SPE-0091

SPE-91

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SL-100-681,
SL-100-SPE

Ottawa. November 28, 1966.

Landis & Gyr, Inc.,
P. O. Box 1216,
ST. LAURENT 9,
P. Que.

Attention: Mr. B. W. Krutina, P.Eng.,
Manager.

SPECIAL APPROVAL - One Only Landis & Gyr Type "QFi/FP71ee/FFC4yf1" Polyphase Watthour Meter, Serial Number 30864201; One Only High-Speed Integrating Relay, Type "[illegible]2rr", Serial Number 30875553; and Two Only Impulse Counters, Type "[illegible]06eq8f1", Serial Numbers 30875554 and 30875555.

Dear Sirs:

This is to advise that Special Approval has been granted by the Standards Branch for use in Canada for billing purposes to the above-named apparatus.

The primary meter is a type "FP71' 3-element watthour meter for use on a 3-phase 4-wire circuit. This is a bi-directional meter and has separate registration of "import" and "export" energy on a dual cyclometer register with a multiplier of 10 and reading in megawatthours. It is transformer-rated for use with 79700-115V potential transformers and 300-5A current transformers. The primary Kh is 88.9 kwh and the secondary constant is 2.138 wh per disc rev.

The 'QFi' in the type designation denotes an A^2h element for taking into account the copper losses in the transmission line. It has been adjusted to compensate for 1.617 MW of copper losses corresponding to 300 amperes of primary current or 72 MW of line rated load. The copper losses are added to "import" and subtracted from "export".

The 'FFC4y' denotes a variable frequency transmitter with a basic output frequency of 12.5 pulses per second with no load on the watthour meter. With maximum load of 80 MW on the meter, the output frequency

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will be 5 pulses per second if the load is "export" and 20 pulses per second if the load is "import".

The high-speed relay, type 'RM2rr', receives these pulses and accordingly as they are higher or lower than the basic zero load frequency of 12.5 pulses per second, generates contact closures on one or the other of two sets of contacts. If the incoming pulses arrive at 12.5 pulses per second, which corresponds to zero load, no contact closures will occur. If there is a break in the transmission line so that no pulses are received, the 'RM2rr' will generate contact closures corresponding to 12.5/7.5 x 80MW or 133MW of "export".

The type 'RG6eq' impulse counters utilize the contact closures to apply 115 volts to the relay coils of either the "import" or the "export" counter, resulting in readings on the cyclometer registers.

This apparatus is for use by The New Brunswick Electric Power Commission.

Yours very truly,

K. Cryer, Chief,
Electricity and Gas Division,
Standards Branch.

EAW/mce

c.c. to: Mr. R. W. Beattie, Dist. Insp. of Electricity and Gas, Saint John
c.c. to: The New Brunswick Electric Power Commission (through Mr. Beattie)