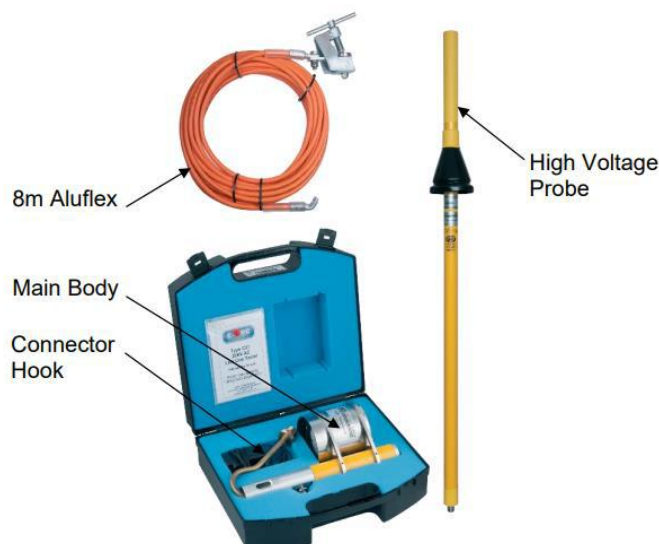


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Date of issue: 27/11/2024  
Location: National  
Contact: Dave Campbell  
Principal Engineer Contact Systems

## E&P Technical Advice Note:

### COTEC C31 Live Line Indicator – Incorrect Assembly



#### Overview

There have been multiple incidents nationally where the COTEC C31 Live Line Indicator has been incorrectly assembled by Nominated and Authorised Persons.

During these incidents Network Rail Work Instruction NR/L3/ELP/27237/OLE/E14A has not been followed, and the Live Line Indicator has been incorrectly assembled without the high voltage probe. Without the high voltage probe present, the Live Line Indicator is exposed to a full 25kV short circuit and can explode when coming into contact with LIVE Distribution / OLE equipment. This places a significant safety risk to the user.

See safety bulletin [NRA20-09](#) for further information.

Following these incidents, the manufacturer (COTEC) has modified the design of the unit by producing a Mark 2 version, which prevents the connector hook being installed directly into the main body.

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NR/L3/ELP/27237/OLE/E14A section 3.3 details the requirements for the correct assembly.

### 3.3 Assembly

The C31 LLI shall be assembled in the following sequence.

a) screw the high voltage probe into the main body - Figure 2.

b) screw the hook into the top of the high voltage probe - Figure 3.

Note 1: Take care not to overtighten the screw assemblies.

c) attach the main body to a set of approved live line poles - Figure 4.

d) attach the Aluflex cable to the C31 LLI at the fastening point on the main body below the meter, confirming that the contact surfaces are clean and that the lug is firmly attached to the main body.

e) attach the rail end of the Aluflex cable to the traction return rail using the rail clamp, safeguarding a good electrical connection by compressing the spring washers fitted upon the clamp.

Note 2: The traction return rail is denoted by the presence of a structure to rail and traction return bonds.

Note 3: Connecting to a non-traction return has the potential to damage infrastructure and cause harm to the user.

Never use the C31 LLI without the high voltage probe fitted to the main body.

Never use the C31 LLI without the rail clamp attached to the traction return rail.



Figure 2 – Screw the high voltage probe to the main body



Figure 3 – Screw the contact hook to the high voltage probe



Figure 4 – Attaching the assembled C31 LLI to approved live line poles

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### Advised Actions

1. All Mark 1 COTEC C31 Live Line Indicators are to be modified to the Mark 2 unit during the next natural calibration cycle by quoting 'SGS-NR/C31mod' in the works request.  
  
Alternatively, procure new complete Mark 2 COTEC C31 Live Line Indicator using Cat No. 0091/012726 and withdrawing any Mark 1 units from service.
2. No Mark 1 COTEC C31 Live Line Indicator (Cat No. 0091/012337) shall be used beyond the 26<sup>th</sup> November 2025.
3. All Nominated and Authorised Persons should refresh themselves of the full requirements of Network Rail Work Instruction NR/L3/ELP/27237/OLE/E14A prior to using a COTEC C31.
4. Please refer to Product Acceptance Certificate PA05/01514 for more information.

### Distribution list

- Network Technical Head Contact Systems
- Network Technical Head Power and Distribution
- Regional Engineers (E&P)
- Route Asset Engineers (E&P)
- EPME's
- Project Engineers (Works Delivery)
- Capital Delivery Regional Leads (E&P)
- Professional Head of OLE (or equivalent) – Supply chain contractors
- OLE Isolation Contractors – Responsible Managers > Nominated Persons, Authorised Persons

*The above recipients should distribute and onward brief to effected parties as necessary.*