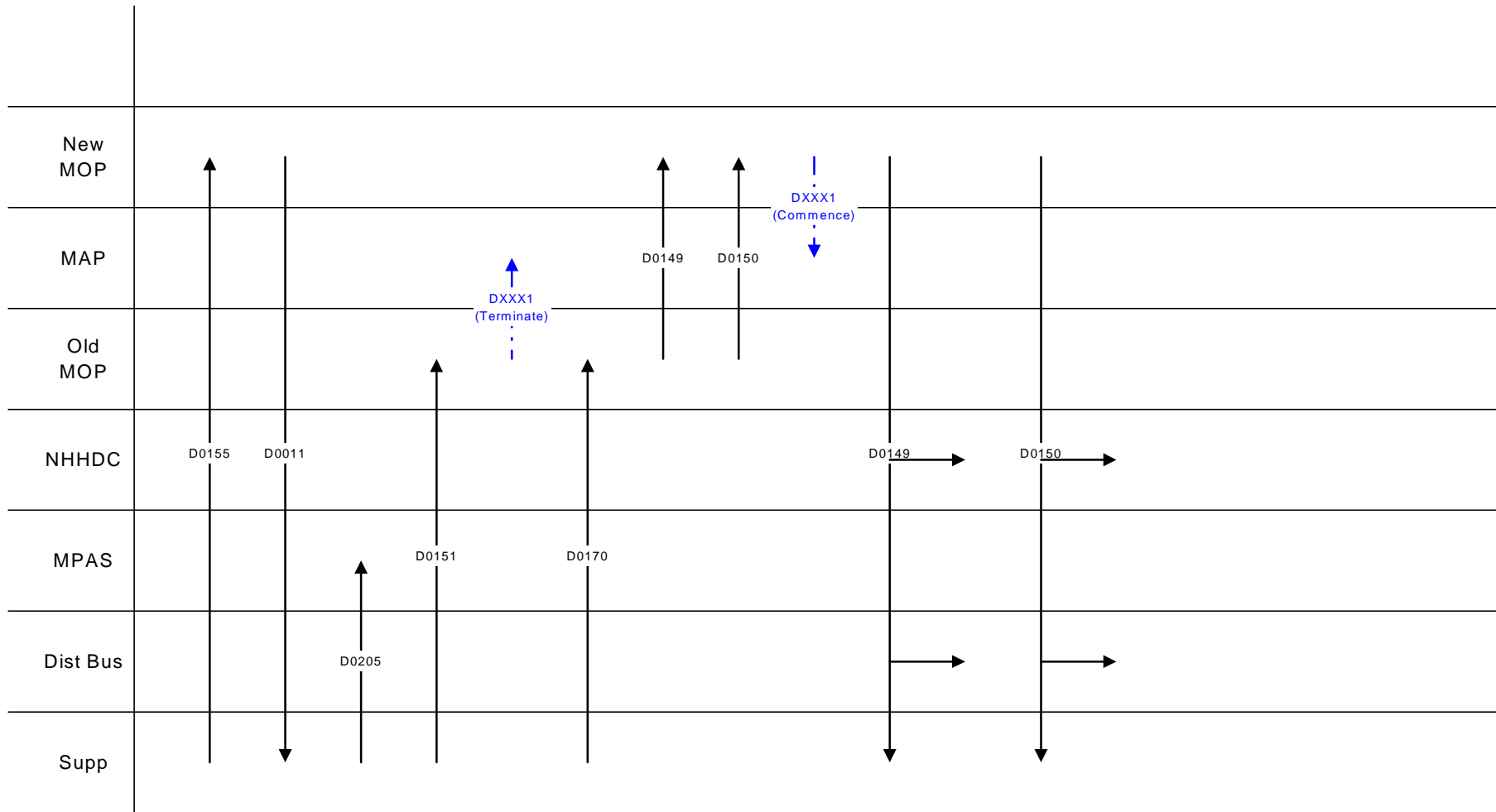
- A DXXX1 is sent from the Old MOP to the MAP to inform the MAP that the Old MOP is no longer responsible for maintaining the listed meters. In this case, the Effective to Date {MOP} data item must be completed. The receipt of the D0151 triggers the sending of the DXXX1.
- A DXXX1 is sent from the New MOP to the MAP to inform the MAP that the New MOP is now responsible for maintaining the listed meters and the identity of the Supplier. In this case, the Effective from Date {MOP} data item must be completed. The receipt of the Meter Technical Details (i.e. D0149/D0150 for NHH, D0268 for HH) from the old MAM is the trigger for the sending of the DXXX1.

