

Ref:	NR/L3/ELP/27406/MOD C
Issue:	1
Date:	3 December 2011
Compliance date:	3 March 2012

Engineering Deliverable Requirements for Electrical Power Asset Design

Module C: Contact Systems – Conductor Rail

1 Typical Contact Systems – Conductor Rail and ETE Requirements

Only the appropriate items described in clauses 2 to 4 should be specific in the PRS along with the requirements identified in Module A. Additional requirements may be specified in the PRS for unusual or complex schemes.

2 Contact Systems - Conductor Rail and ETE Requirements Form A

The required items may be incorporated into the associated GRIP 3 option selection report instead of providing standalone deliverables. The level of detail for each item should only be sufficient to satisfy the approval in principle of single option selection.

a) Major Feeding Diagram (or equivalent).

Required for schemes introducing a new electrification system. A major feeding diagram produced at GRIP 3 in order to obtain approval in principle of single option selection may require updating at a later GRIP stage to reflect any scheme alterations. The diagrams should show DC feeding arrangements only.

b) Conductor Rail Drawing.

Required for more complex schemes to identify any new, modified, redundant and future installations as part of the proposed scheme. At Form A stage this does not necessarily require the inclusion of final DC feeding, jumper cable and switching arrangements. The conductor rail drawing may be based on preliminary track designs particularly S&C layouts with reference to exact switch type and geometry.

NOTE For complex areas the plans are to be drawn on a scale of 1:500. For open route, cut lines may be used to remove superfluous plain line that does not depict any conductor rail features.

c) Comprehensive Track Diagram (extract from master diagram or draft DC isolation diagram).

Required for schemes significantly amending existing feeding arrangements in complex areas. The extent of the area forming the extract from the CTD or DC Isolation diagram must demonstrate the intended changed feeding arrangements for the traction sections subject to those changes.

A comprehensive track diagram or draft DC isolation diagram produced at GRIP 3 in order to obtain approval in principle of single option selection may require updating at a later GRIP stage to reflect any scheme alterations.

d) High Current or Standard Current Traction System.

High level statement giving clear indication of which standards are to be applied and the traction current isolation facilities. If no specific information is available for a hybrid high and low current area then an evaluation of the expected current flows to support the intended design should be provided.

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e) Cross Track Cable Management.

A high level strategy for management of cross track cables.

f) Gapping Assessment.

A preliminary assessment to intended to avoid potential gapping issues later in the project development.

Evaluation against the line speed where compliance is not achievable.

g) Interfaces.

High level summary of interface issues with areas such as depots and third party premises.

h) Stray DC Current Assessment.

High level assessment of mitigation measures to limit the effects of DC stray current.

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a) Conductor Rail Drawing.

Required to identify any new, modified, redundant and future installations as part of the proposed scheme. Details of DC feeding arrangements, isolation switch numbers and other details relating to signalling and track details to be included.

Staged drawings to be submitted as required.

NOTE For complex areas the plans are to be drawn on a scale of 1:500. For open route, cut lines may be used to remove superfluous plain line that does not depict any conductor rail features. Although there is no maximum length of drawing, consideration is to be given to 'on-site' practical usage in its folded format.

b) Comprehensive Track Diagram (extract from master diagram or draft DC isolation diagram).

Required to identify any new and modified arrangements and feeding as part of the proposed scheme. The extent of the area forming the extract from the CTD or DC isolation diagram must demonstrate the intended changed feeding arrangements for the traction sections subject to those changes.

Staged drawings to be submitted as required.

Once approved as part of the scheme the comprehensive track diagram (extract diagram or draft isolation diagram) is used as the basis for the master comprehensive track diagram or master DC isolation diagram to be amended by the document managing agent, as defined in NR/L2/ELP/27500, to show the scheme arrangements and issued to the controlled distribution.

A controlled issue of the master diagram may be required for each stage as required in advance of the works proceeding with an effective time/date.

c) Negative Bonding Diagram.