

Doug Aberle Managing Director

Our ref:DM#8844215

23 November 2011

Mr Lyndon Rowe
Chairman
Economic Regulation Authority
Level 6, 197 St Georges Terrace
PERTH WA 6000

Attention: Mr Paul Reid

Dear Lyndon

2011 ASSET MANAGEMENT SYSTEM REVIEW – AMENDMENT TO THE FINAL REPORT

Western Power has identified a number of discrepancies in relation to section 4.3.1 of the Asset Management System Review report (**Review Report**). As a result, Western Power now provides to the Authority a revised section 4.3.1 to supplement the Review Report together with a letter dated 21 November 2011 from the auditor, GHD Pty Ltd, outlining the amendments.

An electronic copy of the revised section 4.3.1 and a copy of the auditor's letter will also be provided to the Authority.

If you have any queries with regards to the Review Report please do not hesitate to contact Ms Margaret Pynchla, Manager Risk & Compliance on (08) 9326 4535.

Yours sincerely

**DOUG ABERLE
MANAGING DIRECTOR**

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21 November 2011

Mr Ian Gibb
Manager Asset Management Systems
Western Power Corporation
363 Wellington Street
PERTH WA 6000

Our ref: 61/27017/116823
Your ref:

Dear Ian

Asset Management Systems Review 2011 Amended Final Report

Attached is the amended Final Report incorporating the following changes to Section 4.3.1 as discussed with Western Power. The number of wood pole inspections completed during the audit period was recorded at interview with Western Power staff as 290,318. As this number could not be verified with the data and information provided by Western Power, we have decided to treat the information as unverified and therefore removed it from the revised report.

The revised section also includes minor rewriting of several paragraphs to clarify issues raised by the Secretariat over the past two weeks.

The following changes have been made to the Final Report:

- Page 48, section 4.3.1, first paragraph, first sentence – pole sample target changed to “at least 384” from “394”,
- Page 48, section 4.3.1, first paragraph, second sentence – pole population changes to “236,250” from “297,900”
- Page 48, section 4.3.1, second paragraph, first sentence – “of 400 records” added to “...sample data set”,
- Page 49, section 4.3.1, sixth paragraph, second sentence – target pole inspection number for 18 month period changed to “236,250”,
- Page 49, section 4.3.1, sixth paragraph, fifth sentence – pole inspection number for Nov 09 to Jun 10 changed to “132,443”,
- Page 49, section 4.3.1, sixth paragraph, seventh sentence – pole inspection total number changed to “258,565”,
- Page 49, section 4.3.1, sixth paragraph, eighth sentence – pole inspection total number changed to “258,565” and pole reports not loaded in DFMS changed to “75,095”,
- Page 49, section 4.3.1, sixth paragraph, ninth sentence – percentage of pole inspections not recorded changes to 29%,
- Page 49, section 4.3.1, sixth paragraph, final sentence – deleted.



Yours faithfully
GHD Pty Ltd

Norman McKendry
Service Group Manager - Energy
62228600



Table 5 Wood Pole Evidence Reviewed

Document Name	DM Number
Pole Inspection Results - Line KW-MSR 81	5067143
Wood Pole Inspection Guidelines	5449945
Pole Failure Data 2009/10	5486723
Pole Investigation Process Overview	6342396
Pole Based Inspection Program	6804587
Wood Pole Management Plan 2010	6811698
Pole Failure Data 2010/11	7582329
Auspoles Investigation Report	8366132
Asset Data Report Metadata	8444642
Pole Inspection Extract Map	8444636
Pole inspection Extract from DFMS	8444661
Western Power's Wood Pole Management Systems: Regulatory Compliance Assessment. Detailed Technical Report, 20 October 2006	4436854
2008 Distribution Wood Pole Audit Review, A Review of Western Power's Response to the 2006 Regulatory Compliance Assessment of Western Power's Distribution Wood Pole Management Systems, May 2009	7460018
Energy Safety Order Number 01-2009	6648142

4.3.1 Inspection Program

The investigation into the programming of inspections was based on selecting at least 384 pole inspection records from DFMS using a random pole number generator which had been developed by Western Power for quality auditing of DFMS records. The sample number was selected to achieve a 95% confidence level with a sample size of 236,250 pole inspections due within the 18 months of the audit period with a 5% margin of error. The data extract process is described in the Asset Data Extract Metadata (DM#8444642) and plotted in a map (DM#8444636) of the Licence boundaries to demonstrate that the sample poles is a good representation across the SWIS network. The investigation reviewed all of the records in the data extract of 400 records and checked 43 records in the sample set with the data reported in DFMS. This investigation found that Western Power was following the procedures and policy in inspecting poles, recording the outcomes of the good wood tests, and determining the strength index.

