2017 ESOO INPUT DATA PACKAGE AND MODEL

A GUIDE TO THE INPUT DATA AND MODEL OF THE 2017 NATIONAL ELECTRICITY MARKET STATEMENT OF OPPORTUNITIES

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AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

IMPORTANT NOTICE

Purpose

AEMO has prepared this document to assist stakeholders in interpreting and using input data produced for the purposes of modelling the National Electricity Market (NEM).

The 2017 Electricity Statement of Opportunities for the National Electricity Market has used this data to produce supply adequacy assessments for various market scenarios.

AEMO's data is configured for use in the PLEXOS Integrated Energy Model software package; the PLEXOS model itself is also published as part of this data package.

Disclaimer

AEMO aims to use the latest relevant and robust data when performing market modelling to assess the adequacy of supply to meet demand forecast in the Electricity Statement of Opportunities. This can include data provided to AEMO in confidence.

This data package has had any and all confidential data removed, and as such the model may not replicate the exact modelled outcomes produced by AEMO as published in the 2017 NEM Electricity Statement of Opportunities report.

AEMO makes no warranties on the PLEXOS Integrated Energy Model, and the input data and model is provided for the information purposes of stakeholders only.

Version control

| Version	Release date	Changes
1	16/10/2017	

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CHAPTER 1. CONFIGURING THE 2017 NEM ESOO MODEL

Chapter 1 contains the steps needed to set up the 2017 ESOO PLEXOS market model, including configuration of the input data package used in the simulation model.

The step by step guide is documented below:

1. Download the zip files from AEMO's 2017 Electricity Statement of Opportunities (ESOO) webpage.
2. Unzip the file 2017 ESOO Model.zip. This will generate the 2017 ESOO Model folder.
3. Open the 2017 ESOO Model folder.
4. Unzip the file 2017 ESOO NEM Constraints.zip and save the files to the 2017 ESOO Model folder. This will generate 2017 ESOO NEM Constraints folder containing the following files:
   a. AEMO Constraints folder
   b. NEMConstraints folder
   c. NTNDP.xml
   d. NTNDP_XML.exe
   e. PLEXOS_Param.xml
   f. PLEXOS_SolverParam.xml
5. Create a new folder in the 2017 ESOO Model folder and name it Load Traces. The contents of the 2017 ESOO Model folder are illustrated in Figure 1.

Figure 1   Contents of 2017 ESOO Model folder
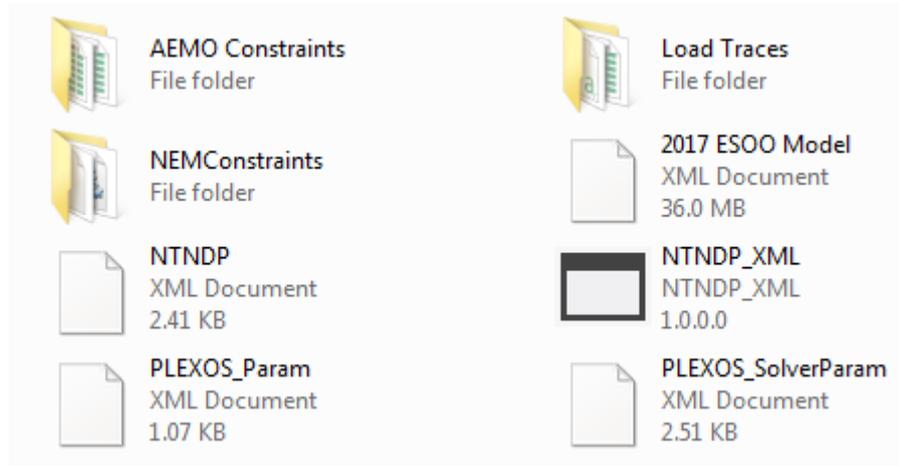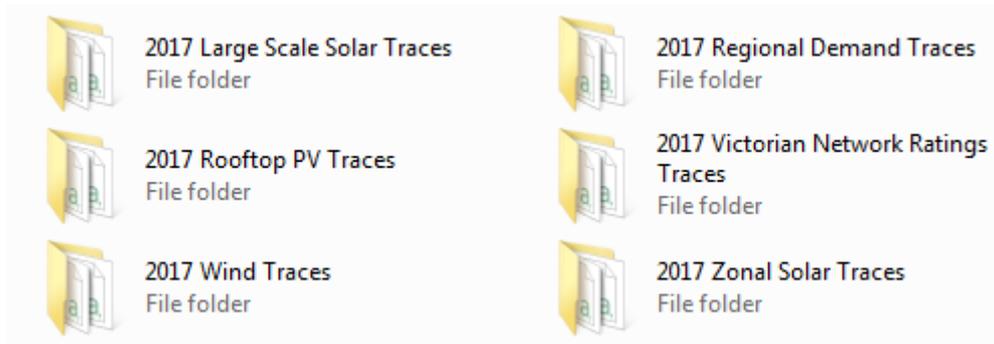

