# Would your poles pass a compliance audit?

A field guide to AS/NZS 1319 and ISO 7010 requirements for overhead distribution infrastructure

Charlie Beatson | Identimark Group

BEFORE WE START

# Has your network had an audit flag a signage or identification issue in the last three years.

# Why this matters.

Non-compliant assets carry three kinds of risk;  to people, to your network's audit record, and to your operational response.

## Someone gets hurt

**~1× per week**

Wellington Electricity underground cables struck on average, 2022

**A worker or member of the public approaches a live asset.**

The sign is missing, wrong format, or too faded to read. Liability follows the network that failed to prevent it.

## The audit finds it

**~88%**

of asset-class defect lists in one disclosed NZ EDB AMP included ID or marking failures

**No danger sign. No phase ID colours. Illegible asset labels.**

These are recurring NZ field defects, not edge cases and they are exactly what auditors look for.

## The fault takes longer to fix

**1.36M poles**

in NZ - average age 35 years. Inconsistent marking at this scale is not a minor issue

**A line goes down. The caller describes a pole with no ID, no contact, no network ID.**

Every minute spent locating the asset is a minute the fault isn't being fixed.

# The scale of the problem.

**1.36 million**

Distribution poles in New Zealand's network

**35 years**

Average age of the NZ pole fleet

**16.2%**

of the national fleet over generic age

On a fleet of this size and age, inconsistent marking is not surprising, unless you actively govern it.

# A compliant distribution pole.


** Diagram is indicative only.*

## Identification

1. **Cable & conductor labels**
   Unique ID at switching and earthing points
2. **Phase identification**
   R / Y / B markers at required insulator points
5. **Asset ID tag**
   Unique ID · owner · contact details
8. **Operational ID**
   Consistent across the network
7. **Emergency contact details**
   Durable : legible for asset life

## Danger/Warning Signage

3. **DANGER Live Wires sign**
   AS/NZS 1319: red oval, word-only
4. **ISO 7010 symbol**
   W012 electricity hazard: cross-language
6. **No climbing / prohibition**
   AS/NZS 1319 format, correctly placed
10. **UG transition marker**
    Danger: live cables below

## Other Operational Signage

9. **Pole wrap**
   High-vis ID during active works

**MOL / DNO Tags**
Lockout tags for active works

**Unsafe Pole Tags**
Critical Warning for line mechanics

# Safety Signage: The DANGER LIVE WIRES Sign.

Reg 45 requires it, AS/NZS 1319 determines the layout - most poles carry the wrong one

## ✕ NON-COMPLIANT


**Traditional red arrow format**

Widely used but does not meet current requirements.

Text-only or arrow iconography fails AS/NZS 1319 and ISO 7010 alignment.

## ✓ COMPLIANT



Red 'DANGER' text inside a white oval on a black background.

**Word-only format** - pictograms are NOT permitted on DANGER signs under AS/NZS 1319.

This format signals: immediate hazard that WILL cause death or serious injury.

# Safety signage: ISO 7010 & why symbols matter.

This is not a compliance requirement but Identimark strongly recommends the inclusion. A sign that relies on English text alone is a legal and safety exposure.


### NZ workforce reality

A significant portion of the workforce and public are non-English speaking. A DANGER text sign alone may not be understood. ISO 7010 W012, the yellow triangle with a lightning bolt, removes that ambiguity.

### What compliant looks like

DANGER header (AS/NZS 1319 format) combined with the ISO 7010 W012 symbol. Both elements together provide legally defensible, internationally legible signage.

### Liability exposure

A non-English speaker who cannot interpret the hazard sign and is harmed represents direct liability for the network owner. Standardised symbols close that gap.

# Asset identification: The ID tag.

Every pole needs one. Without it, 'which pole?' is the first question at every incident.

### Operational ID

The ID number for  safe operating Switches, Transformers and other Pole mounted Equipment.


### Unique Asset ID

Identifying number assigned to each pole, enables tracking through asset register and rapid location in field.


# Network and emergency contact information.

**Who owns it.**
**Who to call.**
**How to find it.**

### What should be on the pole

Fault reporting / emergency contact number for the network owner. Consistent with Electricity Authority guidance, incorporated on the asset ID tag or Danger live Wires sign.

### Durability is non-negotiable

A sticker phone number that fades within 3 years is not acceptable. Emergency contact signage must remain legible for the life of the asset - often 30–50 years.

### Combine with asset ID tag or live wires sign

The emergency contact can be incorporated into a combined asset ID / contact tag - reducing separate elements while meeting both requirements.

### Consistent across the network

Variation in format creates confusion for the public and first responders. Specify format as part of the standard pole hardware package.

# Operational labelling: Works ID and isolation.

Specify these as standard, not afterthoughts added when something goes wrong.

## MOL Lockout Tags


- Required under the Electricity (Safety) Regulations
- Colour-coded and uniquely numbered so the isolation point = identifiable at a glance
- A missing or bypassed lockout tag is a serious safety and regulatory breach, not an administrative oversight

## Pole Wraps


- Required under network safe work procedures when work is being or has been carried out on an asset
- Format and application must be consistent across the networks to be operationally effective
- Identifies the exact asset so field crews are working on the correct pole, not an adjacent one

## Unsafe Pole Tags


- Applied when a pole has been identified as structurally unsafe for climbing pending inspection or replacement
- Immediate visual deterrent.
- Works alongside the asset register: should be matched by a flagged status in the network asset management system

# Access control: No climbing & prohibition signage.

Missing or non-compliant prohibition signage creates direct liability exposure for the network owner.


