# UNDERSTANDING LOAD PROFILES PUBLISHED FROM MSATS 

PREPARED BY:<br>AEMO Markets<br>DOCUMENT REF:<br>VERSION:<br>EFFECTIVE DATE:<br>STATUS:<br>1 OctoberJuly 2021<br>Drafttinat

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TITLE: $\quad$ Chief Strategy and Markets Officer

## VERSION RELEASE HISTORY

| Version | Effective Date | Summary of Changes |
| :---: | :---: | :---: |
| 1 | 15/05/2002 | Original Issue |
| 2 | 7/06/2002 | Added new section 5 |
| 3 | 30/06/2003 | Updated section 3.1 for SA and ACT and section 6 references, and other minor updates |
| 4 | 12/07/2005 | Entire Document Updated |
| 5 | 01/08/2007 | Updated in include Profiling for Energex and Ergon Networks for the commencement for FRC in Queensland effective 01/07/2007 |
| 5.1 | August 2009 | Minor updates to reflect the change in governance from NEMMCO to AEMO |
| 5.2 | October 2011 | Minor Updates to reflect addition of NSLP for Tasmania effective from 01/07/2011 |
| 5.3 | March 2012 | Updates to references of Metrology Procedure in Clause 3.3, Section 8 and Appendix $A, B, C, D \& E$. |
| 5.4 | July 2012 | Updated to include a table in Section 4.3 to define the Profile Area names with the correct Network/Business name of each distribution network and remove Victoria \& NSW maps from section 4.1 |
| 5.5 | August 2013 | Updated section 4.3 to include the current business names for profile area UMPLP. <br> Updated Section 8 to include current document references |
| 6.0 | 1 July 2021 | Updated section 4.3 to include the current business name for profile area TXU and AURORA. <br> Updated to incorporate amendments for: <br> - National Electricity Amendment (Five Minute Settlement) Rule 2017 No. 15, and <br> - National Electricity Amendment (Global Settlement and Market ReconcilliationReconciliation) Rule 2018 No 14 |
| 6.1 | 1 October 2021 | - Added description of 5-minute profile (5MLP) application to 15 and 30 minute metering data <br> - Added 5MLP to sample RM20 report |

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## 1. INTRODUCTION

### 1.1. Purpose and scope

This paper provides an overview of the Load Profiles produced by MSATS which AEMO subsequently publishes on its website. This document also discusses a method for extracting and interpreting these profile shapes without the need for an asexml parser.

### 1.2. Definitions and interpretation

The Retail Electricity Market Procedures - Glossary and Framework:
(a) is incorporated into and forms part of this Guide; and
(b) should be read with this Guide.

### 1.3. Related documents

| Title | Location |
| :---: | :---: |
| Retail Electricity Market Procedures <br> - Glossary and Framework | https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering |
| Metrology Procedure: Part A | https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Metrology-Procedures-and-UnmeteredLoads |
| Metrology Procedure: Part B | https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Metrology-Procedures-and-UnmeteredLoads |
| MSATS MDM Procedure | https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Market-Settlement-and-Transfer-Solutions |
| Guide to MSATS Web Portal | https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Retail-and-metering/Market-Settlement-and-TransferSolutions |

## 2. BACKGROUND

A basic meter (also referred to as a Type 6 meter or Accumulation Meter) records the total amount of energy consumed at a connection point from the initial energisation of the meter. Periodical readings of basic meters are used to determine the energy used between two points in time. These energy values are then used to calculate the energy component of a consumer's electricity bill.
AEMO uses these energy values to determine the amount owed by a retailer for its consumers with a basic meter(s).

Energy usage measured by a basic meter cannot be used in its raw format for wholesale settlement purposes in the National Electricity Market (NEM). This is because the electricity market is settled on Tls whereas a basic meter reading is a single reading spanning a period of time, from a single day up to several months.
Several possible solutions were considered by jurisdictions and regulators for resolving this issue for consumers of less than 160MWh/annum (150MWh/annum Tasmania, 100MWh/annum in

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Queensland and NSW), prior to the introduction of Full Retail Competition (FRC). The two options considered were:

- the use of Interval Meters for all second tier sites, or
- the introduction of a mathematical process, called profiling, to approximate TI basic Meter Readings.

Profiling effectively replicates the functionality of an Interval Meter and thus allows a Type 6 Meter Reading to be settled on the wholesale market. It was agreed that profiling was preferable as it was a more economically efficient metering solution

When 5-minute settlements is implemented there will still be metering installations producing 15 and 30 -minute interval metering data which will also need to be profiled into 5 -minute TIs to be settled in the wholesale market. Refer to Section 12 of Metrology Procedure: Part B for details of the 5 -minute load profile (5MLP) calculation methodologies.
3. PROFILING

Profiling is a process that converts readings from an accumulated energy Meter Reading into estimated energy consumption for each TI period, which the original accumulated reading covered'.

Two distinct types of profiles exist, Net System Load Profile (NSLP) and Controlled Load Profile (CLP). There are two methods (Basic and Basic with Peel-Off) of calculating the NSLP based on determining a load shape on the system profile of the distribution network in which the basic meter is installed.

### 3.1. NSLP ("BASIC")

The basic NSLP is applicable in the Australian Capital Territory (ACT), Victoria (VIC), Tasmania (TAS) and for Ergon Energy distribution network in Queensland and is the profile applied to convert all basic Meter Readings into energy consumption for each TI for settlement purposes.

The NSLP is calculated by aggregating the bulk supply boundary energy and subtracting all the Tl load interval energy for (Mmetering tinstallation Types 1, 2, 3, 4, 4A, 5 and 7 and non-contestable unmetered loads (actual 5-minute metering data plus 15 and 30-minute metering data profiled to 5-minute TIs).
3.2. NSLP with "Peel-Off"

For New South Wales (NSW), South Australia (SA) and the Energex distribution network in Queensland the basic NSLP is modified by subtracting, also known as "Peel-Off", an additional profile that represents the Controlled Load energy (e.g. the off-peak demand of water heating). Two separate Controlled Loads are defined for the Energex distribution area. The resultant profiles are applied to the non-controlled load basic Meter Readings to convert all basic meter readings into consumption for each TI for settlement purposes.

### 3.3. Controlled Load Profile (CLP)

The CLP is calculated from a group of approximately 200 sample Interval Meters, installed as a sample of Controlled Loads selected by the LNSP for the Profile Area. This profile is applied to the

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Controlled Load basic meter Readings to convert them into energy consumption for each TI for settlement purposes.

Note: Further details of each of these are shown in in Section 11 Metrology Procedure: Part B Metering Data Validation, Substitution and Estimation.
4. PROFILE AREAS AND NAMES

All NMIs within MSATS are assigned to a Profile Area via their Transmission Node Identifier (TNI).

### 4.1. Profile Areas

Each distribution network area is assigned a Profile Area name that is similar to the name of the network to which it relates. For example, where Energy Australia (now Ausgrid) is the LNSP the Profile Area name assigned is ENERGYAUST. All Transmission Node Identifiers (TNIs) that supply Energy Australia (Ausgrid) network are assigned to ENERGYAUST Profile Area

In the case of distribution networks where profiling is not applicable, the profile calculation process is partially scrambled to ensure that confidential data is not inadvertently exposed.

In each jurisdiction there are NMIs associated with the transmission network that are not part of the profiling process. Examples in Victoria and NSW are NMIs that have been assigned to the Profiles Areas NEMGRID, NSWGRID, VICGRID. The same or similar naming conventions apply to the transmission network in other jurisdictions. These transmission network profiles are not used in any settlement process

Each distribution area has one or more profiles generated. The table below shows the profile area of each LNSP.

MSATS calculates a NSLP for each profile area.

### 4.2. Profile Names

For metering data from interval meters Types $1,2,3,4,4 \mathrm{~A}, 5, \& 7$ metering installations and noncontestable unmetered loads the profile name assigned is NOPROF

For metering data from basic meters the profile is either NSLP or Controlled Load (CLOADNSWxx, SACLOAD, QLDEGXCL31 or QLDEGXCL33).

The NSLP applies to all basic meters in VIC, ACT and TAS and to all basic meters in NSW and SA and Ergon Energy Distribution Network in QLD, where the CLP is not applicable

The profile name CLOADNSWxx is applied to the Controlled Load in NSW distribution network areas, where xx is replaced by $\mathrm{IE}, \mathrm{CE}, \mathrm{EA}$ to identify the owner of the distribution network.

The profile name SACLOAD is applicable to the Controlled Load in SA and Energex profile names QLDEGXCL31 and QLDEGXCL33 are applicable to Controlled Loads in the Energex distribution area in QLD.

The profile name 5MLP is applied to 15 and 30-minute interval metering data to create a 5-minute representation of that metering data. The 5MLP is calculated for each Profile Area in accordance with Metrology Procedure: Part B Section 12.3.

### 4.3. Profile Area - Network Business Names

Table 1 Profile Area Network Business Names

| ProfileName | ProfileArea | Network/Company Name |
| :---: | :---: | :---: |
| 5MLP | ACTEWAGL | Actew Distribution Ltd and Jemena Networks (ACT) P |
| 5MLP | AURORA | Tasmanian Networks Pty Ltd |
| 5MLP | CITIPOWER | CitiPower Pty |
| 5MLP | COUNTRYENERGY | Essential Energy |
| 5MLP | ENERGEX | Energex Limited |
| 5MLP | ENERGYAUST | Ausgrid |
| 5MLP | ERGON1 | Ergon Energy Corporation Limited |
| 5MLP | INTEGRAL | Endeavour Energy |
| 5MLP | POWERCOR | Powercor Australia Ltd |
| 5MLP | TXU | AusNet Electricity Services Pty Ltd |
| 5MLP | UMPLP | SA Power Networks |
| 5MLP | UNITED | United Energy Distribution Pty Ltd |
| 5MLP | VICAGL | Jemena Electricity Networks (Vic) Ltd |
| CLOADNSWCE | COUNTRYENERGY | Essential Energy |
| CLOADNSWCE | ENERGYAUST | Ausgrid |
| CLOADNSWCE | ERGON1 | Ergon Energy Corporation Limited |
| CLOADNSWEA | ENERGYAUST | Ausgrid |
| CLOADNSWIE | INTEGRAL | Endeavour Energy |
| NSLP | ACTEWAGL | Actew Distribution Ltd and Jemena Networks (ACT) P |
| NSLP | AURORA | Tasmanian Networks Pty Ltd |
| NSLP | CITIPOWER | CitiPower Pty |
| NSLP | COUNTRYENERGY | Essential Energy |
| NSLP | ENERGEX | Energex Limited |
| NSLP | ENERGYAUST | Ausgrid |
| NSLP | ERGON1 | Ergon Energy Corporation Limited |
| NSLP | INTEGRAL | Endeavour Energy |
| NSLP | POWERCOR | Powercor Australia Ltd |
| NSLP | TXU | AusNet Electricity Services Pty Ltd |
| NSLP | UMPLP | SA Power Networks |
| NSLP | UNITED | United Energy Distribution Pty Ltd |
| NSLP | VICAGL | Jemena Electricity Networks (Vic) Ltd |
| QLDEGXCL31 | ENERGEX | Energex Limited |
| QLDEGXCL33 | ENERGEX | Energex Limited |
| SACLOAD | UMPLP | SA Power Networks |

## 5. FREEZE PROCESS

In order to ensure that the same profile is correctly applied to a total basic Meter Reading period, the NSLP profiles are permanently fixed ('frozen') to ensure that the profile shape for a period covering a final Meter Reading taken on three-month reading cycle is fixed, and not re-calculated, before the 30-week revision is processed.

The NSLP for a particular settlement week is typically permanently fixed 15 -weeks after that settlement week.
6. PROFILES PUBLISHED

The profiles being published are identified within the MSATS PPS (RM20). Refer to section 9.7 MSATS Procedures: MDM Procedures for details of the RM20 report._Note:

- No significance can be attached to values published in the RM 20 Report for profile areas in jurisdictions where profiling is not applied.
- MSATS publishes profile data for all Profile Areas within MSATS, and may manipulate some profile values to protect the confidentiality of data where the data may be considered to be confidential in jurisdictions where profiling does not apply.

7. EXTRACTION OF PROFILE FROM PUBLISHED FILE

The following steps represent a suggested method for extracting the profile shape data from the files published on the AEMO website without an aseXML parser. It is anticipated that organisations with a business requirement to regularly access this data will develop their own methods for extraction.

The profile shapes as published on the AEMO website appear as a Comma Separated Variable (CSV) payload within an aseXML wrapper. The following procedure indicates the steps required to load the profile into excel for those without an XML file parser software package.

The procedure assumes basic computer literacy. In order to carry out this procedure you will require the software programs WINZIP, and EXCEL to be installed on your computer, and similarly with the operation of these programs.

1. Select the file on the AEMO web site you would like to extract, by clicking on the "Click to download zip" button.
2. A message box will appear, tick the "Save this file to disk".
3. Click on the "OK" button.
4. Options will then allow you to save the file to your desired location.
5. Once you have chosen your desired path for saving the file click on the save button.
6. Double click on the saved file to open the file using WinZip (Note: you require an unzip program for this step).
7. Options allow you to view the file.
8. Click on the file so the file is highlighted (selected).
9. Click on the "View" button to view the file, and select internal ASCII text viewer (it is easier to have WordPad set up as the viewer in WinZip, however the ASCII text viewer will work.).
10. Highlight the section you require to parse using the cursor highlight everything between <CSVData> and </CSVData>).
11. Copy this selection from WordPad and paste it into an excel spreadsheet.
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12. If the CSV format is not recognised, click on the "Data" tab and select the "Text to Columns" button.
13. Click on the "Delimited" box, and then click on the "Next" button.
14. Click on the "Comma" box and click on the "Tab" box so only a tick appears in the "Comma" box, then click "Next".
15. Click on the "Finish" button.
16. The required details of the file are now loaded in an Excel spreadsheet.
17. Highlight the entire spreadsheet by clicking in the top left-hand corner cell.
18. Place the cursor between the $A$ and $B$ columns of the spreadsheet and double click to automatically adjust row widths.
19. Save the file as an Excel file.

## APPENDIX A. NSLP WHERE THERE IS NOCLP (VICTORIA, ACT \& TAS)

The following information was extracted from the Metrology Procedure: Part B Metering Data Validation, Substitution and Estimation (Section 11), and shows the formula for calculating the NSLP for a Profile Area.

NSLP for VIC, ACT and TAS

$$
\begin{aligned}
& =\sum_{i=1}^{j}(\text { Energy inflows to the profile area at the TNIlevel })_{i} * M L F_{i} \\
& \quad(\text { equates to bulk supply boundary energy * MLF) } \\
& +\sum_{m=1}^{n}(\text { Energy generated within profile area from embedded generation })_{m} * M L F_{m} * D L F_{m} \\
& -\sum_{s=1}^{t}(T I \text { load in prof ile area })_{s} * M L F_{s} * D L F_{s} \\
& \quad \text { (Interval meter load) }
\end{aligned}
$$

where
Mathematical Representation
$\Sigma=$ the sum of given terms
j = represents the upper limit value
$i=$ is a set initialised value
e.g. $\sum_{i=1}^{j} X_{i}$ where ( $j=10$, result will be $X_{1}+X_{2}+X_{3}+\ldots . . X_{10}$ )
$\mathrm{n}=$ represents the upper limit value
$m=$ is a set initialised value
$t=$ represents the upper limit value
$s=$ is a set initialised value

## Terminology

MLF = Marginal Loss Factor applicable for the Transmission Node Identifier (TNI) with the NMI that is stored in MSATS

DLF = Distribution Loss Factor applicable for the NMI that is stored in MSATS
$i=$ Each TNI with energy inflows to LNSP area
$m=$ Each embedded generator with energy generated within LNSP area
$s=$ Tl loads in LNSP area, which include:

- TI interval metered loads, including type 7
- TI non-contestable unmetered loads
- Tl metering data for 15 and 30-minute interval metered loads

Interval Metered loads registered with an embedded network child code within MSATS are excluded from the profile calculation.

## APPENDIX B. NSLP WHERE THERE IS A CLP (NSW, QLD \& SA)

The following information was extracted from the Metrology Procedure: Part B Metering Data Validation, Substitution and Estimation (Section 11), and shows the formula for calculating the NSLP for a profile area.

NSLP for NSW and SA

$$
\begin{aligned}
& =\sum_{i=1}^{j}(\text { Energy inflows to the profile area at the TNI Ievel) })_{i} * M L F_{i} \\
& (\text { equates to wholesale boundary energy * MLF) } \\
& +\sum_{m=1}^{n}\left({\text { Energy generated within profile area from embedded generation })_{m} * M L F_{m} * D L F_{m}}_{-\sum_{s=1}^{t}(\text { TI load in prof ile area })_{s} * M L F_{s} * D L F_{s}}^{(\text {Interval meter load })}\right.
\end{aligned}
$$

where
Mathematical Representation
$\Sigma=$ the sum of given terms
$j$ = represents the upper limit value
$i=$ is a set initialised value
e.g. $\sum_{i=1}^{j} X_{i}$ where ( $\mathrm{j}=10$, result will be $\mathrm{X}_{1}+\mathrm{X}_{2}+\mathrm{X}_{3}+\ldots . . \mathrm{X}_{10}$ )
$\mathrm{n}=$ represents the upper limit value
$\mathrm{m}=$ is a set initialised value
$t=$ represents the upper limit value
$s=$ is a set initialised value

## Terminology

MLF = Marginal Loss Factor applicable for the TNI associated with that NMI that is stored in MSATS

DLF = Distribution Loss Factor applicable for the NMI that is stored in MSATS
i = Each transmission Node Identifier (TNI) with energy inflows to LNSP area
$m=$ Each embedded generator with energy generated within LNSP area
$s=$ TI loads in LNSP area, which include:

- TI interval metered loads, including type 7
- TI non-contestable unmetered loads
- Profiled controlled load energy
- TI metering data for 15 and 30-minute interval metered loads

Interval Metered loads registered with an embedded network child code within MSATS are excluded from the profile calculation.

