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| Ref:             | NR/L2/ELP/27009/MOD C31 |
| Issue:           | 1                       |
| Date:            | 03/12/2011              |
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| OVERHEAD LINE CAMPAIGN CHANGES – DATA SHEET |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>31</b>                                   | <b>DAMAGE TO STRANDED CATENARY FROM SHORT CIRCUITS AT OVERBRIDGES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>COMPONENT</b>                            | Stranded catenary at overbridges                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>PROBLEM</b>                              | <p>Bird strikes at overbridges cause short circuits from live equipment to earth. Where stranded catenary runs through the bridge, these short circuits cause conductor stranding with a risk of dewirement.</p> <p>This campaign change is related to campaign changes 10, 32 and 33.</p>                                                                                                                                                                                                                                                                                                                        |
| <b>ACTION REQUIRED</b>                      | <ol style="list-style-type: none"> <li>1. Modify the catenary height so that the electrical clearance between the uplifted catenary and the bridge soffit is at least 600mm.</li> <li>2. Where this not possible, replace the stranded catenary with solid catenary wire. For compound equipment, terminate the auxiliary catenary either side of the bridge face.</li> <li>3. Where this is not possible, fit an approved design of secondary catenary wire insulation in accordance with manufacturers instructions.</li> <li>4. Fit insulation to the bridge structure itself.</li> </ol> <p>Do not use secondary insulation as a justification for infringing minimum electrical clearances.</p> |

| Reference Information            |                                        |
|----------------------------------|----------------------------------------|
| Ellipse standard job number      | 13031                                  |
| Ellipse standard job description | Resolve bird strike risk at Overbridge |
| Category                         | Catenary wire                          |
| Priority                         | Yes                                    |
| Types of OLE affected            | Ex-DC; Mk1; Mk2.                       |
| Original equipment dates         | 1949-1970                              |

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