



MCC AND ELECTRICAL SWITCH GEAR ROOMS

FIRE DETECTION

MCC and Electrical Switch Gear Rooms are difficult environments for standard type detectors to sense fires. A typical MCC Room will have a 20-foot ceiling height with air supply and return grills mounted around the 14-foot level. The supply and exhaust grills may be located at many locations throughout the room creating varying airflow patterns. The rows of electrical cabinets are typically 8 feet tall and cable tray tiers from elevations of 12 to 18 feet high. These physical conditions create difficult fire detection due to:

- **Airflow patterns** that direct the migration of smoke (and heat), making it difficult to reach the ceiling detectors with enough concentration to alarm within a desirable time frame.
- **Heat interfaces** build-up in a room with heat producing equipment, high ceilings and climate control not supplied at the ceiling. This heat interface in the top 4 feet of the room may inhibit the rise of cooler smoke (of developing fires) to reach the ceiling.
- **Smoke dilution** occurs by the high airflow found in these rooms. The high airflow quickly mixes the smoke and dilutes it to a concentration that is difficult for a standard smoke detector to detect.
- **Electrical Cabinets** are generally enclosed and sometimes have gaskets on doors and no vented panels. These cabinets are the main source for fires in an MCC room. A fire will need to be quite developed before enough heat and smoke escape the enclosure to alarm standard detection.

Today we have high sensitivity detection that can give warning of a fire condition long before standard detection. The Fenwal AnaLaser Detector is up to a 2000 times more sensitive than traditional smoke detectors. The Analaser is an active detector that continually draws air samples from a room with CPVC pipe and special air sampling orifices. Air sampling points are installed at the ceiling, at specific elevations, above equipment cabinets, into equipment cabinets and other strategic locations in the room for optimum detection. Analaser determines the smoke obscuration level of the air to provide alarms and operate functions that are programmed into the system.

Factoring in the room characteristics and the vital operation of these electrical rooms, we recommend that fire detection be accomplished with a Fenwal Analaser Air Sampling Detection System. Analaser Detection can overcome the detection problems and provide very early warning of a fire threat. If there is an existing fire suppression system, it should remain intact, using Analaser to provide an early warning of fire, possibly reducing the need for fire suppression activation.

The goal is to detect a fire long before it poses a large risk. An advanced fire means more heat, more smoke, more contamination, increased downtime and increased business loss. The goal of AnaLaser is to minimize or eliminate all of these effects of a fire.



Contact Electric Scientific Company

Bismarck, ND
701-426-8589
Jerry Cozzi
jerryesc@qwest.net

Minneapolis, MN
952-933-4671
Voigt Lenmark III
lenmark3@electricscientific.com

Duluth, MN
218-729-7330
Scott Johnson
scottesc@qwest.net