Note:

In an 'Agent of Last Resort' scenario, where the MOP has failed and his records are unavailable, there would be no DXXX1 from the old MOP. The trigger for the new MOP to send the information on the DXXX1 would be a non-standard communication from the Supplier.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA



MRASCo Confidential

Version:	1.0	Process: NHH Change of MAM (CoMAM)	Version: 1.1 dated 15th May 2002	Date: 30 May 2002
Status:	Issued		Document Reference:	MDB_02_6_REMA

Process 4. Change of MAP as a result of the sale of a meter (therefore no Change of Meter) [CoMAP]

- A DXXX2 is sent from the old MAP to MOP to inform the MOP of the identity of the new MAP for the listed meters. This is triggered by the sale transaction.
- A DXXX1 is sent from the MOP to the new MAP to inform the new MAP of the identity of the MOP and the Supplier for the listed meters. The receipt of the DXXX2 triggers the sending of the DXXX1.
- The receipt of the DXXX2 triggers the sending of the Meter Technical Details to the Supplier (i.e. D0150 for NHH, D0268 for HH).
- The Supplier will be advised of the New MAP Id as this is contained in the Meter Technical Details (i.e. D0150 for NHH, D0268 for HH). This caters for Suppliers who wish to be invoiced for MAP services directly being able to reconcile their charges.
- The Distribution Business will be advised of the New MAP Id as this is contained in the Meter Technical Details (i.e. D0150 for NHH, D0268 for HH). This allows the Distribution Business to comply with the Distribution Licence Condition 7.
- There are potentially three different participants that can be involved - the old MAP, the new MAP and the MOP. Where all three participants are different, both of the flows (DXXX1 & DXXX2) must be sent. Where the old MAP and the MOP are the same company, the DXXX2 is optional. Where the new MAP and the MOP are the same company, the DXXX1 is optional.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

