



APPLICATION FACT SHEET



Johnson Matthey Catalysts

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Case No. 501: New QXC Silencer/Converter Installed on Waukesha H24GSID 375 KW Natural Gas Engines Achieves 2007 California NOx Regs

Generating power with natural gas engines in large commercial buildings, while controlling emissions and noise from the engines requires a unique catalytic solution. Johnson Matthey's new QXC model 3-Way converter silencer was chosen for the task. This design contains a unique catalyst element sealing system that insures against pollutant bypass.

NOx Limit 42 ppm.....Achieved 2 ppm
CO Limit 210 ppm.....Achieved 43 ppm
(Multiple source tests)

Background

Equity Offices had a need to produce power for two office buildings in Orange, CA. They chose to install gensets equipped with Waukesha 375 KW natural gas engines. To meet the South Coast AQMD air permitting requirements and to meet their sound attenuation needs, Equity Offices called Johnson Matthey to provide a solution to their problem.

Johnson Matthey proposed using our newly designed QXC model 3-Way converter/silencer to reduce NOx, CO and HC's simultaneously. In addition, the QXC had superior silencing capability and contained a unique catalyst sealing system. The catalyst sealing system performed so well, that not only did it meet all of the current SCAQMD emissions limits; it actually exceeded the NOx limits proposed in California's 2007 regulations.

This project was an engineering challenge due to the limited space in the basement of each building, but the final installation was neat, clean and accessible.



Summary

- **Product:** QXC 70-12
- **Application:** Gensets with Waukesha H24GSID 375 KW natural gas engines
- **Customer:** Equity Offices
- **Location:** Orange, CA,
- **Installed By:** Johnson Matthey SSEC
- **Date Installed:** March 2005
- **Operation:** Prime Power
- **Pollutants:** NOx and CO
- **Comments:** The installation in the basement of each building created special space constraints, which the JM engineering team had to tackle. The QXC was installed neatly and the catalyst element sealing system proved to give superb emissions reductions far exceeding the current SCAQMD limits.

