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Electrical Safety and Technical Regulation

Validation Report for the AusNet Services 2016-2017 Fire Start Report

Document information

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Introduction

Background

The Victorian Governor in Council made the Order In Council for the F-Factor Scheme Order 2016 under section 16C of the *National Electricity (Victoria) Act 2005*. This was gazetted on 22 December 2016.

The f-factor scheme is managed by the Australian Energy Regulator (AER). Section 7 of the Order In Council identifies that the AER may request Energy Safe Victoria (ESV) to validate the fire start reports submitted to the AER by the Distribution Network Service Providers. Each fire start report will have an individual validation report.

The Order In Council stipulates that each Distribution Network Service Provider (DNSP) will provide a fire start report to the AER by 30 September each year. The Order In Council also stipulates that, if requested by the AER, ESV will provide a validation report to the AER by 30 November each year.

The Order In Council also identifies that the AER may refer any submissions regarding the validation reports to ESV in order to provide a revised validation that responds to the submissions by 15 February in the following year.

Request from AER

The AER wrote to Paul Fearon, Director of Energy Safety, on 3 October 2017 to formally request that ESV validate the 2016-2017 fire reports provided by the DNSPs (AER ref. 62035). The AER also provided the following documents for the validation assessment:

- F Factor Stat Dec Sept 2017 — PDF document
- 120917 WSP PB Final Audit Report — PDF document
- FY17 AusNet Services F-factor Report (final) rev1 — Excel spreadsheet
- SOP 30-05 F Factor Regulatory Reporting — PDF document

These documents consider the AusNet Services distribution system separately from other systems managed by the service provider.

The AER advised ESV that, where necessary for the purposes of validation, ESV should seek additional information directly from the DNSPs. This is in line with clause 7(4) of the Order In Council. Where additional information was sought, ESV ensured that the AER was copied into any correspondence.

Validation process

While the scope of the fire start report and the validation process are detailed in the Order In Council (as outlined below), the approach to be undertaken in assessing the accuracy of information provided is not specified. This section describes the process that ESV applied to the validation assessment; the results are provided later in this report.

Scope

In reviewing the information provided in a DNSP's fire start report, clause 7(3) of the Order In Council stipulates that ESV's validation report:

(b) must include an assessment of the accuracy of the information provided in the fire start report pursuant to clauses 6(3)(d)-(f) and (h), specifically:

(c) must verify the estimate of the ignition risk unit (IRU) amount for the financial year provided under clause 6(3)(g).

These specific items are detailed in clause 6(3) of the Order In Council, which states that a DNSP's fire start report must, among other things:

(d) if the Distribution Network Service Provider is the service provider in relation to more than one distribution system, distinguish between distribution systems;

(e) list all fire starts for a financial year, stating in each case and where known;

(i) what kind of fire start it was;
(ii) the date, time and latitude and longitude for each fire;
(iii) the unique identification number of the pole and polyphase electric line nearest to the fire start;
(iv) the voltage of the electric line in which the ignition occurred;
(v) the estimated value of the fire start expressed in IRUs, calculated in accordance with this Order;

(f) state whether the fire was reported to a relevant entity;

(g) calculate the total IRU amount for the financial year on the basis of the information contained in the fire start report, in accordance with this Order;

(h) include such other information as the AER may from time to time specify;

Clause 6(3) of the Order In Council also requires that the DNSP's fire start report:

(i) include an independent audit of the fire start report undertaken by an external auditor;

(i) stating, in the auditor's opinion, whether the information contained in the fire start report is accurate and reliable; and
(ii) which is acceptable to the AER.

Methodology applied

For its validation assessment, ESV broke these items into the two categories:

- IRU-specific factors

  These comprise those factors within the fire start report that are directly relevant to the calculation of the IRUs for the incident. Specifically these are the date, time and latitude and longitude for the fire and the distribution business' estimate of the IRUs for the fire [items (e)(ii) and (e)(v) in the Order In Council].

- Non-IRU factors

  These comprise all other information reported in the fire start report [items (e)(i), (e)(iii) and (e)(iv)].

A more detailed analysis was undertaken of the IRU-specific factors than of the non-IRU factors.

ESV validated the DNSP fire start reports as follows:

- *Preliminary review*

  The purpose of the preliminary review was to determine that the information provided to ESV was complete and in a satisfactory form for ESV to undertake its validation analysis.

  ESV started by reviewing the documentation provided by the AER to ensure that all relevant information was provided and readable.

