

## IMPACT & IMPLEMENTATION REPORT – SUMMARY SECTION

<b>Issue Number</b>	IN019/15		
<b>Impacted Jurisdiction (s)</b>	Victoria		
<b>Proponent</b>	AEMO	<b>Company</b>	AEMO
<b>Affected Gas Markets(s)</b> <ul style="list-style-type: none"> <li>▪ Retail</li> <li>▪ Wholesale</li> <li>▪ Bulletin Board</li> <li>▪ STTM</li> </ul>	Retail	<b>Consultation process (Ordinary or Expedited)</b>	Expedited
<b>Industry Consultative forum(s) used</b>	GRCF	<b>Date Industry Consultative forum(s) consultation concluded</b>	30 June 2016
<b>Short Description of change(s)</b>	Amend Attachment 6 – Net System Profile Methodology in the Victorian Retail Market Procedures (RMP) to: <ul style="list-style-type: none"> <li>• Remove the reference to specific weather station locations in sections 3.2.2, 3.2.3 and 3.2.4.</li> <li>• Allow AEMO to publish the specific weather station it uses under sections 3.2.2, 3.2.3 and 3.2.4.</li> <li>• Require AEMO to notify and publish a change of weather station it uses under sections 3.2.2, 3.2.3 and 3.2.4.</li> <li>• Require AEMO to maintain and publish the specific weather station it uses under sections 3.2.2, 3.2.3 and 3.2.4.</li> <li>• Require AEMO to publish the effective date of the replacement of a weather station for sections 3.2.2, 3.2.3 and 3.2.4.</li> </ul>		
<b>Procedure(s) or Documentation impacted</b>	Attachment 6 – Net System Profile Methodology in the Victorian RMP, sections 3.2.2, 3.2.3 and 3.2.4. Proposed new Section 3.2.6.		
<b>Summary of the change(s)</b>	Amend Attachment 6 – Net System Profile Methodology in the Victorian RMP to: <ul style="list-style-type: none"> <li>• Remove the reference to specific Bureau of Meteorology weather stations that AEMO must use to measure temperature readings (section 3.2.2), average wind (section 3.2.3) and sunshine hours (section 3.2.4).</li> <li>• If the Bureau of Meteorology ceases to publish relevant data for</li> </ul>		

	<p>a weather station AEMO uses to measure temperature readings, average wind and sunshine hours, allow AEMO to determine a replacement weather station based on closest proximity to the previous weather station.</p> <ul style="list-style-type: none"> <li>• Require AEMO to notify and publish a replacement weather station and station number for sections 3.2.2, 3.2.3 and 3.2.4 to Market Participants and Distributors as soon as practicable.</li> <li>• Require AEMO to publish the effective date of the replacement of a weather station for sections 3.2.2, 3.2.3 and 3.2.4.</li> </ul>		
I&IR Prepared By	Taryn Maroney	Approved By	Allicia Volvricht
Date I&IR published	20 July 2016	Date Consultation under 135EE or 135EF concludes	31 August 2016
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## IMPACT & IMPLEMENTATION REPORT – DETAILED REPORT SECTION

### CRITICAL EXAMINATION OF PROPOSAL

1. Description of change(s) and reasons for change(s)

In 2015, market auditors identified an AEMO non-compliance regarding the Victorian RMP which AEMO proposes to address. This is described below.

AEMO considers the expedited process in Section 135EF of the NGR is applicable to consultation on the proposed change since this is non-material and unlikely to have a significant financial or operational impact on stakeholders.

The proposed changes are considered immaterial because there is a settlement revision process (occurring 118 business days after the end of the month in which the gas day occurred) that would ensure any changes between actual and estimated meter readings are dealt with.

#### **1. IN019/15 – Calculation of Effective Degree Day**

Under section 3.2 of Attachment 6 – Net System Profile Methodology in the Victorian RMP, AEMO must calculate the EDD using:

- Under section 3.2.2, the average Melbourne temperature readings as measured at the Weather Bureau Melbourne Station.
- Under section 3.2.3, the average wind as measured at the Bureau of Meteorology Moorabbin and Laverton weather stations.
- Under section 3.2.4, the number of sunshine hours as measured at the Bureau of Meteorology Laverton weather station.

The market auditors identified that AEMO's current operational practice, which is to use the number of sunshine hours above a standard intensity as measured at the Bureau of Meteorology Melbourne Airport weather station, is inconsistent with requirement in section 3.2.4 of Attachment 6 – Net System Profile Methodology in the Victorian RMP. The market auditors did not identify non-compliances with sections 3.2.2 and 3.2.3. AEMO has included changes to these sections to future-proof these clauses from changes made by Bureau of Meteorology.

