

EAC/AA Logical Data Design

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(ELEXON)

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1 Introduction

1.1 Purpose

This document [ELDATA] contains the Logical Data Model, which provides a detailed logical description of the data and its structure, and the Data Catalogue, which describes the data items, for the EAC/AA system.

The content is produced in accordance with the Logical Design Process Description [LDESPD]. It is derived from the requirements described in the EAC/AA User Requirements Specification [EACAAURS] and where appropriate, from the data interfaces described in [DIS]. The Release 2 amendments are derived from the requirements described in the Invitation to Tender for Release 2 [ITTR2] as clarified in the Response to the ITT [RESPR2]. The TA2000 amendments are derived from the requirements described in the Pool Change Management Circulars 1040 and 1076.

1.2 Scope

This document is one of the Logical Design stage deliverables and will be used as the basis for Physical Design of the EAC/AA system.

It should be read in conjunction with the following Logical Design documents:

- EAC/AA Function Definition and User Catalogue [EFUNDEF], containing:
 - User Catalogue;
 - Function Definitions;
 - Common Processes (common within EAC/AA).
- EAC/AA Conceptual Process Model [ECONMOD] which describes all the events and the more complex enquiries.

1.3 Structure of Document

The remainder of this document consists of the following sections:

- Section 2 contains the Logical Data Structure, a diagrammatic representation of the entities and the relationships between them;
- Section 3 contains general notes on the entities;
- Section 4 contains the Entity Descriptions which document details of each entity;
- Section 5 contains the Data Catalogue which is the central repository for descriptive information about items of data;
- Appendix A describes the conventions in formatting the Logical Data Structure.

1.4 Amendment History

Issue	Details
0.900	Issued for internal review
0.990	Issued to Pool for review
0.991	Addresses Pool comments dated 20 th November 1996. Addresses comments raised from internal review to examine consistency.
0.992	Issued to Pool, addressing Logica OR27 and LCR013.
0.993	Address Pool Severity 1 comments (dated 10 December 1996) raised from the Acceptance Review. Issued for internal review.
0.994	Issued to Pool for Acceptance.
1.000	Address Pool Severity 3 comment (dated 10 December 1996) from Pool Acceptance review.
1.100	Address Logica Ors 5.1.214 (CLAR056) 5.1.1816 (Defect 428)
2.000	New issue with no changes from 1.100. Issued to be consistent with software release R1.1
2.001	5.1.2429 (Defect 1501) Draft issue consistent with software release R1.2
2.500	Incorporating Internal Review Comments. Draft issue for external review consistent with software release R1.2
2.901	Working version for R2 design. Will not be carried forward into v4.000.
2.905	Working version for R2 design. Will not be carried forward into v4.000.
2.990	Working version for R2 design. Will not be carried forward into v4.000.
3.000	Working version for R2 design. Will not be carried forward into v4.000.
4.000	Authorised version consistent with software release R1.3. Incorporating comments from Pool review of v2.500.
4.901	Draft for internal review. Merge of v3.000 and v4.000. Change bars show changes from v4.000.
4.990	Issued to Pool for review. Merge of v3.000 and v4.000. Change bars show changes from v4.000.
5.000	Authorised Version. Merge of v3.000 and v4.000. Change bars show changes from v4.000.
5.001	Incorporating OR2772.

Issue	Details
5.900	Draft for internal review incorporating TA2000 changes (SIR R391 / LCR105 & SIR R200 / LCR117), plus action identified in the review of URS Discrepancies (OR 2772).
5.990	Issued to Pool for review.
5.991	Incorporating Pool Review Comments.
6.000	Authorised version.
6.001	Draft version incorporating the following Ors: OR2947
6.990	Issued to Pool for review.
7.000	Authorised version.
7.990	Incorporating LCR 160/3 (SIR 2296): Reasonableness Checks for Annualised Advances.
8.000	Authorised version.
8.001	Change to Office 2000
8.002	Changes relating to ELEXON superseding The Electricity Pool
8.990	Updated document references Version for ELEXON review
8.991	Incorporating ELEXON review comments
9.000	Authorised version.
10.000	Updating document references
10.001	Updated for Nov. 04 release Incorporating CP1052: UNIX Upgrade 5.1A – 5.1B
10.002	Incorporated comments from test and programme teams from review date 02/11/04. Issued to ELEXON for review.
11.000	Made Definitive
11.900	Draft for internal review for Nov. 05 release Incorporating CP1081 : Ad hoc Deemed Meter Reading Calculation
11.901	Updated after STAG workshop.
11.990	Version for ELEXON review
11.991	Incorporating ELEXON review comments
11.992	Incorporating further ELEXON review comments
11.993	Incorporating further ELEXON review comments
11.994	Incorporating SVA Variation 001
12.000	Made Definitive
12.010	Updated document classification
12.901	Updated CP1311 changes

Issue	Details
12.902	Applied review comments
12.990	Version for ELEXON review
12.991	Incorporating ELEXON review comments
13.000	Definitive version
13.1	P305 Changes Incorporated - Updated for November 2015 Release
13.2	Incorporated the ELEXON review comments

1.5 Summary of Changes

Changes as indicated in the amendment history.

1.6 Changes Forecast

Agreed Change Requests will be incorporated.

1.7 References

Mnemonic	Information	Details
[DIS]	Title: Reference No: Issue No: Author: Date:	SVA Data Catalogue Volume 1: Data interfaces LUK.404.EC.22604.4.4 31.0 ELEXON 5 November 2009
[EACAAURS]	Title: Reference No: Issue No: Author: Date:	URS-Estimation of Annual Consumption (EAC/AA) System LUK.404.EC.22604.4.3 11.0 ELEXON 25 February 2010
[ITTR2]	Title: Reference No: Issue No: Author: Date:	Invitation to Tender-Release 2 of Pool Software LUK.404.EC.22604.11.3 1.0 Pool 25 February 1998
[RESPR2]	Title: Reference No: Issue No: Author: Date:	Response to ITT for Release 2 LUK.404.EC.22604.11.3 1.100 Logica 5 March 1998
[ECONMOD]	Title: Reference No: Issue No: Author: Date:	EAC/AA Conceptual Process Model 703PZT 14.000 ELEXON 25 February 2010
[EFUNDEF]	Title: Reference No: Issue No: Author: Date:	EAC/AA Function Definition and User Catalogue 701PZT 15.000 ELEXON 25 February 2010

Mnemonic	Information	Details
[ELDATA]	Title: Reference No: Issue No: Author: Date:	EAC/AA Logical Data Design 700PZT 13.000 ELEXON 25 February 2010
[LDESPD]	Title: Reference No: Issue No: Author: Date:	Logical Design Process Description LUK.404.EC.22604.2.2.2.1 1.000 Logica 15 October 1996

1.8 Abbreviations

EAC/AA	Estimation of Annual Consumption / Annualised Advance
FAT	Factory Acceptance Test
ISRA	Initial Settlement and Reconciliation Agency
SVAA	Supplier Volume Allocation Agency (formerly known as ISRA)

1.9 Intellectual Property Rights and Copyright

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This document has been produced for the Stage 2 Trading Arrangements in England and Wales, and must only be used for these purposes.