  The DNSP's fire start spreadsheet was then subject to a preliminary, high-level review to ascertain whether there were any obvious issues with the information contained therein. If the preliminary review identified any issues, ESV would contact the DNSP so that the DNSP could provide an updated spreadsheet.

- *Completeness assessment*

  The purpose of the completeness assessment was to determine whether:

  - all fires in the DNSP's fire start report are listed as fires in OSIRIS[1]
  - all network-related fires listed in OSIRIS are included in the DNSP's fire start report.

  Where there were differences identified, ESV contacted the DNSP to confirm the reasons for the difference.

  The DNSP then provided a rationale for the differences and, where there was a change to the information in the fire start spreadsheet, the DNSP provided an updated spreadsheet reflecting any changes and, in some instances, additional supporting information.

  We reviewed the rationale and information subsequently provided by the DNSP to confirm we were satisfied with the reasons for the inclusion or exclusion of specific incidents.

- *Comparative analysis — IRU-specific factors*

  The purpose of the comparative analysis of IRU-specific factors was to identify any *material* differences between the information reported by the DNSP in its fire start report and through OSIRIS. In determining materiality, ESV considered whether:

  - any differences in the location were sufficient to result in a lower location multiplier being applied to the fire start
  - any differences in the location were sufficient to result in an incorrect CFA region being used for determining the applicable Fire Danger Rating for the fire start
  - any differences in the date and time were sufficient to result in an incorrect Fire Danger Rating being applied to the fire start.

  Where potentially material differences were identified, ESV contacted the DNSP to confirm the reasons for the differences.

  The DNSP then provided a rationale for the differences and, where there was a change to the information in the fire start spreadsheet, the DNSP provided an updated spreadsheet reflecting any changes and, in some instances, additional supporting information.

  We reviewed the rationale and information subsequently provided by the DNSP to confirm we were satisfied with the rationale and information provided.

[1] OSIRIS is ESV's incident reporting portal for the major electricity companies to report details of any serious electrical incidents to ESV. These incidents include a range of events that include fires involving network assets.

- *Comparative analysis — non-IRU factors*

  The purpose of the comparative analysis of non-IRU factors was to identify any differences between the information reported by the DNSP in its fire start report and through OSIRIS.

  Where differences were identified, ESV has identified these in this report. No further consultation with the DNSP was undertaken.

Following the validation process, ESV then used the final data to calculate an IRU amount for each fire start. We then compared these against the IRU amounts provided by the DNSP, and a total IRU amount was calculated.

Caveats

The following caveats apply to the validation process and the contents and findings of this report:

- *Accuracy of the fire start data*

  The validation process involves the comparison of two data sets — the DNSP's fire start report and incident data reported by the DNSP via ESV's OSIRIS. Where there are discrepancies between the data reported in these two data sets, ESV has not sought to ascertain which data set provide the true and accurate record of each fire start for the purposes of this report; however, we will pursue this in subsequent discussions with the DNSP.

  As such, ESV can only attest that the data provided in the fire start report is appropriate for the purposes of calculating the total IRU amount. The information provided in the DNSP's fire start report should not be used for other purposes without further analysis of the data to verify it is fit for such purposes.

- *Validation against third-party sources*

  ESV has not sought to validate or verify the data in the DNSP's fire start report in its entirety against third-party sources such as the Country Fire Authority (CFA) and Melbourne Metropolitan Fire Brigade (MFB).

  This is not deemed to be a significant limitation on the validation process as any fires involving network assets should be reported by the CFA/MFB to the DNSP and these are, in turn, reportable to ESV.

  Individual records may have been subject to confirmation with the CFA and/or MFB on a case-by-case basis. If this has occurred, it is noted within the report.

- *Independent verification of fire starts*

  ESV does not have the resources available to routinely undertake independent assessments of the DNSP's electricity network in order to ascertain whether the DNSP identifies all incidents, including fires. As such, the fire starts may be under-reported; however, we are confident that the number of such incidents is small and that no significant fires could have gone unreported.

  Similarly ESV has not undertaken an independent audit of the DNSP's records to ensure their accuracy. In this regard, we have relied on this being undertaken as part of the independent audit commissioned by the DNSP, the details of which were submitted as part of the fire start report.

Accuracy of information provided

ESV undertook an assessment of the accuracy of the information provided in the AusNet Services fire start report in accordance with clause 7(3)(b) of the Order In Council. The following sections outline the findings of the assessment.

