

## Project no. 1: Building including a 5 kV switchgear

### Project period:

2008 (Ref.: 07-211)

### Final user:

Petro-Canada  
Montreal refinery

### Client coordinates:

Mr. Michel Roy  
GE Canada - Montreal  
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### Project Description

Provide a prefabricated building within which a Metal Clad, 4.16 kV, 3 000 A, 350 MVA electrical cabinet was integrated, with arc-proof front only. The cabinet consisted of 12 cells (incoming, feeder and tie), including all required distribution and protection components.

### Client's need

The final client, Petro-Canada, a refinery located in Montreal, needed this self-supporting modular building for the distribution of its new distribution sub-station – boiler room. The building was to conform to the Québec building code as well as to the ISO 9001-2000 standard and the CSA, IEEE/ANSI and EEMAC standards inherent to this project.

### Specific requirements

The building was to be corrosion-resistant as the building site was located close to the St-Lawrence River. We also had to compensate for the presence of gasoline vapours from the refinery's site by including a fire detection system as well as special pressurisation and ventilation systems. The important space constraint on site was solved by designing cabinets that were 10 feet high rather than lower and wider ones. To avoid production downtime, two 125 V d.c. batteries were provided which will ensure power supply to the control in case of power failure. Finally, a room with a SCADA cabinet was built inside the building.

### Challenge

In this project, the challenge was found in the delivery. A special carrier was required to move the 15 foot high building. We had to call upon competent authorities to supervise the logistics of moving the building, which was installed on a 102 foot long truck. The Sûreté du Québec (provincial police) provided required personnel to escort the carrier during the 4 day trip from Sherbrooke to Montreal. Personnel from Videotron and Bell Canada were also called upon to supervise the convoy as it travelled under their wires, which were lower than the total height of the building on the truck.



## Project no. 2: Building including exterior 5 kV and 15 kV cabinets

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**Project period:**  
2008 (Ref.: 07-243)

**Final user:**  
Beechwood

**Client coordinates:**  
Mr. David Ayer  
Hydro-Ottawa  
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### Project Description

Manufacture and deliver two series of arc-proof Metal Clad cabinets. On site, the cabinets were installed on a base to which a service aisle was attached. The latter was built in accordance with the same standards we use for building our self-supporting modular building. One of the buildings consisted of a 5 kV (1 200 A, 250 MVA) cabinet, the other of a 15 kV (1 200A, 500 MVA) cabinet.

### Specific requirements

The installation site was located in Ontario. All standards inherent to this type of construction, including its components, in effect in that province were respected.

## Project no. 3: Building including 5 kV cabinets

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**Project period:**  
2008 (Ref.: 08-002)

**Final user:**  
Oakville Hydro Electricity

**Client coordinates:**  
Alex Kaminsky  
KA Factor  
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### Project Description

Provide and install a 5 kV sub-station in a compact building, to be delivered in one piece. Installation on the building site was easy and quick.

### Client's need

Create an additional space beyond the existing storage cabinets.

### Specific requirements

Ensure required distribution to the control in case of power failure. 48 V d.c. batteries were provided. The installation site was located in Ontario; all standards inherent to this type of construction, including its components, in effect in that province were respected.



**Project no. 4: Buildings including 600 V cabinets and 5 kV MCC**

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**Project period:**  
2009

**Final user:**  
TRT-ETGO Bécancour

**Client coordinates:**  
Michel Roy  
GE Canada – Montreal  
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**Project Description**

Manufacture a 5 kV substation inside the building to distribute the required power to the new TRT-ETGO plant.

**Client's need**

Connect this substation to the main substation's 120:5 kV transformer.

**Specific requirements**

Coordinate the logistics between the building's design, the main substation and the site. The building was to include an air-conditioning duct and a UPS system to ensure distribution in case of failure.

**Challenge**

The delivery lead time date requested by the client was short and unrealistic as compared against the current market standards. Special transport was required for delivery.