Within the sample data set of 400 records, 11 poles had been classified as unserviceable (nine P1 and two P2) based on the good wood and serviceability index. 196 poles were recorded as serviceable or reinforceable priority 2. 193 records had no entry against the "Results of Pole Serviceability" field. The 11 unserviceable records were checked in DFMS and the data in the extract aligned with the DFMS



records. The Serviceability Index calculation and assessment of “serviceability” was in accordance with the procedure in Wood Pole Inspection Guidelines (DM# 5449945).

17 records had default installed dates of 1/1/1901 and 84 records had 1/1/1970. Of these, all of the 1901 dates had estimated install dates from the field inspections and 46 of the 1970 records had estimated dates. Western Power were aware of the default dates in their data set, but advised that as age was not used in predicting maintenance or pole replacement, correcting this data was a low priority. They also advised that they were similarly aware of the missing data in a number of fields and had instigated changes to their field data capture processes to ensure that all essential data field were completed by the field inspectors.

The Wood Pole Inspection Guidelines document includes a significant amount of information on the process of determining the good wood test results and determination of the serviceability index, but only a single paragraph to assessing the cross arm, insulators and lines. Western Power advised that the information on inspecting other equipment attached to the poles is included in the Catalogue of Inspection Types and Definitions. However, this is not a procedures document and the process of assessing the condition of the non-pole elements is reliant on the inspector’s awareness of the Catalogue and the field data collection forms.

Finding 11/07. Recommend that the Wood Pole Inspection Guidelines section on non-pole asset elements should be expanded to include the non-pole inspection information on what is to be inspected and the assessment measurement protocols within the one document.

The investigation into wood pole investigations covered the management of Inspection Backlogs over the audit period. The investigation looked at the Pole Inspection Backlog Report (DM#6717700), Bundled Pole Inspection Services 09/10 and 10/11 (DM#6321838 and DM# 7582098), Bundle Pole Inspection Backlog by Asset ID and Maintenance Zone July 2011(DM#8465872) and Pole inspection Extract from DFMS (DM#8444661). The investigation also included interviews with Anesh Boodhram, David Langdon, Roger Petit, Stu Green, Andy Neeman, Nick Howard, Will Wong, Steve Samuels, Allan Micherton, Sundry Tjhim, Ian Winks, Con Zaekis, Johan Jankowitz and Eddie Kuen.

The DFMS data extract provided evidence that 183,470 poles had been inspected during the 18 months of the audit period. As there is 630,000 distribution wood poles which are to be inspected once every four years, more than 236,250 poles ($1.5 \times 630,000 / 4$) should have been inspected to reduce the backlog on poles inspections. Western Power staff also advised that all but 942 poles had been inspected in the last four years. The difference between the targets and that reported in DFMS was discussed with Western Power at follow up interviews, where staff advised that not all inspections completed during review period had been recorded in DFMS because of Quality Control issues with the field captured data and the start-up issues with the new electronic reporting process. Western Power provided data from the two pole inspection contractors showing that 132,443 poles had been inspected between Nov 09 and Jun 10 and 126,122 poles between Jul 10 and Apr 11. The source data is the monthly invoice claims for the two network contractors, which are independently checked by Western Power before payments are processed. The total number of inspections reportedly completed by the contractors during the review period of 258,565 exceeds the target numbers needed to reduce a backlog. However, the difference between the contractors reported numbers of inspections (258,565) and that recorded in DFMS (183,470) indicated that 75,095 pole reports had not been loaded to DFMS. This is a significant issue as 29% of inspections were not recorded within the distribution asset management system (DFMS) during the review period. The number is far higher than that expected from a data entry or quality control problem.