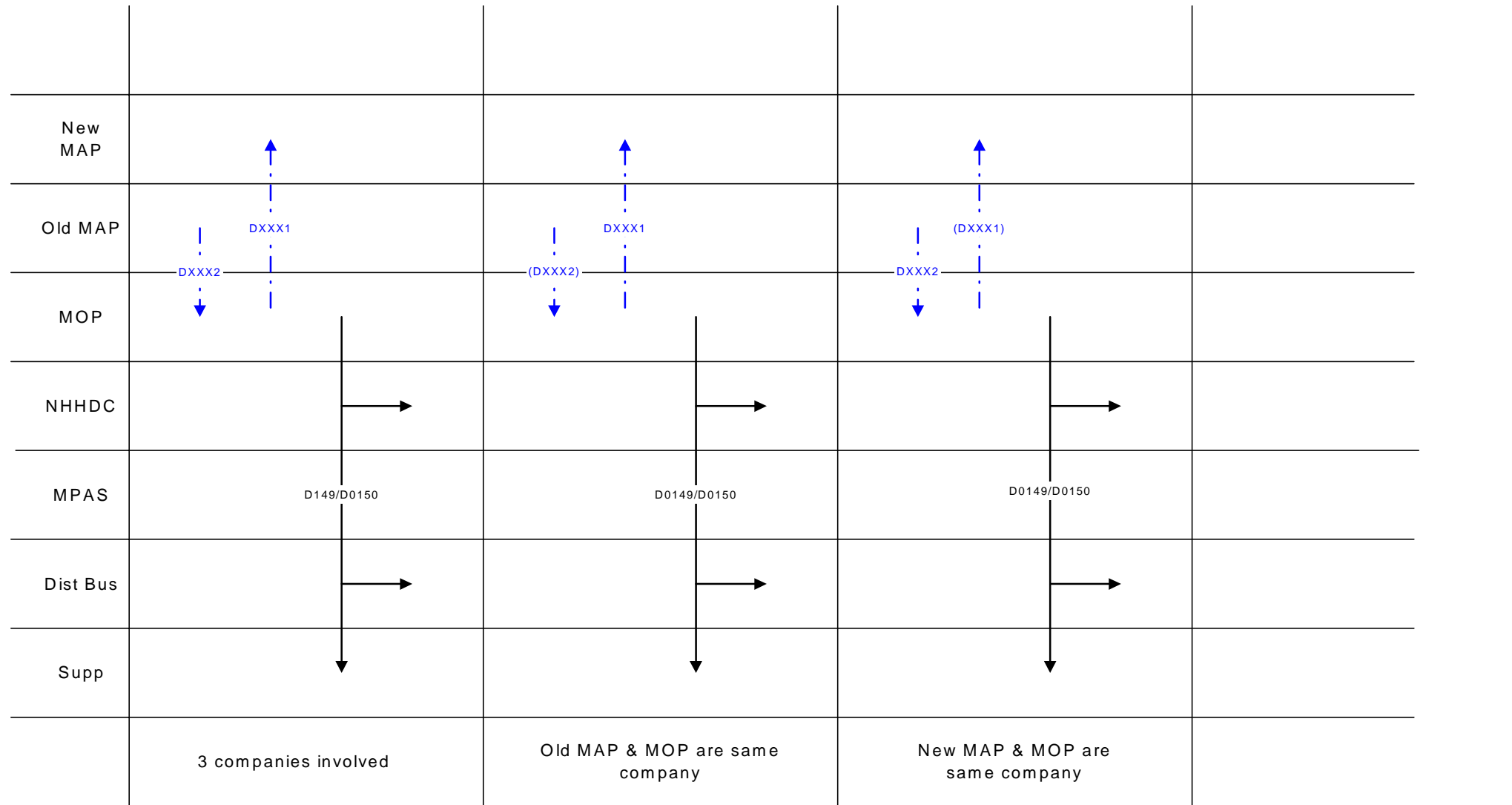
- The Expert Group considered and rejected the idea of the Old MAP communicating the Change of MAP directly to the New MAP as neither party would be subject to Industry governance.

Note:

In an 'Agent of Last Resort' scenario, where the MAP has failed and his records are unavailable, there would be no DXXX2 from the old MAP. The trigger for the MOP to send the DXXX1 and Meter Technical Details (i.e. D0150 for NHH, D0268 for HH) would be a non-standard communication from the receiver/administrator.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA



Process: NHH Change of MAP, No Change of Meter (CoMAP)

MRASCo Confidential

Version: 1.1 dated 15th May 2002

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

Process 5. Change of MAP triggered by Change of Meter [CoMAP CoM]

- RFM and MDN are commercial flows. Where the MAP and MOP are different, arrangements for the delivery of metering equipment will be by commercial agreement. It is not expected that an instance of these two flows will occur for each meter installation but rather that a MOP will request meters in batches.
- The MOP will request metering equipment from the MAP based on the contractual relationship he has with the Supplier. If the MOP has a contract to provide both MOP and MAP services then he will select the MAP of his choice. If the MOP has just to provide MOP services he will source the meter from the MAP specified by the Supplier. This information would typically be contained in the contract between the Supplier and MOP and could also be conveyed to the MOP by way of the Contract Reference, Service Reference and Service Level Reference data items in the appointment data flow (D0155) sent by the Supplier.
- A DXXX1 is sent from the MOP to the New MAP to inform the MAP that the listed meters have been installed and who the Supplier is. In this case, the Installed Date group must be completed. This flow will be triggered by the same event that causes a MAM to send the Meter Technical Details to the Supplier (i.e. D0149/D0150 for NHH, D0268 for HH).
- The Supplier will be advised of the New MAP Id as this is contained in the Meter Technical Details (i.e. D0150 for NHH, D0268 for HH). This caters for Suppliers who wish to be invoiced for MAP services directly being able to reconcile their charges.
- The Distribution Business will be advised of the New MAP Id as this is contained in the Meter Technical Details (i.e. D0150 for NHH, D0268 for HH). This allows the Distribution Business to comply with the Distribution Licence Condition 7.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

- A DXXX1 is sent from the MOP to the Old MAP to inform the MAP that the listed meters have been removed and who the Supplier was. In this case, the Removal Date group must be completed. This flow will be triggered by the same event that causes a MAM to send the Meter Technical Details to the Supplier (i.e. D0149/D0150 for NHH, D0268 for HH).
- RFC and MCD are optional for this process but would have to occur at some point, whenever the MAP and MOP are NOT the same company, in order to handle removed meter collection. It is not expected that an instance of these two flows will occur for each meter removal but rather that a MOP will return meters in batches.

