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# MMS Data Model Release Notes

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**MMS Data Model version 5.0**

26 April 2021

Important release information

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# Important Notice

## **PURPOSE**

This MMS Data Model Release Notes, prepared by the Australian Energy Market Operator (AEMO), provides guidance for the Gas or MMS Data Model under the National Electricity Rules or National Gas Rules (Rules).

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Available to the public.

## **DOCUMENT IDENTIFICATION**

Business custodian:

IT custodian: Data Model Developer

Prepared by: AEMO Technology

Last update: Monday, 26 April 2021 6:17 PM

## **VERSION HISTORY**

Updated with AEMO branding and style

## **DOCUMENTS MADE OBSOLETE**

The release of this document changes only the version of MMS Data Model Release Notes.

## **FEEDBACK**

Your feedback is important and helps us improve our services and products. To suggest improvements, please contact AEMO's Support Hub.

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# Introduction

## FTP access

- Pre-production: 146.178.211.25
- Production: 146.178.211.63

## Release location

- Pre-production FTP:
- \Releases\MMS Data Model\PreProduction\v5.0
- \Releases\MMS Data Model\Production\v5.0

## Guides

- With this release, we have moved the PDF documentation out from the respective installers and into the releases folder and Data Interchange Online Help: <https://aemo.com.au/energy-systems/electricity/national-electricity-market-nem/data-nem/nemweb-help>.
- The readme.txt is renamed to Data Model Release Notes vn.n.pdf and is available in the Releases folder, see Release location above.

# Important Information

As of this release participants can either subscribe to LEGACY or the CURRENT version of files. If both versions of files are subscribed, then the LEGACY is **automatically unsubscribed after a period of time.**

| Note   | Steps to follow   | Comments  |
|--|---|---|
| <p><b>Participants who does not upgrade to the latest DM5.0 by 5MS start date, will need to run the path script to keep their settlements files loading.</b></p> | <p>Run the patch script:</p> <p>For Oracle-<br/>ORACLE_PATCH_SETTLEMENTS.sql</p> <p>For SQLSERVER:<br/>MSSQLSERVER_PATCH_SETTLEMENTS.sql</p> <p>Patch script contains updated to below Settlements tables:</p> <pre>ALTER TABLE SETIRAUCSURPLUS MODIFY PERIODID NUMBER(3,0);</pre> <pre>ALTER TABLE SETIRNSPSURPLUS MODIFY PERIODID NUMBER(3,0);</pre> <pre>ALTER TABLE SETIRPARTSURPLUS MODIFY PERIODID NUMBER(3,0);</pre> | <p>Participants haven't done the upgrade before the 5MS start date.</p> <p>If PATCH script is not applied, then SETTLEMENTS file will fail to load.</p> <p>Patch script can be fetched from Releases folder path.</p> <p>Discontinued tables will not be populated. Please refer to the DM5.0 Technical Specification on discontinued tables.</p> |

# Steps to note during the upgrade

Ensure the following:

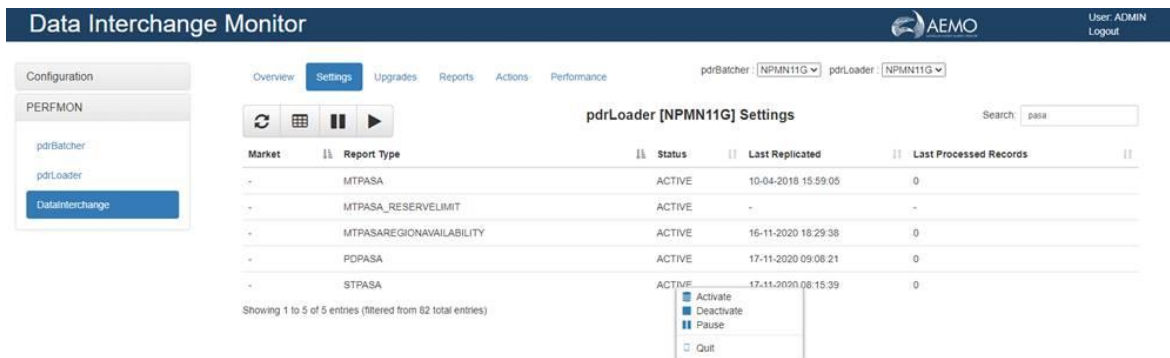
- Check your installed Data Model version by running the below query in your database:

```
select a.installation_date,a.install_type,a.script_version from
mms_data_model_audit a order by a.installation_date desc ;
```