The Bureau of Meteorology can change the weather stations where it measures the temperature readings, average wind and number of sunshine hours. For example, it previously recorded Laverton's sunshine hours and now it does not. Since this changed, AEMO uses the number of sunshine hours at Melbourne airport. However, Section 3.2.4 of Attachment 6 – Net

	<p>System Profile Methodology in the Victorian RMP does not give AEMO the flexibility to use another weather station except Laverton weather station, which is the reason AEMO is non-compliant. While the Bureau of Meteorology have not made changes to the weather stations AEMO is required to use for temperature readings (section 3.2.2) and average wind (section 3.2.3), this is possible.</p> <p>Given the Bureau of Meteorology has the ability to change the weather stations where it measures temperature readings, average wind and sunshine hours, AEMO proposes to amend Section 3.2.2, 3.2.3 and 3.2.4 to remove the requirement on AEMO to use specific Bureau of Meteorology weather stations for temperature readings, average wind and sunshine hours. This will provide AEMO with the flexibility to respond to any future changes made by the Bureau of Meteorology without being non-compliant with the Victorian RMP.</p> <p>Additionally, AEMO proposes to include a requirement on AEMO to notify participants and maintain and publish on its website any changes in the weather station location and station number it uses to measure temperature readings, average wind and sunshine hours.</p> <p>AEMO has not proposed that changes in the weather station(s) are consulted on with participants. The Bureau of Meteorology's ability to make changes without notifying AEMO and the need to immediately find a substitute weather station(s), this makes it impossible to consult with participants prior to changes in the weather station occurring.</p> <p>AEMO has not identified any negative impacts to participants resulting from the proposed changes.</p> <p>Attachment A includes proposed marked-up amendments to Section 3.2.4 of Attachment 6 – Net System Profile Methodology in the Victorian RMP.</p>
<p>2. Reference documentation</p> <ul style="list-style-type: none"> <li>▪ Procedure Reference</li> <li>▪ GIP/Specification Pack Reference</li> <li>▪ Other Reference</li> </ul>	<p>Section 3.2.4 of Attachment 6 - Net System Profile Methodology, in the Victorian RMP.</p>

<p>3. The high level details of the change(s) to the existing Procedures</p> <p>This includes:</p> <ul style="list-style-type: none"> <li>▪ A comparison of the existing operation of the Procedures to the proposed change to the operation of the Procedures</li> <li>▪ A marked-up version of the Procedure change (see Attachment A)</li> </ul>	<p>The proposed amendments in this I&amp;IR only include procedural change (no IT system impact).</p> <p>A marked-up version of the proposed Victorian RMP change is in Attachment A.</p>
<p>4. Explanation regarding the order of magnitude of the change</p> <p>(e.g.: material, non-material or non-substantial)</p>	<p>The proposed change is minor, it would ensure AEMO's operational practice is consistent with the Victorian RMP, ensures AEMO has the flexibility to respond to any future changes to the weather station locations made by the Bureau of Meteorology, and requires AEMO to publish the location used and keep participants informed of any changes.</p>

## ASSESSMENT OF LIKELY EFFECT OF PROPOSAL

5. Overall Industry Cost / benefit (tangible / intangible / risk) analysis and/or cost estimates	This amendment is non-substantial and require document changes only.
6. The likely implementation effect of the change(s) on stakeholders  (e.g. Industry or end-users)	AEMO has not identified any market or stakeholder impact resulting from implementing the proposed change. It is intended that there will be no system or business process impacts as a result of the proposed change.
7. Testing requirements	None identified.
8. AEMO's preliminary assessment of the proposal's compliance with section 135EB:  - consistency with NGL and NGR, - regard to national gas objective - regard to any applicable access arrangements	<p><u>Consistency with NGL and NGR:</u></p> <p>AEMO's view is that the proposed Victorian RMP changes is consistent with the NGL and cover matters that the RMP may deal with under Section 135EA(1) of the NGR.</p> <p><u>National Gas Objective</u></p> <p><i>"Promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas."</i></p> <p>AEMO considers the proposed change promotes efficient operation of natural gas services by:</p> <ul style="list-style-type: none"> <li>• Improving accessibility and regulatory certainty by ensuring the Victorian RMP reflect market operations.</li> <li>• Avoiding the need for resources to be spent changing accepted market operational processes that would have no market impact.</li> </ul> <p><u>Applicable Access Arrangements</u></p> <p>Not relevant.</p>
9. Consultation Forum Outcomes  (e.g. the conclusions made on the change(s) whether there was unanimous approval, any dissenting views)	On 9 June 2016, an early draft of this Impact & Implementation (I&IR) was circulated to GRCF stakeholders. Attachment B includes stakeholder's consolidated feedback and AEMO's response. Notably, stakeholder feedback raised issues associated with EDD related to forecasting. These proposed changes impact estimated meter reading for the Gas Retail Market only. AEMO's EDD forecasting methodology is independent of this change and is not within the scope of this proposed change.