## APPENDIX C. CONTROLLED LOAD PROFILE CALCULATION

The following information was extracted from the Metrology Procedure: Part B Metering Data Validation, Substitution and Estimation (Section 11).

CLP for a Profile Area for a trading interval j
$=\sum^{N}$

Terminology
N represents the set of sample NMIs in the Profile Area
Weighting factor is the weighting factor associated with the sample meter

## APPENDIX D. APPLICATION OF NSLP (BASIC METER PROFILE FUNCTION)

The following information was extracted from the Metrology Procedure: Part B Metering Data Validation, Substitution and Estimation (Section 11) AEMO applies the NSLP to the basic meter in the corresponding Profile Area as follows:

TI energy data for trading interval $j$ for a NMI data stream
$=($ Consumption energy data between start date and end date $) * \frac{N S L P_{j}}{\sum_{i=s t a r t d a t e}^{\text {enddate }} N S L P_{i}}$

## APPENDIX E. APPLICATION OF CLP - BASIC METER PROFILE FUNCTION

The following information was extracted from the Metrology Procedure: Part B Metering Data Validation, Substitution and Estimation (Section 11). AEMO applies the CLP to the to the Controlled Load basic Meter Reading as follows:

TI energy data for trading interval j for a NMI data stream
$=($ Consumption energy data between start date and end date $) * \frac{C L P_{j}}{\sum_{i=\text { startatdate }}^{\text {endLP }} P_{i}}$

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## APPENDIX F. SAMPLE OUTPUT FROM RM20_PPS REPORT

The following sample is the output from a PPS Report, submitted for settlement week forty (31 October 2021 to 6 November 2021). (01 July 2007 to 7 July 2007) The Report has been edited to remove repetitive data for days 1 November 2021 to 6 November 2021.2 July 2007 to 7 July 2007. The profile data is in CSV data blocks contained within an aseXML wrapper.
<? xml version="1.0" encoding="UTF-8"?>
<ase:aseXML xsi:schemaLocation="urn:aseXML:r39 http://www.nemmco.com.au/aseXML/schemas/r39/aseXML r39.xsd" xmlns:ase="urn:aseXML:r39" xmIns:xsi="http://www.w3.org/2001/XMLSchema-instance">

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eriod101,Period102,Period103,Period104,Period105,Period106,Period107,Period108,Period109,Period110,Period111,Period112,Period113,Peri od114,Period115,Period116,Period117,Period118,Period119,Period120,Period121,Period122,Period123,Period124,Period125,Period126,Period 127,Period128,Period129,Period130,Period131,Period132,Period133,Period134,Period135,Period136,Period137,Period138,Period139,Period14 0,Period141,Period142,Period143,Period144,Period145,Period146,Period147,Period148,Period149,Period150,Period151,Period152,Period153,P eriod154,Period155,Period156,Period157,Period158,Period159,Period160,Period161,Period162,Period163,Period164,Period165,Period166,Peri od167,Period168,Period169,Period170,Period171,Period172,Period173,Period174,Period175, Period176,Period177,Period178,Period179,Period 180, Period181, Period182, Period183, Period184, Period185, Period186, Period187, Period188, Period189, Period190, Period191,Period192, Period19 3P, Period194 Period195 Period196 Period197 Period198 Period199, Period200 Period201 Period202 Period203, Period204 Period205, Period206, P eriod207,Period208,Period209,Period210,Period211,Period212,Period213,Period214,Period215,Period216,Period217,Period218,Period219,Peri od220,Period221,Period222,Period223,Period224,Period225,Period226,Period227,Period228,Period229,Period230,Period231,Period232,Period 233,Period234,Period235,Period236,Period237,Period238,Period239,Period240,Period241,Period242,Period243,Period244,Period245,Period24 6,Period247,Period248,Period249,Period250,Period251,Period252,Period253,Period254,Period255,Period256,Period257,Period258,Period259,P eriod260 Period261 Period262 Period263 Period264 Period265 Period266 Period267 Period268 Period269. Period270 Period271 Period272 Peri od273,Period274,Period275,Period276,Period277,Period278,Period279,Period280,Period281,Period282,Period283,Period284,Period285,Period 286,Period287,Period288,SeqNo,Locked,SettlementCase
5MLP ACTEWAGL 31/10/2021 8/11/2021
\(22 \cdot 02\) 108333.495,98116.974,90412.116.85338.425,81764.418.78789.496,76946.179,75730.761,75336.777.75691.397.76675.563.78748.829.8 \(0530.485,82725.555,89298.699,103433.218,117035.541,128572.381,141538.969,146107.569,153539.828,156573.305,152370.199,149558.79\), \(\frac{152423.497,149343.296,142357.042,137034.843,136839.963,137017.766,137360.164,139349.79,147688.341,157713.355,170661.421,178003}{1.2969}\) \(666,180073.123,177757.186,171297.135,166455.051,161687.815,156071.788,148442.758,140970.773,142262.454,137473.49,125317.801,108\) \(576.514,119166.845,107928.671,99453.328,93872.268,89940.86,86668.446,84640.797,83303.837,82870.455,83260.537,84343.119,86623.712\) 88583.534,90998.111,98228.569,113776.54,128739.095,141429.619,155692.866,160718.326,168893.811,172230.636,167607.219,164514.66 \(9,167665.847,164277.626,156592.746,150738.327,150523.959,150719.543,151096.18,153284.769,162457.175,173484.691,187727.563,19580\) \(4.033,198080.435,195532.905,188426.849,183100.556,177856.597,171678.967,163287.034,155067.85,156488.699,151220.839,137849.5811\) 1943416510855016298313208905929485509102819279477894707577100071758827237548745175842787682891478906327 \(80691.546,82891.006,89477.296,103640.084,117269.612,128829.526,141822.047,146399.784,153846.908 .156886 .452,152674.939,149857.9\) \(08,152728,344,149641.983,142641.756,137308.913,137113.643,137291.802,137634.884,139628.49,147983.718,158028.782,171002.744,1783\) \(\frac{1}{59.673,180433.269,178112.7,171639.729,166787.961,162011.191,156383.932,148739.644,141252.715,142546.979,137748.437,125568.437,1}\) \(08793.667,119405.179,108144.528,99652.235,94060.013,90120.742,86841.783,84810.079,83470.445,83036.196,83427.058,84511.805,86796\) \(959,88760.701,91180.107,98425.026,114004.093,128996.573,141712.478,156004.252,161039.763,169231.599,172575.097,167942.433,16484\) \(3.698,168001.179,164606.181,156905.931,151039.804,150825.007,151020.982,151398.372,153591.339,162782.089,173831.66,188103.018,1\) \(96195.641,198476.596,195923.971,188803.703,183466.757,178212.31,172022.325,163613.608,155377.986,156801.676,151523.281,138125.2\) 8,119673.033.108767.262.98509.834.90774.126,85680.12,82091.803.79104.969,77254.271,76033.987.75638.426,75994.466.76982.572,79064 \(14.80852 .929,83056.788,89656.251,103847.364 .117504 .151,129087.185,142105.691,146692.584 .154154 .602 .157200225,152980289,15015\) \(624153033.801149941267142927,0413758353113738787137566386137910154139907747148279,685158344.84171344749178\) \(716.392,180794.136,178468.925,171983.008,167121.537,162335.213,156696.7,149037.123,141535.22,142832.073,138023.934,125819.574,1\) \(09011.254 .119643 .989,108360,817,99851.539,94248.133,90300.983,87015.467,84979,699,83637,386,83202.268,83593.912,84680,829,86970\) \(553,88938.222,91362.467,98621.876,114232.101,129254.566,141995.903,156316.261161361 .843,169570.062,172920.247,168278,318,16517\) \(3.385,168337.181,164935.393,157219.743,151341.884,151126.657,151323.024,151701.169,153898.522,163107.653,174179.323,188479.224\),

\section*{UNDERSTANDING LOAD PROFILES PUBLISHED FROM MSATS}
196588.032,198873.549,196315.819,189181.31,183833.691,178568.735,172366.37,163940.835,155688.742,157115.279,151826.328,138401.5 31,119912.379,36,N,1884
5MLP,AURORA,31/10/2021,8/11/2021
22:02,134521.276,127780.129,139143.407,129532.862,120153.747,112107.229,105361.617,100201.764,95615.117,93342.006,92304.466,922 \(23.951,94035.77,95805.35,96667.833,104546.085,112930.946,121004.291,129566.197,136619.529,142361.298,145271.153,145812.239,1444\) \(71.657,146064.723,146781.074,148108.485,148767.944,149734.969,149888.367,148312.926,150195.15,152814.312,159380.76,173823.716,1\) 89895.38,198736.054,201842.869,200449.048,197025.768,194288.715,190422.43,184527.62,175819.589,163086.34,147760.128,138299.122, \(\frac{85791.178,147973.404,140558.142,153057.748,142486.148,132169.122,123317.952,115897.779,110221.94,105176.629,102676.207,101534}{125}\) \(\frac{12510148,1446,103439.347,105385.885,106334.616,115000.694,124224.041,133104.72,142522.817,150281.482,156597.428,159798.268,160}{913,101446.346,152}\) 393.463,158918.823,160671.195,161459.181,162919.334,163644.738,164708.466,164877.204,163144.219,165214.665,168095.743,175318.83 6,191206.088,208884.918,218609.659,222027.156,220493.953,216728.345,213717.587,209464.673,202980.382,193401.548,179394.974,1625 \(36.141,152129.034,138370.296,134790.319,128035.689,139421.694,129791.928,120394.054,112331.443,105572.34,100402.168,95806.347,9\) 3528.69,92489.075,92408.399,94223.842,95996.961,96861.169,104755.177,113156.808,121246.3.129825.329,136892.768,142646.021.14556 \(1695146103.863,1447606146356.852147074636,148404,702149065,48,150034439150188.144,148609.552150495 .54153119 .9411596\)
 \(148055.648,138575.72,126042.76,148269.351,140839.258,153363.863,142771.12,132433.46,123564.588,116129.575,110442.384,105386.982\) ,102881.559,101737.983,101649.239,103646.226,105596.657,106547.285,115230.695,124472.489,133370.929,142807.863,150582.045,15691 \(0.623,160117.865,160714.25,159236.661,160992.537,161782.099,163245.173,163972.027,165037.883,165206.958,163470.507,165545.094,1\) \(\underline{0.623,160117.865,160714.25,159236.661,160992.537,161782.099,163245.173,163972.027,165037.883,165206.958,163470.507,165545.094,1}\) \(\frac{179753.764,162861.213,152433.292,138647.037,135059.9,128291.76,139700.537,130051.512,120634.842,112556.106,105783.485,100602.9}{}\) \(72,95997.96,93715.747,92674.053,92593.216,94412.29,96188.955,97054.891,104964.687,113383.122,121488.793,130084.98,137166.554,142\) \(931.313,145852.818,146396.071,145050.121,146649.566,147368.785,148701.511,149363.611,150334.508,150488.52,148906.771,150796.531\) ,153426.181,160018.921,174519.706,190655.721,199531.793,202651.048,201251.646,197814.66,195066.647,191184.882,185266.468,176523 \(57,163739.338,148351,759,138852.871,126294.846,148565.89,141120.937,153670.591,143056.662,132698.327,123811,717,116361.834,110\) \(663.269,105597.756,103087.322,101941.459,101852.537,103853.518,105807.85,106760.38,115461.156,124721.434,133637.671,143093.479\), \(150883.209,157224.444,160438.101,161035.679,159555.134,161314.522,162105.663,163571.663,164299.971,165367.959,165537.372,16379\) \(7.448,165876.184,168768.798,176020.813,191971.677,209721.293,219484.972,222916.152,221376.811,217596.126,214573.312,210303.369\), 203793.116,194175.928,180113.272,163186.935,152738.159,138924.331,43,N,1884 5MLP,CITIPOWER,31/10/2021,8/11/2021
22:02,393736.874,370044.28,324116.717,312974.388,278383.017,270540.842,267996.51,271485.907,271815.904,273599.809,283383.577,28 \(1046.779,311366.578,355313.138,379803.266,429902.707,484227.076,472237.176,458880.133,463571.851,438830.226,420976.428,433496.2\) \(04,454306.908,441251.432,431174.408,412513.785,393753.785,400563.683,3894444.524,412236.171,410876.036,435310.271,474923.711,594\) \(346.207,672318.787,683857.104,666035.809,628586,316,596507.297 .576147 .882,558129.132,503969.677,440343.845,411378.701,378112.16\) \(7,374166.749,348316.145,433110.561,407048.708,356528.389,344271.827,306221.319,297594.926,294796.161,298634.498,298997.494 .3009\) \(5979311721935309151457342503236,390844452417783593472892978532649784519460,894504768146509929.036,482713249\) \(463074.071,476845.824,499737.599,485376.575,474291.849,453765.164,433129.164,440620.051,428388.976,453459.788,451963.64,478841\). \(298,522416.082653780 .828,739550,666,752242.814732639,39691444,948,656158.027633762 .67,613942.045,554366.645,484378.23,45251\) \(6.571,415923.384,411583.424,383147.76,394524.348,370784.369,324764.95,313600.337,278939.783,271081.924,268532.503,272028.879,27\) \(\underline{2359.536,274147.009,283950.344,281608.873,311989.311,356023.764,380562.873,430762.512,485195.53,473181.65,459797.893,464498.995}\)

\section*{UNDERSTANDING LOAD PROFILES PUBLISHED FROM MSATS}
\(439707.886,421818.381,434363.196,455215.522,442133.935,432036.757,413338.813,394541.293,401364.81,390223.413,413060.643,411697\) \(.788,436180.892,475873.558,595534.899,673663.425,685224.818,667367.881,629843.489,597700.312,577300.178,559245.39,504977.616,44\) \(1224.533,412201.458,378868.391,374915.082,349012.777,433976.782,407862.805,357241.446,344960.371,306833.762,298190.116,295385.7\) \(53,299231.767,299595.489,301561.71,312345.379,309769.76,343188.242,391626.141,418619.16,473838.764,533715.084,520499.816,505777\) .682,510948.894,483678.675,464000.219,477799.516,500737.074,486347.328,475240.433,454672.694,433995.422,441501.291,429245.754,4 \(54366.708,452867.567,479798.981,523460.914,655088.39,741029.767,753747.3,734104.669,692827.838,657470.343,635030.195,615169.929\) . \(555475.378,485346.986,453421.604,416755.231,412406.591,383914.056,395313.397,371525.938,325414.48,314227.538,279497.663,271624\) \(.088,269069.568,272572.937,272904.255,274695.303,284518.245,282172.091,312613.29,356735.812,381323.999,431624.037,486165.921,47\) \(4128.013,460717.489,465427.993,440587.302,422662.018,435231.922,456125.953,443018.203,432900.831,414165.491,395330.376,402167.5\) \(4,391003.86,413886.764,412521.184,437053.254,476825.305,596725.969,675010.752,686595.268,668702.617,631103.176,598895.713,57845\) \(4.778,560363.881,505987.571,442106.982,413025.861,379626.128,375664.912,349710.803,434844.736,408678.531,357955.929,345650.292\), 307447.43,298786.496,295976.525,299830.231,300194.68,302164.833,312970.07,310389.3,343874.618,392409.393,419456.398,474786.442, \(534782.514,521540.816,506789.237,511970.792,484646.032,464928.219,478755.115,501738.548,487320.023,476190.914,455582.039,43486\) \(3.413,442384.294,430104.246,455275.441,453773.302,480758.579,524507.836,656398.567,742511.827,755254.795,735572.878,694213.494\), 658785.284,636300.255,616400.269,556586.329,486317.68,454328.447,417588.741,413231.404,384681.884,50,N,1884 5MLP COUNTRYENERGY 31/10/2021,8/11/2021
22:02,389429.118,320048.665,287458.987,289027.947,280024.69,286512.024,291620.952,313328.478,310712.293,306614.982,318357.197.3 \(17103.479,367989.599,397465.183,469921.013,508230.255,533492.867,516748.986,516286.506,521461.088,501336.075,462246.897,459621\). \(57,438007.834,432965.773,419607.084,419712.579,419103.603,404687.094,408912.725,431091.601,434467.184,492619.256,589426.6,74212\) \(8.955,894387.589,914705.559,891398.14,856312.858,856680.444,817764.699,755997.499,600960.033,584237.419,556042.754,492640.817,3\) \(84812.796,339389.492,428372.03,352053.532,316204.886,317930.742,308027.159,315163.226,320783.047,344661.326,341783.522,337276.4\) \(8,350192.917,348813.827,404788.559,437211.701,516913.114,559053.281,586842.154,568423.885,567915.157,573607.197,551469.683,5084\) \(71.587,505583.727,481808.617,476262.35,461567.792,461683.837,461013.963,445155.803,449803.998,474200.761,477913.902,541881.182\) 648369.26,816341.851,983826.348,1006176.115,980537.954,941944.144,942348.488,899541.169,831597.249,661056.036,642661.161,61164 \(7.029,541904.899,423294.076,373328.441,390207.976,320688.762,288033.905,289606.003,280584.739,287085.048,292204.194,313955.135\) \(311333.718,307228.212,318993.911,317737.686,368725.578,398260.113,470860.855,509246.716,534559,853,517782.484,517319.079,52250\) \(4.01502338 .747463171 .391460540 .813,438883.85,433831,705,420446.298,420552.004,419941.81 .405496 .468,409730.55,431953.784 .4353\) \(\frac{1}{36.118,493604.495,590605.453,743613.213,896176.364,916534.97,893180.936,858025.484,858393.805,819400.228,757509.494,602161.953, ~}\) \(585405.894,557154.84,493626.099,385582.422,340068.271,429228.774,352757.639,316837.296,318566.603,308643.213,315793.552,321424\). 613,345350.649 342467.089 337951.033 350893,303.349511.455,405598.136.438086.124.517946.94,560171.388 588015.838,569560.733,569 \(050.987,574754.411,552572.622,509488.53,506594.894,482772.234,477214.875,462490.928,462607.205,461935.991,446046.115,450703.606\) ,475149.163,478869.73,542964.944,649665.999,817974.535,985794.001,1008188.467,982499.03,943828.032,944233.185,901340.251,833260 \(443,662378.148,643946.483,612870.323,542988.709,424140.664,374075.098,390988.392,321330.14,288609.973,290185.215,281145.908,28\) \(7659.218,292788.602,314583.045,311956.385,307842.668,319631.899,318373.161,369463.029,399056.633,471802.577,510265.209 .535628 .9\) \(73,518818.049,518353.717,523549.018,503343.424,464097.734,461461.895,439761.618,434699.368,421287.191,421393.108,420781.694,406\) \(307.461,410550.011,432817.692,436206.79,494591.704,591786.664,745100.439,897968.717,918368.04,894967.298,859741.535,860110.593\), \(821039.028,759024.513,603366.277,586576.706,558269.15,494613,351,386353,587,340748.408,430087.232,353463.154 .317470 .971,319203\). \(736,309260.499,316425.139,322067.462,346041.35,343152.023,338626.935,351595.09,350210.478,406409.332,438962.296,518982.834,5612\) \(91.731,589191.87,570699.854,570189.089,575903.92,553677.767,510507.507,507608.084,483737.778,478169.305,463415.91,463532.419,46\)

