Bulletin 6-7-9
Hot splitters and tapping off existing services
Rules 6-200, 6-212 and 12-3032

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Scope

1) Existing hot splitters
2) Taps off existing service equipment

1) Existing hot splitters

Background
There are many installations in Ontario that do not have a main service switch. They are called hot splitters.

Periodically we receive questions concerning the need to install a main service switch, or whether it is acceptable to add another sub service to the existing hot splitter. There are three options to consider.

Option 1
Where the maximum demand load over the past 12 months is available to be used in accordance with the requirements of Rule 8-106 8), and the installation does not exceed 6 subdivisions, the additional service does not require the installation of a main service disconnect.

Option 2
Where the demand load over the past 12 months is not available and there are no more than 6 subdivisions, a written demand load calculation for the complete installation shall be obtained. Where the calculated demand does not exceed the rating of the splitter equipment, the additional service does not require the installation of a main service disconnect.

Option 3
If the subdivision of the main service exceeds 6 sub services or the requirements of Option 1 and 2 cannot be met, a single main disconnect shall be installed.

2) Taps off existing service equipment

Background

Rule 6-212 1) states that service equipment enclosures shall not be used as junction boxes for conductors tapping off to other electrical equipment.

On an existing service, sometimes the only way to supply power to new electrical equipment is to tap into the existing service box.

Consumer's service conductors shall be permitted to be tapped when allowed by Rules in Ontario Electrical Safety Code (OESC), for instance:

- connecting interactive inverters in electric power production sources as permitted by Rule 64-112 2); and
- connecting fire pumps as per Rule 32-306.

Direction

Notwithstanding Rule 6-212 1), based on past practice and satisfactory experience, a deviation is permitted for a maximum of one tap on the line or load side of the service box with the following conditions:

a) An independent clamping means is provided for each conductor as per Rule 12-3032 2) a) i), e. g. multiple barrel lug as shown in Photo B1, or insulation piercing connectors as shown in Photo B2; and
b) The tap conductor is installed as permitted by Rule 14-100.

Tapping for an additional service shall be permitted in the service box, and not inside a meter mounting device unless it is multiple or dual lug. In addition, tapping is permitted in a junction or pull box (not a splitter) installed on the line side of a service box.

Where the tap is made on the load side of a service box by drilling and tapping the bus bar, such drilling and tapping shall be performed according to the switchgear/equipment manufacturers' recommendations.

Where the tap is made on the line side of service box, the conductors, methods of termination and equipment shall comply with Section 6 requirements.

Photo B1 – Double barrel lug

Photo B2 – Insulation piercing connectors (i.e. ILSCO IPC style) *

*Note:

- Rule 75-504 requires connectors for primary conductors to be compression, wedge, or shear bolt type This type of insulation piercing connector would not satisfy Rule 75-504 unless approved for the application.
- Insulation piercing connectors may not be suitable for underground distribution cables type USEI90 (may not be able to pierce insulation).
- Consult with the manufacturer's installation instruction for the permissible use.