Further details regarding the specific incidents reported in the fire start report are available upon request.

Preliminary review

Upon receipt of AusNet Services' documentation, we undertook a preliminary review to ensure that all the required documents had been provided to ESV and that the fire reporting spreadsheet had no obvious issues with regard to incomplete or incorrect data.

No high-level issues were identified with the documentation provided by AusNet Services.

Completeness assessment

We compared the records provided in the AusNet Services fire start spreadsheet with those available from ESV's OSIRIS incident reporting portal. This comparison was undertaken to assess the completeness of the fire start report, with specific attention paid to identifying any records missing from either data set or classified differently between the data sets.

The analysis identified six incidents where there were discrepancies between the AusNet Services fire start report and ESV's OSIRIS records. Details are provided in Table 1.

ESV wrote to AusNet Services on 31 October seeking clarification of incident report 20170526SPN_01. ESV also noted the typographic error on incident report 20170817SPN_01 and the need to re-open the other four reports in OSIRIS for AusNet Services to update.

On 2 November, AusNet Services confirmed that incident report 20170817SPN_01 should have been included in its fire start report. AusNet Services also provided an updated fire start report that addressed this and the typographic error on incident report 20170817SPN_01.

The updated fire start spreadsheet was used for the subsequent analyses detailed herein.

Comparative analysis — IRU-specific factors

We compared the location (latitude and longitude) and timing (date and time) of each record in the fire start report with the record of the same incident in OSIRIS.

As we recognised that errors may be introduced into the location data due to rounding errors and other system-induced errors, we rounded all latitudes and longitudes to five decimal places to reduce the impact of such errors on the analysis.

The subsequent comparison of the records found extensive discrepancies in both the location and timing data — 99% of incident locations and 89% of incident times differed between the data sets. Further statistics on these discrepancies are provided in Table 2.

ESV will be following up with AusNet Services regarding these discrepancies as a separate matter after completion of the f-factor reporting process.

Table 1 Discrepancies between the fire start report and OSIRIS

OSIRIS report no.	Included in report	Listed as fire in OSIRIS	Comment
20160825SPN_01 20170208SPN_01	×	✓	Incidents listed in OSIRIS as fires, but not included in fire start report. Review of incidents identified the faults were on customer installations and therefore not reportable to the AER. OSIRIS reports re-opened for AusNet Services to update. No impacts on f-factor validation process.
20170130SPN_01 20170817SPN_02	✓	×	Incidents not listed in OSIRIS as fires. OSIRIS reports re-opened for AusNet Services to update. No impacts on f-factor validation process.
20170526SPN_01	×	✓	Incidents listed in OSIRIS as fires, but not included in fire start report. Further review by AusNet Services identified that this incident should have been included in the AusNet fire start report.
20170817SPN_01	✓	✓	Typographic error. Incident report incorrectly listed as 20170817SPN-01. Fire start report updated to fix error.

Table 2 Discrepancies in location and timing data

Statistic	Location data	Timing data
Number of records	110	110
Number of discrepancies	109 (99%)	98 (89%)
Minimum discrepancy	2.7 m	0.0 min
Maximum discrepancy	6,719 m	4,318 min (72 hr)
Average discrepancy	338 m	194 min
Median discrepancy	86 m	58 min

While there was a high level of difference between the data sets, ESV focused its analysis on those records where the differences could materially affect the IRU calculated for the fire start.

ESV applied the following tests to determine if the differences between the data sets could be material:

- Test 1 : Is the difference in coordinates sufficient that a change in location may result in a higher location multiplier being applied?

  This was assessed by calculating the distance between each location in the fire start report and the nearest boundary to a region where a larger location multiplier[2] would apply (the buffer distance). If the difference in coordinates multiplied by 1.1 was greater than the buffer distance, the record was flagged for further discussion with the DNSP. [3]

  Thus, the materiality in Test 1 is not solely a function of the size of the difference in coordinates, but is more directly influenced by where the incident occurs (together with the size of the difference). Those events closer to boundaries are more likely to be flagged for further assessment; those events with large differences, but far from a boundary, are less likely to be flagged.[4]

- Test 2 : Does the Fire Danger Rating applicable at the location and time for a record differ when based on the information specified in the fire start report and in OSIRIS?