UNDERSTANDING LOAD PROFILES PUBLISHED FROM MSATS
2859.863,446938.207,451605.013,476099.461,479827.469,544050.874,650965.331,819610.484,987765.589,1010204.844,984464.028,945715. 688,946121.651,903142.932,834926.964,663702.904,645234.376,614096.064,544074.686,424988.945,374823.248,57,N,1884
5MLP,ENERGEX,7/07/2007,8/11/2021
22:02,378049.424,317640.817,304270.808,311372.424,303042.263,297338.979,317104.36,336834.228,338006.22,337745.041,339781.616.35 \(9278.063,430065.951,461369.094,532178.49,586272.804,604036.581,620339.452,560391.19,553302.542,515586.882,480984.364,434425.783\) 457533.822,457677.819,436963.471,415708.408,424697.037,426599.932,419994.623,433354.452,440434.434,498519.11,559298.284,687997 \(.09,851893.428,898618.386,838544.481,817462.79,780688.344,737183.798,696581.006,594182.912,591586.166,555019.846,528335.776,434\) 787.387,392049.244,415854.366,349404.899,334697.889,342509.666,333346.489,327072.877.348814.796,370517.651,371806.842,371519.54 \(\frac{787.387,392049.244,415854.366,349404.899,334697.889,342509.666,333346.489,327072.877,348814.796,370517.651,371806.842,371519.54}{5,373759.778,395205.869,473072.546,507506.003,585396.339,644900.084,664440.239,682373.397,616430.309,608632.796,567145.57,52908}\) 2.8,477868.361,503287.204,503445.601,480659.818,457279.249,467166.741,469259.925,461994.085,476689.897,484477.877,548371.021,61 \(5228.112,756796.799,937082.771,988480.225,922398.929,899209.069,858757.178,810902.178,766239.107,653601.203,650744.783,610521.8\) 31,581169.354,478266.126,431254.168,378805.523,318276.099,304879.35,311995.169,303648.348,297933.657,317738.569,337507.896.3386 \(82.232,338420.531,340461.179,359996.619,430926.083,462291.832,533242.847,587445.35,605244.654,621580.131,561511.972,554409.147\) \(516618.056,481946.333,435294.635,458448.89,458593.175,437837.398,416539.825,425546.431,427453.132,420834.612,434221.161,441315\). \(303,499516.148,560416,881,689373.084,853597.215,900415,623,840221,57,819097,716,782249721738658,166,697974168,595371278,592\) \(769.338,556129.886,529392.448,435656.962,392833.342,416686.075,350103.709,335367.285,343194.685,334013.182,327727.023,349512.42\) \(6.371258 .686,372550.456,372262.584,374507.298,395996.281,474018.691,508521.015,586567.132,646189.884,665769.119,683738.144,6176\) \(63.17,609850.062,568279.861,530140.966,478824.098,504293.778,504452.492,481621.138,458193.807,468101.074,470198.445,462918.073\), \(\frac{63.17,609850.062,568279.861,530140.966,478824.098,504293.778,504452.492,481621.138,458193.807,468101.074,470198.445,462918.073,}{477643.277,485446.833,549467.763,616458.568,758310.393,938956.937,990457.185,924243.727,901007.487,860474.692,812523.982,76777}\) \(\frac{477643.277,485446.833,549467.763,616458.568,758310.393,938956.937,990457.185,924243.727,901007.487,860474.692,812523.982,76777}{1.585,654908.405,652046.273,611742.875,582331.693,479222.658,432116.676,379563.134,318912.651,305489.109,312619.159,304255.645}\) 298529.524,318374.046,338182.912,339359.596,339097.372,341142.101,360716.612,431787.935,463216.416,534309.333,588620.241,60645 5.143,622823.291,562634.996,555517.965,517651.292,482910.226,436165.224,459365.788,459510.361,438713.073,417372.905,426397.524, \(428308.038,421676.281,435089.603,442197.934,500515.18,561537.715,690751.83,855304.409,902216.454,841902.013,820735.911,783814.2\) 2,740135.482,699370.116,596562.021,593954.877,557242.146,530451.233,436528.276,393619.009,417519.447,350803.916,336038.02,34388 \(1.074,334681.208,328382.477,350211.451,372001.203,373295.557,373007.109,375256.313,396788.274,474966.728,509538.057,587740.266\), \(647482.264,667100.657,685105.62,618898.496,611069.762,569416.421,531201.248,479781.746,505302.366,505461.397,482584.38,459110.1\) 647482.264,667100.657,685105.62,618898.496,611069.762,569416.421,531201.248,479781.746,505302.366,505461.397,482584.38,459110.1 \(809.502,862195.641,814149.03,769307.128,656218.222,653350.366,612966.361,583496.356,480181.103,432980.909,63, \mathrm{~N}, 1884\) 5MLP,ENERGYAUST, 31/10/2021,8/11/2021
22:02,441582.827,381619.864,340809.158,339483.073,340424.226,325883.296,327402.828,355495.81,332144.791,357303.436,371600.994,3 \(91264.034,416627.455,452763.943,541098.485,629642.643,713186.325,741914.868,741337.866,770037.135,757179.742,708755.897,667690\). \(07,663166.599,684888.443,710726.48,696463.637,687964.401,689100.008,677430.473,694705.39,734283.741,847276.26,971812.277,109866\) \(9.78,1218684.014,1259387.387,1253592.747,1226020.006,1194112.069,1157860.769,1114861.236,1053127.133,942550.551,817767.067 .686\) 181.33,559374.938,393856.874,485741.11,419781.85,374890.074,373431.38,374466.649,358471.626,360143.111,391045.391,365359.27.393 \(033.78,408761.093,430390.437,458290.201,498040.337,595208.334,692606.907,784504.958,816106.355,815471.653,847040.849,832897.716\) \(779631.487,734459.077,729483.259,753377.287,781799.128,766110.001,756760.841,758010.009,745173.52,764175.929,807712.115,932003\) 886.1068993 .5051208536 .758 .1340552 .415 .1385326 .126 .1378952 .0221348622 .0071313523 .276 .1273646 .846 .1226347 .36 .1158439 .846 .10 \(36805.606,899543.774,754799.463,615312.432,433242.561,442465.993,382383.104,341490.776,340162.039,341105.074,326535.063,328057\). \(634,356206.802,332809.081,358018.043,372344.196,392046.562,417460.71,453669.471,542180.682,630901.928,714612.698,743398.698,742\)

\section*{UNDERSTANDING LOAD PROFILES PUBLISHED FROM MSATS}
820.542,771577.209,758694.101,710173.409,669025.45,664492.932,686258.22,712147.933,697856.564,689340.33,690478.208,678785.334,6 \(96094.801,735752.308,848970.813,973755.902,1100867.12 .1221121 .382,1261906.162,1256099.932,1228472.046,1196500.293,1160176.491\) \(1117090.958,1055233.387,944435.652,819402.601,687553.693,560493.688,394644.588,486712.592,420621.414,375639.854,374178.243,375\) 215.582,359188.569,360863.397,391827.482,366089.989,393819.848,409578.615,431251.218,459206.781,499036.418,596398.751,693992.12 \(1,786073.968,817738.568,817102.596,848734.931,834563.511,781190.75,735927.995,730942.226,754884.042,783362.726,767642.221,75827\) \(4.363,759526.029,746663.867,765704.281,809327.539,933867.894,1071131.492,1210953.832,1343233.52,1388096.778,1381709.926,135131\) \(9.251,1316150.323,1276194.14,1228800.055,1160756.726,1038879.217,901342.862,756309.062,616543.057,434109.046,443350.925,383147\) 87,342173.758,340842.363.341787.284.327188.133,328713.749,356919.216,333474.699,358734.079,373088.884,392830.655,418295.631,454 \(\frac{87,34173.758,340842.363,341787.284,327188.133,328713.749,356919.216,333474.699,358734.079,373088.884,392830.655,418295.631,454}{576.81,543265.043,632163.732,716041.923,744885.495,744306.183,773120.363,760211.489,711593.756,670363.501,665821.918,687630.736}\) ,713572.229,699252.277,690719.011,691859.164,680142.905,697486.991,737223.813,850668.755,975703.414,1103068.854,1223563.625,126 4429.974,1258612.132,1230928.99,1198893.294,1162496.844,1119325.14,1057343.854,946324.523,821041.406,688928.8,561614.675,39543 \(3.877,487686.017,421462.657,376391.134,374926.599,375966.013,359906.946,361585.124,392611.137,366822.169,394607.488,410397.772\) \(432113.72,460125.195,500034.491,597591.549,695380.105,787646.116,819374.045,818736.801,850432.401,836232.638,782753.132,737399\) \(851,732404.11,756393.81,784929.451,769177.505,759790.912,761045.081,748157.195,767235.69,810946.194,935735.63,1073273.755,12133\) \(75.74,1345919.987,1390872.972,1384473.346,1354021.89,1318782.624,1278746.528,1231257.655,1163078.239,1040956.975,903145.548,75\) \(7821.68,617776.143,434977.264,64, \mathrm{~N}, 1884\)
5MLP,ERGON1,31/10/2021,8/11/2021
22:02,481940.771,453618.328,421976.966,395166.166,385294.512,382100.37,368880.544,364909.046,373075.156,374788.205.390353.054.4 \(\underline{22: 02,481940.771,453618.328,421976.966,395166.166,385294.512,382100.37,368880.544,364909.046,373075.156,374788.205,390353.054,4}\) \(\underline{82,513229.46,502776.345,492891.121,483402.098,477522.022,468634.926,459493.463,465540.496,480842.576,494917.71,531644.622,58670}\) 3.521,647109.6,682801.819,692204.936,682996.429,680362.711,668025.633,646353.322,607306.322,559970.414,544398.137,534482.868,52 \(7846.876,510161.507,530134.848,498980.161,464174.663,434682.783,423823.963,420310.407,405768.598,401399.951,410382.672,412267.0\) \(26,429388.359,443835.115,453501.58,484412.883,527759.675,560777.989,598892.23,615710.172,618010.966,614208.211,602058.037,57862\) \(1.612,572025.5,564552.406,553053.98,542180.233,531742.308,525274.224,515498.419,505442.809,512094.546,528926.834,544409.481,584\) 8090846453738737118205675108200176142543751296072748398982734828,196710988654668036954615967455598837951 \(587931.155,580631.564,561177.658,482904.653,454525.565,422820.92,395956.498,386065.101,382864.571,369618.305,365638.864,373821\) 306,375537.781,391133.76,404293.441,413098.712,441256.099,480741.086,510817.768,545536.377,560855.993,562951.807,559487.843,548 \(420.139,527071.686,521063.228,514255.919,503781.898,493876.903,484368.902,478477.066,469572.196,460412.45,466471.577,481804.261\) ,495907.545,532707.911,587876.928,648403.819,684167.423,693589.346,684362.422,681723.436,669361.684,647646.029,608520.935,56109 0.355,545486.933,535551.834,528902.57,511181.83,531195.118,499978.121,465103.012,435552.149,424671.611,421151.028,406580.135,40 2202.751,411203.437,413091.56,430247.136,444722.785,454408.583,485381.709,528815.194,561899.545,600090.014,616941.592,619246.98 \(8,615436.627,603262.153,579778.855,573169.551,565681.511,554160.088,543264.593,532805.793,526324.772,516529.416,506453.695,513\) \(18.735,529984.688,545498.3,585978.702,646664.621,713244.201,752584.165,762948.281,752798.664,749895.78,736297.852,712410.631,66\) \(9373.028,617199.39,600035.627 .589107 .017,581792.827,562300.013,483870.462,455434.616,423666.562,396748.411,386837.231,383630,3\), \(370357542366370142374568.949376288,857391916.028405102 .028413924 .909442138,611481702.568511839,404546627,45561977\) \(705,564077.711,560606.819,549516.979,528125.829,522105.354,515284.431,504789.462,494864.657,485337.64,479434.02,470511.34,46133\) \(3.275,467404.52,482767.87,496899.36,533773.327,589052.682,649700,627,685535.758,694976,525,685731.147,683086,883,670700,407,648\) \(941,321609737,977562212536,546577907536622.938,529960,375,512204,194,532257,508,500978.077466033,218,436423,253,425520,95\) \(4,421993.33,407393.295,403007.157,412025.844,413917.743,431107.63,445612.231,455317.4,486352.472,529872.824,563023.344,601290.1\)

\section*{UNDERSTANDING LOAD PROFILES PUBLISHED FROM MSATS}
\(94,618175.475,620485.482,616667.5,604468.677,580938.413,574315.89,566812.874,555268.408,544351.122,533871.405,527377.422,517562\) \(475,507466.602,514144.972,531044.657,546589.297,587150.659,647957.95,714670.689,754089.333,764474.178,754304.261,751395.572,73\) \(7770.448,713835.452,670711.774,618433.789,601235.698,590285.231,582956.413,563424.613,71, \mathrm{~N}, 1884\)
5MLP,INTEGRAL,31/10/2021,8/11/2021
22:02,385025.29,373910.724,349766.221,320922.326,300704.908,282575.204,254233.178,253657.931,257607.836,266358.476,255342.172,2 \(95070.613,310387.647,332087.268,367062.333,422330.289,493403.259,572052.209,599860.496,601125.658,580913.525,560555.856,534076\) \(144.536381 .871,532437.439,512499.375,479171.583,484237.182,457962.461,461295.496,467210.275,498606.181,571649.939,664026.012,73\) \(\frac{144,5361.81,5324.439,5129.91,798942.245,780881.864,758399.298,742920.534,714510.002,663968.014,612344.226,540158.635,425920.88}{8217.736,798910.202,810996.9}\) \(\underline{8217.736,798910.202,810996.91,798942.245,780881.864,758399.298,742920.534,714510.002,663968.014,612344.226,540158.635,425920.88}\) \(4.324,280876.389,324577.674,341426.412,365295.995,403768.566,464563.318,542743.585,629257.43,659846.546,661238.224,639004.878,6\) \(16611.442,587483.758,590020.058,585681.183,563749.313,527088.741,532660.9,503758.707,507425.046,513931.303,548466.799,628814.93\) \(3,730428.613,812039.51,878801.222,892096.601,878836.47,858970.05,834239.228,817212.587,785961.002,730364.815,673578.649,594174\). \(499,468512.977,376168.505,338963.58,385795.341,374658.545,350465.753,321564.171,301306.318,283140.354,254741.644,254165.247,258\) \(123.052,266891.193,255852.856,295660.754,311008.422,332751.443,367796.458,423174.95,494390.066,573196.313,601060.217,602327.909\) ,582075.352,561676.968,535144.296,537454.635,533502.314,513524.374,480129.926,485205.656,458878.386,462218.087,468144.696,49960 \(3.393,572793.239,665354.064,739694.171,800508.022,812618.904,800540.129,782443.628,759916.097,744406.375,715939.022,665295.95,6\) \(\frac{13568.914,541238.952,426772.73,342655.311,308765.006,424374.875,412124.4,385512.329,353720.588,331436.95,311454.389,280215.809}{}\) 279581.771,283935.357.293580.313.281438.142,325226.829.342109.265,366026.587,404576.103,465492.445,543829.072,630515.945.66116 \(\frac{279581.771,283935.357,293580.313,281438.142,325226.829,342109.265,366026.587,404576.103,465492.445,543829.072,630515.945,66116}{6.239,662560.7,640282.888,617844.665,588658.726,591200.098,586852.545,564876.812,528142.918,533726.222,504766.224,508439.896,51}\) \(\frac{6.239,662560.7,640282.888,617844.665,588658.726,591200.098,586852.545,564876.812,528142.918,533726.222,504766.224,508439.896,51}{4959.166,549563.733,630072.563,731889.47,813663.589,880558.824,893880.794,880594.143,860687.99,835907.706,818847.012,787532.924}\) ,731825.545,674925.806,595362.848,469450.003,376920.842,339641.507,386566.932,375407.862,351166.685,322207.299,301908.931,28370 \(6.635,255251.127,254673.577,258639.298,267424.975,256364.562,296252.076,311630.439,333416.946,368532.051,424021.3,495378.846,57\) \(4342.706,602262.337,603532.565,583239.503,562800.322,536214.585,538529.544,534569.319,514551.423,481090.186,486176.067,459796.1\) \(43,463142.523,469080.985,500602.6,573938.825,666684.772,741173.559,802109.038,814244.142,802141.209,784008.515,761435.929,74589\) 5188717370966662654261479605254232143427626275343340622309382536425223625412948649386283354354428029332 \(099.824,312077.298,280776.241,280140.935,284503.228,294167.474,282001.018,325877.283,342793.484,366758.64,405385.255,466423.43\), \(544916.73,631776.977,662488.571,663885.821,641563.454 .619080 .354,589836.043,592382.498 .588026 .25,566006.566 .529199 .204 .534793 .6\) \(74,505775.756,509456.776,515989.084,550662.86,631332.708,733353.249,815290.916,882319.942,895668.556,882355.331,862409.366,8375\) \(79.521,820484.706,789107.99,733289.196,676275.658,596553.574,470388.903,377674.684,340320.79,78, N, 1884\)
(79LP,POWERCOR,31/10/2021,8/11/2021
22:02,427633.006,407131.945,475235.253,457173.933,416909.375,381776.833,353813.75,328058.216,303472.869,288444.156,279773.204,2 \(76712.888,280826.172,284736.317,260839.465,279727.245,307922.86,328869.861,339347.756,342617.255,342572.163,340281.626,339108.8\) \(05,341368.33,344319.822,342614.149,361101.712,359745.932,356860.033,355323.01,359904.986,366925.824,366173.738,390379.599,42959\) \(7.533 .472065 .292,482253.756,468388.647,449370.813,436183.235,426527.663,417265.472,397701.632,372616.975,346218.73,328835.85,39\) \(7753,794390859673,470396,307447845,14522758,778,502891,326458600,313419954516,389195,125,360864,038,333820,156,317288,57\) \(2,307750.524,304384.177,308908.789,313209.949,286923.412,307699.97,338715.146,361756.847,373282.532,376878.981,376829.379,37430\)
 \(429417559,472557,286,519271.821,530479.132,515227.512,494307,894,479801.559,469180,429,458992.019,437471,795,409878,673,38084\) \(0.603,361719.435,437529.173,429945.64,428488.272,407946.209,476185.724,458088.281,417743.194,382540.387,354521.378,328714.332,3\)