Notes:

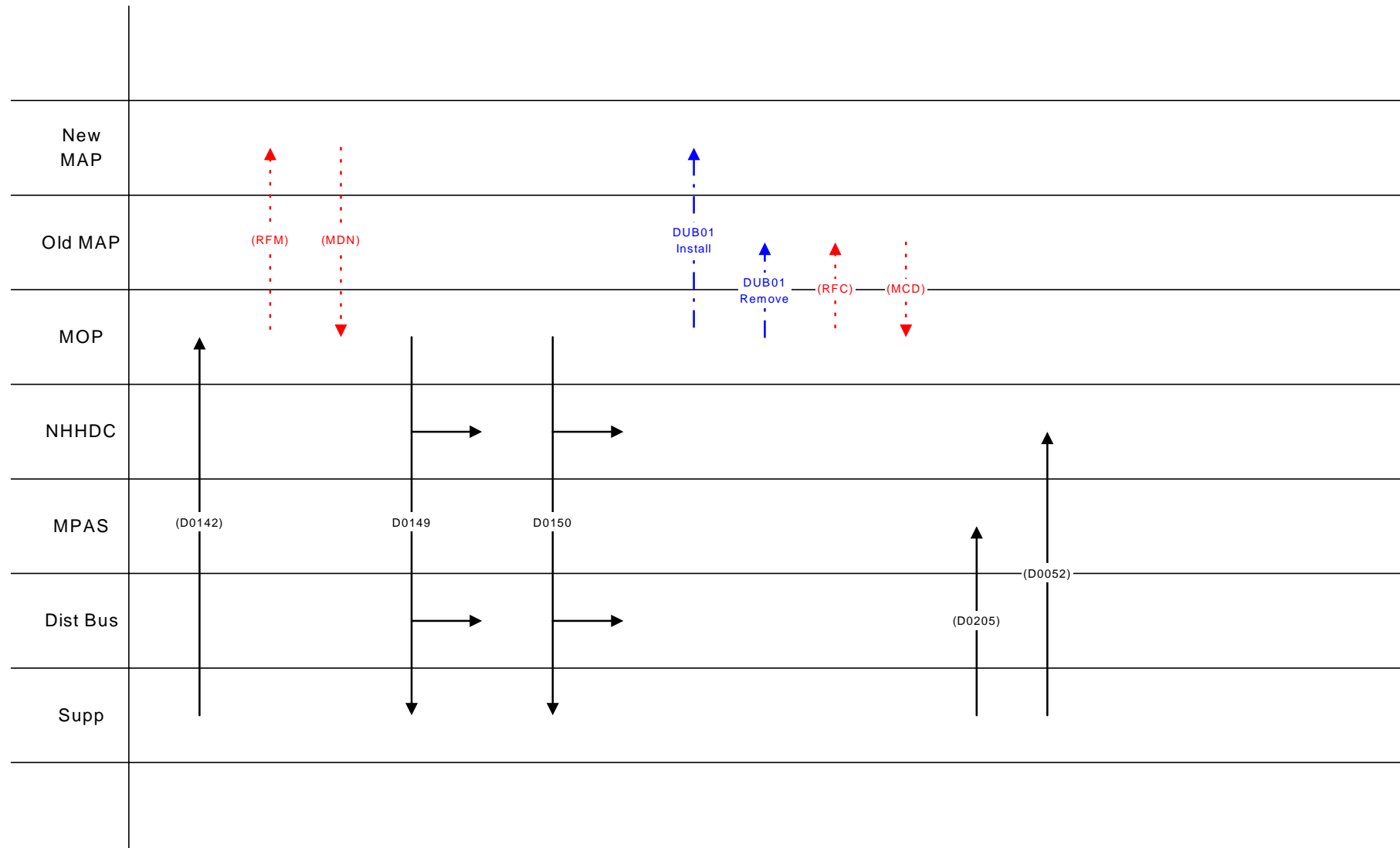
(1) The date of meter installation (contained in optional group Installation Date on the DXXX1, which must be included in this instance) may be different from the delivery date of the meter from the MAP (already notified on the MDN). Any difference between delivery date and installation date is a commercial issue and will be managed between the MOP and the MAP.