  ESV determined the applicable CFA region for each record by using the EM-COP website to check the CFA region at the OSIRIS coordinates.[5] We then ascertained the Fire Danger Rating based on that CFA region and the date and time data from OSIRIS. These were then compared against the Fire Danger Ratings specified in the DNSP's fire start spreadsheet and differences identified for further investigation.

  Thus, the materiality in Test 2 could either be due to a difference in the location or time data.

Using these two tests, we identified those records where the differences in information have the potential to materially affect the IRU for the fire start (Table 3). ESV wrote to AusNet Services on 23 November seeking clarification of these items.

On 27 November, AusNet Services wrote to ESV maintaining that the locations specified in the fire start report are correct and align with the asset locations in its Geospatial Information System. AusNet Services also confirmed the times of the incidents and acknowledged that the times for two of the incidents entered in OSIRIS (20170111SPN_01 and 20170223SPN_01) were incorrect and that the fire start report contains the correct information. AusNet Services did not provide any attachments, including outputs from its internal systems, to confirm these statements. ESV undertook an independent investigation of the incidents based on information in OSIRIS and available through the EM-COP website.

AusNet Services also identified two issues with the AER fire start template spreadsheet, namely:

- The Fire Danger Rating is specified as coming from the CFA rather than the Bureau of Meteorology. AusNet Services has used the CFA data as its primary source "as the Government had not established the single source via the Bureau of Meteorology (BOM)" prior to the AusNet Services preparation and independent audit of its fire start report.
- Note 15 in the template spreadsheet specifies that "Where a fire danger period has been declared, provide the daily CFA fire danger rating (or leave blank if the area has not yet been declared)".

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2 These regions are specified in clause 11(b) of the Order In Council.

3 Given that distance between points on the globe is dependent on the latitude and longitude of the points, we calculate the approximate difference in meters using latitude and longitude conversion factors based on a central location. We then included a further 10 per cent margin to allow for approximations in the calculation.

ESV believes that the use of an approximation is acceptable for the general purpose of identifying records for further analysis.

4 As noted earlier, ESV will follow up with AusNet Services as a separate process.

5 Emergency Management Common Operating Picture (https://cop.em.vic.gov.au).

Table 3 Discrepancies potentially material to calculation of the IRU amount

Incident number	DNSP fire start report			OSIRIS data		
	latitude	longitude	date/time	latitude	longitude	date/time
20161010SPN_04	-37.72605	145.14718	9/10/2016 14:54	-37.72441	145.14645	9/10/2016 14:55
20161104SPN_02	-38.06114	145.32182	2/11/2016 17:57	-38.06135	145.3221	2/11/2016 11:15
20170111SPN_01	-38.12308	147.08043	12/01/2017 12:46	-38.12303	147.07959	10/01/2017 15:20
20170130SPN_01	-36.15526	146.05535	25/01/2017 18:18	-36.15521	146.04965	25/01/2017 18:20
20170216SPN_02	-36.00833	146.39379	14/02/2017 15:12	-36.00754	146.3937	14/02/2017 15:15
20170220SPN_01	-36.28502	147.11865	17/02/2017 17:23	-36.2891	147.11879	17/02/2017 17:25
20170223SPN_01	-36.11743	147.00305	23/02/2017 15:04	-36.12559	147.00578	22/02/2017 14:50
20170601SPN_01	-37.87655	148.00506	17/05/2017 19:05	-37.87698	148.00298	17/05/2017 17:55
20170704SPN_01	-37.89622	147.85528	10/06/2017 23:16	-37.89614	147.8556	10/06/2017 20:10

ESV has validated the fire start reports using the Bureau of Meteorology as the authoritative source of the Fire Danger Ratings data in accordance with clause 4(1) of the Order In Council. Where the Bureau's ratings differ from those provided by AusNet Services, we have used the Bureau's ratings in preference. This affects two of the records in Table 3 (20170130SPN_01 and 20170220SPN_01).

The instructions in the AER fire start template spreadsheet may have caused AusNet Services to assume that a Fire Danger Rating does not apply at the location because the CFA has not yet declared the fire danger period for the municipality in which the fire occurred.[6] ESV has reviewed the Order In Council and concluded that it is irrelevant to the calculation of the IRU amount whether or not the CFA has declared the fire danger period for municipality. It only matters that a Fire Danger Rating has been forecast for the region. ESV has used the Bureau's ratings in preference to AusNet Services' records. This affects one of the records in Table 3 (20161104SPN_02).