2 Logical Data Structure

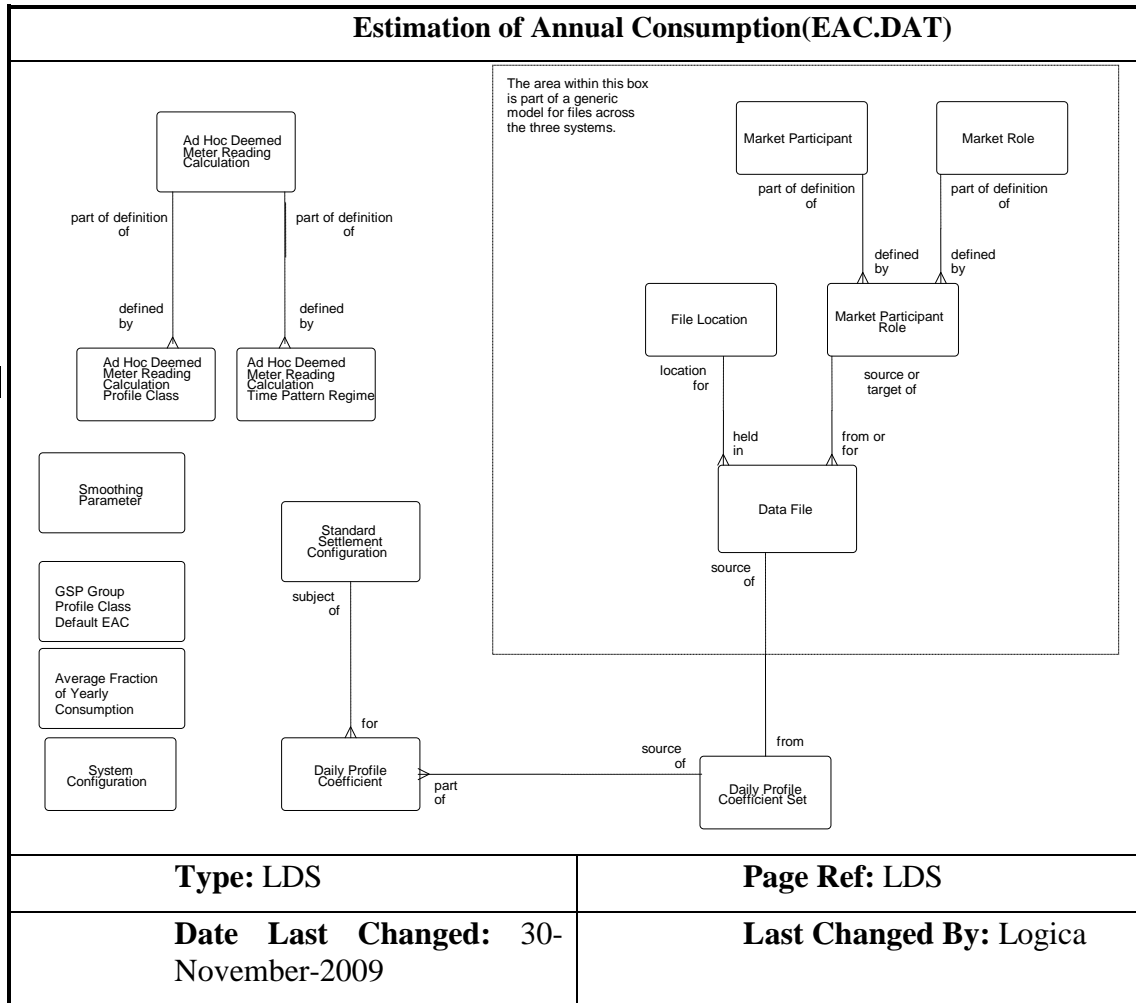


Figure 1 - Estimation of Annual Consumption (LDS)

3 General Notes on the Entities

3.1 The Generic Model for Files

The area within the dashed box in the LDS represents a generic model for file processing, common to EAC/AA and the other 1998 programme systems. At first sight “Data File” sounds too physical to have any place in a logical data design. However in [DIS], the ELEXON defines how data is passed between the 1998 systems in Data Files, and so “Data File” is part of the real world which the logical design is modelling.

A Data File as defined in [DIS] contains a source Market Participant Id and Market Participant Role Code and a target Market Participant Id and Market Participant Role Code. For any given 1998 system which has a view of a Data File, one of these pairs will always be the Market Participant Id and Market Participant Role of itself, so this pair is excluded from the Data File entity included in the generic model within the LDM.

One Market Participant can have more than one role, and for each role there may be more than one Market Participant, hence the link entity Market Participant Role is required.

3.2 The Link between Data File and Daily Profile Coefficient Set

EAC/AA receives Data Files from the ISR Agent, containing Daily Profile Coefficients.

The Daily Profile Coefficients contained in one data file comprise a set of Daily Profile Coefficients. For each such set, EAC/AA stores the Number of Annualised Advances calculated. This data item cannot be stored as an attribute of the Data File entity because the Data File entity is generic to all 1998 systems and so it is necessary to define Daily Profile Coefficient Set as a separate entity with a 1:1 relationship to Data File.

3.3 Assumptions used in Calculating the Volumetrics

For each entity in the Entity Descriptions section below, an Average Occurrence and a Maximum Occurrence are given. In each case the formula used to calculate the number is described. In general, it is assumed that two years and one month worth of data is held at any one time. The volatility of all tables is low unless specified otherwise.

3.4 Standard Settlement Configurations in EAC/AA

The Standard Settlement Configuration Id is one of the primary key attributes of the Daily Profile Coefficient entity. The Standard Settlement Configuration entity in EAC/AA contains an extra attribute, Load Associated DPC, which controls whether or not Daily Profile Coefficients with that Standard Settlement Configuration Id are loaded into EAC/AA.

It is valid for a Standard Settlement Configuration entity to have no corresponding detail Daily Profile Coefficient entities, if its Load Associated DPC flag is set to false or if no Daily Profile Coefficients have been received with this Standard Settlement Configuration Id. It is also valid for a Daily Profile Coefficient entity to have no master Standard Settlement Configuration entity: if the corresponding Standard Settlement Configuration entity does not exist, then the Daily Profile Coefficient entity is loaded. The only circumstance in which a Daily Profile Coefficient is not loaded is if its master Standard Settlement Configuration entity does exist and has its Load Associated DPC flag set to false.

A Daily Profile Coefficient Set entity can exist with no corresponding detail Daily Profile Coefficient entities, if for each Daily Profile Coefficient in the set, the Load Associated DPC flag is set to false.

