



Legal Metrology Branch
Ottawa, Ontario
K1A 0C9

SPG-262

G6635-N376

February 16, 1981

SPECIAL APPROVAL

Granted to: NOVA, an Alberta Corporation,
P. O. Box 2330,
9888 Jasper Avenue,
Edmonton, Alberta.
T5J 2R1

Attention: Mr. Brian McConaghy,
Technical Supervisor,
Measurement Department.

Subject: Conversion of Scales and Charts, used with
Cutler-Hammer Calorimeters, from
Imperial Units to SI Units

Special Approval is hereby granted to NOVA, an Alberta Corporation, by the Legal Metrology Branch, for the use of SI unit scales and charts on approved Cutler-Hammer calorimeters as replacement equipment for Imperial unit scales and charts, as delineated below:

	Imperial		SI (Metric)	
Chart Number:	41-708	41-713	163-0003	163-0002
Manufacturer:	Cutler-Hammer Inc.		Graphic Controls Canada Ltd	
Units of measurement:	Btu/ft ³		MJ/m ³	
Effective range:	750-1500	800-1200	29-56	31-45
Units inscribed on scale:	Btu		MJ/m ³	

Applicable heating value conversion factors are:

$$1 \text{ Btu}_{(60.5)} / \text{ft}^3 \text{ of saturated gas (14.73 psia \& } 60^{\circ}\text{F)} = 0.037 \ 887 \ 67 \ \text{MJ/m}^3$$

or

$$1 \ \text{MJ/m}^3 = 26.393 \ 81 \ \text{Btu}_{(60.5)} / \text{ft}^3 \text{ saturated gas (14.73 psia \& } 60^{\circ}\text{F)}$$

where, SI reference conditions are 101.325 kPa, 15°C, dry gas;

$$1 \ \text{Btu}_{(60.5)} = 1.054.615 \ \text{joules};$$

$$1 \ \text{ft}^3 = 0.028 \ 316 \ 85 \ \text{m}^3;$$

$$\text{Saturated vapour pressure (60}^{\circ}\text{F)} = 0.256 \ 11 \ \text{psia.}$$

Field verification and re-verification of the SI charts shall encompass on-site visual comparison of the chart being used on a Cutler-Hammer calorimeter to the respective approved chart contained in this special approval.

Once verified, re-verification shall be made every six months thereafter, as outlined in Departmental Instructions, Part VIC, Section 2.

Attached are approved SI chart samples 16-0002 and 16-003.



D. L. Smith, P. Eng.,
Chief,
Electricity and Gas Division.

Attachs:

cc: J.M. Taylor,
Regional Mgr-Legal Metrology,
Winnipeg.
L. Hewitt, District Mgr,
Electricity & Gas - Calgary.
P. W. Nash, District Mgr,
Electricity & Gas - Edmonton.