

Technical Bulletin

TB 0291 – Stay wires through LV Circuits

Purpose

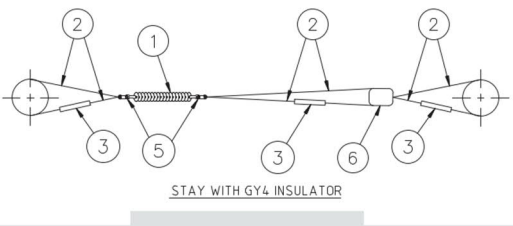
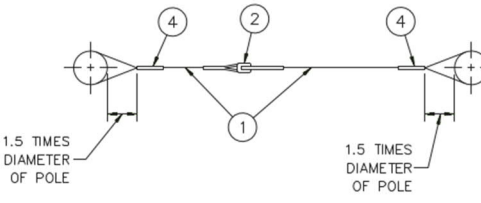
This Technical Bulletin is to clarify the requirements for stays that pass through LV circuits.

Background

Current Construction Requirements

After a recent incident involving the transfer of potential between an LV circuit and a stay wire, clarification regarding the construction requirements for stays is required. Currently, there are slight differences between the stay requirements for HV constructions and Transmission constructions. The construction requirements are recreated and summarised below:

Document	Title	Requirement	Currently Applies to
Drawing 048342	Overhead Construction Pole Stay Assembly for 33kV to 132kV Mains	- When a stay wire passes through LV Mains, one 2800mm long LV spreader rod is to be installed between the LV mains and the stay wire. - The LV Mains are to be mounted a minimum 2700mm long crossarms on this and adjacent poles - When a stay wire passes through or within 600mm of LV or 11kV Mains, a GY4 Insulator is to be installed below these mains.	33kV to 132kV Constructions
Drawing 048343	Overhead Construction Ground Stay Assembly for 33kV to 132kV Mains		
Drawing 011987, 011988, 011989	Overhead Construction Ground Stay Type G1, G2 or G3	General construction details for stay wires	LV and 11/22kV Constructions
Drawing 011991	Overhead Construction Aerial Stay Type A1, A2 or A3	General construction details for Aerial Stays	LV and 11/22kV Constructions
MCI 0005, Clause 3.9	Stays Requirements	- Ground or aerial stays shall comply with Drawings 011987, 011988, 011989, and 011911. - Requirements of ground vs aerial stays.	All constructions.
MDI 0031 Clause 3.7	Low voltage spreader requirements	Spreaders are required where a stay wire passes between conductors.	All constructions.

Voltage	Current Construction Details	Current Details
33kV to 132kV		Polymer Insulator and second GY4 Insulator required either side of where stay passes through the LV construction
LV and 11/22kV		Single GY3 Insulator Required

Current Inspection Requirements of existing constructions

The inspection requirements for stay constructions are detailed in MMI 0001 Clause 5.10.5 and have been updated to align with the new requirements:

5.10.5 Stay poles and ground stays Pole stays must be inspected to verify that the stay has not slipped, slackened, or crushed the pole, or is otherwise in need of adjustment, and that stay insulators installed are in working condition. Staywires must also be inspected for excessive corrosion.

Where a staywire passes through live conductors and an insulator does not exist on either side of where the conductors cross, an assessment is to be made to look for any continuous conductive path to ground (in the event of the staywire touched a conductor). This includes:

- Staywire passing through live conductors without an insulator, being attached to a steel or concrete pole
- Staywire passing through live conductors without an insulator, being attached to a wood pole, with a metal conduit / earth conductor (running to the base of the pole) also located where the stay contacts the wood pole.

If a continuous electrical path to ground may occur, a defect is to be raised to have an insulator installed as per these construction requirements, otherwise no defect is to be raised.

Check for deteriorated, loose or missing u-bolt clamps. The presence, position and condition of stay guards must be checked to confirm that all ground stays located in public areas are effectively guarded.

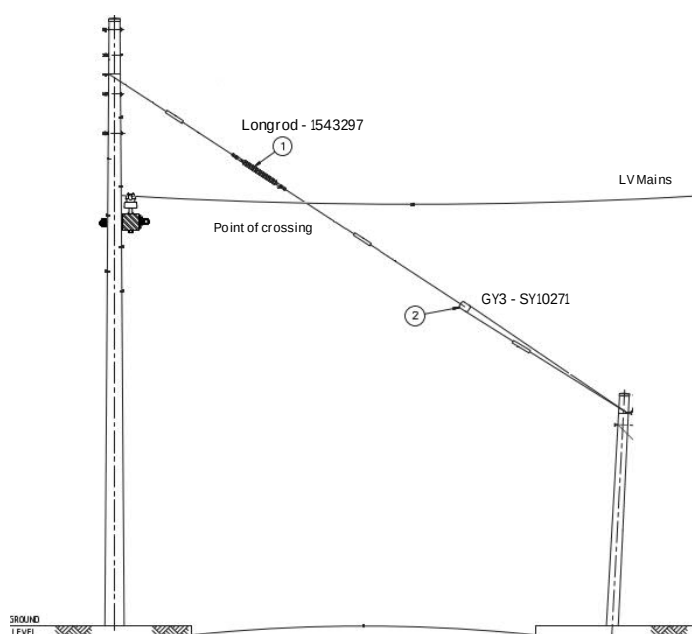
Ground stays in rural areas should be checked for cattle guards. Also check for stay condition at ground level for any deterioration.

Low voltage spreaders are to be fitted where stay wires pass between low voltage or streetlight mains.

Actions

Effectively immediately, the following requirements will apply:

Stockcode	Description
Existing Constructions	Pole and overhead line inspectors to inspect stay wire constructions as per MMI 0001 Clause 5.10.5.
New LV, HV Stay Constructions	Constructions to reflect transmission constructions with a GY3 insulator and a second longrod insulator (SC#1543297) either side the point of crossing through the LV Mains. See indicative drawing below.
New TR Stay Constructions	No change



Impacted Standards

The contents of this technical bulletin will be included in the next update of the following standard(s):

- MCI 0005 and associated drawings – Overhead Construction Standards Manual
- MDI 0031 – Overhead line design
- MMI 0001 – Pole and line inspection and treatment procedures.