The Standard Settlement Configuration entity does not contain a From Settlement Date attribute to record from when Daily Profile Coefficients should be loaded, as this would introduce unnecessary complexity. When the user changes the Load Associated DPC flag, it takes immediate effect.

3.5 Audit and User Entities

These are not included in the LDM because they relate to non functional requirements which will be resolved in the physical design. (However references to auditing and user roles are made in [EFUNDEF] as far as they have been identified at this stage.)

4 Entity Descriptions

4.1 Entity : 'Ad Hoc Deemed Meter Reading Calculation'

Description :

A Deemed Meter Advance Calculation initiated by the user. The attributes are the inputs and outputs of the calculation.

Average Occurrence :

The number of Ad Hoc requests per day is not known

Max_Occurrence :

The number of Ad Hoc requests per day is not known

Aspect :

None

Super Type :

None

Sub Types :

None

Attributes :

Transaction Number (Prime Key)

Metering System Id

Standard Settlement Configuration Id

GSP Group Id

First Meter Reading Date

Second Meter Reading Date

Deemed Meter Reading Date

Date and Time of Calculation

User Id

4.2 Entity : 'Ad Hoc Deemed Meter Reading Calculation Profile Class'

Description :

A Profile Class applicable to a Deemed Meter Advance Calculation initiated by the user. The attributes are the inputs of the calculation.

Average Occurrence :

Less than 2 Profile Classes per Metering System

Max_Occurrence :

10

Aspect :

None

Super Type :

None

Sub Types :

None

Attributes :

Transaction Number (Prime Foreign)

Profile Class Id (Prime Key)

Effective From Settlement Date {MSPC}

4.3 Entity : 'Ad Hoc Deemed Meter Reading Calculation Time Pattern Regime'**Description :**

A Time Pattern Regime applicable to a Deemed Meter Advance Calculation initiated by the user. The attributes are the inputs and outputs of the calculation.

Average Occurrence :

Approximately 2 TPRs per Metering System

Max_Occurrence :

The maximum number of TPRs for a Metering System

Aspect :

None

Super Type :

None

Sub Types :

None

Attributes :

Transaction Number (Prime Foreign)

Entry Number (Prime Key)

Time Pattern Regime Id

Register Id

Register Digits

First Meter Reading
 Second Meter Reading
 Negative Advance Rollover
 Annualised Advance
 Deemed Meter Advance
 Deemed Meter Reading
 Calculation Failure Reason

4.4 Entity : 'Average Fraction of Yearly Consumption'

Description :

A specification of the average fraction of consumption for a year which is attributed to a particular Measurement Requirement, in the context of a particular GSP Group, Standard Settlement Configuration and Profile Class.

Average Occurrence :

64,000, calculated as follows:

The Standard Settlement Configuration Id, Profile Class Id and Time Pattern Regime Id make up the Measurement Requirement Profile Class. The average volume of Measurement Requirement Profile Classes is 4284. Also assume 15 GSP groups.

$$4284 \times 15 = 64000.$$

Max_Occurrence :

740,000 calculated as follows:

16,000 valid Measurement Requirement Profile Classes, with all other assumptions as stated in average occurrence calculation (above).

$$16000 \times 15 = 240000$$

Aspect

None

Super Type :

None

Sub Types :

None

Attributes :

GSP Group Id (Prime Key)
 Standard Settlement Configuration Id (Prime Key)
 Profile Class Id (Prime Key)

Time Pattern Regime Id (Prime Key)
Effective From Settlement Date {AFYC}
Effective To Settlement Date {AFYC}
Average Fraction of Yearly Consumption

4.5 Entity : 'Daily Profile Coefficient'

Description :

The sum of all Period Profile Coefficients for a Settlement Day, within a GSP Group, for a valid Profile Class and Measurement Requirement combination, as defined by the Pool.

Average Occurrence :

19,800,000

Calculated as follows:

$26,000 * 365 * 25 / 12$

26,000 per day is quoted in [EACAAURS] Requirement 7.5 (Mandatory). This assumes data is held in the system for two years and one month before being archived.

Max_Occurrence :

146,000,000

Calculated as follows:

$192,000 * 365 * 25 / 12$

192,000 per day is quoted in [EACAAURS] Requirement 7.6 (Highly Desirable). This assumes data is held in the system for two years and one month before being archived.

Aspect

None

Super Type :

None

Sub Types :

None

Attributes :

Settlement Date (Prime Key)
GSP Group Id (Prime Key)
Profile Class Id (Prime Key)
Standard Settlement Configuration Id (Prime Key)

Time Pattern Regime Id (Prime Key)
 Market Participant Id (Foreign Key)
 Market Participant Role Code (Foreign Key)
 Data File Sequence Number (Foreign Key)
 Daily Profile Coefficient

4.6 Entity : 'Daily Profile Coefficient Set'

Description :

A set of Daily Profile Coefficients for a Settlement Day that is used in calculating EAC/AAs.

Average Occurrence :

867

Calculated as follows:

$(8/7)*365*(25/12)$

one set per day for 2 years and one month, plus a second revised set (sent in event of error in original set) once in every 7 days.

Max Occurrence :

867

Calculated as follows:

$(8/7)*365*(25/12)$

one set per day for 2 years and one month, plus a second revised set (sent in event of error in original set) once in every 7 days.

Aspect :

None

Super Type :

None

Sub Types :

None

Attributes :

Market Participant Id (Prime Foreign)
 Market Participant Role Code (Prime Foreign)
 Data File Sequence Number (Prime Foreign)
 Settlement Date
 Profile Production Run Number

GSP Group Id (optional)

Number of AAs Calculated

4.7 Entity : 'Data File'

Description :

(A copy of) a data file sent from or received by the system details of which (or even the file itself) are required to be kept for audit purposes.

See Data Interfaces Sections 2.2 and 2.3

Average Occurrence :

867

One Data File for each Daily Profile Coefficient Set.

Max_Occurrence :

867

One Data File for each Daily Profile Coefficient Set.

Aspect :

None

Super Type :

None

Sub Types :

None

Attributes :

Market Participant Id (Prime Foreign)

Market Participant Role Code (Prime Foreign)

Data File Sequence Number (Prime Key)

File Location (Foreign Key)

File Sent or Received

File Name

File Sent or Received Timestamp (Optional)

File Creation Timestamp

File Processed Timestamp (Optional)

File status

File Format Code

File Content Code

Run Number

Run Type Code

Settlement Date (Optional)

Settlement Code (Optional)

GSP Group Id (Optional)

Notes :

Optional attributes are to allow information about the file to be recorded in the database prior to being sent. Only a received file will have a Date and Time File Processed value, and that may not be known at the time its record is created.

4.8 Entity : 'File Location'

Description :

The location of a (copy of a) File.

