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## Scope

This manual is one of a series containing standards for construction of the BC Hydro electrical distribution plant within the service area of BC Hydro. A new distribution plant shall be designed, constructed, owned, operated, maintained and repaired to these standards.

## Purpose of Standards

BC Hydro objectives require standardization to:

a) Ensure uniform safety requirements comply with BC statutes and regulations.
b) Provide uniform system reliability.
c) Provide uniform operating practices.
d) Permit economic bulk purchasing of materials.
e) Achieve optimum life cycle cost of plant construction.
f) Effect efficient quality assurance.

## Responsibility

The Distribution Standards Department prepares these standards and verifies that specified plant and procedures will perform adequately under all normally expected conditions encountered throughout the province of British Columbia. These standards are approved by Professional Engineers. It is the responsibility of BC Hydro Managers to ensure that the standards are followed unless abnormal conditions are encountered that require variations. These variations should be kept to a minimum and their performance shall be the responsibility of the Professional of Record in charge of the project, who will record and seal the variation based on satisfactory qualifications and experience to do so. As per the latest revision of the BC Hydro Distribution Owner's Engineer Guide, these variations must be accepted by BC Hydro's Owner's Engineer.

## Use of Stock Materials

The electrical distribution plant covered by these standards is built using stock materials approved by a Professional Engineer as required by law. The use of non-stock materials for special and unusual situations must be approved by Distribution Standards or the BC Hydro Engineer responsible for the project.

## Revisions to Manual

These standards are revised from time to time to improve the safety, performance, workability, cost effectiveness or appearance of the plant. The existing plant built to previous standards need not be updated unless so specifically advised by BC Hydro. When maintenance or other work, such as voltage conversion or conductor change is being done, updating plant to current standards is encouraged.

## Mailing Addresses

The manual has been issued to a corporation or firm rather than to an individual. The corporation or firm is responsible for the safekeeping of the manual, and for keeping it current. Changes of address or in number of copies required must be reported promptly.

Suggestions for changes in the manual, or required changes of address may be made on the pre-addressed comment sheet included in the Manual and with each issue of revision.

# Information Bulletin:

## 420-1157 Ground Rod Connector Stock no Longer Held as a Separate Item at AE Concrete Ltd. Plant Storage

## 1.0 Items Covered

ES54 D3-01 Three-Phase Junction Kiosk Pad
ES54 E4-01 Above Ground Switchgear 4-Way Over Vault
ES54 E4-03 Above Ground Switchgear 5-Way Over Vault
ES54 F3-05 Three-Phase Transformer Pad 750 kVA and Larger

## 2.0 Overview

This bulletin explains the latest minor revisions to the above construction standards' Bills of Material, in response to AE Concrete's request not to hold the 420-1157 Ground Rod Connectors as a separate item in the local stock held at their fabrication plant.

The 420-1157 connector is the essential ground rod-to-counterpoise connector, which is always issued as part of the shipping lot to civil contractors when they pick up a counterpoise and two ground rods. Because of high volume demand, two 420-1157 connectors are an integral part of the 412-015 Grounding Kit. Consequently, the 412-0015 Grounding Kit is held as local stock at the AE Concrete plant.

Occasionally, some civil contract installations, such as pad-mounted equipment, require four ground rods. This in turn requires a make-up supply of two additional 420-1157 Ground Rod connectors – hence the need for a separate local stock at the AE Concrete plant.

The latest revisions of the grounding standards require the installation of concrete precast grounded bollards, which use the slightly smaller 420-1158 grounding connectors. Therefore, AE Concrete needs to stock the 420-1158 connectors and ship two 420-1158 connectors with each precast bollard, Cat ID 97002788.

AE concrete requested BC Hydro to paint the 420-1157 make-up supply connectors red, to differentiate them from the slightly-smaller 420-1158 connectors, or to remove the 420-1157 stock. Alternatively, AE Concrete will ship an additional 412-0015 Grounding Kit for those occasional shipping lots with four ground rods.

## 3.0 Action

1. Effective immediately, the 420-1157 Ground Rod Connectors have been removed as a separate item in the Bill of Material in the following four civil standards:
   - ES54 D3-01 Three-Phase Junction Kiosk Pad
   - ES54 E4-01 Above Ground Switchgear 4-Way Over Vault
   - ES54 E4-03 Above Ground Switchgear 5-Way Over Vault
   - ES54 F3-05 Three-Phase Transformer Pad 750 kVA and Larger
2. All local stock of 420-1157 connectors held at AE Concrete will be phased out and returned to MDC Stores 1.
3. AE Concrete will continue holding local stock of 412-0015 Grounding Kits and 420-1158 grounding connectors for ES54 civil contractor shipping lots. The occasional contractors who pick up four ground rods will receive an extra 412-0015 Grounding Kit as a make-up supply of 420-1157 connectors.
4. BC Hydro contractors working on ES53 electrical contracts will continue to pick up their supply of 420-1157 connectors at MDC Stores 1.

## 4.0 Distribution Standards Contact

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|---|---|
| Name: Mark Kelvin | email: mark.kelvin@bchydro.com |
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## 5.0 Approval

| Recommended | | Reviewed | | Approved | |
|---|---|---|---|---|---|
| M. KELVIN | | L. STEVANOVIC | | F. DENNERT | |
| Date: | 2017-09-22 | Date: | 2017-09-25 | Date: | 2017-09-25 |