- This DM5.0 Upgrade will take more time compared to other upgrades as there are changes in Primary key columns for the below tables.
- Please ensure that the Upgrade process is **NOT** interrupted. This is applicable to the participants subscribed to the below tables.

| Table Name                | No of rows | Runtime (Oracle) | Task Details   |
|---------------------------|------------|------------------|--|
| STPASA_CONSTRAINTSOLUTION | 40 million | Approx 20min     | add STUDYREGIONID, update column value to 'MARKET', drop existing PK and create new PK |
| STPASA_INTERCONNECTORSOLN | 38 million | Approx 25min     | add STUDYREGIONID, update column value to 'MARKET', drop existing PK and create new PK |

- It is assumed PdrLoader is turned off during the Data Model upgrade. Alternatively, selective Report Types can be PAUSED using pdrMonitor, allowing other Report Types to be loaded. Please make sure the paused reports are ACTIVE once the upgrade is completed.



- The pdrLoader should be restarted after this operation completes as it caches table/PK definitions in memory for performance.
- Participants should examine the size of above tables STPASA\_CONSTRAINTSOLUTION and STPASA\_INTERCONNECTORSOLN in the Pre 5MS (before upgrading to DM 5.0), and if the number of rows is large or if an outage cannot be taken on the Data Interchange facility then proceed with pre/post steps as described or otherwise implement 5MS upgrade (during upgrade to DM 5.0) only

## Pre-5MS (before upgrading to DM 5.0)

- Stop pdrLoader application.
- Copy the table structure (**including indexes and primary key definition**) of STPASA\_CONSTRAINTSOLUTION and STPASA\_INTERCONNECTORSOLN
- Rename tables STPASA\_CONSTRAINTSOLUTION and STPASA\_INTERCONNECTORSOLN . and **also, Primary Key and indexes**. You can append tablename with “\_BACKUP”
- Create the same tables using the structure that you copied in step 2
- Limited back population of new table for operational purposes
- Start pdrLoader application

## 5MS upgrade (during upgrade to DM 5.0)

- Stop pdrLoader
- Upgrade your database to DM5.0 if you are on DM4.30. This upgrade should be quick now.
- Start pdrLoader.

## Post-5MS (post-upgrade to DM 5.0)

- Back populate remainder of the data from the backup table. You can run this script to run overnight. The new column that is added will get populated with default value “MARKET”
- Drop renamed table.

# Oracle PDR loader properties file changes

For participants running Oracle databases with pdrLoader v7.4.1 or earlier, to accommodate the new Timestamp data type you must add the following statement to the pdrLoader properties file:

```
db_conn_init_sql=ALTER SESSION SET NLS_TIMESTAMP_FORMAT='YYYY/MM/DD  
HH24:MI:SS.FF3'
```

This is not required for participants running SQL databases or pdrLoader v7.4.2. Display of decimals in reports and tables.

## Other changes

There is an issue identified with GENUNITS\_UNIT table where the UNIT\_COUNT column data can have higher value than defined. To handle this, we have placed a patch script in production and preproduction Releases folder for ORACLE and SQLSERVER. These scripts will be made available in DM v5.0 as well. Kindly run this script on your local database if you are using this table. This will be included in the next DM release.

Run the patch script in your database:

- For Oracle- ORACLE\_PATCH\_GENUNITS\_UNIT.sql
- For SQLSERVER: MSSQLSERVER\_PATCH\_GENUNITS\_UNIT.sql

The patch script contains update as below:

```
alter table Genunits_unit alter column unit_count numeric(10,0);
```



# In Depth Info

## CLI upgrade

MMS Data Model Oracle 12c/19c, MSSQLServer 2014/2017 v5.0 ReleaseNotes.pdf, last updated 20201125.

List of files in this release: MMS Data Model Oracle 12c/19c, MSSQLServer 2014/2017

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Special Note:

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- Please allow sufficient time to complete the upgrade install.
- The sample log files do not necessarily reflect the current release (e.g. NO\_OF\_TABLES may be different).

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Previous Release: 4.30

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The v4.30 release of the MMS Data Model was for the Mar2020 Wholesale Market Systems (MMS) Software Release.