Average Occurrence :

< 100

Max Occurrence :

< 100

Aspect :

None

Super Type :

None

Sub Types :

None

Attributes :

File Location (Prime Key)

4.9 Entity : 'GSP Group Profile Class Default EAC'

Description :

The default Estimated Annual Consumption for a GSP Group and Profile Class.

Average Occurrence :

240

calculated as follows:

15 GSP groups x 16 profile classes

15*16=240

Max_Occurrence :

300

calculated as follows:

15 GSP groups x20 profile classes

15*20=300

Aspect :

None

Super Type :

None

Sub Types :

None

Attributes

GSP Group Id (Prime Key)

Profile Class Id (Prime Key)

Effective From Settlement Date {GGPCDE}

Default EAC

4.10 Entity : 'Market Participant'**Description :**

A Market Participant is any organisation having dealings in the Market and which may communicate with the EAC/AA system.

Average Occurrence :

Looked at generically, up to 2,000 per GSP Group. However EAC/AA only needs the Market Participant Id of the ISR agent which sends it the Data Files.

Aspect :

None

Super Type :

None

Sub Types :

None

Attributes :

Market Participant Id (Prime Key)

Market Participant Name

4.11 Entity : 'Market Participant Role'

Description :

A Market Participant in the capacity of a Market Role.

Average Occurrence :

If the average participant has 2 roles, up to 4,000 per GSP Group.

Aspect :

None

Super Type :

None

Sub Types :

None

Attributes :

Market Participant Id (Prime Foreign)

Market Participant Role Code (Prime Foreign)

4.12 Entity : 'Market Role'

Description :

A Role that a Market Participant may take on. For example Supplier or PRS Agent.

Average Occurrence :

There are 12 entries in the initial value set. This number is not expected to change.

Max_Occurrence :

12

Aspect :

None

Super Type :

None

Sub Types :

None

Attributes :

Market Participant Role Code (Prime Key)

Market Role Description

4.13 Entity : 'Smoothing Parameter'**Description :**

A standard positive factor, supplied by the Market Domain Data Agent, which determines how much weight is given to an Annualised Advance and how much is given to the previous EAC, when calculating a new value for an EAC.

Average Occurrence :

25

Calculated by assuming average occurrence is two years' and one month's worth, one entry per month.

Max_Occurrence :

106

Calculated as follows: 2 years and 1 month of data if there is an entry made every week.

Aspect :

None

Super Type :

None

Sub Types :

None

Attributes :

Effective From Settlement Date {SPAR} (Prime Key)

Smoothing Parameter

4.14 Entity : 'Standard Settlement Configuration'**Description :**

A standard configuration, supported by Initial Settlement and Reconciliation, comprising a set of Time Pattern Regimes, which together ensure that the consumption is being measured, without duplication. Settlement Configurations only apply to non half hour Metering Systems. Within EAC/AA its only purpose is to allow the definition of a subset of standard configuration for which Daily Profile Coefficients will be loaded.

Average Occurrence :

Expected volume = 2500, assuming that EAC holds records for every Standard Settlement Configuration. Volatility low.

Max_Occurrence :

2500

Aspect :

None

Super Type :

None

Sub Types :

None

Attributes :

Standard Settlement Configuration Id (Prime Key)

Standard Settlement Configuration Desc

Load Associated DPC

Notes :

The purpose of this entity is to allow a subset of Standard Settlement Configurations to be defined for which DPCs are to be loaded. The relationship to Daily Profile Coefficient may not be enforced.

4.15 Entity : 'System Configuration'

Description :

This entity is meant for System Configuration data such as the Id of the Market Participant running the system.

Average Occurrence :

1

Max_Occurrence :

1

Aspect :

None

Super Type :

None

Sub Types :

None

Attributes :

System Market Participant Id

System Market Participant Role Code

System Mode

Notes :

As this "entity" will only ever have one record, it does not really make sense to define a primary key. (Strictly, this should not really be defined as an entity.)

4.16 Entity : 'Demand Control Event'

Description :

A Demand Control Event consisting an unique id, start date and time, End date and time and impacted MSIDs. Within EAC/AA, it is used to identify the impacted MSIDs in the calculating the EAC values.

Average Occurrence :

NA

Max Occurrence :

NA

Aspect :

None

Super Type :

None

Sub Types :

None

Attributes :

Demand Control Event Id (Primary Key)

Start Date and Time

End Date and Time

Metering system id

Notes :

The purpose of this entity is to store the Demand control event details.

4.17 Entity : 'Daily Profile Data'

Description :

The Period Profile Coefficients for all settlement period in a Settlement Day, within a GSP Group, for a valid Profile Class and Measurement Requirement combination, as defined by the Pool.

Average Occurrence :

1 per settlement day and settlement type

Max Occurrence :

1 per settlement day and settlement type

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Aspect

None

Super Type :

None

Sub Types :

None

Attributes :

Settlement date

Settlement type

Run numbr

Reported User

Report parameter

Profiling Date

Profiling Time

GSP Grop id

Standad Settlement Configuration id

Time Pattern Regime id

Period Profile Coefficient Values

4.18 Entity : 'voluntary Demand Disconnection'

Description :

The details of voluntary Demand Disconnection consisting of MSID disconnected and estimated HH Demand disconnection volume.

Average Occurrence :

NA

Max Occurrence :

NA

Aspect

None

Super Type :

None

Sub Types :

None

Attributes :

DEMAND CONTROL_EVENT_ID

START DATE

END DATE

METERING_SYSTEM_ID

MEASUREMENT_QUANTITY_ID

SUPPLIER_ID

SETT DATE

DEMAND_SIDE_ACTION_VOLUME

5 Data Catalogue

5.1 Data Item : 'Annualised Advance'

Description :

An estimate of annual consumption for a Settlement Register, calculated from a meter advance, and used for settlement of days within the meter advance period.

Attributes :

Annualised Advance – Ad Hoc Deemed Meter Reading Calculation Time Pattern Regime

Validation :

can be negative

Logical Format : NUM(12,1)

Notes :

This Data Item is only an attribute of an entity for the Ad Hoc Deemed Meter Reading Calculation Time Pattern Regime. For the other EAC and AA calculations, it is calculated by EAC/AA and written to a file without being stored.

5.2 Data Item : 'Annualised Advance Tolerance Value'

Description :

A value against which calculated Annualised Advances are compared to detect any unusually high or low consumption values. A high and low Tolerance Value is held per GSP Group and Profile Class.

Attributes :

None

Validation :

Can be negative.

Logical Format : INT(12)

5.3 Data Item : 'Average Fraction of Yearly Consumption'

Description :

The estimated fraction of consumption for a year for Metering Systems in a Profile Class and Standard Settlement Configuration which belong to a particular Measurement Requirement.

Attributes :

Average Fraction of Yearly Consumption - Average Fraction of Yearly Consumption

Validation :

Must be a value between 0 and +1 inclusive.

