

safety **POWER** News for November 2009

Welcome to this issue of the Safety Power News. Safety Power is Canada's largest provider of environmental solutions for large scale diesel and natural gas standby generators. In this issue we focus on a recent project at Toronto Hydro and information related to emissions for large scale generators. We hope you enjoy the articles. As always your feedback is most welcome - Bob Stelzer, Chairman, Safety Power Inc bob.stelzer@safetypower.ca . More info is also available at www.safetypower.ca

New Projects – Toronto Hydro

Toronto Hydro serves over 18% of the electricity consumers in Ontario and employs over 1500 people making it one of the largest electricity distributors in Ontario. It serves 688,000 customers. Toronto Hydro has a deep commitment to environmental stewardship.

Toronto Hydro has an emergency standby generator system that provides backup for its main data centre, call centre and system operations centre. The emergency standby generator system consists of generators which run on 100% biodiesel. Safety Power has completed installation of a Selective Catalytic Reduction (SCR) system on the 1.2 MW generator at their facility. The system dramatically reduces the



NOx emissions, noise and visible particulate matter from the generator.

The Safety Power system is mounted on the roof of the facility. Safety Power was responsible for the design of the system, overall installation of the

equipment and interfacing it to the existing diesel generator. The overall project was completed on time and on budget. Toronto Hydro has an annual maintenance contract with Safety Power to ensure the system continuously meets its environmental objectives.



Emissions technology interview with Robert Desnoyers

Robert Desnoyers, the President of Safety Power, has been involved with the Company since its founding in 2005. Robert's family background includes a First Nations heritage. Ensuring our environment is protected is very important to him. Robert enjoys sailing and is an ardent hockey fan. We talked to Robert about some of the issues he feels would be of interest to our readers.

Q: Why has there been such a focus on emergency standby generator emissions lately?

In Ontario emissions from these units have traditionally been exempted by Regulation 419/05 which covers air emissions. Emergency standby generators (called Standby Power Sources in the Regulation) are covered under the Certificate of Approval Air (CAA). The biggest constraint for these emissions is generally NOx. NOx is a greenhouse gas that is 300 times more potent than carbon dioxide. The CAA process allows a Director of the Ministry to approve an installation that emits up to 1880 ug/m³ of NOx

provided there are no sensitive receptors present. Most of the larger installations are now choosing to meet the lower 500 ug/m³ limit specified in Reg 419/05. Some are even choosing to meet a lower target of 350 ug/m³ NOx. There are varied reasons for this. In some cases there are health concerns (especially for hospitals and water pumping stations), in others (such as data centres) there is concern that their weekly testing cycle may be constrained if NOx is too high, in other cases there may be a desire to eliminate a tall stack that disperses the pollutants as opposed to removing them at the source. Whatever the reason, the technology to achieve these reductions is well proven and the incremental cost for large scale standby generators is relatively low if the system is "designed in".

Q: What types of air emissions issues does Safety Power Inc (SPI) deal with?

We deal with all of the traditional by-products of combustion: CO, NOx, Particulate Matter (PM) and unburned HydroCarbons (HC's). We offer 3 technologies to deal with these emissions. These include NOx reduction (through our Selective Catalytic Reduction system), CO and HC reduction (using our oxidation catalyst) and finally PM reduction (through our particulate filter). Most of our installations focus on the NOx, CO and HC reduction by installing the SCR and the Oxidation Catalyst. This system reduces PM and provides 90% reduction in HC, CO and NOx. The net effect on a diesel generator is that there is very little visible smoke, virtual elimination of unpleasant diesel smells and a significant noise reduction at the exhaust of about 25 dB.

In a future issue we will explore how the technology works to achieve these results.

For more information visit us at:

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