For a description of the changes, refer to Change Notice EMMSS5MSSET10420 and subsequent updates.

If your database is not consistent with MMS Data Model v4.30, the result of running this upgrade is unreliable.

You need to schedule moving to the current MMS Data Model to ensure you can successfully apply future releases of 5MS upgrade scripts.

If you are intending to run this upgrade, review the upgrade carefully.

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Details of the v5.0 upgrade

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Run the v5.0 upgrade only on tables compliant with MMS Data Model v4.30.

For a description of the changes, refer to Change Notice EMMS521 and subsequent updates.

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#### Pre- Run Tasks:

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Ensure you have a current backup of your database. For much of the time in the upgrade process, the database is not in a useable state, so any major failure can leave your database as useless.

Ensure PDR\_CONFIG\_\*\_UPGRADE is applied, reflecting the pdrLoader configurations for this release.

Note: pdrLoader Configurations for new/updated MMS data model tables are delivered separately.

Apply MMS data model changes first, then apply PdrLoader Config upgrade manually.

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#### Instructions:

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- Copy the scripts from the \Build directory into a local directory, so the path contains no spaces. (Not all the scripts are needed for the upgrade; some are for a full create.)
- Switch off any applications (e.g. pdrLoader) which modify the tables in question.
- Run the UPGRADE\_MMS\_DATA\_MODEL\_MAIN.bat script.
- Enter database connection/user login details, Log directory location for upgrade installer output.
- Check the logfiles being produced in the Log directory.

**WARNING! Run only when you have time and space available.**

If an error occurs in any script other than the pre\_alter\_mms\_data\_model.sql and post\_alter\_mms\_data\_model.sql, the main log has a line containing the string "\*\*\* ERROR". You can then check the relevant log file(s) for more details.

When you are satisfied the upgrade is successful:

- Apply any required updates to applications (e.g. Parser and PDR) for modifying any of the affected tables.

- Re-enable any applications (e.g. PdrLoader) modifying any of the affected tables. Consider creating another backup.

## GUI upgrade

ALTERNATIVELY using GUI (simple and clean upgrade)

- Turn off pdrLoader, so no data updates occur during upgrade.
- Extract the Data model GUI installer zip specific to your database platform and run the executable jar file.
- After accepting the License agreement, select 'MMSDM Upgrade' option.
- Select Installation path directory. (e.g. C:\Temp , Installer will extract all the installer files to this directory).
- You may want to review the alter\_mms\_data\_model.sql for the intended data model changes.
- Proceed only when you have time and database free space available.
- On Next, enter database credentials and connection details for the upgrade instance.
- Check installer log files generated at Log directory(e.g. C:\Temp\Log).

## Affected Tables

Please refer to the Technical specification DM v5.0 for detailed info.

### NEW TABLES

5MS

AVERAGEPRICE30

BIDOFFERPERIOD

MNSP\_BIDOFFERPERIOD

BILLRESERVETRADERPAYMENT

BILLRESERVETRADERRECOVERY

SETLOCALAREAENERGY

SETLOCALAREATNI

NON-5MS

MTPASA\_DUIDAVAILABILITY

PDPASA\_CONSTRAINTSOLUTION

PDPASA\_INTERCONNECTORSOLN

P5MIN\_INTERSENSITIVITIES

P5MIN\_PRICESENSITIVITIES

P5MIN\_SCENARIODEMAND

P5MIN\_SCENARIODEMANDTRK

**ALTERED TABLES**

5MS

BIDDAYOFFER

BIDOFFERFILETRK

MNSP\_DAYOFFER

BILLINGCPDATA

DAYTRACK

SETCPDATA

SETIRAUCSURPLUS

SETIRNSPSURPLUS

SETIRPARTSURPLUS

SETMARKETFEEES

DISPATCHOFFERTRK

DISPATCH\_MNSPBIDTRK

PREDISPATCHOFFERTRK

PREDISPATCH\_MNSPBIDTRK

NON 5MS

DEMANDOPERATIONALACTUAL

MTPASA\_REGIONAVAILABILITY

MTPASA\_REGIONRESULT

STPASA\_CONSTRAINTSOLUTION

STPASA\_INTERCONNECTORSOLN

## Database versions supported

**Oracle**

**Oracle 12c , 19c**

**MSSQLServer**

**2014/2017**