



Case Study 1701

## Perfect, Reliable Quality Power - and Backup - for Canadian Homeland Security

### The Customer

Homeland security involves the protection of a country's citizens, as well as those persons visiting or doing business there. Airports are a major area of concern, and airport power is inherently poor. After several incidences of downtime due to poor power quality in airports, the Canadian government and the Canadian Air Transport Security Authority (CATSA), which handle Canada's airports, decided to take strong steps to ensure continuous, reliable operation of essential airport security equipment in Canada's airports.

Options for correcting the problems were explored. Uninterruptible Power Supply (UPS) equipment failed to resolve power quality associated problems. InVision, one of the two major worldwide providers of Explosive Detection Systems (EDS) to airports, recommended customized Uninterruptible Power Quality™ (UPQ™) systems from Power Innovations. UPQ systems provide flawless operation of security equipment regardless of site power quality.

### The Challenge

Canada's government agencies, whose primary responsibility is to protect Canada's critical government systems, data, and airports, cannot afford downtime or power glitches. The nature of the sensitive electronic equipment in airports and other government facilities requires a higher standard of power quality than is typically available from utilities, let alone the generators used in power outages.

### The Solution

Of necessity, passenger time in airports has already been extended due to proactive airport security measures. Power Innovations provides a new standard for power quality. The company's Uninterruptible Power Quality (UPQ) solutions (mostly 10 kVA through 60 kVA Q-LS™ Systems) have been installed in Canadian airports to deliver perfect, dependable, quality power to connected equipment, regardless of the quality of incoming power.

UPQ technology also enables on-site and remote management and control of power -- a definite advantage in homeland security applications -- and provides backup in the event of power failure.

Additional delays due to glitches in equipment operation – caused by unreliable power quality or power outages – are no longer experienced. Power Innovations' solutions also enhance battery life and management.

### Power Failure Safe

Like other governments, Canada relies on electronic equipment for homeland security and other essential functions. "With Power Innovations UPQ technology, the threat of power shutting down or damaging our security equipment has been eliminated," says Scott Ray, Canadian Air Transportation Security Authority general manager. "Security equipment in Canadian airports can now run flawlessly to help ensure passenger and facility security, without unnecessary interruptions."

# CATSA

## INDUSTRY SERVED

Homeland Security

## CHALLENGE

**Sensitive electronic equipment in airports and other government facilities require a higher standard of power quality than is typically available from utilities.**

## SOLUTION

**The UPQ™ systems have been installed in Canadian airports to deliver perfect, dependable, quality power to homeland security equipment, regardless of the quality of incoming power.**

## ADVANTAGES

- **Power Failure Safe**
- **Secure Situation**
- **Adapt to Multiple Electrical Standards**
- **Custom Applications**
- **Extended Battery Life & Performance**
- **Ease of Maintenance**

“Airport personnel can focus on transporting passengers to their desired destinations, while we take care of the power for their critical systems,” says Power Innovations CEO, Robert L. Mount. “With Power Innovations’ perfect, dependable power solutions in place, airports are assured optimum power quality and battery backup for all connected electronic equipment.”

### **Secure Situation**

The UPQnet-agent II™ uses Simple Network Management Protocol (SNMP) to communicate with the UPQ system. This universal protocol allows for Internet access of real-time power status and history reports. UPQnet-agent II provides the flexibility to monitor and control power from within the security network, from a remote location via an Internet connection, remotely via direct dial up, and even from handheld devices such as PDAs or cell phones.

### **Competing Technology**

In the past the number one issue in dealing with power was the backup of equipment in the event of power failure with generators and/or standard UPS equipment. Uninterruptible Power Quality (UPQ) is an unprecedented new standard that began with traditional UPS technologies and moved forward to address critical modern power issues. UPQ technology focuses primarily on the issues of power quality and management, while still providing backup when power outages occur.

### **Adapt to Multiple Electrical Standards**

Power Innovations’ UPQ systems offer multiple voltage input options. Due to multiple levels of isolation and conversion, input voltages can be different from output voltages. UPQ systems features enable international compatibility for global applications and eliminate the need for independent input step-down or step-up isolation transformers.

### **Custom Applications**

Power Innovations enables the customization of products for critical applications and environments.

- Some of the UPQ technology has been certified for rugged applications requiring 30Gs of gravitational force in X, Y, and Z planes, with temperature ratings to -22°F (-30°C) and above 140°F (60°C).
- Other UPQ technology has been customized and certified for critical medical, infant care in hospital, and mobile medical applications.

### **Options Available**

- Custom input and output voltage and frequency options
- Custom distribution panels
- Casters for mobility (earthquake rated)
- Parallel and serial emergency power off (EPO)
- Twelve-pulse rectifier in 10-60 kVA, as well as in larger systems (the UPS standard is in 80 kVA and above)

### **Extended Battery Life and Performance**

One of the weakest points and biggest expenses of traditional UPS systems is batteries. UPQ technology focuses on controlled charging and load exercising of batteries to avoid battery deterioration and sulfation. UPQ DC conversion processes prioritize battery management. UPQ battery management technology extends battery life and performance up to two and three times that of traditional UPS technologies.

### **Ease of Maintenance**

- Self-diagnosing systems incorporate LEDs that clearly indicate when and where a problem exists.
- Fully modular systems have plug-and-play components that can be easily replaced if necessary.
- Battery modules can be exchanged, replaced, or added while the system is in full operation. No shutdown or removal of the unit is required.
- Systems require less time to repair when service is necessary – typically less than 30 minutes “mean time to repair” (MTTR).

**“With Power Innovations UPQ technology, the threat of power shutting down or damaging our security equipment has been eliminated. Security equipment in Canadian airports can now run flawlessly to help ensure passenger and facility security without unnecessary interruptions.”**

- Scott Ray  
CATSA General Manager



Contact Us:

Phone: 801.785.4123

Fax: 801.785.6999

333 South 520 West

Lindon, UT 84042

[www.power-innovations.com](http://www.power-innovations.com)

© copyright 2005 Power Innovations

