

## ELECTRICITY STANDARDS REVISED

The National Research Council of Canada has announced that a new base of reference for the *volt* — the practical unit of electromotive force (emf) — or voltage, will be introduced in Canada next January. The Council also announced that the base of reference for the *ohm* (the practical unit of electric resistance) would be modified at the same time to make it conform to the recognized international value. "We are changing the values of the volt and ohm, as maintained in Canada, to agree more closely with the best knowledge of absolute values available today," said Dr. A.F. Dunn of the Electricity Section of NRC's Division of Applied Physics.

Canada's basic standards of physical measurement, including the volt and the ohm, are housed and serviced by the Division of Applied Physics. The Division acts as Canada's national standards laboratory and provides Canadian industry and science with the foundation for all their measurements.

### TEN COUNTRIES COMMON VOLTAGE

The new base of reference for the volt is being adopted internationally and will bring the volt units of ten countries (Australia, Britain, Canada, France, East and West Germany, Italy, Japan, the U.S.A. and the U.S.S.R.) into agreement. This action follows the adoption in Sèvres, France, this month by the International Committee on Weights and Measures of a recommendation of the Committee's Advisory Committee for Electricity.

At a meeting in Paris in October 1946, the International Committee recommended a conversion from the international electrical units to the absolute system, which was universally adopted in 1948. Under this conversion it was agreed that one mean international volt equalled 1.000 34 absolute volts. The mean international volt was the average of the units maintained in Britain, France, Germany, Japan, the U.S.A. and the U.S.S.R., which took part in this work before the Second World War.

Experiments since 1948 by laboratories throughout the world have shown that the value of the volt, as maintained by groups of standard cells at NRC and other standards laboratories, can now be meas-

ured more accurately in terms of the absolute units. The new value represents a better measurement of the voltage of these cells in terms of the theoretical unit of electromotive force derived from the basic units of length (meter), mass (kilogram) and time (second).

With this reassessment, the value of the volt as defined by the International Committee will be decreased by 11 parts in a million. For Canada, the decrease will be eight parts in a million, because the existing value of the volt in this country is three parts in a million less than that currently defined by the International Committee.

The new value for the volt will become effective on January 1, in all ten countries except Russia, where the change will be made later in the year.

### INCREASE IN OHM VALUE

The base of reference for the ohm has not been changed by the International Committee. Canada, however, will increase its ohm value by three parts in a million to bring its standard into agreement with the absolute value recognized by the International Committee. Five other countries are taking similar action, so that in the future all ten countries will be maintaining units of resistance that are within one part in a million of each other.

The increasing importance of precision measurements has made it evident that a more accurate realization of the absolute volt and ohm is needed. A considerable portion of Canadian industry, particularly companies manufacturing precision electrical equipment, must measure voltages and resistances to a few parts in a million.

A major benefit of the changes is that Canadian industry no longer will need to consider the differences between countries in voltage and resistance values when producing compatible equipment. This will be especially true with respect to exports to the United States under the multi-million-dollar Canada-U.S. production sharing programme, as well as to contracts under the North Atlantic Treaty Organization.

## IMPOST ON U.S. CORN

Agriculture Minister H.A. (Bud) Olson announced recently that effective October 30 the Federal Government would apply value for duty on United States corn imported into Canada. He said this would ensure corn would not move into Canada at prices below the U.S. support level of \$1.05 (U.S.) a bushel.

Mr. Olson explained as follows:

"We have made this move after full consultation with the United States in accordance with our international trading obligations. I am confident that our action will bring a considerable measure of stability to the current corn-marketing picture. I am pleased that we have been able to do this before quantities

of U.S. corn have been imported into Canada at prices below their support level.

"While the application of value for duty will bring considerable immediate benefit, there is no thought that it represents a permanent solution. Very fundamental marketing problems still exists for corn-growers of southwestern Ontario.

"For our part, we are continuing to pursue every possible avenue for answers to these problems.

"In the final analysis, however, producers themselves must play an active role in bringing about solutions. As I have said before, the means exist by which producers could relieve the marketing problem by creating a corn-marketing agency under