land development industry

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Electrical Hazards on Metalic Pipelines

Western Power has initiated discussions with the Water Corporations with regards to AS4853:2012 Electrical Hazards on metallic pipelines.

During these discussions the representatives from the Water Corporation have raise their concern with regards to the application of AS4853:2012.

The following interim arrangements have been agreed upon with the intention of preventing significant delays to the power system approvals section of development projects:

1. Until the appropriate agreements are in place to consistently apply AS4853:2012, the voltage limits from AS4853:2000 are to be applied.

The following application approach is recommended:

Earth Potential Raise (EPR) at a buried pipeline - Evaluation of the effect of EPR on the pipeline coating;

Touch voltage at a buried (below ground) pipeline - Evaluation of loaded touch voltage at a buried pipeline with regards to Category A loaded touch voltage limits from Table 5.3 in AS4853:2000.

Designers are not expected to mitigate these hazards but as part of the designer's duty of care and safety in design requirement a notification to effected parties would be prudent.}

Touch voltage at accessible (pit or above ground) assets connected to buried insulated conductive pipelines - Evaluation of loaded touch voltage at a asset with regards to Category A loaded touch voltage limits from Table 5.3 in AS4853:2000.

2. EPR reports will have to be prepared to demonstrate compliance with AS4853:2000 and will be forwarded to Western Power prior initiating communication with Water Corporation and ATCO Gas.

Western Power will provide comments to designers to ensure a consistent approach is applied.

These reports can be forwarded to: Stefan.Oosthuizen@westernpower.com.au

To enable a faster turn around time reports would be expected to contain the following:

- Location of project;

- Site drawings and site arrangement with regards to third party assets to be assessed;

- Hazard scenario and voltage limits;

- Soil resistivity test results and soil models;

- Fault level calculations;

- Protection clearance time;

- EPR calculation;

- EPR calculation at third party asset (Western Australian conditions normally require software assisted calculations); and

- Conclusion and/or recommendation.

A template for this report can be provided by contacting Stefan.Oosthuizen@westernpower.com.au

New Addition to the Land Development Design Team

Juan Urrutia has joined the team and taken over Aaron Rix's PM portfolio. Juan can be contact on 9232 4963 or email juan.urrutia@westernpower.com.au.

Western Power
363 Wellington Street
Perth, WA, 6000

13 13 87

enquiry@westernpower.com.au

www.westernpower.com.au

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