



Information Bulletin:

Revised ES54 E4-01 and E4-03 Above Ground Switchgear Over-Vault 4-Way and 5-Way

1.0 Items Covered

ES54 E4-01 R3 Above Ground Switchgear 4-Way Over-Vault

ES54 E4-03 R2 Above Ground Switchgear 5-Way Over-Vault

This advisory and the standards listed above can be found at bchydro.com/distributionstandards

2.0 Overview

The design of the above ground switchgear over-vault and associated 4-way and 5-way collars have been revised to align with BC Hydro's change in supplier. Langley Concrete Group is now the sole supplier of above ground switchgear vaults and collars. The new vault and collar dimensions are similar to the existing products provided by existing suppliers and should be applied in the same design applications in terms of functionality.

Key changes are:

- a. Lifting inserts will be cast into the top section roof slab and bottom section floor. Four Starcon lifting clutches are required to lift both top and bottom sections of the vault. Dayton Superior lift clutches have not been tested for interchangeability;
- b. Weights of the vault sections has been changed as follows:
 - i. 4-way collar from 2,000 kg to 2,050 kg
 - ii. 5-way collar from 2,100 kg to 2,250 kg
 - iii. Vault top section from 7,000 kg to 9,200 kg
 - iv. Vault bottom section from 9,000 kg to 10,800 kg
- c. Outside dimensions of the vault have been changed:
 - i. Width of short wall from 2200 mm to 2490 mm
 - ii. Height of top section from 1320 mm to 1460 mm
- d. Sump location has moved to be closer to the corner, see Figure 1;
- e. Self-grounding mechanism (Ufer grounding) has been incorporated into the vault; and
- f. Ducts are pre-installed with 5" duct terminators.

3.0 Action

The material numbers for the above ground switchgear remain the same.

- a. Above ground switchgear vault: 350-8540;
- b. Above ground switchgear 4-way collar: 350-8536; and
- c. Above ground switchgear 5-way collar: 9601-6084.

Previous iterations of the above ground switchgear vault standards can be found in BC Hydro's FileNet through the Engineering Standards search page.

Designers and Engineers

Designers and engineers shall use the latest ES54 E4-01 and E4-03 revisions for underground residential distribution (URD), underground distribution (UD), and feeder installations using above ground switchgear precast vaults. Functional applications of this structure remain the same and should not impact existing design applications. Designers should use the updated dimensions for any clearance or separation requirements.

Civil Installers

Civil installers should:

- a. Use the latest ES54 E4-01 and E4-03 revisions for updated weights and dimensions;
- b. Stock and use Starcon lifting clutches for appropriate lifting practices of precast concrete structures supplied by Langley Concrete Group; and
- c. Stock and supply appropriate couplers to transition from the pre-installed 5" ducts to 3" and 4" sizes.

4.0 Contact

Customer and Customer Representatives

Please direct any questions or concerns to your local BC Hydro representative

BC Hydro Employees and Contractors

Please direct any questions or concerns to the author of the standards or to distribution.standards@bchydro.com

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