\section*{UNDERSTANDING LOAD PROFILES PUBLISHED FROM MSATS}
\(04079.815,289021.044,280332.75,277266.314,281387.824,285305.79,261361.144,280286.699,308538.706,329527.601,340026.452,343302.49\) 343257.307,340962.189,339787.023,342051.067,345008.462,343299.377,361823.915,360465.424,357573.753,356033.656,360624.796,36765 \(9.676,366906.085,391160.358,430456.728,473009.423,483218.264,469325.424,450269.555,437055.601,427380.718,418100.003,398497.035\) \(373362.209,346911.167,329493.522,398549.302,391641.392,471337.1,448740.83,523804.296,503897.109,459517.514,420794.425,389973.51\) \(5,361585.766,334487.796,317923.149,308366.025,304992.945,309526.607,313836.369,287497.259,308315.37,339392.576,362480.361,37402\) \(9.097,377632.739,377583.038,375058.409,373765.725,376256.173,379509.308,377629.315,398006.307,396511.966,393331.128,391637.022\) \(396687.276,404425.643,403596.694,430276.394,473502.401,520310.365,531540.09,516257.967,495296.51,480761.162,470118.79,459910.00\) \(3438346.739410698 .43381602284362442874438404231430805 .531429345 .249408762101477138 .095,459004.458 .418578 .68,383305\) . \(468,355230.421,329371.761,304687.975,289599.086,280893.416,277820.847,281950.6,285876.402,261883.866,280847.272,309155.783,330\) \(186.656,340706.505,343989.095,343943.822,341644.113,340466.597,342735.169,345698.479,343985.976,362547.563,361186.355,358288.90\) \(1,356745.723,361346.046,368394.995,367639.897,391942.679,431317.641,473955.442,484184.701,470264.075,451170.094,437929.712,4282\) \(35.479,418936.203,399294.029,374108.933,347604.989,330152.509,399346.401,392424.675,472279.774,449638.312,524851.905,504904.903\) \(460436.549,421636.014,390753.462,362308.938,335156.772,318558.995,308982.757,305602.931,310145.66,314464.042,288072.254 .308932\) \(001,340071.361,363205.322,374777.155,378388.004,378338.204,375808.526,374513.256,377008.685,380268.327,378384.574,398802.32,39\) \(7304.99,394117.79,392420.296,397480.651,405234.494,404403.887,431136.947,474449.406,521350.986,532603.17,517290.483,496287.103\), \(481722.684,471059.028,460829.823,439223.432,411519.827,382365.489,363167.76,439281.039,431667.142,85, \mathrm{~N}, 1884\) 5MLP TXU 31/10/20218/11/2021
\(\frac{22: 02,313240.055,301931.777,346236.789 .335120 .863 .310118 .839 .283922 .261 .262931 .519 .243854 .349 .229416 .424 .218972 .873 .212459 .816 ~}{\text {, }}\) 209644.109,211076.857,214474.257,205330.872,227138.361,251151.811,274442.661,291363.385,301011.862,304796.921,303263.478,29959 \(\frac{209644.109,211076.857,214474.257,205330.872,227138.361,251151.811,274442.661,291363.385,301011.862,304796.921,303263.478,29959}{3.584,295358.476,290794.589,287156.994,298681.527,297065.453,296428.521,297875.563,301189.397,308030.784,313671.196,334952.467}\) 366509.362,404538.311,410296.859,398700.708,382274.432,372734.915,362039.596,349937.023,331385.557,309859.989,290078.048,27147 \(3.959,288240.297,282007.815,344564.061,332124.955,380860.468,368632.949,341130.723,312314.487,289224.671,268239.784,252358.066\), 240870.16,233705.798,230608.52,232184.543,235921.683,225863.959,249852.197,276266.992,301886.927,320499.724,331113.048,335276.6 \(13,333589.826,329552.942,324894.324,319874.048,315872.693,328549.68,326771.998,326071.373,327663.119,331308.337,338833.862,3450\) \(38.316,368447.714,403160.298,444992.142,451326.545,438570.779,420501.875,410008.407,398243.556,384930.725,364524.113,340845.988\) ,319085.853,298621.355,317064.327,310208.597,313866.535,302535.641,346929.263,335791.105,310739.077,284490.106,263457.382,24434 \(2.058,229875.257,219410.819,212884.736,210063.397,211499.011,214903.206,205741.534,227592.638,251654.115,274991.546,291946.112\), \(\frac{2}{301613.886,305406.515,303870.005,300192.771,295949.193,291376.178,287731.308,299278.89,297659.584,297021.378,298471.314,301791 .}\) \(776,308646.846,314298.538,335622.372,367242.381,405347.388,411117.453,399498.109,383038.981,373480.385,362763.675,350636.897,33\) 76, \(2086.328 .310479 .709,290658.204,272016.907 .288816 .778,282571.831,345253.189,332789.205,381622.189,369370.215,341812.984,312939.1\) \(16,289803.12,268776.264,252862.782,241351.9,234173.21,231069.737,232648.912,236393.526,226315.687,250351.901,276819.526,302490\). \(701,321140.723,331775.274,335947.166,334257.006,330212.048,325544.113,320513.796,316504.438,329206.779,327425.542,326723.516,32\) \(8318.445,331970.954,339511.53,345728.393,369184.609,403966.619,445882.126,452229.198,439447.921,421342.879,410828.424 .399040 .04\) \(3,385700.586,365253.161,341527.68,319724.025,299218.598,317698.456,310829.014,314494.268,303140.712,347623.122,336462.687\) 31136 \(0555285059086,263984297244830742230335,008219849641213310,505210483,524211922009215333.012206153 .017228047823\) 252157.423,275541.529,292530.004,302217.114,306017.328,304477.745,300793.157,296541.091,291958.93,288306.771,2998777.448,298254. \(903,297615,421,299068.257,302395,36,309264.14,314927.135,336293,617,367976.866,406158.083,411939,688,400297.105,383805,059,3742\)
 370108.955,342496.61,313564.994,290382.726,269313.817,253368.508,241834.604,234641.556,231531.876,233114.21,236866.313,226768.3

\section*{UNDERSTANDING LOAD PROFILES PUBLISHED FROM MSATS}
\(18,250852.605,277373.165,303095.682,321783.004,332438.825,336619.06,334925.52,330872.472,326195.201,321154.824,317137.447,32986\) \(5.193,328080.393,327376.963,328975.082,332634.896,340190.553,346419.85,369922.978,404774.552,446773.89,453133.656,440326.817,42\) 2185.565,411650.081,399838.123,386471.987,365983.667,342210.735,320363.473,299817.035,318333.853,311450.672,92,N,1884

5MLP,UMPLP,31/10/2021,8/11/2021
22:02,218941.8,212232.513,191683.994,195618.311,207588.119,211383.393,204633.979,216803.142,208206.334,203869.683,210743.886,22 \(5744.809,235975.701,248984.092,262126.727,283547.415,323270.94,350384.193,383326.049,404746.539,416127.726,427463.727,406959.30\) \(3,408022.878,402445.855,393955.624,384930.983,373143.606,368653.702,360207.181,356761.993,360327.298,374719.136,399328.923,4470\) 41.096,517352.922,588691.79,614890.306,606241.285,596720.035,585695.804,564595.79,535962.631,489372.433,433219.071,346604.99.22 \(\frac{1636.176,203973.183,240835.98,233455.764,210852.393,215180.142,228346.931,232521.732,225097.377,238483.456,229026.967,224256.65}{162}\) \(1,231818.275,248319.29,259573.271,273882.501,288339.4,311902.157,355598.034,385422.612,421658.654,445221.193,457740.499,470210\). \(1,447655.233,448825.166,442690.441,433351.186,423424.081,410457.967,405519.072,396227.899,392438.192,396360.028,412191.05,43926\) \(1.815,491745.206,569088.214,647560.969,676379.337,666865.414,656392.039,644265.384,621055.369,589558.894,538309.676,476540.978\), 381265.489,243799.794,224370.501,219379.684,212656.978,192067.362,196009.548,208003.295,211806.16,205043.247,217236.748,208622 \(747,204277.422,211165.374,226196.299,236447.652,249482.06,262650.98,284114.51,323917.482,351084.961,384092.701,405556.032,41695\) \(9.981,428318.654,407773.222,408838.924,403250.747,394743.535,385700.845,373889.893,369391.009,360927.595,357475.517,361047.953\), \(375468.574,400127.581,447935.178,518387.628,589869.174,616120.087,607453.768,597913.475,586867.196,565724.982,537034.556,49035\) \(\frac{1.178,434085.509,347298.2,222079.448,204381.129,241317.652,233922.676,211274.098,215610.502,228803.625,232986.775,225547.572,23}{}\) \(8960.423,229485.021,224705.164,232281.912,248815.929,260092.418,274430.266,288916.079,312525.961,356309.23,386193.457,422501.97\) \(1,446111.635,458655.98,471150.52,448550.543,449722.816,443575.822,434217.888,424270.929,411278.883,406330.11,397020.355,393223\). \(068,397152.748,413015.432,440140.339,492728.696,570226.39,648856.091,677732.096,668199.145,657704.823,645553.915,622297.48,5907\) 38.012,539386.295,477494.06,382028.02,244287.394,224819.242,219818.443,213082.292,192451.497,196401.567,208419.302,212229.772,2 05453.333,217671.221,209039.992,204685.977,211587.705,226648.692,236920.547,249981.024,263176.282,284682.739,324565.317,351787. \(131,384860.886,406367.144,417793.901,429175.291,408588.768,409656.602,404057.248,395533.022,386472.247,374637.673,370129.791,36\) \(1649.45,358190.468,361770.049,376219.511,400927.836,448831.048,519424.403,591048.912,617352.327,608668.676,599109.302,588040.93\) ,566856.432,538108.625,491331.88,434953.68,347992.796,222523.607,204789.891,241800.287,234390.521,211696.646,216041.723,229261. \(232,233452.749,225998.667,239438.344,229943.991,225154.574,232746.476,249313.561,260612.603,274979.127,289493.911,313151.013,35\) 7021.848,386965.844,423346.975,447003.858,459573.292,472092.821,449447.644,450622.262,444462.974,435086.324,425119.471,412101.4 41,407142.77,397814.396,394009.514,397947.053,413841.463,441020.62,493714.153,571366.843,650153.803,679087.56,669535.543,659020 \(.233,646845.023,623542.075,591919.488,540465.068,478449.048,382792.076,244775.969,225268.88,99, \mathrm{~N}, 1884\)
5MLP,UNITED,31/10/2021,8/11/2021
22:02,248880.074,231586.706,225561.085,211631.79,196568.75,184823.381,176428.604,169253.44,163972.418,160733.545,159821.309,160 \(172.446,164420.132,168401.072,173303.063,193515.142,215570.168,235417.892,250394.525,260819.465,265159.825,266272.894,263098.03\) \(5,257158.996,255568.903,257221.933,257126.436,256768.92,259492.163,264136.809,267567.36,271713.576,276470.145,292695.383,325380\) \(697,362326.951,374504.874 .370850 .336,361582.969,352739.92,344220.619,334193.218,319147.04,301751.305,279960.469,256921.427 .252\)
 \(75803.44,176189.691,180862.145,185241.179,190633.369,212866.656,237127.185,258959.681,275433.978,286901.412,291675.808,292900.1\) 83.289407.839.282874.896.281125.793.282944.126.282839.08.282445.812.285441.379.290550.49.294324.096.298884.934.304117.16.321964 \(921,357918.767,398559.646,411955.361,407935.37,397741.266,388013.912,378642.681,367612.54,351061.744,331926.436,307956.516,282\) \(613.57,277953.827,260723.869,249377.834,232049.879,226012.207,212055.054,196961.888,185193.028,176781.461,169591.947,164300.363\)

\section*{UNDERSTANDING LOAD PROFILES PUBLISHED FROM MSATS}
161055.012,160140.952,160492.791,164748.972,168737.874,173649.669,193902.172,216001.308,235888.728,250895.314,261341.104,26569 \(0.145,266805.44,263624.231,257673.314,256080.041,257736.377,257640.689,257282.458,260011.147,264665.083,268102.495,272257.003,2\) \(77023.085,293280.774,326031.458,363051.605,375253.884,371592.037,362306.135,353445.4,344909.06,334861.604,319785.334,302354.808\) \(280520.39,257435.27,253190.668,237495.742,274315.617,255254.868,248613.428,233260.559,216658.076,203712.33,194459.607,186551.1\) \(42.180730 .399,177160.514,176155.047,176542.07,181223.869,185611.661,191014.636,213292.389,237601.439,259477.6,275984.846,287475\) \(.215,292259.16,293485.983,289986.655,283440.646,281688.045,283510.014,283404.758,283010.704,286012.262,291131.591,294912.744,29\) 9482704304725.394 322608.851,358634.605,399356.765.412779.272.408751.241,398536.749,388789.94.379399.966.368347.765,351763.86
 \(\frac{7,332590.289,38512.429,283178.197,278509.735,261245.317,249876.59,232513.979,226464.231,212479.164,197355.812,185563.414,17713}{5.024,169931.131,164628.964,161377.122,160461.234,160813.777,165078.47,169075.35,173996.968,194289.976,216433.311,236360.505,25}\) \(1397.105,261863.786,266221.525,267339.051,264151.479,258188.661,256592.201,258251.85,258155.97,257797.023,260531.169,265194.413\) ,268638.7,272801.517,277577.131,293867.336,326683.521,363777.708,376004.392,372335.221,363030.747,354152.291,345598.878,335531. \(327,320424.905,302959.518,281081.431,257950.141,253697.049,237970.733,274864.248,255765.378,249110.655,233727.08,217091.392,204\) \(119.755,194848.526,186924.244,181091.86,177514.835,176507.357,176895.154,181586.317,185982.884,191396.665,213718.974,238076.642\) ,259996.555,276536.816,288050.165,292843.678,294072.955,290566.628,284007.527,282251.421,284077.034,283971.568,283576.725,28658 \(4.287,291713.854,295502.569,300081.669,305334.845,323254.069,359351.874,400155.479,413604.831,409568.743,399333.822,389567.52,3\) \(80158.766,369084.461,352467.395,333255.47,309189.574,283745.155,279066.754,261767.808,106, \mathrm{~N}, 1884\)
5MLP,VICAGL,31/10/2021,8/11/2021
22:02.114269.792.106626.599,103354.969,96382.686.90314.766, 85255.2, 81078.497,77552.736.75171.492,74117.194.73695.154.74257.898.7 \(\underline{5842.816,77470.433,78415.446,86991.797,95693.374,103708.356,111043.084,114786.959,117859.48,118649.926,117628.541,116974.283,11}\) \(6127.91,115773.444,114893.667,115886.157,117600.319,117495.284,118280.506,121940.691,124982.781,131720.972,145776.376,161518.13\) \(2,166875.698,167196.136,164527.836,161755.489,158458.289,153994.048,147532.157,140134.683,129649.514,117601.343,118943.419,1093\) \(95.527,125696.771,117289.259,113690.466,106020.955,99346.243,93780.72,89186.347,85308.01,82688.641,81528.913,81064.669,81683.688\) ,83427.098,85217.476,86256.991,95690.977,105262.711,114079.192,122147.392,126265.655,129645.428,130514.919,129391.395,128671.71 \(1,127740.701,127350.788,126383.034,127474.773,129360.351,129244.812,130108.557,134134.76,137481.059,144893.069,160354.014,17766\) \(9.945,183563.268,183915.75,180980.62,177931.038,174304.118,169393.453,162285.373,154148.151,142614.465,129361.477,130837.761,12\) \(0335.08,114498.332,106839.852,103561.679,96575.451,90495.396,85425.71,81240.654,77707.841,75321.835,74265.428,73842.544,74406.41\) \(4,75994.502,77625.374,78572.277,87165.781,95884.761,103915.773,111265.17,115016.533,118095.199,118887.226,117863.798,117208.232\), \(\frac{116360.166,116004.991,115123.454,116117.929,117835.52,117730.275,118517.067,122184.572,125232.747,131984.414,146067.929,161841}{1.2}\) \(168,167209.449,167530.528,164856.892,162079,158775.206,154302.036,147827.221,140414.952,129908.813,117836.546,119181.306,10961\) \(4.318,125948.165,117523.838,113917.847,106232.997,99544.935,93968.281,89364.72,85478.626,82854.018,81691.971,81226.798,81847.055\) ,83593.952,85387.911,86429.505,95882.359,105473.236,114307.35,122391.687,126518.186,129904.719,130775.949,129650.178,128929.054, \(127996.182,127605.49,126635.8,127729.723,129619.072,129503.302,130368.774,134403.03,137756.021,145182.855,160674.722,178025.285\) 183930.395,184283.582,181342.581,178286.9,174652.726,169732.24,162609.944,154456.447,142899.694,129620.2,131099.437,120575.75,1 \(14727.329,107053.532,103768.802,96768.602,90676.387,85596.561,81403.135,77863.257,75472.479,74413.959,73990.229,74555.22776146\) 49177780 625 78729, 422 87340 113 \(96076531104123,605,111487,7115246,566,118331389,119125,118099,526,1174426481165928861\) 16237.001,115353.701,116350.165,118071.191,117965.736,118754.101,122428.941,125483.212,132248.383,146360.065,162164.85,167543.8 \(68.167865 .589,165186.606,162403.158,159092.756,154610.64 .148122 .875,140695.782,130168,631,118072.219,119419.669,109833.547 .1262\) \(00,061,117758,886,114145,683,106445,463,99744,025,94156,218,89543,449,85649,583,83019,726,81855,355,81389,252,82010,749,83761.14\) , 85558.687,86602.364,96074.124,105684.182,114535.965,122636.47,126771.222,130164.528,131037.501,129909.478,129186.912,128252.17