### AS/NZS 1319 format

Red annulus and diagonal slash over a pictogram, or word-only format on white background. Correct format is mandatory — not a style preference.

### No climbing notices

Required on poles and towers accessible to the public or where unauthorised climbing is a realistic risk. Placement at the base of the pole or tower at eye height.

### Positioning matters

Signs placed too far from the point of action fail their purpose under AS/NZS 1319. The sign must be visible before a person can reach the hazard.

### Liability exposure

A missing or non-standard prohibition sign on a public-access pole significantly weakens the network owner's defence in any climbing injury or fatality.

# Cable & conductor, phase ID, transition identification.

Phase identification, cable labelling and the UG transition point; three categories frequently missed or specified incorrectly.

## Cable & Conductor Labels


- Individual conductor identification at switching points, service connections, earthing points and street crossings.
- Labels must survive conductor operating temperatures and sustained UV exposure.
- Supports safe isolation procedures; engineers need to know exactly which conductor is which before working.
- Consistent labelling convention across the network reduces errors during maintenance.

## Phase Identification Discs

- Applied at connection points, conductor transition points, and points of supply where different network configuration is present—wherever a technician needs to identify which conductor is which
- Phase Markers must survive asset lifetime and sustained UV exposure.
- Consistent labelling convention across the network reduces

## Underground Transition Markers


- The point where overhead transitions to underground is a critical but frequently unlabelled location.
- Must identify the cable position
- Relevant for safe digging, third-party works, and fault location.
- Often missed at installation and difficult to retrofit; get it right at specification stage.

**Who is confident every pole in your network has a compliant DANGER sign right now?**

# Spot the gap

**Look at the pole below how many compliance gaps can you find? → Call them out.**


## GAPS

- Wrong Danger sign format
- Not clear Operational vs Asset ID
- No Emergency Contact
- No Network Owner ID

# What separates the networks that pass from those that don't.

## 01

### Most gaps are inherited, not designed.

Poles installed 20–30 years ago under different specifications. Compliance thinking needs to span both specification stage and remediation planning, not just new builds.

## 02

### The three most common audit failures.

Wrong DANGER sign format. Missing asset ID tag. No durable emergency contact. Fix these three across your network and you remove the majority of your audit exposure.

## 03

### Material quality as a compliance decision, not a cost one.

A sign that fades or a label that lifts creates the same audit exposure as never installing it. Specify UV-stable, heat-resistant materials rated for asset life - not the cheapest option that passes on day one.

## 04

### Everything on this list is fixable at spec stage.

None of these requirements are ambiguous. Specifying compliant signage and identification at design stage costs a fraction of network-wide remediation after an audit, or an incident.

# From the structure to the conductor.

The pole is compliant. Now what's on the line?

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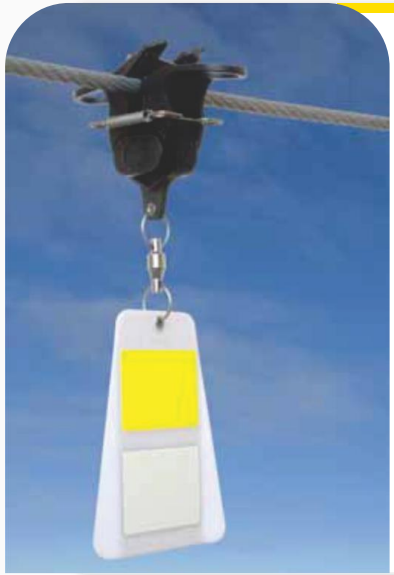
# Bird diverters and warning markers.

Conductor-mounted markers that protect birds and increase line visibility;  specified by type, spacing and location at design stage.



## Bird diverters

Required on lines near wetlands, waterways and open country. Specify type, spacing and installation method at design stage.

## Warning markers

CAA-required at airstrips and low-flying zones. Also for construction and Horticulture sites. Marker type, colour and spacing per network standard - not optional in designated risk areas.

# Sentrisense.

An overhead line sensor for real-time grid monitoring.

## Easy to install

- Light sensor — 1.4 kg
- Line diameter from 10 to 70 mm
- Drone installation in 45 seconds

## Self-sufficient

- Powered by solar energy
- Rechargeable battery for continuous operation

## Universal

- 3G, 4G, satellite, and WiFi connectivity
- Line or tower monitoring
- AC and DC lines

# Three modes of operation.

DLR, AHM and QID — one sensor, three operational use cases.

## DLR

→

### Dynamic Line Rating

Ambient adjust rating — ampacity, sag and conductor temperature.

### Grid congestion

Improve line capacity. Reduce bottlenecks and transmission cost.

## AHM

→

### Asset Health Monitoring

Tilted poles and towers, fatigue and structural failure, ice deposits.

### Ageing infrastructure

Reliability, regulatory evidence, and predictive maintenance.

## QID

→

### Quick Incident Detection

Line, pole or tower down. Car vs Pole, Wire theft. Strong wind impacts.

### Safety & security

Detect external events on the grid — extreme weather, falling trees, conductor theft. Instant Reporting

# What Sentrisense measures.

Five primary measurements. Multiple derived insights for grid operators.

**Line temperature**

Ampacity | Sag

**Line inclination (pitch/tilt)**

Ampacity | Sag

**Line amplitude of vibration**

Fatigue forecast | Bending amplitude

**Current**

Ampacity | Sag

**Line frequency of vibration**

Ampacity | Wind speed

# If you are dealing with an active audit or currently specifying a new pole programme.

**Let’s talk.**

**Protect what matters.**

Safety signage, identification and cable protection exclusively for energy and utilities - AU & NZ.