Logical Format : NUM(7,6)

5.4 Data Item : Calculation Failure Reason**Description :**

Status indicating the reason for failure of requested calculation for a Metering System, or describing a warning concerning the calculation.

Attributes :

Calculation Failure Reason – Ad Hoc Deemed Meter Reading Calculation Time Pattern Regime

Logical Format : INT(2)

Notes : This Data Item is only an attribute of an entity for the Ad Hoc Deemed Meter Reading Calculation Time Pattern Regime. For the other EAC/AA and DMA calculations, it is written to the output file without being stored.

5.5 Data Item : 'Calculation Failure Reason Code'**Description :**

A code describing the reason for the failure of the calculation.

Attributes :

None

Validation:

Initial Valid Set with description:

EDG - No Daily Profile Coefficients for a particular GSP Group / Profile Class / Standard Settlement Configuration / Time Pattern Regime / Settlement Date combination.

EDS - No Daily Profile Coefficients at all for a particular Settlement Date.

EMT - Meter Advance Period longer than 2 years.

EFZ - Zero Fraction of Yearly Consumption (FYC) and a non-zero Meter Advance.

Logical Format :CHAR(3)

Notes :

Determined by the system and output without being stored.

5.6 **Data Item : 'Calculation Failure Reason Details'**

Description :

Full details the reason for the failure of the calculation.

Attributes :

None

Validation:

None.

Logical Format :CHAR(256)

Notes :

Determined by the system and output without being stored.

5.7 **Data Item : 'Daily Profile Coefficient'**

Description :

The daily totalled profile coefficient, calculated by evaluating regression equations for the particular Noon Effective Temperature, Time of Sunset and Day Type, and then applying the processes of algorithmic profiling and chunking.

Attributes :

Daily Profile Coefficient - Daily Profile Coefficient

Validation :

Can be negative

Logical Format :NUM(14,13)

Notes :

Typical value = 1/365, but can be negative exceptionally.

5.8 **Data Item: 'Daily Profile Coefficient File'**

Description :

The name assigned by ISRA to a file of Daily Profile Coefficient Data passed to the EAC/AA system.

Attributes :

None

Logical Format : CHAR(N)

Notes:

Input by the user to identify a file.

5.9 Data Item : 'Data Collector Id'

Description :

The unique national id of a Data Collector.

Attributes :

None

Synonyms :

Market Participant Id

Logical Format : CHAR(4)

5.10 Data Item : 'Data File Sequence Number'

Description :

There is no natural primary key for a data file that does not involve optional attributes. Therefore each file, sent from or received by the system, is given a sequence number so that a primary key may be defined. A separate sequence is maintained for each combination of source and target (Market Participant Role).

Note that this modelling is verging on the physical and should not constrain the physical design of the file handling processes.

Attributes :

Data File Sequence Number - Data File

Data File Sequence Number - Daily Profile Coefficient Set

Data File Sequence Number - Daily Profile Coefficient

Logical Format : INT(6)

5.11 Data Item : 'Date and Time of Calculation'

Description :

The date and time at which a calculation was made.

Attributes :

Date and Time of Calculation – Ad Hoc Deemed Meter Reading Calculation

Synonyms :

File Processed Timestamp

Logical Format : DATETIME

Notes :

This Data Item is only an attribute of an entity for the Ad Hoc Deemed Meter Reading Calculation. For the other EAC/AA and DMA calculations, it is written to the output file without being stored.

5.12 **Data Item : 'Deemed Meter Advance'**

Description :

An estimated meter advance at change of supplier, calculated at the request of the Data Collector, using an EAC or Annualised Advance (if available).

Attributes :

Deemed Meter Advance – Ad Hoc Deemed Meter Reading Calculation Time Pattern Regime

Validation : Can be negative.

Logical Format : NUM(12,1)

Notes :

This Data Item is only an attribute of an entity for the Ad Hoc Deemed Meter Reading Calculation Time Pattern Regime. For the other DMA calculations, it is written to a file without being stored.

5.13 **Data Item : 'Deemed Meter Advance File Name'**

Description :

The name assigned by the Data Collector to a file of Deemed Meter Advance requests passed to the EAC/AA system.

Attributes :

None

Logical Format : CHAR(n)

Notes :

Input by the user to identify a file.

5.14 **Data Item : 'Deemed Meter Reading'**

Description :

An estimated meter reading at a particular date.

Attributes :

Deemed Meter Reading – Ad Hoc Deemed Meter Reading Calculation Time Pattern Regime

Validation : Can be negative.

Logical Format : INT(12)

5.15 Data Item : 'Deemed Meter Reading Date'

Description :

The date for which the calculation of a Deemed Meter Reading is required.

Attributes :

Deemed Meter Reading Date – Ad Hoc Deemed Meter Reading Calculation

Logical Format : DATE

5.16 Data Item : 'Default EAC'

Description :

The average Estimated Annual Consumption, determined through load research, for Metering Systems assuming a specific combination of GSP Group and Profile Class.

Attributes :

Default EAC - GSP Group Profile Class Default EAC

Validation :

Zero or positive number within constraints of format.

Logical Format : NUM(12,1)

5.17 Data Item : 'EAC / AA File Name'

Description :

The name assigned by the Data Collector to a file of Meter Advance data passed to the EAC/AA system.

Attributes :

None

Logical Format : CHAR(n)

Notes :

Input by the user to identify a file.

5.18 Data Item : 'Effective From Settlement Date {AFYC}'

Description :

The first Settlement Date for which an Average Fraction of Yearly Consumption is effective.

Attributes :

Effective From Settlement Date {AFYC} - Average Fraction of Yearly Consumption

Logical Format : DATE

5.19 Data Item : 'Effective From Settlement Date {DMA}'**Description :**

The start date of the meter advance period for which a Deemed Meter Advance is calculated by the EAC/AA system at the request of the Data Collector. Usually this will be the Settlement Date on which the previous meter reading was taken.

Attributes :

None

Logical Format : DATE

Notes :

Read from an input file and written to an output file without being stored.

5.20 Data Item : 'Effective From Settlement Date {EAC}'**Description :**

The date from which an Estimate of Annual Consumption for a Settlement Register comes into effect i.e. the Settlement Day in which the corresponding meter reading was taken.

Attributes :

None

Logical Format : DATE

Notes :

Read from an input file and written to an output file without being stored.

5.21 Data Item : ' Effective From Settlement Date {GGPCDE}'**Description :**

The first Settlement Date from which a Default EAC applies for a GSP Group and Profile Class.

Attributes :

Effective From Settlement Date {GGPCDE} - GSP Group Profile Class Default EAC

Logical Format : DATE

5.22 Data Item : 'Effective From Settlement Date {MAC}'

Description :

The start date of a meter advance period (i.e. the date on which the first reading of the meter advance period was taken).