\section*{UNDERSTANDING LOAD PROFILES PUBLISHED FROM MSATS}
\(4,127860.101,126889.072,127985.182,129878.31,129762.309,130629.512,134671.836,138031.533,145473.221,160996.071,178381.336,18429\) 8.256,184652.149,181705.266,178643.474.175002.031,170071.704.162935.164,154765.36.143185.493.129879.44.131361.636.120816.90211 3,N, 1884
CLOADNSWCE,COUNTRYENERGY,31/10/2021,8/11/2021
 \(97,85.149,89.577,88.084,70.591,52.158,50.579,48.965,49.748,52.555,48.064,52.991,45.032,51.999,51.441,51.137,23.784,20.257,25.119,26.06\)
 606.47.258,55.022,48.135,38.638,48.929,53.645,51.581,81.585,98.227,93.664,98.535,96.892,77.65,57.374,55.637,53.862,54.723,57.811,52.87 \(\stackrel{.58 .29,49.535,57.199,56.585,56.251,26.162,22.283,27.631,28.667,37.609,48.568,52.428,50.118,62.984,79.35,86.316,83.043,67.298,71.152,56 .}{ }\) \(935,58.556,73.693,70.88,77.768,68.378,59.907,51.11,47.227,45.186,43.048,50.12,43.847,35.195,44.57,48.866,46.986,74.316,89.476,85.319,89\) \(.756,88.26,70.732,52.262,50.68,49.063,49.847,52.66,48.16,53.097,45.122,52.103,51.544,51.239,23.832,20.298,25.169,26.113,34.258,44.241,4\) \(7.757,45.653,57.373,72.28,78.626,75.645,61.302,64.813,62.628,64.412,81.063,77.969,85.545,75.216,65.898,56.221,51.95,49.705,47.353,55.13\) \(2,48.231,38.715,49.027 .53 .752,51,684,81.748,98.423,93.851,98.732,97.086,77.805,57.489,55.748,53.97,54.832,57.927,52.976,58.407,49.6345\) \(7.313,56.698,56.364,26.214,22.328,27.686,28.724,37.684,48.665,52.533,50.218,63.11,79.509,86.489,83.209,67.433,71.294,57.049,58.673,73.8\) \(4,71.022,77.924,68.515,60.027,51.212,47.321,45.276,43.134,50.22,43.935,35.265,44.659,48.964,47.08,74.465,89.655,85.49,89.936,88.437,70\) \(873,52.367,50.781,49.161,49.947,52.765,48.256,53.203,45.212,52.207,51.647,51.341,23.88,20.339,25.219,26.165,34.327,44.329,47.853,45.74\) \(4,57.488,72.425,78,783,75,796,61.425,64.943,62.753,64.541,81.225,78.125,85.716,75,366,66.03,56.333,52.054,49,804,47.448,55.242,48.327 .3\) \(8.792,49.125,53.86,51.787,81.911,98.62,94.039,98.929,97.28,77.961,57.604,55.859,54.078,54.942,58.043,53.082,58.524,49.733,57.428,56.811\) \(56.477,26.266,22.373,27.741,28.781,37.759,48.762,52.638,50.318,63.236,79.668,86.662,83.375,67.568,71.437,1, \mathrm{~N}, 1884\) CLOADNSWEA,ENERGYAUST,31/10/2021,8/11/2021
23:01,179.479,181.72,187.432,156.867,124.9,104.238,80.394,48.231,49.868,33.136,28.202,26.1,27.27,28.228,18.339,22.836,24.439,40.438,58. \(577,47.157,43.254,46.728,49.701,46.406,38.292,29.95,35.368,33.018,23.833,25.138,19.374,20.845,21.056,16.144,14.953,11.622,9.931,13.694\), \(13.514,15.073,20.062,22.911,19.755,33.951,64.558,96.998,129.8,184.508,197.427,199.892,206.175,172.554,137.39,114.662,88.433,53.054,54\). 855,36.45,31.022,28.71,29.997,31.051,20.173,25.12,26.883,44.482,64.435,51.873,47.579,51.401,54.671,51.047,42.121,32.945,38.905,36.32,26 .216,27.652,21.311,22.93,23.162,17.758,16.448,12.784,10.924,15.063,14.865,16.58,22.068,25.202,21.731,37.346,71.014,106.698,142.78,202.9 \(59,179,838,182.083,187.807,157.181,125.15,104.446,80.555,48.327,49.968,33,202,28.258,26.152,27.325,28.284,18.376,22,882,24.488,40.519\) \(58.694,47.251,43.341,46.821,49.8,46.499,38.369,30.01,35.439,33.084,23.881,25.188,19.413,20.887,21.098,16.176,14.983,11.645,9.951,13.721\) , 13.541,15.103,20.102,22.957,19.795,34.019,64.687,97.192,130.06,184.877,197.822,200.292,206.587,172.899,137.665,114.891,88.61,53.16,54 \(965,36.523,31.084,28.767,30.057,31.113,20.213,25.17,26.937,44.571,64.564,51.977,47.674,51.504,54.78,51.149,42.205,33.011,38.983,36.393\) \(26.268,27.707,21.354,22.976,23.208,17.794,16.481,12.81,10.946,15.093,14.895,16.613,22.112,25.252,21.774,37.421,71.156,106.911,143.066\), 203.365,180.198,182.447,188.183,157.495,125.4,104.655,80.716,48.424,50.068,33.268,28.315,26.204,27.38,28.341,18.413,22.928,24.537,40.6 ,58.811,47.346,43.428,46.915,49.9,46.592,38.446,30.07,35.51,33.15,23.929,25.238,19.452,20.929,21.14,16.208,15.013,11.668,9.971,13.748,13 \(568,15.133,20.142,23.003,19.835,34.087,64.816,97.386,130.32,185.247,198.218,200.693,207,173.245,137.94,115.121,88.787,53.266 .55 .075,3\) \(6.596,31.146,28.825,30.117,31.175,20.253,25.22,26.991,44.66,64.693,52.081,47.769,51.607,54.89,51.251,42.289,33.077,39.061,36.466,26.321\) ,27.762,21.397,23.022,23.254,17.83,16.514,12.836,10.968,15.123,14.925,16.646,22.156,25.303,21.818,37.496,71.298,107.125,143.352,203.77 2,22,N,1884
CLOADNSWIE,INTEGRAL, 31/10/2021,8/11/2021
23:12,92.758,79.066,60.33,69.724,49.415,38.861,40.461,37.329,29.289,22.895,33.096,17.714, 21.134,27.35,41.694,55.311,59.355,52.878,68.69 \(9,73.546,72.991,71.927,71.986,59.439,53.313,53.092,56.657,37.067,43.31,36.386,39.572,47.761,45.51,36.884,15.583,13.463,14.679,14.938,11\)

\section*{UNDERSTANDING LOAD PROFILES PUBLISHED FROM MSATS}
\(884,15.459,15.554,12.045,21.044,18.609,50.674,81.528,124.992,117.318,102.034,86.973,66.363,76.696,54.357,42.747,44.507,41.062,32.218\), \(25.185,36.406,19.485,23.247,30.085,45.863,60.842,65.291,58.166,75.569,80.901,80.29,79.12,79.185,65.383,58.644,58.401,62.323,40.774,47.6\) \(41,40.025,43.529,52.537,50.061,40.572,17.141,14.809,16.147,16.432,13.072,17.005,17.109,13.25,23.148,20.47,55.741,89.681,137.491,129.05\)
 \(3.693,73.137,72.071,72.13,59.558,53.42,53.198,56.77,37.141,43.397,36.459,39.651,47.857,45.601,36.958,15.614,13.49,14.708,14.968,11.908\) \(15.49,15.585,12.069,21.086,18.646,50.775,81.691,125.242,117.553,102.238,87.147,66.496,76.849,54.466,42.832,44.596,41.144,32.282,25.235\) \(36.479,19.524,23.293,30.145,45.955,60.964,65.422,58.282,75.72,81.063,80.451,79,278,79,343,65,514,58,761,58,518,62.448,40.856,47,736,40\) \(\frac{1}{105,43.616 .52 .642,50.161,40.653,17.175,14.839,16.179,16.465,13.098,17.039,17.143,13.277,23.194 .20 .511,55.852,89.86,137.766 .129 .308,93 . ~}\) \(105,43.616,52.642,50.161,40.653,17.175,14.839,16.179,16.465,13.098,17.039,17.143,13.277,23.194,20.511,55.852,89.86,137.766,129.308,93\). .283,72.215,72.274,59.677,53.527,53.304,56.884,37.215,43.484,36.532,39.73,47.953,45.692,37.032,15.645,13.517,14.737,14.998,11.932,15.52 1,15.616,12.093,21.128,18.683,50.877,81.854,125.492,117.788,102.442,87.321,66.629,77.003,54.575,42.918,44.685,41.226,32.347,25.285,36. \(552,19.563,23.34,30.205,46.047,61.086,65.553,58.399,75.871,81.225,80.612,79.437,79.502,65.645,58.879,58.635,62.573,40.938,47.831,40.18\)
 84
NSLP,ACTEWAGL,31/10/2021,8/11/2021
22:02,108333.495,98116.974,90412.116,85338.425,81764.418,78789.496,76946.179,75730.761,75336.777,75691.397,76675.563,78748.829,8 \(0530.485,82725.555,89298.699,103433.218,117035.541,128572.381,141538.969,146107.569,153539.828,156573.305,152370.199,149558.79\), \(152423.497,149343.296,142357.042,137034.843,136839.963,137017.766,137360.164,139349.79,147688.341,157713.355,170661.421,178003\) \(666,180073.123,177757.186,171297.135,166455.051,161687.815,156071.788,148442.758,140970.773,142262.454,137473.49,125317.801,108\) \(576.514,119166.845,107928.671,99453.328,93872.268,89940.86,86668.446,84640.797,83303.837,82870.455,83260.537,84343.119,86623.712\) ,88583.534,90998.111,98228.569,113776.54,128739.095,141429.619,155692.866,160718.326,168893.811,172230.636,167607.219,164514.66 \(9,167665.847,164277.626,156592.746,150738.327,150523.959,150719.543,151096.18,153284.769,162457.175,173484.691,187727.563,19580\) 4.033,198080.435,195532.905,188426.849,183100.556,177856.597,171678.967,163287.034,155067.85,156488.699,151220.839,137849.581, \(19434.165,108550.162,98313.208,90592.94,85509.102,81927.947,78947.075,77100.071,75882.223,75487.451,75842.78,76828.914,78906,327\) \(80691.546,82891.006,89477.296,103640.084,117269.612,128829.526,141822.047,146399.784,153846.908,156886.452,152674.939,149857.9\) \(08,152728.344,149641.983,142641.756,137308.913,137113.643,137291.802,137634.884 .139628 .49,147983.718 .158028 .782,171002.744 .1783\)
 08793.667,119405.179,108144.528,99652.235,94060.013,90120.742,86841.783,84810.079,83470.445,83036.196,83427.058,84511.805,86796. \(959,88760.701,91180.107,98425.026,114004.093,128996.573,141712.478,156004.252,161039.763,169231.599,172575.097,167942.433,16484\) \(\frac{959,88760.701,91180.107,98425.026,114004.093,128996.573,141712.478,156004.252,161039.763,169231.599,172575.097,167942.433,16484}{3.698,168001.179,164606.181,156905.931,151039.804,150825.007,151020.982,151398.372,153591.339,162782.089,173831.66,188103.018,1}\) \(96195.641,198476.596,195923.971,188803.703,183466.757,178212.31,172022.325,163613.608,155377.986,156801.676,151523.281,138125.2\) 8,119673.033,108767.262,98509.834,90774.126,85680.12,82091.803,79104.969,77254.271,76033.987,75638.426,75994.466,76982.572,79064 \(14,80852.929,83056.788,89656.251,103847.364,117504.151,129087.185,142105.691,146692.584,154154.602,157200.225,152980.289,15015\) \(7.624 .153033 .801,149941.267,142927.04 .137583 .531,137387.87,137566.386,137910.154,139907.747,148279.685,158344.84 .171344 .749,178\) 716392180794136178468.925171983 .0081671215371623352131566967149037123141535221428320731380239341258195741 \(09011.254,119643.989,108360.817,99851.539,94248.133,90300.983,87015.467,84979.699,83637.386,83202.268,83593.912,84680.829,86970\). \(553,88938.222 .91362 .467,98621.876,114232.101,129254.566,141995.903,156316.261,161361.843,169570.062,172920.247,168278.318,16517\) \(3.385,168337.181,164935.393,157219.743,151341.884,151126.657,151323.024 .151701 .169,153898.522,163107.653,174179.323,188479.224\) \(196588.032,198873.549,196315.819,189181.31,183833.691,178568.735,172366.37,163940.835,155688.742,157115.279,151826.328,138401.5\)

31,119912.379,36,N,1884
NSLP,AURORA,31/10/2021,8/11/2021
22:02,134521.276,127780.129,139143.407,129532.862,120153.747,112107.229,105361.617,100201.764,95615.117,93342.006,92304.466.922 \(23.951,94035.77,95805.35,96667.833,104546.085,112930.946,121004.291,129566.197,136619.529,142361.298,145271.153,145812.239,1444\) \(71.657,146064.723,146781.074,148108.485,148767.944,149734.969,149888.367,148312.926,150195.15,152814.312,159380.76,173823.716,1\) \(89895.38,198736.054,201842.869,200449.048,197025.768,194288.715,190422.43,184527.62,175819.589,163086.34,147760.128,138299.122\), \(\frac{1}{125791.178,147973.404,140558.142,153057.748,142486.148,132169.122,123317.952,115897.779,110221.94,105176.629,102676.207,101534}\)
 \(\frac{913,1444.346,10343.347,105385.885,106334.616,115000.694,124224.041,133104.12,142522.817,150281.482,156597.428,159798.268,160}{393.463,158918.823,160671.195,161459.181,162919.334,163644.738,164708.466,164877.204,163144.219,165214.665,168095.743,175318.83}\) 6,191206.088,208884.918,218609.659,222027.156,220493.953,216728.345,213717.587,209464.673,202980.382,193401.548,179394.974,1625 \(36.141,152129.034,138370.296,134790.319,128035.689,139421.694,129791.928,120394.054,112331.443,105572.34,100402.168,95806.347,9\) 3528.69,92489.075,92408.399,94223.842,95996.961,96861.169,104755.177,113156.808,121246.3,129825.329,136892.768,142646.021,14556 1.695,146103.863,144760.6.146356.852.147074.636,148404.702.149065.48,150034.439,150188.144.148609.552.150495.54.153119.941,1596 9952217417136319027517119913352620224655520084994619741982194677292190803275184896675176171228163412513 \(148055.648,138575.72,126042.76,148269.351,140839,258,153363,863,142771,12,132433,46,123564,588,116129.575,110442384105386,982\) \(102881559101737983101649,239103646,22610559665710654728511523069512447248913337092914280786315058204515691\) \(0.623,160117.865,160714.25,159236.661,160992.537,161782.099,163245.173,163972.027,165037.883,165206.958,163470.507,165545.094,1\) \(68431.934,175669.474,191588.5,209302.688,219046.878,222471.21,220934.941,217161.802,214145.022,209883.602,203386.343,193788.351\) \(\frac{68431.934,175669.474,191588.5,20932.688,219046.878,222471.21,220934.941,217161.802,214145.022,209883.602,203386.343,193788.351}{}\) , 179753.764,162861.213,152433.292,138647.037,135059.9,128291.76,139700.537,130051.512,120634.842,112556.106,105783.485,100602.9 \(931.313,145852.818,146396.071,145050.121,146649.566,147368.785,148701.511,149363.611,150334.508,150488.52,148906.771,150796.531\) 153426.181,160018.921,174519.706,190655.721,199531.793,202651.048,201251.646,197814.66,195066.647,191184.882,185266.468,176523 \(57,163739.338,148351.759,138852.871,126294.846,148565.89,141120.937,153670.591,143056.662,132698.327,123811.717,116361.834,110\) \(663.269,105597.756,103087.322,101941,459,101852.537,103853.518,105807,85,106760,38,115461.156,124721,434,133637,671,143093,479\) \(150883.209,157224.444,160438.101,161035.679,159555.134,161314.522,162105.663,163571.663,164299.971,165367.959,165537.372,16379\) \(7.448,165876.184,168768.798,176020.813,191971.677,209721.293,219484.972,222916.152,221376.811,217596.126,214573.312,210303.369\) \(203793.116 .194175 .928,180113.272,163186.935,152738.159,138924.331,43, \mathrm{~N}, 1884\)
NSLP CITIPOWER, 31/10/2021,8/11/2021
22:02,393736.874,370044.28,324116.717, 312974.388.278383.017,270540.842,267996.51.271485.907.271815.904.273599.809.283383.577 28 \(\frac{22: 02,393736.874,378,44.28,324116.717,312974.388,278383.017,270540.842,267996.51,271485.907,271815.904,273599.809,283383.577,28}{1046.779,311366.578,355313.138,379803.266,429902.707,484227.076,472237.176,458880.133,463571.851,438830.226,420976.428,433496.2}\) \(04,454306.908,441251.432,431174.408,412513.785,393753.785,400563.683,389444.524,412236.171,410876.036,435310.271,474923.711,594\) \(346.207,672318.787,683857.104,666035.809,628586.316,596507.297,576147.882,558129.132,503969.677,440343.845,411378.701,378112.16\) \(7,374166.749,348316.145,433110.561,407048.708,356528.389,344271.827,306221.319,297594.926,294796.161,298634.498,298997.494 .3009\) \(59.79,311721.935,309151.457,342503.236,390844.452,417783.593,472892.978,532649.784,519460.894,504768.146,509929.036,482713.249\) \(463074071476845,824499737599,485376,575,474291,849,453765164,433129164,440620,051428388976,453459.788,451963,64,478841\) \(298,522416.082,653780.828,739550.666,752242.814,732639.39,691444.948,656158.027,633762.67,613942.045,554366.645,484378.23,45251\) \(6.571,415923.384,411583.424 .383147 .76,394524.348,370784.369,324764.95,313600.337,278939.783,271081.924 .268532 .503,272028.879,27\) \(2359.536,274147.009,283950.344,281608.873,311989.311,356023.764,380562.873,430762.512,485195.53,473181.65,459797.893,464498.995\) ,439707.886,421818.381,434363.196,455215.522,442133.935,432036.757,413338.813,394541.293,401364.81,390223.413,413060.643,411697

