Material Integrity Solutions, Inc.

PROJECT BULLETIN

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Vallejo Sanitation & Flood Control District Standby Power Retrofit

Background

Material Integrity Solutions (MIS) provided design and engineering for a 2.4 MW standby power retrofit project in the city of Vallejo, California. MIS provided following services to design and permit the plant for operation:

- Surveying, civil grading plans and soil analysis.
- Civil/Structural evaluation, design & engineering.
- Mechanical design and engineering.
- Electrical design and engineering.
- Field engineering support.

Waukesha VHP7104GSID Enginator.

Discussion

To meet California's forecasted summer electricity demand, and to qualify for state sponsored incentives, the plant had to be online within 15 weeks. MIS assembled a multidisciplinary team to provided expedited engineering services for this fast-track project, enabling the plant to become operational in 12 weeks from design to operation.

Engine Cooling Water Piping & Radiators

Standby Generator Building

The standby facility is a 2.4 MW power plant incorporating 2 natural-gas-fueled engine-generator sets. The plant is designed to start automatically during a power failure or to start remotely for peak shaving operation in the summer. The retrofit consisted of the removal of existing diesel standby generators and replacing them with two Waukesha VHP7104GSID Enginator sets with associated auxiliary and control equipment.

The nature of the retrofit to the existing building, and large differential soil settlements between structures, presented unique challenges overcome by MIS engineers during the course of this project.

Conclusion

Through innovative design and engineering, MIS met the client's expedited timetable, allowing the plant to startup ahead of schedule. In February, 2002, the State of California awarded incentives and bonuses to the City of Vallejo for having completed operations on time. In addition to these awards, the client benefited from the retro fit by replacing two outdated diesel generators with clean burning natural gas engines. Not only do these engines reliably protect the facility with standby power, but they also save the client money by operating during summer months when electricity rates peak.