We then calculated the danger multiplier and location multiplier for the amended records and compared this to the values provided in the AusNet Service fire start spreadsheet. The results are shown in Table 4. Only three of the records differ from the calculations made by AusNet Services, with two of the danger multipliers increasing and one decreasing. These changes were used to calculate an amended IRU amount (see page 17).

[6] This may occur because, while the CFA declares the fire danger period at a municipal level, the Fire Danger Rating is forecast by the Bureau of Meteorology for large regions covering multiple municipalities. It is possible that a Fire Danger Rating can be forecast at the regional level before the fire danger period is declared for the municipality.

Table 4 Fire Danger Rating and multipliers for incidents in Table 4

cells in orange show where differences were found

Incident number	DNSP fire start report			ESV analysis		
	Fire Danger Rating	danger multiplier	location multiplier	Fire Danger Rating	danger multiplier	location multiplier
20161010SPN_04	No forecast	0.1	0.2	No forecast	0.1	0.2
20161104SPN_02	No forecast	0.1	0.2	Low-Moderate	0.2	0.2
20170111SPN_01	High	0.5	4.6	High	0.5	4.6
20170130SPN_01	Very high	1.0	4.6	High	0.5	4.6
20170216SPN_02	High	0.5	0.2	High	0.5	0.2
20170220SPN_01	High	0.5	4.6	Very High	1.0	4.6
20170223SPN_01	Very high	1.0	4.6	Very High	1.0	4.6
20170601SPN_01	No forecast	0.1	0.2	No forecast	0.1	0.2
20170704SPN_01	No forecast	0.1	0.2	No forecast	0.1	0.2

Comparative analysis — non-IRU factors

ESV undertook a comparison of the data in the AusNet Services fire start report and OSIRIS related to:

- the kind of fire start
- the pole and polyphase electric line identifications numbers
- the voltage of the electric line.

Details from OSIRIS were used to determine whether the kind of fire start had been correctly identified. This involved a subjective assessment of the information.

A direct comparison was made of the details of the pole and line identification numbers and line voltage in the fire start report and OSIRIS. This did not require any subjective assessment.

The assessment of ESV fire type category identified eight fire starts where ESV would have classified the fire differently to AusNet Services. These incidents were:

- Incident 20160704SPN_02

  AusNet Services classified this incident as an asset fire from ''Other Assets'', but ESV's review identified this as resulting from a ''Pole and cross arm failure or Pole and cross arm fire''.

- Incident 20160817SPN_01

  AusNet Services classified this incident as ''Any additional fires, caused by any asset failure, not reported to the ESV and required to be reported by the f-factor Order''. The incident was, however, reported to ESV so it doesn't fit this category.

  ESV's review identified this as an asset fire resulting from an ''HV Fuse Failure''.

- Incident 20161010SPN_04

  AusNet Services classified this incident as ‘‘Any additional fires, caused by any asset failure, not reported to the ESV and required to be reported by the f-factor Order’’. The incident was, however, reported to ESV so it doesn’t fit this category.

  It is difficult to classify as it resulted from a tree contacting network assets, but it didn’t cause a grass or vegetation fire so doesn’t fit the ‘‘Grass/vegetation fires from assets (non-asset failures) : Fire starts in grass/vegetation resulting from trees contacting network assets’’ category.

  Given the fire only involved network assets, ESV’s review classified this as ‘‘Asset failures resulting in asset fire (no grass/vegetation fire) : Other Assets’’.

- Incident 20161102SPN_01

  AusNet Services classified this incident as a grass or vegetation fire from ‘‘Other assets’’. There was no mention of a fire beyond the asset in the fire start report or OSIRIS. ESV therefore would have classified this as ‘‘Asset failures resulting in asset fire (no grass/vegetation fire) : Other Assets’’.

- Incident 20170202SPN_02

  AusNet Services classified this incident as an asset fire from ‘‘HV Fuse Failure’’, but ESV would have classified this as ‘‘Any fire triggered by any asset failure caused by Lightning’’.

- Incident 20170213SPN_04

  AusNet Services classified this incident as an asset fire from ‘‘HV Fuse Failure’’, but ESV would have classified this as ‘‘Any fire triggered by any asset failure caused by Lightning’’.

- Incident 20170214SPN_02

  AusNet Services classified this incident as ‘‘Any additional fires, caused by any asset failure, not reported to the ESV and required to be reported by the f-factor Order’’. The incident was, however, reported to ESV so it doesn’t fit this category.

