

RW-005
JANUARY 2003

ENGINEERING AND OPERATIONS

NORTHERN AIRPORTS

SPECIFICATION FOR SERIES CIRCUIT

ISOLATING TRANSFORMER

FOR USE IN MEDIUM INTENSITY AIRFIELD

LIGHTING SYSTEMS

**Manitoba
Transportation and
Government Services**



**TRANSPORTATION AND GOVERNMENT SERVICES
NORTHERN AIRPORTS**

**SPECIFICATIONS FOR SERIES CIRCUIT
ISOLATING TRANSFORMERS**

1. SCOPE

- 1.01 This specification defines the general requirements applicable to series circuit isolating transformers. The intent of this specification is to establish minimum acceptable electrical, mechanical, design and performance requirements, which all series circuit isolating transformers must meet to ensure satisfactory and reliable operation. It is not intended to impose restrictions upon design or materials, which must conform to the FAA or Transport Canada TP 312 Technical standard. All FAA and Transport Canada TP 312 standards, current FAA and Transport Canada TP 312 specifications at time of contract, not specifically mentioned in this specification will apply. Where there is a conflict between this specification and the latest FAA and Transport Canada TP 312 standard, This specification will apply.

2. REQUIREMENTS

- 2.01 The series circuit isolating transformers must be rated for 5 KV epoxy encapsulated, 6.6A primary, 6.6A secondary, with a frequency rating of 60Hz. The transformer secondary lead length must be 1.2m (4 ft.). The primary lead length must be .6m (2ft.). The secondary lead must have a FAA style 8 (female) connector configuration and shall be suitable for centre entry via the anchor stake assembly. (See Drawing # NAP-002) attached.
- 2.02 The transformer must be complete with factory terminated molded primary, and secondary leads. All connectors must be in accordance with FAA Specification L-823.
- 2.03 Transformers and all associated connections must be completely waterproof and suitable for direct earth burial or for mounting in an underground pull-pit. (See Drawing #NAP-004) attached.
- 2.04 Transformers must be designed to allow continuous operation with the secondary open circuited, short circuited, or with a lamp load in place.
- 2.05 Each transformer must be supplied with a factory test certificate. The certificate must include documentation as to:
- Physical and electrical test inspections.
 - 15,000 Volts direct current insulation resistance test.

2.06 Transformer power rating:

Edge lights	30/45 W
Threshold	100 W
PAPI lights	200 W (per lamp)
Illuminated wind direction indicators	200 W
Internally illuminated guidance signs	200W

2.07 The transformers must conform to CSA Specification C 22.2 No. 180.

3. WARRANTY

3.01 All units must be guaranteed against failure for one year from date of acceptance by the Traffic Engineering Branch of the Department of Transportation and Government Services.

4. INSPECTION AND ACCEPTANCE

4.01 The vendor must supply one evaluation sample unit of each type being supplied along with all testing and technical documentation.

Series circuit isolating transformers that conform to this specification and are not currently in use by this Department must be submitted to the Traffic Signal Workshop for a one-year evaluation period by the Department. At the end of the evaluation period the supplier shall be advised by the Traffic Operations Engineer if the equipment submitted for evaluation is acceptable.

The total cost of supplying this equipment for evaluation must be borne by the supplier. The bidder must complete the attached "Specification Compliance Summary" (attached). Failure to complete the summary will result in disqualification from the bidding.

4.02 All shipments of Runway Stakes must be delivered to the Mechanical Equipment Warehouse facility at 1550 Dublin Avenue, Winnipeg, Manitoba. At that time they will be inspected by the Traffic Engineering Branch of the Department of Transportation and Government Services.

Acceptance will be based on the supplied equipment meeting the requirements of this specification.

4.03 For additional technical information please contact Mark Seniuk at (204) 945-7335 office, or (204) 799-8682 cellular.