Canadian Standards Association
Mississauga, Ontario
To the Part I Committee

Subject No. 3070 Chair: T. Olechna Date: March 17, 2004

Title: Request for an Interpretation, Rule 6-300(2)

Submitted by: Ray Stoodley of BAE-Newplan Group Limited, 1133 Topsail Road, Mount Pearl, Newfoundland, A1N 5G2, Tel: (709) 368-0118 on July 5, 2002.

Proposal and Reason for Request:
I have been involved as design engineer in the upgrading of the St. John's International Airport. The new building was built around the existing building and we found it necessary to increase the size of the electrical service to the building. In addition, the location of the main electrical room was moved. The existing electrical service consisted of one rule of # 2/0 shielded high voltage cable operating at 4160 volts and run underground from the airport field electrical center approximately 1 km from the air terminal building. The building was also serviced with an emergency feeder which was stepped down from 4160 V to 600 V by a pad mount transformer located approximately 50 metres from the building. In order to increase the capacity of the service, we decided to pull one new # 2/0, 4160 V feeder in an existing parallel duct from the field electrical center all the way to the new electrical room and to splice the existing feeder at the point where it entered the building, and run it in parallel with the new feeder.

The end result is that we should have two parallel feeders of the same length from the field electrical center to the new electrical room except that one feeder would contain a splice. For the 600 V emergency feeder, we pulled a new feeder from the pad mount transformer to the new electrical room and spliced the existing feeder at the point where it entered the building and ran parallel with the new feeder to the new electrical room. Both the 4160 V normal feeder and the 600 V emergency are now similar; i.e. there is one unspliced feeder in parallel with one which is spliced. It should also be noted that all splices are done in accordance with Rule 12-112.

My question is whether both those parallel service feeders are done in accordance with the Canadian Electrical Code. My interpretation is that it is done in accordance with Rule 6-300(2).

Chair's Comments: I agree that the answer to the submitter's question is "yes" – that the installation is in accordance with the CEC.

The following is my rationale for agreeing with the submitter.

Subrule **6-300** (2) states that joints in the underground portion of an underground consumer's service shall be permitted where such joints are made in accordance with Rule 12-112(4) and joints are required to repair damage to the original installation or to

accommodate a pole or service relocation.

12-114(4) Splices in underground runs of cable, if required due to damage to the original installation, shall be permitted to be made:

Since this is a service relocation as identified by the submitter and 6-300(2) specifically states "service relocates" then the limitations set out in 12-114(4) due to damage is not applicable. 12-114(4) requires a splice which means that an approved splice for the specific cables shall be used.

There are different joints that can be made but a splice is one type of joint .

Chair's comments:
The balloting results was many for yes and only 3 for NO. The NO party actually brought out a rule in the Code which I forgot to look at when drafting the discussion on the topic.

The rule that actually set the parameters for parallel conductors regardless if feeders or services is in Rule 12-108 and it specifically states

12-108 Conductors in Parallel
(1) Conductors of similar conductivity in sizes No. 1/0 AWG copper or aluminium and larger shall be permitted in parallel provided they are:
(a) Free of splices throughout the total length; and
(b) The same circular mil area; and
(c) The same type of insulation; and
(d) The same length; and
(e) Terminated in the same manner.

Therefore in light of this I am resubmitting this for your consideration and I believe the answer is a resounding NO . The issue is splices in parallel conductors and not just splices in conductors .

Subcommittee Deliberation:
Discussion
yes Note 1
Section 6 is a standalone section and will allow a splice as per question
Rule 6-300(2) allows splicing the service relocation. However it does not allow for parallel run cables . Rule 12-108 must be applied the submitter should request the local authority for special permission to address this situation
The results show that 5 stated NO and 2 YES.
The comment from one YES submitter stated that this is not permitted for parallel runs, so if you read into the answer the submitter stated for parallel runs NOT permitted

Subcommittee Recommendation:
The group has a majority NO and the following recommendation is made for Part 1 consideration.
Even though Rule 6-300(2) permits splicing of service conductors, parallel service feeders are NOT permitted to be spliced as dictated by Rule 12-108. Even though there is no specific reference in section 6 to 12-108, this intent is implied