  ESV’s review identified this as an asset fire resulting from a ‘‘Pole and cross arm fire’’.

- Incident 20170214SPN_03

  AusNet Services classified this incident as ‘‘Any additional fires, caused by any asset failure, not reported to the ESV and required to be reported by the f-factor Order’’. The incident was, however, reported to ESV so it doesn’t fit this category.

  It is difficult to classify as it resulted from an animal contacting network assets, but it didn’t cause a grass or vegetation fire so doesn’t fit the ‘‘Grass/vegetation fires from assets (non-asset failures) : Fire starts in grass/vegetation resulting from animal contact with network assets’’ category.

  Given the fire only involved network assets, ESV’s review classified this as ‘‘Asset failures resulting in asset fire (no grass/vegetation fire) : Other Assets’’.

We also initially queried the classification for incident 20170217SPN_01. AusNet Services had classified this as ‘‘Grass/vegetation fires from assets (non-asset failures) : Fire starts in grass/vegetation resulting from animal contact with network assets’’. While the incident was caused by an animal contact with network assets, it did not result in a grass or vegetation fire. The fire was also not contained to network assets; the HV injection that resulted from the tree contact caused a gas meter explosion and fire at a third-party property. Given the fire was outside of the network assets, we concluded that, while none of the reporting categories accurately describes this event, AusNet Services had classified this incident in the category that most closely reflects the incident.

We then used the ESV fire start category data to determine the broader fire start type as defined in Clause 5 of the Order In Council. Any discrepancies between the categories assigned by AusNet Services and ESV were then individually checked. We found 83 incidents that ESV would have categorised differently.

AusNet Services classified incident 20160817SPN_01 as ‘‘Started by any tree, or part of a tree, falling upon or coming into contact with a distribution system’’; ESV classified it as ‘‘Started in or originated from a distribution system’’.

AusNet Services classified incident 20170214SPN_02 as ‘‘Started by any person, bird, reptile or other animal coming into contact with a distribution system’’. While a dead possum was found at the scene, ESV’s view was the possum was likely killed by the incident rather than the cause. As such ESV classified this incident as ‘‘Started in or originated from a distribution system’’.

The remaining 81 incidents were classified by AusNet Services as ‘‘Otherwise started by a distribution system’’; that is a hold-all category for incidents that don’t fit into the other categories in the Order In Council. Of these, two incidents were classified by ESV as ‘‘’’ and the remaining 79 incidents were classified as ‘‘Started in or originated from a distribution system’’.

ESV found discrepancies in the pole identification for 29 of the 110 fire starts. Of these, three records appeared to have typographic errors in one of the data sets, twelve had different pole identification numbers and fourteen were where no pole identification number was provided in OSIRIS.[7]

Discrepancies were found in the polyphase electric line identification for 33 of the 110 fire starts. Of these, five records appeared to have a typographic error in one of the data sets, nineteen records had different line identification numbers and nine were where no line identification number was provided in OSIRIS.[7]

A breakdown of the discrepancies in the pole and line identification numbers is provided in Table 5.

There was a difference in the line voltage recorded for one fire start (incident 20170217SPN_01). This was listed as 66kV AC in the fire start report and 22kV AC in OSIRIS.

These discrepancies or differences in categorisation had no material impact on the total IRU calculation.

No consultation was held with AusNet Services regarding these discrepancies or differences in categorisation.

Table 4 Discrepancies in pole and line identification numbers

Incident number	Cause of discrepancy		
	typographic error	different data	data not in OSIRIS
20160725SPN_02		line id	
20160808SPN_02		line id	
20160817SPN_01		line id	
20160819SPN_01	line id		
20160823SPN_01			pole id
20160829SPN_01			pole id
20160830SPN_01		line id	
20160914SPN_01		pole and line id	
20160922SPN_02	line id	pole id	
20160926SPN_01		pole id	
20161003SPN_03		line id	
20161010SPN_04			pole id

[7] Pole and line identification numbers are currently non-mandatory fields in OSIRIS.