<b>RECOMMENDATION(S)</b>	
10. Should the proposed Procedures be made, (with or without amendments)?	AEMO recommends that the proposed Victorian RMP change in Attachment A should be made without amendment.
11. If applicable, a proposed effective date for the proposed change(s) to take effect and justification for that timeline.	<p>AEMO proposes that the change takes effect on 21 September 2016 with publication of version 11 of the Victorian RMP.</p> <p>The consultation dates are:</p> <ul style="list-style-type: none"> <li>• The consultation period for the I&amp;IR is 20 July 2016 with submissions closing 10 August 2016.</li> <li>• AEMO's decision no later than 31 August 2016 with an effective date of 21 September 2016</li> </ul>

## ATTACHMENT A – DOCUMENTATION CHANGES (SEE SECTION 3)

Blue represents additions Red and strikeout represents deletions – Marked-up changes

### 1. IN019/15 - Effective Degree Day (EDD)

Extract from Version 10 of the Victorian RMP, Attachment 6 - Net System Profile Methodology

Amend the definitions in clause 3.2.4 as follows:

Victorian RMP, Attachment 6 - Net System Profile Methodology (page 78)

3.2.2. The degree day is calculated as follows:

$$DD = \begin{cases} 18 - T & \text{if } T < 18 \\ 0 & \text{if } T \geq 18 \end{cases}$$

Where:

- DD is degree day;
- T is the average of 8 three-hourly Melbourne temperature readings (in degrees Celsius) from midnight to 9.00 pm inclusive as measured at the ~~Weather~~ Bureau of Meteorology weather ~~Melbourne~~ Sstation as *published* by AEMO in accordance with clause 3.2.6;

Note: The gas day is defined as 6:00am (day-0) to 6:00am (day+0) so the *effective degree day* formula implies a 6 hour lag in demand to changes in ambient temperature.

and

- 18 degrees Celsius represents the threshold temperature for residential gas heating.

The colder the average temperature the higher the degree day and, accordingly, effective degree day.

3.2.3. The average wind is the average of the 8 three-hourly Melbourne wind *measurements* (measured in knots) from midnight (day-1) to 9.00pm (day+0) inclusive (~~day+0~~) as measured at the Bureau of Meteorology ~~Moorabbin and the Laverton~~ weather stations *as published* by AEMO in accordance with clause 3.2.6. Average wind is represented by the following formula:

Average wind is represented by the following formula:  
Average wind =  $0.604 \times \text{average wind}$   
(~~Moorabbin, Laverton~~ at  
published weather stations)  
wind

3.2.4. Sunshine hours is the number of hours of sunshine above a standard intensity as measured at the Bureau of Meteorology ~~Laverton~~ weather station as published by AEMO in accordance with clause 3.2.6 for the same duration of time between midnight (day-1) to 9.00 pm inclusive (day+0).

### 3.2.6

- (a) For the purpose of clause 3.2.2, 3.2.3 and 3.2.4, AEMO must *publish* the names of the weather stations and station numbers on its website.
- (b) AEMO may only change a Bureau of Meteorology weather station for the purposes of clauses 3.2.2, 3.2.3 and 3.2.4 in accordance with clause 3.2.6(c).
- (c) If the Bureau of Meteorology ceases to publish the relevant data for a weather station published by AEMO for the purposes of clauses 3.2.2, 3.2.3 or 3.2.4, AEMO must determine a replacement weather station which must be the weather station that is closest in proximity to the weather station that is being replaced for which the Bureau of Meteorology does publish the relevant data.
- (d) AEMO must notify *Market Participants* and *Distributors* of the name and station number of the replacement weather station as soon as practicable after determined by AEMO under clause 3.2.6(c) and *publish* on its website the name, station number, effective date of the replacement and for which of clauses 3.2.2, 3.2.3 and 3.2.4 the replacement weather station will apply.