Attributes :

None

Logical Format : DATE

Notes :

Read from an input file and written to an output file without being stored.

5.23 Data Item : 'Effective From Settlement Date {MSGG}'

Description :

The date from which a Metering System is assigned to a GSP Group.

Attributes :

None

Logical Format : DATE

Notes :

Read from input file and used in processing without being stored.

5.24 Data Item : 'Effective From Settlement Date {MSPC}'

Description :

The date from which a Metering System is assigned to a Profile Class.

Attributes :

Effective From Settlement Date {MSPC} – Ad Hoc Deemed Meter Reading Calculation Profile Class

Logical Format : DATE

Notes : This Data Item is only an attribute of an entity for the Ad Hoc Deemed Meter Reading Calculation Profile Class. For the other EAC/AA and DMA calculations, it is read from input file and used in processing without being stored.

5.25 Data Item : 'Effective From Settlement Date {SPAR}'

Description :

The Settlement Date on which a value of the Smoothing Parameter, used in the calculation of EACs, becomes effective.

Attributes :

Effective From Settlement Date {SPAR} - Smoothing Parameter

Logical Format :DATE

5.26 Data Item : 'Effective To Settlement Date {AFYC}'

Description :

The last Settlement Date for which an Average Fraction of Yearly Consumption is effective.

Attributes :

Effective To Settlement Date {AFYC} - Average Fraction of Yearly Consumption

Logical Format : DATE

5.27 Data Item : 'Effective To Settlement Date {Archive Period}'

Description :

The end of the period for which the EAC/AA System Manager requires Daily Profile Coefficient data to be archived.

Attributes :

None

Logical Format : DATE

Notes :

Input by user and used in processing without being stored.

5.28 Data Item : 'Effective To Settlement Date {DMA}'

Description :

The end date of the meter advance period for which a Deemed Meter Advance is calculated by the EAC/AA System at the request of the Data Collector. Usually this will be the Settlement Date prior to that on which the change of Supplier takes effect.

Attributes :

None

Logical Format : DATE

Notes :

Read from an input file and written to an output file without being stored.

5.29 Data Item : 'Effective To Settlement Date {MAC}'

Description :

The end date of a meter advance period (i.e. the day before that on which the second reading of the advance period was taken).

Attributes :

None

Logical Format : DATE

Notes :

Read from an input file and written to an output file without being stored.

5.30 Data Item : 'Entry Number'

Description :

A number used to uniquely identify one of a several registers being calculated within a calculation for a Metering System. The numbers are allocated in the order that the user entered the registers.

Attributes :

Entry Number – Ad Hoc Deemed Meter Reading Calculation Time Pattern Regime

Validation : Unique positive number, allocated sequentially starting from 1 for each calculation, within constraints of format.

Logical Format : INT(3)

5.31 Data Item : 'Estimated Annual Consumption'

Description :

An estimate of annual consumption for a Settlement Register, used for settlement of days for which no Annualised Advance is yet available.

Attributes :

None

Validation :

Can be negative.

Logical Format : NUM (12,1)

Notes :

Calculated by EAC/AA and written to a file without being stored.

5.32 Data Item : 'File Content Code'

Description :

Identifies the content of a data file. It consists of a 5 character file type followed by a 3 character file version e.g. 'D0227001'.

Attributes :

File Content Code - Data File

Logical Format : CHAR(8)

Notes :

See Data Interfaces document Sect 2.3.1

5.33 Data Item : 'File Creation Timestamp'

Description :

Date and time a file was created or forwarded to the system by an external entity.

Attributes :

File Creation Timestamp - Data File

Logical Format : DATETIME

Notes :

See Data Interfaces Sections 2.2.1 and 2.3.1

5.34 Data Item : 'File Format Code'

Description :

Format code for a data file.

Attributes :

File Format Code - Data File

Validation :

Initial valid set: 'DAT', 'INS', 'PRT'

Logical Format : CHAR(3)

Notes :

See Data Interfaces document Sect 2.3.1

5.35 Data Item : 'File Location'**Description :**

The location of a file, e.g., directory logical name.

Attributes :

File Location - File Location

File Location - Data File

Logical Format :CHAR(n)

Notes :

This attribute and "parent" entity is part of an attempt to model file handling generically. The actual physical implementation will be very dependant upon the way the functionality is implemented.

5.36 Data Item : 'File Name'**Description :**

The name of a file as held by the system.

Attributes :

File Name - Data File

Logical Format :CHAR(n)

5.37 Data Item : 'File Processed Timestamp'**Description :**

The date and time a file received by the system was processed. For example, date and time extracted Daily Profile Coefficients committed.

Attributes :

File Processed Timestamp - Data File

Logical Format :DATETIME

5.38 Data Item : 'File Sent or Received'**Description :**

Whether a file was sent from (or intended to be sent from) or received by the system.

Attributes :

File Sent or Received - Data File

Logical Format :CHAR(1)

5.39 Data Item : 'File Sent or Received Timestamp'

Description :

The date and time a file was sent to or received from an external (to the system) entity. Examples: receipt of Daily Profile Coefficient file, sending of EAC/AA file.

Attributes :

File Sent or Received Timestamp - Data File

Logical Format :DATETIME

5.40 Data Item : 'File status'

Description :

Status of file, tracking progress through the system of files received. (It may also be useful for generated files.)

Attributes :

File status - Data File

Logical Format :CHAR(1)

5.41 Data Item : 'GSP Group Id'

Description :

The unique national identifier for a particular GSP Group.

Attributes :

GSP Group Id - Daily Profile Coefficient

GSP Group Id - Data File

GSP Group Id - Daily Profile Coefficient Set

GSP Group Id – Ad Hoc Deemed Meter Reading Calculation

GSP Group Id - GSP Group Profile Class Default EAC

GSP Group Id - Average Fraction of Yearly Consumption

Logical Format :CHAR(2)

5.42 Data Item : 'ISR Agent Id'

Description :

The nationally unique identifier of an ISR Agent.

Attributes :

None

Synonyms :

Market Participant Id

Validation :

As valid set; valid set to be defined by the pool.

Logical Format : CHAR(4)**Notes :**

The source of this Data Item is the file header of the Data File received from the ISR agent and therefore it is a synonym of Market Participant Id, CHAR(4) rather than the 2 character form given in the Pool Data Catalogue.

5.43 Data Item : 'Load Associated DPC'**Description :**

A flag to indicate whether Daily Profile Coefficients with the associated Standard Settlement Configuration Id are to be loaded into the system.

Attributes :

Load Associated DPC - Standard Settlement Configuration

Logical Format : BOOLEAN**5.44 Data Item : 'Market Participant Id'****Description :**

Unique Id of a Market Participant.

