



## **MPTS Installations**

### **United States Air Force - NORAD - CHEYENNE MOUNTAIN AIR FORCE STATION**

**WHO:** The North American Aerospace Defense Command (NORAD) is a United States and Canada bi-national organization charged with the missions of aerospace warning, aerospace control and maritime warning for North America. Located 2000 feet under Cheyenne Mountain, Colorado and built during 1962 through 1968. Formerly the center for the United States Space Command and NORAD, the Complex monitored the air space of Canada and the United States for missiles, space systems, and foreign aircraft through its worldwide early-warning system. Since 2008, NORAD and the United States Space Command have been based at Peterson AFB in nearby Colorado Springs, CO, with the underground complex, re-designated as an air force station, and used for flight crew training and as a back-up command center if required. In early 2015, NORAD communications systems were moved into the complex to shield it from electromagnetic pulse attack.

**THE PROBLEM:** Command wanted to decrease electrical power demand and consumption inside the mountain by reducing current consumption inside the base because every amp of current added heat into the mountain that had to be removed with air-conditioning. Other goals included minimizing the cost of electricity brought into the base and the cost of electricity to remove the heat from the buildings inside. In addition, to provide clean power to the mission critical equipment inside the base, increase the reliability and safety of the electrical network, reduce equipment failures and increase longevity of all equipment, and to minimize the total electricity purchased by recycling wasted electrical power.

**THE TEST:** Accentz, Inc. was invited to demonstrate the MPTS technology over a ninety-day test period during 2013. A MPTS unit was installed before an industrial air compressor.

**THE RESULTS:** The 21<sup>st</sup> century technology proved itself by reducing the **compressor's energy consumption by more than 20 percent**. The MPTS was connected in the electrical network to increase the energy efficiency of Air Compressors by providing clean power, recycling wasted electrical power, and decreasing the electrical demand and consumption significantly. NORAD Command purchased and installed one MPTS on one air compressor during **2014**, and subsequently installed an additional three (3) MPTS units on other subpanels during **2019**.

The savings resulting from this technology is paying for the investment in MPTS devices. This has resulted in Command realizing significant decreases in current and KVA, maintaining stable voltage for connected equipment thereby protecting their investment in expensive electrical and mechanical equipment. This has reduced total cost of operating that equipment with reduced service, repair, replacement and maintenance, and reducing total electrical demand, consumption and CO2 emissions.

**Based in Aurora, CO, Accentz, Inc.** introduced the MPTS in North America in 2011 and received UL certification in 2013. MPTS uses dynamic impedance matching and synchronous processing through solid state electronic switching, providing dynamic, accurate and precise corrections based on Jacobi's Law (1840) optimizing each phase in the electrical current to attain maximum efficiency. When MPTS is installed in electrical networks, the results include clean electrical power, fewer failures, reduced maintenance, lower electrical demand, and less downtime.

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## **21<sup>ST</sup> CENTURY POWER SAVINGS SOLUTION = CASH FLOW OPPORTUNITIES**

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**The above Installation of MPTS units paved the way for MPTS units to be deployed in other Federal Agencies:**

More recently, **MacDill Air Force Base** purchased two MPTS units in **2020**. After these are installed we will be discussing installation of MPTS technology in all the buildings at this base.

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A proposal for 13 MPTS has been submitted to **Peterson Air Force Base**.

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**United States GSA:** Region 8 offices are located in Denver, Colorado. This region conducted their due diligence on this technology and have several MPTS installations including:

Federal Center, Judicial Court Houses, and Federal Office buildings.

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100s of MPTS units are installed in commercial markets and the demand is growing. Sample list of customers include:

Customers - Short List
NORAD - Cheyenne Mtn. Air Force Station Phase 1 and 2
Underwriters Laboratory (UL)
Metal Works Factory Dubai
Aurora Mental Health Centers -Phase 1, 2, 3, 4 and 5
U.S. GSA - Federal Center
Rabine Group HQ Building
Porterville Citrus -Rayo Plant
Douglas County School District
U.S. GSA - Federal Courthouse
Pickens Technical College - Aurora Public Schools District
Morgan County Government - Phase 1 and 2
U.S. GSA - Federal Commercial Office Building
Lindy's Roses Indoor Grow Facility
ECCV - Water District Phase 1 and 2
Ecotech Institute
MacDill Air Force Base
Kaiser Permanente Hospitals
City and County of Denver
Peninsula Plastics CNC Factory
Citwide Banks
ECCV - Commercial Office Building HQ.
Vehicle Vault Museum
St. Marie Nursing Home

**\*References available upon request**

## **Summary - Unique features of the MPTS Technology:**

MPTS is needed in all electrical networks and will be installed in all buildings due to the following reasons.

- Reduces wasted energy, decreases current/amps required to operate equipment
- Reduces current, harmonics, thermal and eddy current losses
- Reduces KVA and KVAR
- Does not increase harmonics in electrical systems
- The MPTS is a fail-safe technology and does not interrupt power to facilities equipment when it is either on or off
- MPTS does not add a parasitical load on the network
- MPTS is an electronic solution and consumes less than 1 ampere of current for every 100 Amps/3phase installed
- The MPTS system does not add capacitance to the electrical network
- MPTS releases electrical systems capacity - expansion cost avoidance
- MPTS does not require programming, as it is self-programming upon commissioning
- As a consequence of the above attributes, the MPTS improves and maintains power factor to greater than 95%
- MPTS is a standard solution for any type of inductive load
- MPTS is a solution for balanced or unbalanced 3 phased system
- MPTS performs with the same efficiency and effectiveness from 20% to 100% utilization of its rated capacity
- Except for ventilation fans there are no moving parts in the MPTS
- Provides Power monitoring, Power analysis and Remote data logging

The above features result in reduction of total electrical consumption by significant levels and enhances electrical efficiency of the network by minimizing wasted electrical energy.