6. Open the Load Traces folder.
7. Create six new folders named:
   a. 2017 Large Scale Solar Traces
   b. 2017 Regional Demand Traces
   c. 2017 Rooftop PV Traces
   d. 2017 Victorian Network Ratings Traces
   e. 2017 Wind Traces

f. 2017 Zonal Solar Traces

The Load Traces folder should then contain the following folders, as shown in Figure 2.

Figure 2   Contents of Load Traces folder

8. Unzip the trace files from the AEMO website, open the unzipped files one at a time. Save the CSV files contained in each file to their corresponding trace folders, as shown in Table 1.

Table 1   Folder location of unzipped trace files

No	File	Trace folder
1	2017 Large Scale Solar Traces.zip	2017 Large Scale Solar Traces
2	2017 Victorian Network Ratings Traces.zip	2017 Victorian Network Ratings Traces
3	2017 Region Demand NSW Traces Neutral.zip	2017 Regional Demand Traces
4	2017 Region Demand NSW Traces Strong.zip	2017 Regional Demand Traces
5	2017 Region Demand NSW Traces Weak.zip	2017 Regional Demand Traces
6	2017 Region Demand QLD Traces Neutral.zip	2017 Regional Demand Traces
7	2017 Region Demand QLD Traces Strong.zip	2017 Regional Demand Traces
8	2017 Region Demand QLD Traces Weak.zip	2017 Regional Demand Traces
9	2017 Region Demand SA Traces Neutral.zip	2017 Regional Demand Traces
10	2017 Region Demand SA Traces Strong.zip	2017 Regional Demand Traces
11	2017 Region Demand SA Traces Weak.zip	2017 Regional Demand Traces
11	2017 Region Demand TAS Traces Neutral.zip	2017 Regional Demand Traces
13	2017 Region Demand TAS Traces Strong.zip	2017 Regional Demand Traces
14	2017 Region Demand TAS Traces Weak.zip	2017 Regional Demand Traces
15	2017 Region Demand VIC Traces Neutral.zip	2017 Regional Demand Traces
16	2017 Region Demand VIC Traces Strong.zip	2017 Regional Demand Traces
17	2017 Region Demand VIC Traces Weak.zip	2017 Regional Demand Traces
18	2017 Rooftop PV Traces Neutral.zip	2017 Rooftop PV Traces
19	2017 Rooftop PV Traces Strong.zip	2017 Rooftop PV Traces
20	2017 Rooftop PV Traces Weak.zip	2017 Rooftop PV Traces
21	2017 Wind Traces.zip	2017 Wind traces
22	2017 Zonal Solar Traces.zip	2017 Zonal Solar Traces

CHAPTER 2. 2017 NEM ESOO MODEL NAMING CONVENTION

In order to comply with the maximum number of characters allowed in naming models in PLEXOS the 2017 NEM ESOO has developed a naming convention to shorten the model names. Table 2 describes the model naming convention used in the 2017 NEM ESOO.

Table 2   2017 NEM ESOO Model naming convention

Descriptor	Prefix	Options	Description
Project	_t	ESOO17	2017 NEM ESOO
Sensitivity	_s	N, S, W	N = Neutral Economic Conditions S = Strong Economic Conditions W = Weak Economic Conditions
Competition	_c	SRMC	SRMC = Short Run Marginal Cost
Year	_y	1718 to 2627	Financial year in which the model is run, starting from 2017–18 to 2026–27
Probability of Exceedance	_p	10, 50	10 = 10% POE 50 = 50% POE
Reference Year	_r	0910, 1112–1617	Seven reference years on which Demand, Solar and Wind demand traces are based (2009–10, 2011–12 to 2016–17)
Build Pathway	_d	ESN1 ESN21 ESN22	ESN1 = Committed and existing generation pathway ESN21 = Concentrated renewables pathway ESN22 = Dispersed renewables pathway