(2) The date of meter removal (contained in optional group Removal Date on the DXXX1, which must be included in this instance) may be different from the date of the meter being returned to the MAP (notified on the RFC). Any difference between collection date and removal date is a commercial issue and will be managed between the MOP and the MAP.

(3) This action may be unnecessary where the MOP and the MAP are the same organisation.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA



MRASCo Confidential

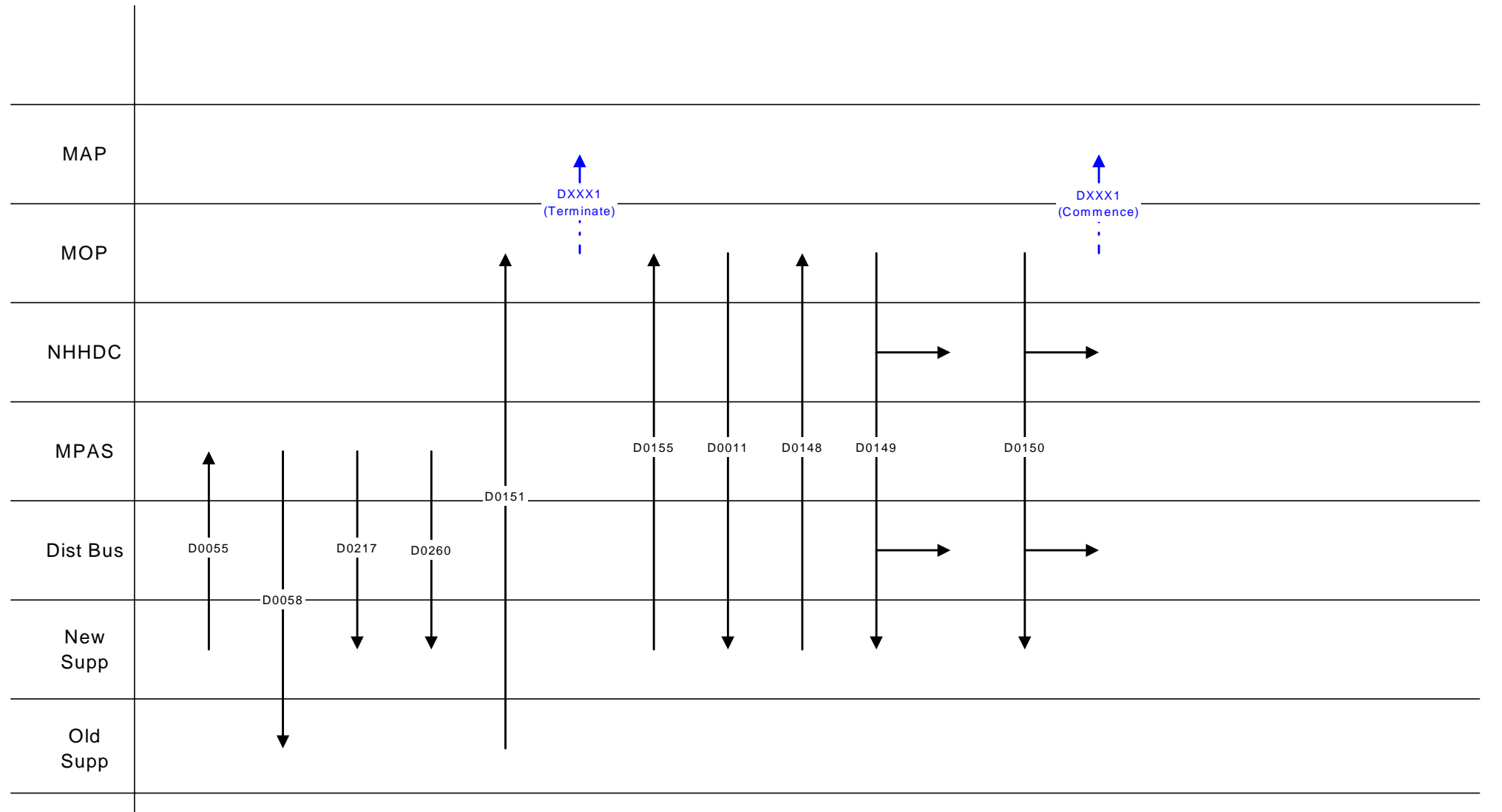
Version:	Process: NHH Change of MAP, Change of Meter (CoMAP 1.0 CoM)	Version: 1.0 dated 13th March 2002	Date: 30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