\section*{UNDERSTANDING LOAD PROFILES PUBLISHED FROM MSATS}
\(788,436180.892,475873.558,595534.899,673663.425,685224.818,667367.881,629843.489,597700.312,577300.178,559245.39,504977.616,44\) \(1224.533,412201.458,378868.391,374915.082,349012.777,433976.782,407862.805,357241.446,344960.371,306833.762,298190.116,295385.7\) \(53,299231.767,299595.489,301561.71,312345.379,309769.76,343188.242,391626.141,418619.16,473838.764,533715.084 .520499 .816,505777\) \(.682,510948.894,483678.675,464000.219,477799.516,500737.074,486347.328,475240.433,454672.694,433995.422,441501.291,429245.754,4\) \(54366.708,452867.567,479798.981,523460.914,655088.39,741029.767,753747.3,734104.669,692827.838,657470.343,635030.195,615169.929\) \(555475.378,485346.986,453421.604,416755.231,412406.591,383914.056,395313.397,371525.938,325414.48,314227.538,279497.663,271624\) \(088,269069.568,272572.937,272904.255,274695.303,284518.245,282172.091,312613.29,356735.812,381323.999,431624.037,486165.921,47\) 4 \(4128.013,46011.489,465427.993,440587.302,422662.018,435231.922,456125.953,443018.203,432900.831,414165.491,395330.376,402167.5\) \(4.778,560363.881,505987.571,442106.982,413025.861,379626.128,375664.912,349710.803,434844.736,408678.531,357955.929,345650.292\), 307447.43,298786.496,295976.525,299830.231,300194.68,302164.833,312970.07,310389.3,343874.618,392409.393,419456.398,474786.442, \(534782.514,521540.816,506789.237,511970.792,484646.032,464928.219,478755.115,501738.548,487320.023,476190.914,455582.039,43486\) \(3.413,442384.294,430104.246,455275.441453773 .302480758 .579,524507836,656398.567,742511827,755254,795,735572,878,694213,494\) \(658785.284,636300.255,616400.269,556586.329,486317.68,454328.447,417588.741,413231.404,384681.884,50, \mathrm{~N}, 1884\)
NSLP,COUNTRYENERGY,31/10/2021,8/11/2021
\(22.02389429118,320048,665287458,98728902794728002469286512024291620.9523133284783107122933066149823183571973\) \(17103.479,367989.599,397465.183,469921.013,508230.255,533492.867,516748.986,516286.506,521461.088,501336.075,462246.897,459621\). \(57,438007.834,432965.773,419607.084,419712.579,419103.603,404687.094,408912.725,431091.601,434467.184,492619.256,589426.6,74212\) (97,45,894387.589.914705.559,891398.14,856312.858,856680.444,817764.699,755997.499,600960.033,584237.419,556042.754,492640.817,3 \(\frac{8.955,894387.589,914705.559,891398.14,856312.858,856680.444,817764.699,755997.499,600960.033,584237.419,556042.754,492640.817,3}{84812.796,339389.492,428372.03,352053.532,316204.886,317930.742,308027.159,315163.226,320783.047,344661.326,341783.522,337276.4}\) \(8,350192.917,348813.827,404788.559,437211.701,516913.114,559053.281,586842.154,568423.885,567915.157,573607.197,551469.683,5084\) \(71.587,505583.727,481808.617,476262.35,461567.792,461683.837,461013.963,445155.803,449803.998,474200.761,477913.902,541881.182\), 648369.26,816341.851,983826.348,1006176.115,980537.954,941944.144,942348.488,899541.169,831597.249,661056.036,642661.161,61164 7.029,541904.899,423294.076,373328.441,390207.976,320688.762,288033.905,289606.003,280584.739,287085.048,292204.194,313955.135, \(311333.718,307228.212,318993.911,317737.686,368725.578,398260.113,470860.855,509246.716,534559.853,517782.484,517319.079,52250\) \(4.01,502338.747,463171.391,460540.813,438883.85,433831.705,420446.298,420552.004,419941,81,405496.468,409730.55,431953.784,4353\) \(36.118,493604.495,590605.453,743613.213,896176.364,916534.97,893180.936,858025.484,858393.805,819400.228,757509.494,602161.953\) 585405.894,557154.84,493626.099,385582.422,340068.271,429228.774,352757.639,316837.296,318566.603,308643.213,315793.552,321424. \(613,345350.649,342467.089,337951.033,350893.303,349511.455,405598.136,438086.124,517946.94,560171.388,588015.838,569560.733,569\) 61, \(245350.649,342467.089,337951.033,350893.303,349511.455,405598.136,438086.124,517946.94,560171.388,588015.838,569560.733,569\) \(475149.163,478869.73,542964.944,649665.999,817974.535,985794.001,1008188.467,982499.03,943828.032,944233.185,901340.251,83326\) .443,662378.148,643946.483,612870.323,542988.709,424140.664,374075.098,390988.392,321330.14,288609.973,290185.215,281145.908,28 \(7659.218,292788.602,314583.045,311956.385,307842.668,319631.899,318373.161,369463.029,399056.633,471802.577,510265.209,535628.9\) \(73,518818.049 .518353 .717,523549.018,503343.424,464097.734,461461.895,439761,618,434699.368,421287.191,421393.108,420781\) 694 406 307.461,410550.011,432817.692,436206.79,494591.704,591786.664,745100.439,897968.717,918368.04,894967.298,859741.535,860110.593, \(821039.028,759024.513,603366.277,586576.706,558269.15,494613.351,386353.587,340748.408,430087.232,353463.154,317470.971,319203\). \(736,309260.499,316425.139,322067.462,346041,35,343152.023,338626,935,351595.09,350210,478,406409,332,438962.296,518982.834,5612\) \(91731589191,87570699.854,570189.089,575903.92,553677767510507507507608.084483737,778,478169,305,463415.91,463532.419,46\) \(2859.863,446938.207,451605.013,476099.461,479827.469,544050.874,650965.331,819610.484,987765.589,1010204.844,984464.028,945715\).

\section*{UNDERSTANDING LOAD PROFILES PUBLISHED FROM MSATS}

22:02,378049.424,317640.817,304270.808,311372.424,303042.263,297338.979,317104.36,336834.228,338006.22,337745.041,339781.616,35 \(9278.063,430065.951,461369.094,532178.49,586272.804,604036.581,620339.452,560391.19,553302.542,515586.882,480984.364,434425.783\) 457533.822,457677.819,436963.471,415708.408,424697.037,426599.932,419994.623,433354.452,440434.434,498519.11,559298.284,687997 \(.09,851893.428,898618.386,838544.481,817462.79,780688.344,737183.798,696581.006,594182.912,591586.166,555019.846,528335.776,434\) \(787.387,392049.244,415854.366,349404.899,334697.889,342509.666,333346.489,327072.877,348814.796,370517.651,371806.842,371519.54\) \(\frac{787.387,3973759.778,395205.869,473072.546,507506.003,585396.339,644900.084,664440.239,682373.397,616430.309,608632.796,567145.57 .52908}{5,37315}\) 2.8,477868.361,503287.204,503445.601,480659.818,457279.249,467166.741,469259.925,461994.085,476689.897,484477.877,548371.021,61 \(5228.112,756796.799,937082.771,988480.225,922398.929,899209.069,858757.178,810902.178,766239.107,653601.203,650744.783,610521.8\) 31,581169.354,478266.126,431254.168,378805.523,318276.099,304879.35,311995.169,303648.348,297933.657,317738.569,337507.896,3386 \(82.232,338420.531,340461.179,359996.619,430926.083,462291.832,533242.847,587445.35,605244.654,621580.131,561511.972,554409.147\) \(516618.056,481946.333,435294.635,458448.89,458593.175,437837.398,416539.825,425546.431,427453.132,420834.612,434221.161,441315\). \(303,499516.148,560416.881,689373.084,853597.215,900415.623,840221,57,819097,716,782249,721,738658,166,697974,168,595371,278,592\) \(769.338,556129.886,529392.448,435656.962,392833.342,416686.075,350103.709,335367.285,343194.685,334013.182,327727.023,349512.42\) \(6,371258.686,372550.456,372262.584,374507.298,395996.281,474018.691,508521.015,586567.132,646189.884,665769.119,683738.144,6176\) 63.17,609850.062,568279.861,530140.966,478824.098,504293.778,504452.492,481621.138,458193.807,468101.074,470198.445,462918.073, \(477643.277 .485446 .833 .549467 .763,616458.568,758310.393 .938956 .937 .990457 .185 .924243 .727 .901007 .487,860474.692 .812523 .982,76777\) \(1.585,654908.405,652046.273,611742.875,582331.693,479222.658,432116.676,379563.134,318912.651,305489.109,312619.159,304255.645\), \(298529.524,318374.046,338182.912,339359.596,339097.372,341142.101,360716.612,431787.935,463216.416,534309.333,588620.241,60645\) \(5.143,622823.291,562634.996,555517.965,517651.292,482910.226,436165.224,459365.788,459510.361,438713.073,417372.905,426397.524\), 428308.038,421676.281,435089.603,442197.934,500515.18,561537.715,690751.83,855304.409,902216.454,841902.013,820735.911,783814.2 2,740135.482,699370.116,596562.021,593954.877,557242.146,530451.233,436528.276,393619.009,417519.447,350803.916,336038.02,34388 \(1.074,334681.208,328382.477,350211,451,372001,203,373295.557,373007.109,375256.313,396788.274,474966.728,509538,057,587740.266\), \(647482.264,667100.657 .685105 .62,618898.496,611069.762,569416.421,531201.248,479781.746,505302.366,505461.397 .482584 .38,459110.1\) \(95,469037.276,471138.842,463843.909,478598.564,486417.727,550566.699,617691,485,759827.014,940834.851,992438.099,926092.214 .902\) 809.502,862195.641,814149.03,769307.128,656218.222,653350.366,612966.361,583496.356,480181.103,432980.909,63,N,1884 NSLP.ENERGYAUST,31/10/2021,8/11/2021
22.02441582827381619864340809158339483073340424226325883296327402828355495813321447913573034363716009943 \(\frac{21264.034,416627.455,452763.943,541098.485,629642.643,713186.325,741914.868,741337.866,770037.135,757179.742,708755.897,667690}{}\) 07,663166.599,684888.443,710726.48,696463.637,687964.401,689100.008,677430.473,694705.39,734283.741,847276.26,971812.277,109866 \(9.78,1218684.014,1259387.387,1253592.747,1226020.006,1194112.069,1157860.769,1114861.236,1053127.133,942550.551,817767.067,686\) 181.33,559374.938,393856.874,485741.11,419781.85,374890.074,373431.38,374466.649,358471.626,360143.111,391045.391,365359.27,393 033.78,408761.093,430390.437,458290.201,498040.337,595208.334,692606.907,784504.958,816106.355,815471.653,847040.849,832897.716 \(779631.487,734459.077,729483.259,753377.287,781799.128,766110.001,756760.841,758010.009,745173.52,764175.929,807712.115,932003\) .886,1068993.505,1208536.758,1340552.415,1385326.126,1378952.022,1348622.007,1313523.276,1273646.846,1226347.36,1158439.846,10 36805.606,899543.774,754799.463,615312.432,433242.561,442465.993,382383.104,341490.776,340162.039,341105.074,326535.063,328057 634356206802332809081358018,04337234419639204656241746071453669471542180682630901928714612698743398698742 820.542,771577.209,758694.101,710173.409,669025.45,664492.932,686258.22,712147.933,697856.564,689340.33,690478.208,678785.334,6

\section*{UNDERSTANDING LOAD PROFILES PUBLISHED FROM MSATS}
\(96094.801,735752.308,848970.813,973755.902,1100867.12,1221121.382,1261906.162,1256099.932,1228472.046,1196500.293,1160176.491\) \(1117090.958,1055233.387,944435.652,819402.601,687553.693,560493.688,394644.588,486712.592,420621.414,375639.854,374178.243 .375\) \(215.582,359188.569,360863.397 .391827 .482,366089.989,393819.848,409578.615,431251.218,459206.781,499036.418,596398.751,693992.12\) \(1,786073.968,817738.568,817102.596,848734.931,834563.511,781190.75,735927.995,730942.226,754884.042,783362.726,767642.221,75827\) \(4.363,759526.029,746663.867,765704.281,809327.539,933867.894,1071131.492,1210953.832,1343233.52,1388096.778,1381709.926,135131\) \(9.251,1316150.323,1276194.14,1228800.055,1160756.726,1038879.217,901342.862,756309.062,616543.057,434109.046,443350.925,383147\) \(87,342173,758,340842.363,341787,284,327188.133,328713,749,356919,216,333474,699,358734.079,373088,884,392830,655,418295,631,454\) \(\frac{1}{576.81,543265.043,632163.732,716041.923,744885.495,744306.183,773120.363,760211.489,711593.756,670363.501,665821.918,687630.736}\) \(713572.229,699252.277,690719.011,691859.164,680142.905,697486.991,737223.813,850668.755,975703.414,1103068.854,1223563.625,12\) \(4429.974,1258612.132,1230928.99,1198893.294,1162496.844,1119325.14,1057343.854,946324.523,821041.406,688928.8,561614.675,39543\) 3.877,487686.017,421462.657,376391.134,374926.599,375966.013,359906.946,361585.124,392611.137,366822.169,394607.488,410397.772 432113.72,460125.195,500034.491,597591.549,695380.105,787646.116,819374.045,818736.801,850432.401,836232.638,782753.132,737399 \(851,732404.11,756393.81,784929.451,769177.505,759790.912,761045.081,748157.195,767235.69,810946.194,935735.63,1073273.755,12133\) \(75.74,1345919.987,1390872.972,1384473.346,1354021.89,1318782.624,1278746.528,1231257.655,1163078.239,1040956.975,903145.548,75\) 7821.68,617776.143,434977.264,64,N,1884

