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Ontario Power Authority
120 Adelaide Street West, Suite 1600
Toronto, ON M5H 1T1

Attention: DR Program Team

Re: Demand Response Program - DR3 Program Rules

Safety Power is pleased to submit this letter in response to the Ontario Power Authority's request for stakeholder input as it relates to the DR3 Program Rules.

It has been noted with concern that the Eligibility Requirements 2.1.2 (a)(ii)(2) has purposely excluded a viable Demand Response resource that is immediately available to assist the Province and Priority Zones such as downtown Toronto and the North East York Region meet its electricity demand needs. Safety Power has been developing a program over the past 24 months with support from Toronto Hydro and PowerStream and estimates there are over 150MW of existing emergency standby generator assets in the downtown Toronto area and over 20MW in the York Region areas serviced by the Armitage TS that could be available to participate in a Demand Response program. Utilizing these emergency standby generator resources for load displacement during peak periods can displace the need to provide additional electricity from the grid by meeting the customer's needs behind the meter.

The business concept developed focuses on improving the life safety aspects associated with many of these existing emergency generators by improving their availability. By increasing the availability of these emergency generators a secondary function can be realized to benefit not only the equipment owner but also all Ontarians. These existing emergency standby generators can be dispatched thereby producing electricity during peak demand periods to assist in addressing the power shortages that this Province faces. The vast majority of the emergency standby generators targeted are located in electricity priority zones, which makes them ideal to provide peaking power.

Much of Safety Power's focus over the past 18-months has been on addressing the Environmental Assessment Act (EAA) and Environmental Protection Act (EPA) regulatory requirements in a satisfactory manner. Since the dispatched emergency standby generators will use a bio-diesel blend of fuel as their primary power source the proposed initiative is designated subject to the *Environmental Assessment Act* by Ontario Regulation 116/01 (the *Electricity Projects Regulation*) and the *Environmental Protection Act* by Ontario Regulation 346. Based on the successful test results at its 1MW pilot in Concord, Safety Power is working with the Ministry of Environment on a plan that, we believe, will satisfy Ontarian's environmental concerns by implementing approved measures at each site:

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- Implementation would include the upgrading of each emergency standby generator site with a Selective Catalytic Reduction (SCR) based emission control system, an additional oxidation catalyst in the SCR reactor, and the replacement of the existing off-road fuel with Ultra-Low Sulphur fuel blended with 20% biomass. The combined effects of the 4-step solution results in “beyond compliance” emission rates as compared to Guideline A-5 for Natural Gas Combustion Turbines as noted in **Table 1** below. The performance of the solution proposed for emergency standby generator sites participating in the DR Program has been verified at Safety Power’s 1MW pilot site in Concord by credible independent testing to provide emission reductions for NO_x(90%), SO₂(99.5%), CO(89%), PM (34%), THC (94%) and CO₂ (20%).
- Implementation would require an environmental screening be carried out for each potential emergency generator site that includes all aspects of the environmental screening process contemplated by O.Reg. 116/01.
- The initiative has positive social and economic impacts: reducing the potential for brownouts or rolling blackouts of the electricity system and mitigating the need to purchase expensive imported electricity.
- The concept utilizes existing emergency generators and modifies them to perform at a much higher level than they currently operate with no new civil construction being required, thus minimizing environmental impacts compared to new facility construction.
- Natural environment impacts are limited to noise and air issues, with a reduction in the annual emissions from the dispatched emergency standby generators as compared to their existing emissions.
- Approvals under the *Environmental Protection Act* through an amendment to the existing Certificate of Approval will address the air and noise issues noted above.
- The concept represents a viable and economic (as proven by the TRC test) alternative.
- Highly verifiable and easily measured in order to provide inputs into quarterly reporting.
- These Demand Response resources can begin having an impact in the electricity grid quickly (within 6 months).
- This form of self-generation fits within the definition of Demand Response Resource and is a measure utilized successfully by other jurisdictions such as New York ISO, New England ISO, and the Long Island Power Authority.



Table 1

	NOx (ppmv)	SO2 (ppmv)	CO (ppmv)	PM (mg/Rm ³)	THC (ppmv)
A-5 Guideline	141	135	60	N/a	N/a
SPI Base - 1MW Pilot c/w 500ppm sulphur diesel	558	1.0	70	11.0	53
SPI 1MW Pilot c/w SCR, Oxidation Catalyst, ULSD & B20 biomass blend	98.4	0.6	6.5	7.2	3.3
% Reduction from A-5 Guide	30%	99.5%	89%	N/a	N/a
% Reduction from SPI Base	82%	40%	91%	34%	94%

RECOMMENDATION

Based on the proven performance of the proposed 4-step solution, we recommend that emergency standby generators, regardless of fuel type, be eligible to participate in the OPA DR3 Demand Response Program subject to meeting the approvals and requirements of the Environmental Assessment Act, Environmental Protection Act and any other applicable regulations. The following suggested wording is extracted from Regulation 215/07, which represents a recent change to the *Electricity Act 1998* by the Ministry of Energy that permits a Municipality to utilize their standby generator assets for demand response initiatives:

“A Municipal corporation may generate electricity utilizing a municipal standby generation facility if the generation facility complies with all requirements under the Environmental Assessment Act and the Environmental Protection Act that apply to the generation facility or to the class of generation facilities to which the generation facility belongs....”

Sincerely,

A handwritten signature in black ink, appearing to read "R. Desnoyers", is positioned above a horizontal line.

Robert Desnoyers, Vice President
Safety Power Inc.

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