

Pacific Northwest Utility Leads the Way in Reducing Genset Emissions



CUSTOMER

Pacific Northwest Utility.

PROBLEM

- In 2023, the Oregon Department of Environmental Quality (DEQ) updated their air quality standards requiring Diesel Particulate Filter (DPF) retrofits for Dispatchable Standby Generation (DSG) program gensets.
- Non-compliance can reduce the capacity of their DSG program.
- Difficulty finding qualified contractors to implement a compliant solution within the required time frame.

SOLUTION

MSHS PPG provided a full-service design-build approach, overseeing every aspect of the project:

- **Project Management & Engineering:** Conducted site evaluations, structural assessments, and compliance planning.
- **Custom installations:** Developed installation strategies for 35 unique locations, including confined spaces and rooftop applications.
- **Integration & Electrical Work:** Modified existing generator exhaust and electrical systems to support the new DPF units without impacting performance.



PROJECT OVERVIEW

A Pacific Northwest utility company operates a Dispatchable Standby Generation (DSG) program, contracting with customers to utilize their generators for additional grid capacity during peak demand. New 2023 Oregon Department of Environmental Quality (DEQ) regulations required all diesel generators in the program to be retrofitted with Diesel Particulate Filters (DPFs).

MSHS Pacific Power Group (PPG) was selected to provide a turnkey retrofit solution due to its expertise in power system upgrades. MSHS PPG managed the entire process, from engineering assessments to permitting, structural modifications, and installation, ensuring compliance while minimizing operational disruptions.

* The DSG program operates within US EPA standards, allowing the use of emergency-rated engines and generators that are not Tier IV.

- **Structural & Seismic Modifications:** Engineered and fabricated support systems to accommodate DPFs, ensuring stability and compliance with building codes.
- **Minimal Operational Disruption:** Coordinated closely with mission-critical facilities such as hospitals and data centers to execute work without compromising reliability.

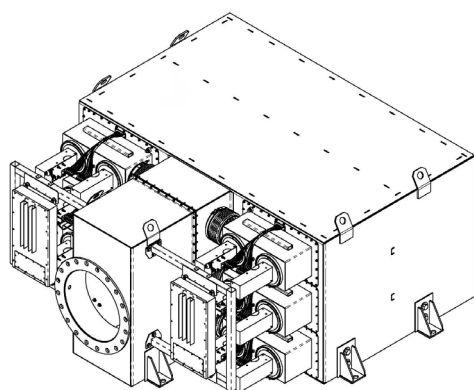
IMPLEMENTATION

The project included hospitals, industrial facilities, data centers, and government sites. MSHS PPG's ability to adapt to each site's unique challenges ensured a smooth implementation process.

Key Challenges & Solutions:

- **Hospital Installation (Portland, OR):** Limited access to the three gensets located on the 15th floor requiring custom-engineered silencers designed for sound reduction and to be a collector supporting the application of (2) DPFs for each engine.
- **Mountain-Top Radio Tower:** Limited space beneath an ice shield required precision engineering for a compact, structurally sound DPF installation.
- **Diverse Site Configurations:** Each location required a tailored approach, including external independent structures and those integrated into existing facility buildings including suspended under or on top of the roof structure. Completed full-system "pull-the-plug" live data center commissioning, integrated with ATS, switchgear, and UPS testing.

Rypos active DPFs were selected for the retrofit to mitigate the risk of the emergency standby genset being non-available. Passive DPFs rely on the engine exhaust temperature to reach the particulate matter (PM) regeneration threshold. Failure to do so will potentially plug the DPF and risk engine shutdown. RYPOS utilizes a minimal power draw derived from the genset to actively regenerate to reduce PM emissions and clean the filter.



Rypos ADPF-6

SERVICE & SUPPORT

- **End-to-End Execution:** MSHS PPG managed all aspects, including permitting, logistics, installation, and commissioning.
- **Technical Expertise:** Ensured proper integration with generator systems, maintaining operational efficiency and reliability.
- **Positive Customer Feedback:** The utility praised MSHS PPG's technical knowledge, execution efficiency, and problem-solving capabilities.

CONCLUSION

MSHS PPG's turnkey approach ensured regulatory compliance while maintaining the integrity of the Dispatchable Standby Generation (DSG) program. By delivering a tailored, engineering-driven solution, MSHS PPG provided a reliable emissions control upgrade that supports grid stability and operational efficiency.

MSHS PPG is a leading provider of generators for various industries, utilizing diesel, natural gas, biofuels, and renewable fuels, along with hybrid microgrids and battery energy storage systems (BESS). We focus on emissions reduction, including hydrogen solutions, and collaborate with data centers and utilities to address complex power management issues.



As demands on the national utility grid continue to rise, from hyperscale data centers and other sources, we are developing ways to stabilize the grid and reduce emissions.
Contact us to learn how we can help you tackle your power and emissions challenges.