Incident number	Cause of discrepancy		
	typographic error	different data	data not in OSIRIS
20161012SPN_01			pole and line id
20161024SPN_02		line id	pole id
20161102SPN_01			pole and line id
20161104SPN_02		pole id	
20161107SPN_01		pole id	
20161110SPN_01	pole id		
20161115SPN_02			pole and line id
20161124SPN_02		line id	pole id
20161128SPN_01		line id	pole id
20161220SPN_02			pole and line id
20170103SPN_04		pole and line id	
20170116SPN_01		line id	
20170116SPN_02			pole and line id
20170117SPN_02			pole and line id
20170118SPN_01	pole id	line id	
20170201SPN_01		line id	
20170206SPN_07			line id
20170213SPN_01		line id	
20170215SPN_01		pole id	
20170217SPN_01		pole id	line id
20170223SPN_01			pole id
20170228SPN_01		pole id	
20170301SPN_02		line id	
20170319SPN_01		pole id	
20170406SPN_01		line id	
20170420SPN_01			pole id
20170510SPN_02			line id
20170529SPN_01		line id	
20170531SPN_02	line id		
20170601SPN_01		line id	
20170614SPN_01	line id		
20170627SPN_01		pole id	
20170704SPN_01	line id		
20170707SPN_01	pole id		
20170817SPN_02		pole and line id	

Verification of IRU amount

Following the validation of individual records, ESV compiled any changes to the fire start records and assigned the corresponding location and danger multipliers. In assigning multipliers, ESV corrected the danger multiplier formula in the AER template spreadsheet to ignore whether the CFA had declared the fire danger period for the municipality. The individual and total IRU amounts were then calculated.

We then compared our location and danger multipliers with those of AusNet Services to determine whether AusNet Services had correctly assigned the multipliers for each fire start. There were no differences in the multipliers or IRU amount except for the three incidents identified in Table 4 with material discrepancies in incident times. These differences resulted in amendments to the IRU amounts for these three fires. Table 5 shows the changes to the multipliers and IRU amounts.

ESV can therefore confirm that the total IRU amount provided in the AusNet Services 2016-2017 fire start report[8] needs to be amended from 148.68 to 148.70.

Table 5 Amendments to multipliers and IRU amounts

cells in orange show where differences were found

Fire start number	Incident number	DNSP fire start report			ESV analysis		
		danger multiplier	location multiplier	IRU amount	danger multiplier	location multiplier	IRU amount
30	20161104SPN_02	0.1	0.2	0.02	0.2	0.2	0.04
69	20170130SPN_01	1.0	4.6	4.6	0.5	4.6	2.3
85	20170220SPN_01	0.5	4.6	2.3	1.0	4.6	4.6

[8] As per FY17 AusNet Services F-factor Report (final) resubmit 01Nov17.xlsm

Conclusion

As noted earlier, the Order In Council stipulates that this validation report:

(b) must include an assessment of the accuracy of the information provided in the fire start report pursuant to clauses 6(3)(d)-(f) and (h), specifically:

(c) must verify the estimate of the ignition risk unit (IRU) amount for the financial year provided under clause 6(3)(g).

Table 3 identifies where these items have been assessed within this report and summarises the key findings of the validation assessment.

Table 3 Summary of findings

Statistic	Relevant report section	Key findings
Clause 6(3)(d)	Request from AER	The fire start report addressed the AusNet Services distribution system separately from other systems managed by the service provider.
Clause 6(3)(e)(i)	Comparative analysis — non-IRU factors	There were eight discrepancies between the assessment of the ESV fire start category made by AusNet Services and that made by ESV. There were 83 discrepancies between the assessment of the fire type made by AusNet Services and that made by ESV. Most of these related to a same misclassification. These discrepancies were not material to the calculation of the total IRU amount.
Clause 6(3)(e)(ii)	Comparative analysis — IRU-specific factors	While there were a significant number of differences between the fire start report and OSIRIS data sets, there were only three discrepancies material to calculation of the total IRU amount.
Clause 6(3)(e)(iii)	Comparative analysis — non-IRU factors	There were 29 discrepancies between the fire start report and OSIRIS in relation to pole identification number. There were 33 discrepancies between the fire start report and OSIRIS in relation to polyphase electric line identification number. These discrepancies were not material to the calculation of the total IRU amount.
Clause 6(3)(e)(iv)	Comparative analysis — non-IRU factors	There was one discrepancy between the fire start report and OSIRIS in relation to voltage of the line involved in the fire. This discrepancy was not material to the calculation of the total IRU amount.
Clause 6(3)(e)(v)	Verification of IRU amount	The total IRU amount provided in the AusNet Services 2016-2017 fire start report needs to be amended from 148.68 to 148.70.
Clause 6(3)(f)	Completeness assessment	AusNet Services had reported all fires to ESV as the relevant entity.