NSIP ERGON1 31/10/2021 8/11/2021
22:02,481940.771,453618.328,421976.966,395166.166.385294.512,382100.37,368880.544,364909.046,373075.156.374788.205,390353.054.4 \(03486.468,412274.164,440375.348,479781.523,509798.172,544447.482,559736.52,561828.151,558371.101,547325.488,526019.647 .520023,1\) 03486.468,412274.164,440375.348,479781.523,509798.172,544447.482,559736.52,561828.151,558371.101,547325.488,526019.647,520023.1 \(\frac{82,513229.46,502776.345,492891.121,483402.098,477522.022,468634.926,459493.463,465540.496,480842.576,494917.71,531644.622,58670}{3.521,647109.6,682801.819,692204.936,682996.429,680362.711,668025.633,646353.322,607306.322,559970.414,544398.137,534482.868,52}\) \(7846.876,510161.507,530134.848,498980.161,464174.663,434682.783,423823.963,420310.407,405768.598,401399.951,410382.672,412267.0\) 26,429388.359,443835.115,453501.58,484412.883,527759.675,560777.989,598892.23,615710.172,618010.966,614208.211,602058.037,57862 \(1.612,572025.5,564552.406,553053.98,542180.233,531742.308,525274.224,515498.419,505442.809,512094.546,528926.834,544409.481,584\) \(809.084,645373,873,711820.56,751082.001,761425,43,751296,072,748398.982,734828,196,710988,654,668036,954,615967,455,598837,951\) 58793115558063156456117765848290465345452556542282092395956498386065101382864571369618305365638864373821 306,375537.781,391133.76,404293.441,413098.712,441256.099,480741.086,510817.768,545536.377,560855.993,562951.807.559487.843,548 \(\frac{1}{420.139,527071,686,521063.228,514255.919,503781.898,493876.903,484368.902,478477.066, ~ 469572.196,460412.45,466471.577 ~ 481804 ~ 261 ~}\) ,495907.545.532707.911,587876.928,648403.819,684167.423,693589.346,684362.422,681723.436,669361.684,647646.029,608520.935,56109 \(0.355,545486.933,535551.834,528902.57,511181.83,531195.118,499978.121,465103.012,435552.149,424671.611,421151.028,406580.135,40\) \(2202.751,411203.437,413091.56,430247.136,444722.785,454408.583,485381.709,528815.194,561899.545,600090.014,616941.592,619246.98\) 8,615436.627,603262.153,579778.855,573169.551,565681.511,554160.088,543264.593,532805.793,526324.772,516529.416,506453.695,5131 \(18.735,529984.688,545498.3,585978.702,646664.621,713244.201,752584.165,762948.281,752798.664,749895.78,736297.852,712410.631,66\) \(9373.028,617199.39,600035.627,589107.017,581792.827,562300.013,483870.462,455434.616,423666.562,396748.411,386837.231,383630,3\), \(370357.542,366370.142,374568.949,376288.857,391916.028,405102.028,413924.909,442138.611,481702.568,511839.404,546627.45,561977\) \(705,564077711560606819549516.979528125,829,522105,354515284,431504789,462494864,657485337,64,479434,02,47051134,46133\) \(3.275,467404.52,482767.87,496899.36,533773.327,589052.682,649700.627,685535.758,694976.525,685731.147,683086.883,670700.407,648\) \(941.321,609737.977,562212.536,546577.907,536622.938,529960.375,512204.194,532257.508,500978.077,466033.218,436423.253,425520.95\) \(4421993,33,407393,295,403007.157412025,844,413917,743,431107,63,445612,231,455317,4,486352.472,529872.824,563023.344601290 .1\) \(94,618175.475,620485.482,616667.5,604468.677,580938.413,574315.89,566812.874,555268.408,544351.122,533871.405,527377.422,517562\)

UNDERSTANDING LOAD PROFILES PUBLISHED FROM MSATS
\(475,507466.602,514144.972,531044.657,546589.297,587150.659,647957.95,714670.689,754089.333,764474.178,754304.261,751395.572,73\) \(7770.448,713835.452,670711.774,618433.789,601235.698,590285.231,582956.413,563424.613,71, N, 1884\)
NSLP,INTEGRAL,31/10/2021,8/11/2021
22:02,385025.29,373910.724,349766.221,320922.326,300704.908,282575.204,254233.178,253657.931,257607.836,266358.476,255342.172,2 \(95070.613,310387.647,332087.268,367062.333,422330.289,493403.259,572052.209,599860.496,601125.658,580913.525,560555.856,534076\) \(144.536381 .871 .532437 .439,512499.375,479171.583,484237.182,457962.461,461295.496,467210.275,498606.181,571649.939,664026.012,73\) 8217.736,798910.202,810996.91,798942.245,780881.864,758399.298,742920.534,714510.002,663968.014,612344.226,540158.635,425920.88 8,341971.368,308148.709,423527.819,411301.796,384742.843,353014.559,330775.399,310832.724,279656.496,279023.724,283368.62,29299 \(\frac{8,344,280876.389,324577.674,341426.412,365295.995,403768.566,464563.318,542743.585,629257.43,659846.546,661238.224,639004.878,6}{4.324,249}\) \(16611.442,587483.758,590020.058,585681.183,563749.313,527088.741,532660.9,503758.707,507425.046,513931.303,548466.799,628814.93\) 3,730428.613,812039.51,878801.222,892096.601,878836.47,858970.05,834239.228,817212.587,785961.002,730364.815,673578.649,594174. \(499,468512.977,376168.505,338963.58,385795.341,374658.545,350465.753,321564.171,301306.318,283140.354,254741.644,254165.247,258\) \(123.052,266891.193,255852.856,295660.754 .311008 .422,332751.443,367796.458,423174.95,494390.066,573196.313,601060.217,602327.909\) , 582075.352,561676.968,535144.296,537454.635,533502.314,513524.374,480129.926,485205.656,458878.386,462218.087,468144.696,49960 \(3.393,572793.239,665354.064,739694.171,800508.022,812618.904,800540.129,782443.628,759916.097,744406.375,715939.022,665295.95,6\) \(13568.914,541238.952,426772.73,342655.311,308765.006,424374.875,412124.4,385512.329,353720.588,331436.95,311454.389,280215.809\), \(279581.771,283935.357 .293580 .313,281438.142,325226.829,342109.265,366026.587,404576.103,465492.445,543829.072,630515.945,66116\) \(6.239,662560.7,640282.888,617844.665,588658.726,591200.098,586852.545,564876.812,528142.918,533726.222,504766.224,508439.896,51\) \(\frac{6.239,662560.7,640282.888,617844.665,588658.726,591200.098,586852.545,564876.812,528142.918,533726.222,504766.224,508439.896,51}{4959.166,549563.733,630072.563,731889.47,813663.589,880558.824,893880.794,880594.143,860687.99,835907.706,818847.012,787532.924}\) \(\frac{4959.166,549563.733,630072.563,731889.47,813663.589,880558.824,893880.794,880594.143,860687.99,835907.706,818847.012,787532.924}{, 731825.545,674925.806,595362.848,469450.003,376920.842,339641.507,386566.932,375407.862,351166.685,322207.299,301908.931,28370}\) \(6.635,255251.127,254673.577,258639.298,267424.975,256364.562,296252.076,311630.439,333416.946,368532.051,424021.3,495378.846,57\) \(4342.706,602262.337,603532.565,583239.503,562800.322,536214.585,538529.544,534569.319,514551.423,481090.186,486176.067,459796.1\) \(43,463142.523,469080.985,500602.6,573938.825,666684.772,741173.559,802109.038,814244.142,802141.209,784008.515,761435.929,74589\) \(5.188,717370.9,666626.542,614796.052,542321.43,427626.275,343340.622,309382.536,425223.625,412948.649,386283.354,354428.029,332\) \(099.824,312077.298,280776.241,280140.935,284503.228,294167.474,282001.018,325877.283,342793.484,366758.64,405385.255,466423.43\), \(544916,73,631776,977,662488,571,663885,821641563,454,619080,354,589836,043,592382,498,588026,25,566006,566,529199,204,5347936\) \(74,505775.756,509456.776,515989.084,550662.86,631332.708,733353.249,815290.916,882319.942,895668.556,882355.331,862409.366,8375\) \(79.521,820484.706,789107.99,733289.196,676275.658,596553.574,470388.903,377674.684,340320.79,78, \mathrm{~N}, 1884\) NSLP,POWERCOR,31/10/2021,8/11/2021
22:02,427633.006,407131.945,475235.253,457173.933,416909.375,381776.833,353813.75,328058.216,303472.869,288444.156,279773.204,2 \(76712.888,280826.172,284736.317,260839.465,279727.245,307922.86,328869.861,339347.756,342617.255,342572.163,340281.626,339108.8\) \(05,341368.33,344319.822,342614.149,361101.712,359745.932,356860.033,355323.01,359904.986,366925.824,366173.738,390379.599,42959\) \(7.533,472065.292,482253.756,468388.647,449370.813,436183.235,426527.663,417265.472,397701.632,372616.975,346218.73 .328835 .85,39\) \(7753.794,390859.673,470396.307,447845.14,522758.778,502891.326,458600.313,419954.516,389195.125,360864.038,333820.156,317288.57\) \(2,307750.524,304384.177,308908.789,313209.949,286923.412,307699.97,338715.146,361756.847,373282.532,376878.981,376829.379,37430\) \(9.789,373019.686,375505.163,378751.804,376875.564,397211.883,395720.525,392546.036,390855.311,395895.485,403618.406,402791.112\), 42941755947255728651927182153047913251522751249430789447980155946918042945899201943747179540987867338084 \(0.603,361719.435,437529.173,429945.64428488 .272,407946.209,476185,724458088.281417743 .194,382540,387354521378,328714332,3\) \(04079.815,289021.044,280332.75,277266.314,281387.824,285305.79,261361.144,280286.699,308538.706,329527.601,340026.452,343302.49\)

\section*{UNDERSTANDING LOAD PROFILES PUBLISHED FROM MSATS}
343257.307,340962.189,339787.023,342051.067,345008.462,343299.377,361823.915,360465.424,357573.753,356033.656,360624.796,36765 \(9.676,366906.085,391160.358,430456.728,473009.423,483218.264,469325.424,450269.555,437055.601,427380.718,418100.003,398497.035\), 373362.209,346911.167,329493.522,398549.302,391641.392,471337.1,448740.83,523804.296,503897.109,459517.514,420794.425,389973.51 \(5,361585.766,334487.796,317923.149,308366.025,304992.945,309526.607,313836.369,287497.259,308315.37,339392.576,362480.361,37402\) \(9.097,377632.739,377583.038,375058.409,373765.725,376256.173,379509.308,377629.315,398006.307,396511.966,393331.128,391637.022\), \(396687.276,404425.643,403596.694,430276.394,473502.401,520310.365,531540.09,516257.967,495296.51,480761.162,470118.79,459910.00\) \(3438346.739410698 .43381602284362442874438404231430805 .531429345 .249408762101477138 .095459004 .458 .418578 .68,383305\) \(468,355230.421,329371.761,304687.975,289599.086,280893.416,277820.847,281950.6,285876.402,261883.866,280847.272,309155.783,330\) \(\stackrel{.468,355230.421,329,34398,3045,343943.822,341644.113,340466.597,342735.169,345698.479,343985.976,362547.563,361186.355,358288.90}{186.656,340706.505,34398.095,347}\) \(1,356745.723,361346.046,368394.995,367639.897,391942.679,431317.641,473955.442,484184.701,470264.075,451170.094,437929.712,4282\) 35.479,418936.203,399294.029,374108.933,347604.989,330152.509,399346.401,392424.675,472279.774,449638.312,524851.905,504904.903 \(460436.549,421636.014,390753.462,362308.938,335156.772,318558.995,308982.757,305602.931,310145.66,314464.042,288072.254,308932\) \(001,340071.361,363205.322,374777.155,378388.004,378338.204,375808.526,374513.256,377008.685,380268.327 .378384 .574,398802.32,39\) \(7304.99,394117.79,392420.296,397480.651,405234.494,404403.887,431136.947,474449.406,521350.986,532603.17,517290.483,496287.103\) \(481722.684,471059.028,460829.823,439223.432,411519.827,382365.489,363167.76,439281.039,431667.142,85, \mathrm{~N}, 1884\)
NSLP TXU 31/10/2021 8/11/2021
22:02,313240.055,301931.777,346236.789,335120.863.310118.839,283922.261,262931.519,243854.349,229416.424,218972.873,212459.816 \(209644.109,211076.857,214474.257,205330.872,227138.361,251151.811,274442.661,291363.385,301011.862,304796.921,303263.478,29959\) \(\underline{209644.109,21076.857,214474.251,205330.872,227138.361,251151.811,274442.661,291363.385,301011.862,304796.921,303263.478,29959}\) \(366509.362,404538.311,410296.859,398700.708,382274.432,372734.915,362039.596,349937.023,331385.557,309859.989,290078.048,27147\) 3.959,288240.297,282007.815,344564.061,332124.955,380860.468,368632.949,341130.723,312314.487,289224.671,268239.784,252358.066, 240870.16,233705.798,230608.52,232184.543,235921.683,225863.959,249852.197,276266.992,301886.927,320499.724,331113.048,335276.6 \(13,333589.826,329552.942,324894.324,319874.048,315872.693,328549.68,326771.998,326071.373,327663.119,331308.337,338833.862,3450\) \(38.316,368447,714,403160.298,444992.142,451326.545,438570.779,420501.875,410008.407,398243,556,384930.725,364524.113,340845,988\) ,319085.853,298621.355,317064.327,310208.597,313866.535,302535.641,346929.263,335791.105,310739.077,284490.106,263457.382,24434 \(2.058,229875.257,219410.819,212884.736,210063.397,211499.011,214903.206,205741.534,227592.638,251654.115,274991.546,291946.112\) \(301613.886,305406.515,303870.005,300192.771,295949.193,291376.178,287731.308,299278.89,297659.584,297021.378,298471.314 .301791\) \(776,308646.846,314298.538,335622.372,367242.381,405347.388,411117.453,399498.109,383038.981,373480.385,362763.675,350636.897,33\) 2048.328,310479.709,290658.204,272016.907,288816.778,282571.831,345253.189,332789.205,381622.189,369370.215,341812.984,312939.1 \(16,289803.12,268776.264,252862.782,241351.9,234173.21,231069.737,232648.912,236393.526,226315.687,250351.901,276819.526,302490\). \(701,321140.723,331775.274,335947.166,334257.006,330212.048,325544.113,320513.796,316504.438,329206.779,327425.542,326723.516,32\) \(8318.445,331970.954,339511.53,345728.393,369184.609,403966.619,445882.126,452229.198,439447.921,421342.879,410828.424,399040.04\) 3,385700.586,365253.161,341527.68,319724.025,299218.598,317698.456,310829.014,314494.268,303140.712,347623.122,336462.687.31136 \(0.555,285059.086,263984.297,244830.742,230335.008,219849.641,213310.505,210483.524 .211922 .009,215333.012,206153.017 .228047 .823\), \(252157423275541.52929253000430221711430601732830447774530079315729654109129195893288306,771299877448 \quad 298254\) \(903297615,4212990682573023953630926414314927135336293617367976,866,406158.083,411939,688,400297105,383805,0593742\) \(27.346,363489.202,351338.171,332712.425,311100.668,291239.52,272560.941,289394.412,283136.975,345943.695,333454.783,382385.433\), \(370108,955,342496,61,313564,994,290382726,269313,817,253368,508,241834,604,234641,556,231531.876,23311421,236866,313,226768,3\) \(18,250852.605,277373.165,303095.682,321783.004,332438.825,336619.06,334925.52,330872.472,326195.201,321154.824,317137.447,32986\)

\section*{UNDERSTANDING LOAD PROFILES PUBLISHED FROM MSATS}
. 193,328080.393,327376.963,328975.082,332634.896,340190.553,346419.85,369922.978,404774.552,446773.89,453133.656,440326.817,42 2185.565,411650.081,399838.123,386471.987,365983.667,342210.735,320363.473,299817.035,318333.853,311450.672,92,N, 1884 NSLP,UMPLP,31/10/2021,8/11/2021
22:02,218941.8,212232.513,191683.994,195618.311.207588.119.211383.393,204633.979,216803.142,208206.334.203869.683.210743.886,22 \(5744.809,235975.701,248984.092,262126.727,283547.415,323270.94,350384.193,383326.049,404746.539,416127.726,427463.727,406959.30\) \(3,408022.878,402445.855,393955.624,384930.983,373143.606,368653.702,360207.181,356761.993,360327.298,374719.136,399328.923,4470\) \(41.096,517352.922,588691.79,614890.306,606241.285,596720.035,585695.804,564595.79,535962.631,489372.433,433219.071,346604.99,22\) \(\frac{41.096,517352.922,588691.79,614890.306,606241.285,596710.035,585695.804,564595.79,535962.631,489372.433,433219.071,346604.99,22}{1636.176,203973.183,240835.98,233455.764,210852.393,215180.142,228346.931,232521.732,225097.377,238483.456,229026.967,224256.65}\) \(\frac{1,231818.275,248319.29,259573.271,273882.501,288339.4,311902.157,355598.034,385422.612,421658.654,445221.193,457740.499,470210 .}{1,23184}\). \(1,447655.233,448825.166,442690.441,433351.186,423424.081,410457.967,405519.072,396227.899,392438.192,396360.028,412191.05,43926\) \(1.815,491745.206,569088.214,647560.969,676379.337,666865.414,656392.039,644265.384,621055.369,589558.894,538309.676,476540.978\), \(381265.489,243799.794,224370.501,219379.684,212656.978,192067.362,196009.548,208003.295,211806.16,205043.247,217236.748,208622\). \(747,204277.422,211165.374,226196.299,236447.652,249482.06,262650.98,284114.51,323917.482,351084.961,384092.701,405556.032\) 41695 \(9.981,428318.654,407773.222,408838.924,403250.747,394743.535,385700.845,373889.893,369391.009,360927.595,357475.517,361047.953\), \(375468.574,400127.581,447935.178,518387.628,589869.174,616120.087,607453.768,597913.475,586867.196,565724.982,537034.556,49035\)
 \(8960.423,229485.021,224705.164,232281.912,248815.929,260092.418,274430.266,288916.079,312525.961,356309.23,386193.457,422501.97\) \(1,446111.635,458655.98,471150.52,448550.543,449722.816,443575.822,434217.888,424270.929,411278.883,406330.11,397020.355,393223\). \(1,44611.635,458655.98,471150.52,448550.543,449722.816,443575.822,434217.888,424270.929,411278.883,406330.11,397020.355,393223\). \(38.012,539386.295,477494.06,382028.02,244287.394,224819.242,219818.443,213082.292,192451.497,196401.567,208419.302,212229.772,2\) 05453.333,217671.221,209039.992,204685.977,211587.705,226648.692,236920.547,249981.024,263176.282,284682.739,324565.317,351787 \(131,384860.886,406367.144,417793.901,429175.291,408588.768,409656.602,404057.248,395533.022,386472.247,374637.673,370129.791,36\) \(1649.45,358190.468,361770.049,376219.511,400927.836,448831.048,519424.403,591048.912,617352.327,608668.676,599109.302,588040.93\) \(566856.432,538108.625,491331.88,434953.68,347992.796,222523.607,204789,891,241800.287,234390.521,211696,646,216041,723,229261\) \(232,233452.749,225998.667,239438.344,229943.991,225154.574,232746.476,249313.561,260612.603,274979.127,289493.911,313151.013,35\) 7021848386965844423346975447003858459573292472092821449447644450622262444462974435086324425119.4714121014 \(41,407142.77\) 397814, 396, 394009.514 397947.053,413841.463,441020.62,493714.153,571366.843,650153.803,679087. 56, 669535.543,659020 233,646845.023,623542.075,591919.488.540465.068,478449.048,382792.076,244775.969,225268.88,99, N,1884 NSLP,UNITED,31/10/2021,8/11/2021
22:02,248880.074,231586.706,225561.085,211631.79,196568.75,184823.381,176428.604,169253.44,163972.418,160733.545,159821.309,160 \(172.446,164420.132,168401.072,173303.063,193515.142,215570.168,235417.892,250394.525,260819.465,265159.825,266272.894,263098.03\) \(5,257158.996,255568.903,257221.933,257126.436,256768.92,259492.163,264136.809,267567.36,271713.576,276470.145,292695.383,325380\) 697,362326.951,374504.874,370850.336,361582.969,352739.92,344220.619,334193.218,319147.04,301751.305,279960.469,256921.427,252 \(685.297,237021.699,273768.081,254745.377,248117.194,232794.969,216225.625,203305.719,194071.464,186178.784,180369.66,176806.91\) \(75803.44176189691180862145185241,179,190633,369212866656,237127,185,258959,681,275433,978,286901,412,291675,808,2929001\) \(83,289407.839,282874.896,281125.793,282944.126,282839.08,282445.812,285441.379,290550.49,294324.096,298884.934,304117.16,321964\) \(921,357918.767,398559.646,411955.361,407935.37,397741.266,388013.912,378642.681,367612.54,351061.744,331926.436,307956.516,282\) \(613.57,277953.827,260723.869,249377.834,232049.879,226012.207,212055.054,196961.888,185193.028,176781.461,169591.947 .164300 .363\) ,161055.012,160140.952,160492.791,164748.972,168737.874,173649.669,193902.172,216001.308,235888.728,250895.314,261341.104,26569