Attributes :

Market Participant Id - Market Participant

Market Participant Id - Market Participant Role

Market Participant Id - Data File

Market Participant Id - Daily Profile Coefficient Set

Market Participant Id - Daily Profile Coefficient

Synonyms :

System Market Participant Id

Logical Format :CHAR(4)

5.45 Data Item : 'Market Participant Name'

Description :

The name of a Market Participant.

Attributes :

Market Participant Name - Market Participant

Logical Format :CHAR(30)

5.46 Data Item : 'Market Participant Role Code'

Description :

Unique Id of a Market Role.

Attributes :

Market Participant Role Code - Market Role

Market Participant Role Code - Market Participant Role

Market Participant Role Code - Data File

Market Participant Role Code - Daily Profile Coefficient Set

Market Participant Role Code - Daily Profile Coefficient

Synonyms :

System Market Participant Role Code

Logical Format :CHAR(1)

5.47 Data Item : 'Market Role Description'

Description :

A description of a Market Role.

Attributes :

Market Role Description - Market Role

Logical Format :CHAR(30)

5.48 Data Item : 'Meter Advance'

Description :

Consumption recorded for a Settlement Register in terms of the difference between two consecutive meter readings.

Attributes :

None

Validation :

Can be negative.

Logical Format : NUM(8,1)

Notes :

Calculated by EAC/AA and written to a file without being stored.

5.49 Data Item : 'Meter Reading'

Description :

A meter reading taken on a particular date.

Attributes :

First Meter Reading – Ad Hoc Deemed Meter Reading Calculation Time Pattern Regime

Second Meter Reading – Ad Hoc Deemed Meter Reading Calculation Time Pattern Regime

Logical Format : INT(8)

5.50 Data Item : 'Meter Reading Date'

Description :

The date on which a meter reading was taken.

Attributes :

First Meter Reading Date – Ad Hoc Deemed Meter Reading Calculation

Second Meter Reading Date – Ad Hoc Deemed Meter Reading Calculation

Logical Format : DATE

5.51 Data Item : 'Metering System Id'

Description :

The unique identifier given to each Metering System.

Attributes :

Metering System Id – Ad Hoc Deemed Meter Reading Calculation

Logical Format : CHAR(13)

Notes :

This Data Item is only an attribute of an entity for the Ad Hoc Deemed Meter Reading Calculation. For the other EAC/AA and DMA calculations, it is read from an input file and written to an output file without being stored.

Each character is numeric. The 13th character is a check digit, calculated using the industry standard algorithm.

5.52 Data Item : 'Negative Advance Rollover'

Description :

Indicates that the reason for a Meter Advance being negative is that a register rollover has occurred.

Attributes :

Negative Advance Rollover – Ad Hoc Deemed Meter Reading Calculation Time Pattern Regime

Logical Format : Boolean

5.53 Data Item : 'No of Metering Systems processed successfully'

Description :

The number of Metering Systems processed successfully during the requested calculations.

Attributes :

None

Validation:

Cannot be negative.

Logical Format :INT(7)

Notes :

Calculated by the system and output without being stored.

5.54 Data Item : 'No of Metering Systems processed unsuccessfully'

Description :

The number of Metering Systems processed unsuccessfully during the requested calculations.

Attributes :

None

Validation:

Cannot be negative.

Logical Format :INT(7)

Notes :

Calculated by the system and output without being stored.

5.55 Data Item : 'No of Metering Systems Read'

Description :

The total number of Metering Systems read during the requested calculations.

Attributes :

None

Validation:

Cannot be negative.

Logical Format :INT(7)

Notes :

Calculated by the system and output without being stored.

5.56 Data Item : 'Number of AAs Calculated'

Description :

The number of AAs calculated using Daily Profile Coefficients from a particular file. This number is added to if the coefficients are used in more than one run of the calculation process.

Attributes :

Number of AAs Calculated - Daily Profile Coefficient Set

Logical Format :INT(7)

5.57 Data Item : 'Number of Loaded Daily Profile Coefficients'

Description :

The number Daily Profile Coefficients loaded/reloaded for a particular Settlement Date.

Attributes :

None

Validation:

Cannot be negative.

Logical Format :INT(7)

Notes :

Calculated by the system and output without being stored.

5.58 Data Item : 'Output File Name'

Description :

The name of the output file containing the results of the calculations.

Attributes :

File Name - Data File

Logical Format :CHAR(n)

Notes :

Output by the system without being stored.

5.59 Data Item : 'Profile Class Id'

Description :

The unique national identifier for the Profile Class which holds the profile to be applied to a non half hourly metered set of supplies belonging to that class.

Attributes :

Profile Class Id - Daily Profile Coefficient

Profile Class Id – Ad Hoc Deemed Meter Reading Calculation Profile Class

Profile Class Id - GSP Group Profile Class Default EAC

Profile Class Id - Average Fraction of Yearly Consumption

Logical Format :NUM(2)

5.60 Data Item : 'Profile Production Run Number'

Description :

An identifier, unique within ISR Agent, for a particular Profile Production Run.

Attributes :

Profile Production Run Number - Daily Profile Coefficient Set

Profile Production Run Number - Daily Profile Coefficient

Validation :Unique positive number, allocated sequentially starting from 1, within constraints of format.

Logical Format :INT(7)

5.61 Data Item : 'Register Digits'

Description :

The number of digits of a register within a Metering System.

Attributes :

Register Digits – Ad Hoc Deemed Meter Reading Calculation Time Pattern Regime

Logical Format :INT(2)

5.62 Data Item : 'Register Id'

Description :

The identifier of a register within a Metering System.

Attributes :

Register Id – Ad Hoc Deemed Meter Reading Calculation Time Pattern Regime

Logical Format :CHAR(2)

5.63 Data Item : 'Run Number'

Description :

Run number indicating settlement run or version of a data file.

Attributes :

Run Number - Data File

Logical Format :INT(7)

Notes :

See Data Interfaces document Sect 2.3.1

5.64 Data Item : 'Run Type Code'

Description :

Run type code for a data file.

Attributes :

Run Type Code - Data File

Logical Format :CHAR(2)

Notes :

See Data Interfaces document Sect 2.3.1

5.65 Data Item : 'Settlement Code'**Description :**

Identifies the type of settlement run (e.g. initial settlement) that produced the file.

Attributes :

Settlement Code - Data File

Logical Format :CHAR(2)

Notes :

See Data Interfaces document Sect 2.3.1

5.66 Data Item : 'Settlement Date'**Description :**

The date on which energy is used and must later be settled for. Also known as the Trading Day.

Attributes :

Settlement Date - Data File

Settlement Date - Daily Profile Coefficient Set

Settlement Date - Daily Profile Coefficient

Logical Format :DATE

5.67 Data Item : 'Smoothing Parameter'**Description :**

A standard, positive factor, supplied by the Market Domain Data Agent, which determines how much weight is given to an Annualised Advance and how much is given to the previous EAC, when calculating a new value for an EAC.