**ATTACHMENT B – STAKEHOLDER COMMENT ON DRAFT I&IR AND AEMO’s RESPONSE (SEE SECTION 3)**

Stakeholder	Key Stakeholder Comments	AEMO comment
AGL	<ul style="list-style-type: none"> <li>GMI be expanded to include all retail market procedures. I would suggest that each RMP require AEMO to produce a consolidated document covering all the weather station locations and relevant EDD calculations for all retail markets. Because of the impact of EDD on forecasting, I would further propose that AEMO be required to notify all market participants whenever the document is updated and the effective date for the change.</li> <li>AEMO should also publish changed weather station locations, AEMO should also publish the updated amendments to the EDD calculations as a result of the weather stations changing.</li> </ul>	<p>At this point in time, AEMO is seeking to deal with an immediate issue and wishes to limit the scope of the IIR to the Victorian RMPs rather than expand the scope to deal with all RMPs.</p> <p>AEMO proposes to add to this to the Retail Issues and Change Register following discussion with the GRCF stakeholders in July.</p> <p>This change is not within the scope of addressing the Victorian EDD calculation for the Retail Market. However, AEMO will investigate whether it can produce a consolidated document that identifies all weather stations used for each jurisdiction.</p>
AGL	<ul style="list-style-type: none"> <li>As there’s an impact on EDD calculations and gas forecasting for both industry and participants, then the changes to the calculations will also need to published.</li> <li>I do not agree that this change is non-material and unlikely to have a significant impact on stakeholders, however, I support the expedited process for resolving this issue. Each EDD can have an impact of approx. 40 TJ/degree of gas consumption (in Vic), which will impact the wholesale market.</li> </ul>	<p>The proposed changes impact estimated meter reading for the Gas Retail Market only. The proposed changes are considered immaterial because there is a settlement revision process (occurring 118 business days after the end of the month in which the gas day occurred) that would ensure any changes between actual and estimated readings are dealt with.</p> <p>AEMO acknowledges that it uses EDD in a number different ways, including in Forecasting (i.e., EDD<sub>312</sub>) and Real Time Operations. Noting, these all have different timeframes. These other uses are not within the scope of this proposed change.</p>
Energy Australia	<p>AEMO selects a replacement weather station not based on closest proximity</p> <p>Instead:</p> <ul style="list-style-type: none"> <li>analysis was done to find a site that has a similar</li> </ul>	<p>If GRCF stakeholders wish to discuss EDD, this can be raised at the July 2016 Forecasting Reference Meeting Group.</p>

Stakeholder	Key Stakeholder Comments	AEMO comment
	<p>relationship with demand, rather than one that is geographically closest.</p> <ul style="list-style-type: none"> <li>AEMO performs a review of the EDD stability (similar to the 2012 weather standards review) when changing weather stations.</li> </ul> <p>Suggests AEMO publishes a single document that defines the methodology and includes which weather stations are used (current and historic) so that we can independently calculate EDDS accurately.</p>	
MultiNet	<p>Recommends replacing the 0.604 coefficient with a generic variable e.g. correction factor. Such that: Average wind = correction factor x average (at published weather stations) wind</p> <p>Similar requirements for a correction factor should be introduced for both temperature and sunshine hours, such that all changes in weather station location are brought back to a consistent basis with historical EDD indices.</p>	
AGL	<ul style="list-style-type: none"> <li>As well as publishing the changed weather station locations, AEMO should also publish the updated amendments to the EDD calculations as a result of the weather stations changing.</li> </ul>	<p>The proposed changes do not change the calculation of EDD (see Attachment 6 - Net System Profile Methodology, section 3.2.1). Instead, the change is that we are using data for a new weather station in all cases for – temperature, wind and sunshine hours. This data would be published through the MIBB, which is what occurs currently.</p>
AusNet	<p>Need time to process the new Effective Degree Day information</p> <p>For an unanticipated change, advice must be provided to Distributors and Participants by no later than 2:00 pm on the following day.</p>	<p>Proposed section 3.2.6(d) requires AEMO to publish this information as soon as practical.</p>
AGL	<p>This may require an IT change for both AEMO and</p>	<p>AEMO does not consider this change would result in system</p>

Stakeholder	Key Stakeholder Comments	AEMO comment
	participants who are using EDD calculations – therefore there may be an IT impact as a result of this change	changes as it only relates to the EDD AEMO is publishing through MIBB. The EDD is updated daily and AEMO expects participant systems already handle these changes.

Feedback was also received from M2 Energy and Red Energy who indicated that they had no issues with this change. APA had a minor editorial comment which AEMO has addressed.