\section*{UNDERSTANDING LOAD PROFILES PUBLISHED FROM MSATS}
\(0.145,266805.44,263624.231,257673.314,25600.041,257736.377,257640.689,257282.458,260011.147,264665.083,268102.495,272257.003,2\) \(77023.085,293280.774,326031.458,363051.605,375253.884 .371592 .037,362306.135,353445.4,344909.06,334861.604,319785.334,302354.808\) 280520.39,257435.27,253190.668,237495.742,274315.617,255254.868,248613.428,233260.559,216658.076,203712.33,194459.607,1865511 \(42,180730.399,177160.514,176155.047,176542.07,181223.869,185611.661,191014.636,213292.389,237601.439,259477.6,275984.846,287475\) 215.292259.16.293485.983.289986.655,283440.646.281688.045.283510.014.283404.758.283010.704.286012.262.291131.591.294912.744.29 \(9482.704,304725.394,322608.851,358634.605,399356.765,412779.272,408751.241,398536.749,388789.94,379399.966,368347.765,351763.86\) \(7,332590.289,308572.429,283178.797,278509,735,261245.317,249876.59,232513.979,226464.231,212479.164,197355.812,185563.414,17713\) \(\frac{7,33259.289,31612.429,28416.1377 .122,160461.234,160813.777,165078.47,169075.35,173996.968,194289.976,216433.311,236360.505,25}{5.024,169931.131,164628.964,16137}\) \(\frac{5.024,16991.131,164628.964,161377.122,160461.234,160813.777,165078.47,169075.35,173996.968,194289.976,216433.311,236360.505,25}{1397.105,261863.786,266221.525,267339.051,264151.479,258188.661,256592.201,258251.85,258155.97,257797.023,260531.169,265194.413}\) ,268638.7,272801.517,277577.131,293867.336,326683.521,363777.708,376004.392,372335.221,363030.747,354152.291,345598.878,335531. 327,320424.905,302959.518,281081.431,257950.141,253697.049,237970.733,274864.248,255765.378,249110.655,233727.08,217091.392,204 119.755,194848.526,186924.244,181091.86,177514.835,176507.357,176895.154,181586.317,185982.884,191396.665,213718.974,238076.642 \(259996.555,276536.816,288050.165,292843.678,294072.955,290566.628,284007.527,282251,421,284077\) 034,283971.568,283576,725,28658 \(4.287,291713.854,295502.569,300081.669,305334.845,323254.069,359351.874,400155.479,413604.831,409568.743,399333.822,389567.52,3\) 80158.766,369084.461,352467.395,333255.47,309189.574,283745.155,279066.754,261767.808,106,N,1884

\section*{NSIP VICAGI 31/10/2021 8/11/2021}

22:02.114269.792.106626.599,103354.969,96382.686.90314.766.85255.2.81078.497,77552.736,75171.492.74117.194.73695.154.74257.898.7 5 6127.91,115773.444,114893.667,115886.157,117600.319,117495.284,118280.506,121940.691,124982.781,131720.972,145776.376,161518.13 \(2,166875.698,167196.136,164527.836,161755.489,158458.289,153994.048,147532.157,140134.683,129649.514,117601.343,118943.419,1093\) \(95.527,125696.771,117289.259,113690.466,106020.955,99346.243,93780.72,89186.347,85308.01,82688.641,81528.913,81064.669,81683.688\) ,83427.098,85217.476,86256.991,95690.977,105262.711,114079.192,122147.392,126265.655,129645.428,130514.919,129391.395,128671.71 \(1,127740.701,127350.788,126383.034,127474.773,129360.351,129244.812,130108.557,134134.76,137481.059,144893.069,160354.014,17766\) \(9.945,183563.268,183915.75,180980.62,177931.038,174304.118,169393.453,162285.373,154148.151,142614.465,129361.477,130837.76112\) \(0335.08,114498.332,106839.852,103561.679,96575.451,90495.396,85425.71,81240.654,77707.841,75321.835,74265.428,73842.544,74406.41\) \(4,75994.502,77625.374,78572.277,87165.781,95884.761,103915.773,111265.17,115016.533,118095.199,118887.226,117863.798,117208.232\), \(\frac{1}{116360.166,116004.991115123 .454116117 .929117835 .52117730 .275,118517, ~ 067122184.572,125232747131984.414146067 .929161841}\) \(168,167209.449,167530.528,164856.892,162079,158775.206,154302.036,147827.221,140414.952,129908.813,117836.546,119181.306,10961\) \(4.318,125948.165,117523.838,113917.847,106232.997,99544.935,93968.281,89364.72,85478.626,82854.018,81691.971,81226.798,81847.055\) ,83593.952,85387.911,86429.505,95882.359,105473.236,114307.35,122391.687,126518.186,129904.719,130775.949,129650.178,128929.054 127996.182,127605.49,126635.8,127729.723,129619.072,129503.302,130368.774,134403.03,137756.021,145182.855,160674.722,178025.285 ,183930.395,184283.582,181342.581,178286.9,174652.726,169732.24,162609.944,154456.447,142899.694,129620.2,131099.437,120575.75, 14727.329,107053.532,103768.802,96768.602,90676.387,85596.561,81403.135,77863.257,75472.479,74413.959,73990.229,74555.227,76146. 491,77780.625.78729.422,87340.113,96076.531,104123.605,111487.7.115246.566,118331.389,119125.118099.526.117442.648.116592.886, \(16237001115353701116350165118071191117965,736118754101122428941125483,212132248383146360.06516216485167543 .8\) \(68,167865,589,165186.606,162403,158,159092.756,154610,64,148122.875,140695,782,130168.631,118072.219,119419,669,109833.547,1262\)
 85558.687,86602.364.96074.124,105684.182,114535.965,122636.47,126771.222,130164.528,131037.501,129909.478.129186.912,128252.17 \(4,127860.701,126889.072,127985.182,129878.31,129762.309,130629.512,134671.836,138031.533,145473.221,160996.071,178381.336,18429\)

\section*{UNDERSTANDING LOAD PROFILES PUBLISHED FROM MSATS}
8.256,184652.149,181705.266,178643.474,175002.031,170071.704,162935.164,154765.36,143185.493,129879.44,131361.636,120816.902,11 3,N, 1884
QLDEGXCL31,ENERGEX,31/10/2021,8/11/2021
\(22: 49,148.988,162.225,134.682,97.799,69.274,58.012,41.45,29.346,23.127,24.671,20.698,26.539,19.812,15.181,19.467,9.717,11.272,6.5,3.736\) , 4.168,6.381,1.76,2.343,1.479,1.76,2.732,0,1.328,0,0,0.821,0,0.043,0.972,0,0,1.36,2.235,4.61,3.747,3.844,4.707,73.992,76,102.474,115.42,191. \(258,188.84,163.887,178.448,148.15,107.579,76.201,63.813,45.595,32.281,25.44,27.138,22.768,29.193,21.793,16.699,21.414,10.689,12.399,7\). \(15,4.11,4.585,7.019,1.936,2.577,1.627,1.936,3.005,0,1.461,0,0,0.903,0,0.047,1.069,0,0,1.496,2.459,5.071,4.122,4.228,5.178,81.391,83.6,112.7\) \(\frac{10,4}{21,126.962,210.384,207.724,149.286,162.549,134.951,97.995,69.413,58.128,41.533,29.405,23.173,24.72,20.739,26.592,19.852,15.211,19.506,}\) \(9.736,11.295,6.513,3.743,4.176,6.394,1.764,2.348,1.482,1.764,2.737,0,1.331,0,0,0.823,0,0.043,0.974,0,0,1.363,2.239,4.619,3.754,3.852,4.716\), \(74.14,76.152,102.679,115.651,191.641,189.218,164.215,178.805,148.446,107.794,76.353,63.941,45.686,32.346,25.491,27.192,22.814,29.251\), 21.837,16.732,21.457,10.71,12.424,7.164,4.118,4.594,7.033,1.94,2.582,1.63,1.94,3.011,0,1.464,0,0,0.905,0,0.047,1.071,0,0,1.499,2.464,5.081, \(4.13,4.236,5.188,81.554,83.767,112.946,127.216,210.805,208.139,149.585,162.874,135.221,98.191,69.552,58.244,41.616,29.464,23.219,24.76\) \(9,20.78,26.645,19.892,15.241,19.545,9.755,11.318,6.526,3.75,4.184,6.407,1.768,2.353,1.485,1.768,2.742,0,1.334,0,0,0.825,0,0.043,0.976,0,0,1\) \(.366,2.243,4.628,3.762,3.86,4.725,74.288,76.304,102.884,115.882,192.024,189.596,164.543,179.163,148.743,108.01,76.506,64.069,45.777,32\). \(411,25.542,27.246,22.86,29.31,21.881,16.765,21.5,10.731,12.449,7.178,4.126,4.603,7.047,1.944,2.587,1.633,1.944,3.017,0,1.467,0,0,0.907,0,0\) \(.047,1.073,0,0,1.502,2.469,5.091,4.138,4.244,5.198,81.717,83.935,113.172,127.47,211.227,208.555 .120, \mathrm{~N}, 1884\)
QLDEGXCL33,ENERGEX,31/10/2021,8/11/2021
\(\underline{22: 49,24.747,30.642,33.579,27.511,29.152,20.687,20.072,13.669,17.524,20.568,21.68,26.701,21.54,29.443,27.727,44.548,53.326,69.954,70.21}\) \(\frac{22: 49,24.747,30.642,33.579,27.511,29.152,20.687,20.072,13.669,17.524,20.568,21.68,26.701,21.54,29.443,27.727,44.548,53.326,69.954,70.21}{3.59 .373,56.058,61.122 .48 .932,46.028,41.957,40.089,34.583,29.044,32.909,31.074,27.684 .37 .12,35.123,31.009,26.172,15.343,23.224,36.569,5}\) \(\frac{2,5193}{2.808,44.235,65.883,75.018,92.444,63.044,42.886,39.204,38.513,37.962,27.222,33.706,36.937,30.262,32.067,22.756,22.079,15.036,19.276,22 .}\) \(625,23.848,29.371,23.694,32.387,30.5,49.003,58.659,76.949,77.234,65.31,61.664,67.234,53.825,50.631,46.153,44.098,38.041,31.948,36.2,34\). 181,30.452,40.832,38.635,34.11,28.789,16.877,25.546,40.226,58.089,48.659,72.471,82.52,101.688,69.348,47.175,43.124,42.364,41.758,24.79 \(6,30.703,33.646,27.566,29.21,20.728,20.112,13.696,17.559,20.609,21.723,26.754,21.583,29.502,27.782,44.637,53.433,70.094,70.353,59.492,5\) \(6.17,61.244,49.03,46.12,42.041,40.169,34.652,29.102,32.975,31.136,27,739,37.194,35.193,31.071,26.224,15.374,23.27,36.642,52.914,44.323\), \(66.015,75.168,92.629,63.17,42.972,39.282,38.59,38.038,27.276,33.773,37.011,30.323,32.131,22.802,22.123,15.066,19.315,22.67,23.896,29.43\) \(23.741,32.452,30.561,49.101,58.776,77.103,77.388,65.441,61.787,67.368,53.933,50.732,46.245,44.186,38.117,32.012,36.272,34.249,30.513,4\) \(0.914,38.712,34.178,28.847,16.911,25.597,40.306,58.205,48.756,72.616,82.685,101.891,69.487,47.269,43.21,42.449,41.842,24.846,30.764,33\). \(713,27.621,29.268,20.769,20.152,13.723,17.594,20.65,21.766,26.808,21.626,29.561,27.838,44.726,53.54,70.234,70.494,59.611,56.282,61.366\), \(\frac{713,27.621,29.268,10.769,20.152,13.723,17.594,21.65,11.766,26.808,21.626,29.561,27.838,44.726,53.54,70.234,70.494,59.61,56.282,61.366,}{49.128,46.212,42.125,40.249,34.721,29.16,33.041,31.198,27.794,37.268,35.263,31.133,26.276,15.405,23.317,36.715,53.02,44.412,66.147,75.3}\) \(18,92.814,63.296,43.058,39.361,38.667,38.114,27.331,33.841,37.085,30.384,32.195,22.848,22.167,15.096,19.354,22.715,23.944,29.489,23.78\) \(8,32.517,30.622,49.199,58.894,77.257,77.543,65.572,61.911,67.503,54.041,50.833,46.337,44.274,38.193,32.076,36.345,34.317,30.574,40.996\), \(38.789,34.246,28.905,16.945,25.648,40.387,58.321,48.854,72.761,82.85,102.095,69.626,47.364,43.296,42.534,41.926,127, N, 1884\) SACLOAD,UMPLP,31/10/2021,8/11/2021
\(22: 18,206.683,205.325,185.716,148.709,109.816,82.051,66.606,45.2,41.14,36.642,29.785,19.273,14.987,9.862,7.787,1.221,0.091,2.55,2.101 .1\). \(997,3.954,2.725,15.551,14.743,10.001,7.795,5.999,15.203,10.185,9.618,6.818,4.723,3.167,0.118,1.525,1.38,1.851,1.867,3.184,1.973,3.443,6.2\) \(13,12.3,24.897,38.264,78.392,136.302,185.416,227.351,225.858,204.288,163.58,120.798,90.256,73.267,49.72,45.254,40.306,32.764,21.2,16.4\) \(86,10.848,8.566,1.343,0.1,2.805,2.311,2.197,4.349,2.998,17.106,16.217,11.001,8.575,6.599,16.723,11.204,10,58,7.5,5.195,3.484,0.13,1.678 .1\). \(518.2 .036,2.054 .3 .502 .2 .17 .3 .787 .6 .834 .13 .53 .27 .387,42.09,86.231,149.932,203.958,207.096 .205 .736 .186 .087 .149 .006 .110 .036,82.215,66.739\) \(45.29,41.222,36.715,29.845,19.312,15.017,9.882,7.803,1.223,0.091,2.555,2.105,2.001,3.962,2.73,15.582,14.772,10.021,7.811,6.011,15.233,10\).

UNDERSTANDING LOAD PROFILES PUBLISHED FROM MSATS
\(205,9.637,6.832,4.732,3.173,0.118,1.528,1.383,1.855,1.871,3.19,1.977,3.45,6.225,12.325,24.947,38.341,78.549,136.575,185.787,227.806,226\) \(31,204.697,163.907,121.04,90.437,73.414,49.819,45.345,40.381 .32 .83,21.242,16.519,10.87,8.583,1.346,0.1,2.811,2.316,2.201,4.358,3.004,17\) \(14,16.249,11.023,8.592,6,612,16.756,11,226,10.601,7.515,5.205,3,491,0.13,1,681,1.521,2.04,2.058,3.509,2.174,3,795,6.848,13,557,27,442,42\) \(17486403150232204366,20751206.147186 .4591493041102568237966 .872453814130436 .788,29.9051935115 .0479 .9027819\) \(1.85 .40,15.204 .066,27.51,20.15,13.44 .802,10.041,7.827,6.023,15.263,10.225,9.656,6.846,4.741,3.179,0.118,1.531,1.386,1.859,18\) \(75.3 .196,1.981,3.457,6.237,12.35,24.997,38.418,78.706 .136 .848,186.159,228.262,226.763,205.106,164.235,121.282,90.618,73.561,49.919,45\). \(436,40.468,32.896,21.284,16.552,10.892,8.6,1.349,0.1,2.817,2.321,2.205,4.367,3.01,17.174,16.281,11.045,8.609,6.625,16.79,11.248,10.622,7\). \(53,5.215,3.498,0.13,1.684,1.524,2.044,2.062,3.516,2.178,3.803,6.862,13.584,27.497,42.258,86.576,150.532,204.775,134, \mathrm{~N}, 1884\)
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[^0]:    ${ }^{1}$ For detailed information on the profiles to a Type-6 meter reading, refer to Section 11 Metrology Procedure: Part B Metering Data Validation, Substitution and Estimation.