Process 6. Change of Supplier with no other changes [CoS]

- A DXXX1 is sent from the 'Old' MOP to the MAP to inform the MAP that the 'Old' MOP is no longer responsible for maintaining the listed meters. In this case, the Effective to Settlement Date {MOPA} data item must be completed. This instance of the DXXX1 will contain the Old Suppliers Id. The receipt of the D0151 will trigger the sending of the DXXX1. This flow is necessary, as the MOP, on receipt of the de-appointment flow (D0151), may not know if he is to remain the MOP for that Metering Point.
- A DXXX1 is sent from the 'New' MOP to the MAP to inform the MAP that the 'New' MOP is now responsible for maintaining the listed meters. In this case, the Effective from Settlement Date {MOPA} data item must be completed. This instance of the DXXX1 will contain the New Suppliers Id. The receipt of the D0155 will trigger the sending of the DXXX1.
- The New Supplier will be advised of the MAP Id as this is contained in the Meter Technical Details (i.e. D0150 for NHH, D0268 for HH). This caters for Suppliers who wish to be invoiced for MAP services directly being able to reconcile their charges.
- The Distribution Business will be advised of the MAP Id as this is contained in the Meter Technical Details (i.e. D0150 for NHH, D0268 for HH). This allows the Distribution Business to comply with the Distribution Licence Condition 7.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA



MRASCo Confidential

Process: NHH Change of Supplier (CoS)

Version: 1.1 dated 15th May 2002

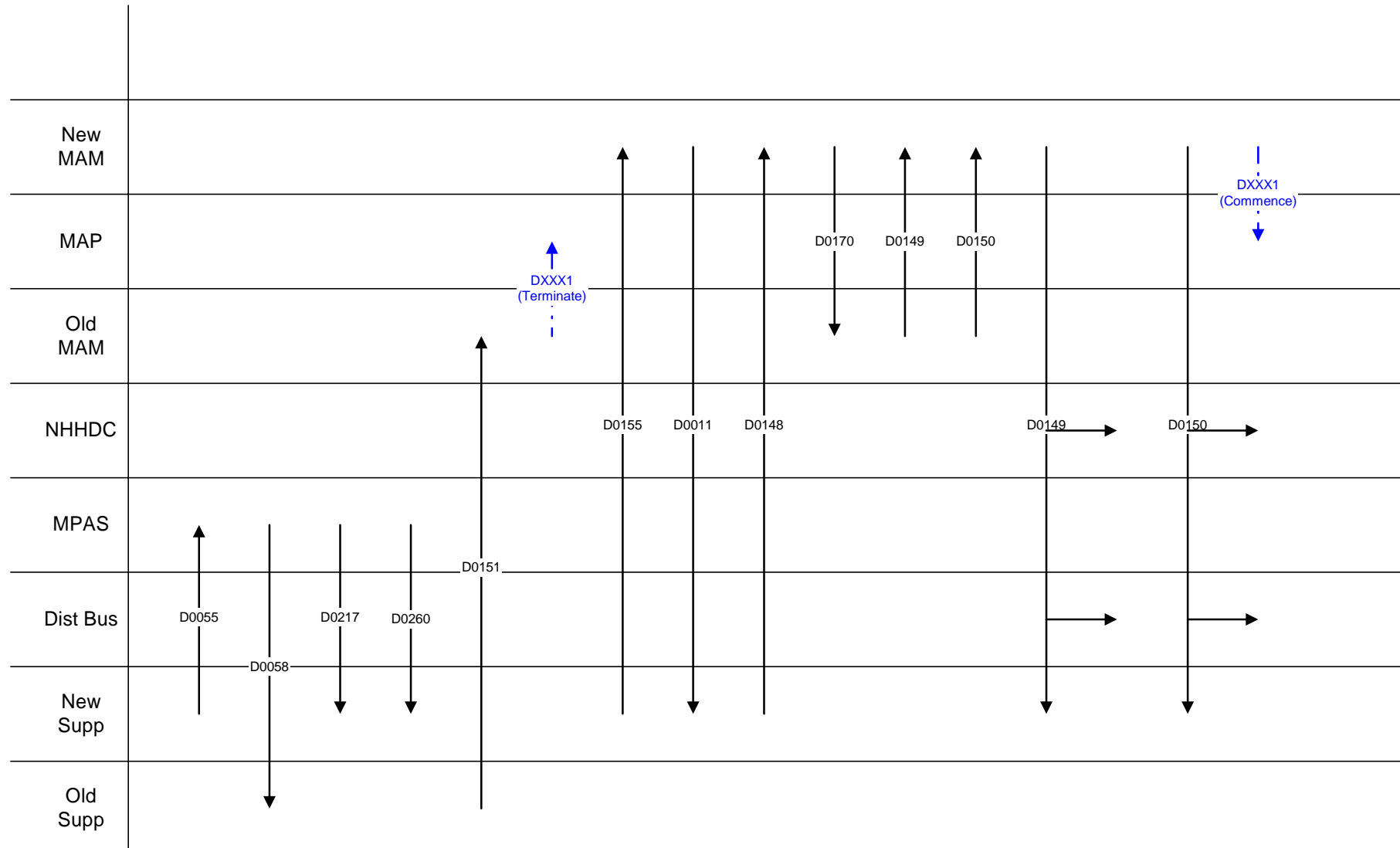
Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