Attributes :

Smoothing Parameter - Smoothing Parameter

Validation :

Must be > 0 within the constraints of the format.

Logical Format :NUM(6,3)

5.68 Data Item : 'Standard Settlement Configuration Desc'**Description :**

A brief description of a Standard Settlement Configuration.

Attributes :

Standard Settlement Configuration Desc - Standard Settlement Configuration

Logical Format :CHAR(50)

5.69 Data Item : 'Standard Settlement Configuration Id'**Description :**

A unique identifier for a logical non-Half Hourly metering configuration supported by the settlement process.

Attributes :

Standard Settlement Configuration Id - Standard Settlement Configuration

Standard Settlement Configuration Id - Daily Profile Coefficient

Standard Settlement Configuration Id – Ad Hoc Deemed Meter Reading Calculation

Standard Settlement Configuration Id - Average Fraction of Yearly Consumption

Logical Format :CHAR(4)

5.70 Data Item : 'System Market Participant Id'**Description :**

Unique Id of the Market Participant running the EAC/AA System.

Attributes :

System Market Participant Id - System Configuration

Synonyms :

Market Participant Id

Logical Format :CHAR(4)

5.71 Data Item : 'System Market Participant Role Code'**Description :**

Unique Id of the Market Role of the Market Participant running the EAC/AA System.

Attributes :

System Market Participant Role Code - System Configuration

Synonyms :

Market Participant Role Code

Logical Format :CHAR(1)

5.72 Data Item : 'System Mode'

Description :

Whether the system has been installed to run in Manual or Automatic Mode.

Attributes :

System Mode - System Configuration

Logical Format :CHAR(1)

5.73 Data Item : 'Time Pattern Regime Id'

Description :

The identifier for the Time Pattern Regime being used to calculate money owed for energy used by each customer.

Attributes :

Time Pattern Regime Id - Daily Profile Coefficient

Time Pattern Regime Id – Ad Hoc Deemed Meter Reading Calculation
Time Pattern Regime

Time Pattern Regime Id - Average Fraction of Yearly Consumption

Logical Format :CHAR(5)

5.74 Data Item : 'Transaction Number'

Description :

A number used to uniquely identify an instance of a calculation for a Metering System.

Attributes :

Transaction Number – Ad Hoc Deemed Meter Reading Calculation

Transaction Number – Ad Hoc Deemed Meter Reading Calculation Profile
Class

Transaction Number – Ad Hoc Deemed Meter Reading Calculation Time
Pattern Regime

Validation :Unique positive number, allocated sequentially starting from 1, within constraints of format.

Logical Format :INT(8)

5.75 Data Item : 'User Id'

Description :

The id of the user.

Attributes :

User Id – Ad Hoc Deemed Meter Reading Calculation

Logical Format : CHAR(30)

Notes :

Input when requesting to view the results of Ad Hoc Deemed Meter Reading Calculations performed by a certain user. Storage will be specified in physical design.

5.76 Data Item : 'Demand Control ID'**Description :**

An identifier used to uniquely identify an instance of a Demand Control Event.

Attributes :

Demand Control ID – Demand Control Event

Logical Format : VARCHAR(30)

5.77 Data Item : 'Start Date and Time of Demand Control Event'**Description :**

The start date and time of a Demand Control Event.

Attributes :

Start Date and Time – Demand Control Event

Logical Format : Date

5.78 Data Item : 'End Date and Time of Demand Control Event'**Description :**

The End date and time of a Demand Control Event.

Attributes :

End Date and Time – Demand Control Event

Logical Format : Date

5.79 Data Item : 'Estimated HH Demand Side Action Volume'

Description :

A Value used to uniquely identify estimated volume of reduction for the MAPNs subject to a demand side Non-BM STOR or DSBR affected by a Demand Control Event.

Attributes :

Estimated HH Demand Side Action Volume – Demand Control Event

Logical Format : VARCHAR(4)

5.80 Data Item : 'Period Profile Coefficient value'

Description :

The Period Profile Coefficient Value.

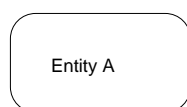
Attributes :

Period Profile Coefficient – Daily Profile Data

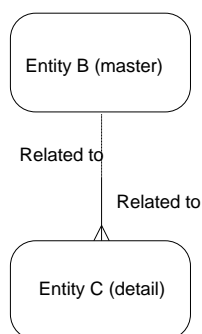
Logical Format : Decimal(13,4)

Appendix A Format of Logical Data Design

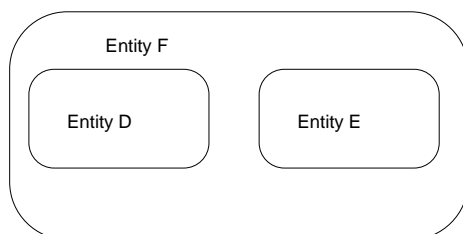
Logical Data Structure notation



A box (solid or dotted) denotes an entity. A dotted box indicates that the entity also appears on another diagram.



A line between two boxes means there is a relationship between the two entities. The entity at the single end of the line is termed the Master and the entity at the 'Crow's foot' end is termed the Detail. The relationship is called a 1:m relationship, in that the detail will have m occurrences for every single occurrence of the master. An optional or 'may' relationship is denoted by a dotted line leaving an entity, whilst a mandatory or 'must' relationship is denoted by solid line leaving the entity. In this example, we can say: "Entity B " may be related to one or many Entity C", and "Entity C" must be related to one and only one "Entity B". Note that the whole relationship can be optional (all dotted) or mandatory (all solid).



An entity may be found to have several alternative behaviours such that each occurrence of the entity is of a particular type. The entity can be represented as a super-type and the alternative behaviours represented as sub-types. Super-types are represented by a large box within which the sub-types are represented by smaller boxes.

Entity Descriptions

Only those attributes that are relevant to the EAC/AA System are listed against entities. Thus, in some cases, attributes listed for an entity may differ from those listed against the entity in other Logical Data Designs delivered as part of this project.

Data Catalogue

The following Logical Formats are used to describe data items:

Logical Format Type	Format Description	Logical Length
BOOLEAN	boolean indicating true or false	1
CHAR(n)	general purpose character string, containing any alpha, numeric and special characters where alpha characters are in the standard English language set.	Any
DATE	date format yyyyymmdd	8
DATETIME	date/time format yyyyymmddhhmmss	14
INT(n)	integer item	Any
NUM(n,m)	real number	Any
TIME	time format hhmmss	6
TIMESTAMP	date/time format yyyyymmdd hhmmss.ssssss	22

The Logical Length is indicated in parentheses (n) after the format type.

In order to provide an Attribute / Entity Cross Reference, the Attribute section within the Data Item definition contains one entry for each Entity in which the corresponding Attribute (if any) appears. The entry is in the form:

Attribute name - Entity name