DEPARTMENT OF

TRADE AND COMMERCE
CANADA

S-EA.569

STANDARDS BRANCH

OTTAWA October 23, 1962.

TYPE APPROVAL

CANADIAN WESTINGHOUSE TYPE "APT" VOLTAGE TRANSFORMERS

The apparatus specified and illustrated herein has been duly approved by the Standards Branch under the provisions of the Electricity Inspection Act, Chapter 94, R.S. 1952, and may be admitted to verification in Canada.

Apparatus Approved: Type "APT" Voltage Transformers, manufactured by the Canadian Westinghouse Company Limited, London, Ontario.

Rating of Apparatus:

Figure 1 of illustration: graded insulation, one HV bushing for line-to-ground

B.I.L. Kv	Normal Circuit Voltage	Winding Ratio	Transformer Voltage Primary	Secondary
150	24000	200/120:1	14400	72/120
200	34500	300/175:1	20125	67.08/115
250	46000	400/240:1	27600	69/115
350	69000	600/350:1	40250	67.08/115
		(Special Ratio)		
350	69000	600/346:1	39800	66.4/115

Figure 2 of illustration: full insulation, two HV bushings for line-to-line

150	24000	346.4/200:1	24000	69.3/120
		200/120:1	14400	72/120
200	34500	520/300:1	34500	66.4/115
		300/175:1	20125	67.08/115
250	46000	693/400:1	46000	66.4/115
		400/240:1	27600	69/115
350	69000	1039/600:1	69000	66.4/115
		600/350:1	40250	67.08/115
		(Special Ratio)		
250	46000	400/400:1	46000	115/115

Accuracy Rating:
One secondary loaded 0.3WXYZ;0.6ZZ
Both secondaries loaded 0.6WXYZ/0.6WXYZ
Frequency ..... 60 cycles
Style ..... Outdoor, oil-filled.

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CANADIAN WESTINGHOUSE TYPE "APT-69" VOLTAGE TRANSFORMERS

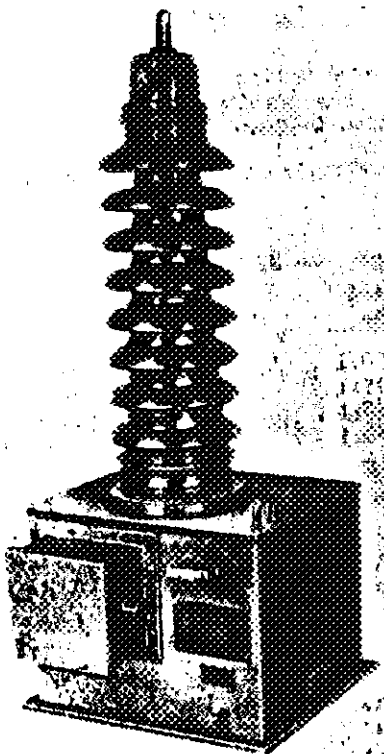

figure 1

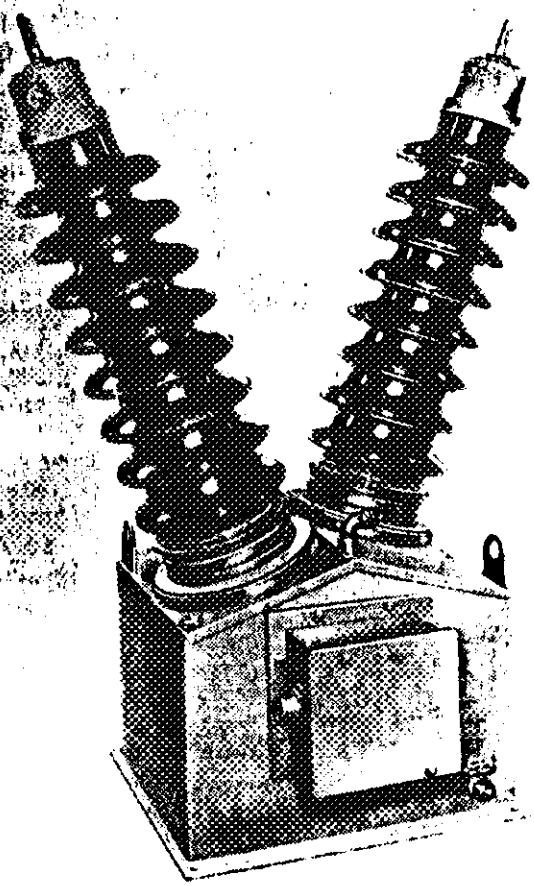

figure 2

Description: The type "APT" voltage transformer is a modification of the type "OPT" receiving approval under SD-EA.349 of April 1, 1958 to provide for better accuracy rating and savings in size and weight. The following differences also exist:-

New "Wescor" Cores - High permeability Hipersil steel cores (specially assembled by interleaving the core laminations) are now used on type "APT" transformers, permitting greatly reduced weights and dimensions.

The High Voltage Coils - are of circular pancake construction, similar to "OPT's", shielded to avoid localized concentration of electrical and dielectric stresses; however, the entire assembly is now kept to a minimum by the use of solid insulation and the elimination of oil ducts. The high voltage leads are also insulated by crepe paper and solid dielectric to secure the necessary insulation strength.

The Low Voltage Coils - are of cylindrical form wound on a Micarta tube, similar to "OPT's", and assembled inside the high voltage coils; however, the thermal ratings at 30°C ambient are now 50% to 100% higher than on "OPT's".

Secondary Junction Box - A weather-proof secondary junction box now may be readily detached from the transformer case, as shown in Fig.1 and Fig.2, thus permitting the removal of a transformer without disturbing secondary conduit connections.

High Voltage Porcelain Bushings - are now different from "OPT" bushings in that the bushing cap provides adequate gas space for expansion and contraction of the oil in service.

Tank and Insulation - Transformer case is of fabricated steel and supports either one or two primary bushings which are now welded to the case. The housing fits closely over the contour of the core and coil assembly, resulting in lower weight, size and oil content. After thorough drying and oil impregnation, the transformer is filled with de-gassed oil under vacuum and then is hermetically sealed.

These transformers have two secondary windings which may or may not be identical, and may or may not be tapped, but in any case the ratios must be as noted in the approved list. The secondary terminals are identified inside the secondary junction box.

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