Process 7. Change of Supplier coincident with Change of MOP [CoS CoMOP]

- A DXXX1 is sent from the Old MOP to the MAP to inform the MAP that the Old MOP is no longer responsible for maintaining the listed meters. In this case, the Effective to Settlement Date {MOPA} data item must be completed. This instance of the DXXX1 will contain the Old Suppliers Id. The receipt of the D0151 will trigger the sending of the DXXX1.
- A DXXX1 is sent from the New MOP to the MAP to inform the MAP that the New MOP is now responsible for maintaining the listed meters. In this case, the Effective from Settlement Date {MOPA} data item must be completed. This instance of the DXXX1 will contain the New Suppliers Id. The receipt of the Meter Technical Details (i.e. D0149/D0150 for NHH, D0268 for HH) from the Old MAM is the trigger for sending the DXXX1.
- The New Supplier will be advised of the MAP Id as this is contained in the Meter Technical Details (i.e. D0150 for NHH, D0268 for HH). This caters for Suppliers who wish to be invoiced for MAP services directly being able to reconcile their charges.
- The Distribution Business will be advised of the MAP Id as this is contained in the Meter Technical Details (i.e. D0150 for NHH, D0268 for HH). This allows the Distribution Business to comply with the Distribution Licence Condition 7.

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA



MRASCo Confidential

Version:	Process: NHH Change of Supplier, Change of MAM 1.0 (CoSCoMAM)	Version: 1.1 dated 15th May 2002 Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA

Appendix 4

Expert Group Members

Organisation Role	Organisation	Representative
Distribution	Seeboard	Stuart Higgins
Meter Operator	Metering Services	Rob Smith
Meter Operator	Yorkshire Electricity	Jonathan Woodthorpe
MPAS	Seeboard	Peter Merrick
MRA	MRASCo (Chair)	Geoff Cook
MRA	MRASCo (Lead Analyst)	Ian Hickenbotham
Regulation	Ofgem	Claire Edmunds
Regulation	Ofgem	Deborah Lunn
Settlement	Elexon	John Cunningham
Supplier	Calanais	Bryan Tobyn
Supplier	Centrica	Mark Agnew
Supplier	National Power	John Lees
Supplier	Scottish and Southern	Mark Knight
Supplier	TXU Europe	Terry Marquand

MRASCo Confidential

Version:	1.0	Date:	30 May 2002
Status:	Issued	Document Reference:	MDB_02_6_REMA