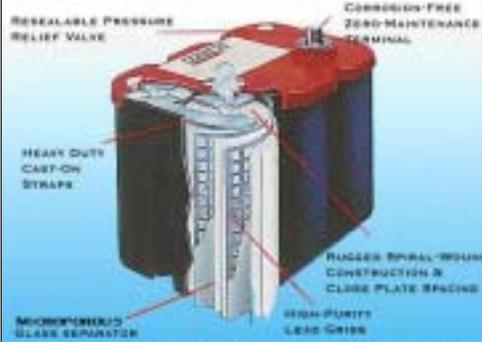




Do you recharge lead-acid batteries?

Would you like to improve this process in the following areas?

- **Meet environmental compliance regulations.** Reduce the amount of hazardous waste (HW) generated while recharging lead-acid batteries. Media area is hazardous waste.
- **Improve workers' safety and health.** Reduce risk of acid leakage. Eliminate worker exposure to waste acid.
- **Increase productivity.** Reduce the number of battery change-outs.
- **Save money.** Eliminate hazardous waste disposal, HW management costs and associated regulatory liabilities.



Maintenance Free Batteries

The disposal of old electrolyte, generated from wet-cell battery recharging, as hazardous waste can be eliminated with the use of maintenance free batteries. Wet-cell lead acid batteries are traditionally used for starter batteries in ground support equipment. Recharging these batteries creates a hazardous waste and can expose personnel to the spent acid. Maintenance free batteries will eliminate the hazardous waste stream and the safety risk from exposure to spent acid. In a maintenance free battery, the acid is bound in a gel medium or a fiberglass mat. The acid cannot leak out or spill. If the battery is accidentally cracked, acid will not run out or splash. Maintenance free batteries have different recharge requirements and can be recharged with a special battery recharger. While maintenance free batteries have a higher initial capital cost, they have a longer life span and are cost effective. Maintenance free batteries can be recycled through the manufacturer. Gel-based batteries have been implemented at Naval Base Norfolk and the USS KEARSARGE (LHD-3).

How can you achieve these improvements?

Use maintenance free batteries instead of wet-cell lead acid batteries.

How does this equipment work?

Maintenance free batteries do not generate spent acid during recharging operations. No hazardous wastes are generated.

How will this equipment save you money?

Eliminate hazardous waste management and disposal costs. While procurement costs are higher, maintenance free batteries will last longer than wet-cell lead acid batteries.

How can this technology eliminate or reduce pollution?

This P2 technology replaces standard lead acid batteries with maintenance free batteries. Use will result in the following pollution reductions:

- Eliminate the generation of spent acid during battery recharging operations.
- Reduce the risk of acid leaks or spills.

Which processes can benefit most from this technology?

Maintenance free batteries may have applications in Navy facilities or operations using lead-acid batteries.

How can this technology reduce regulatory compliance concerns?

Maintenance free batteries reduce environmental hazards from the generation of spent acid during battery recharging. Use will result in the following regulatory compliance benefits:

- Reduction in hazardous waste helps facilities meet the waste minimization requirement under RCRA, 40 CFR 262.41 (a)(6).
- May help facilities reduce their generator status and lessen the tasks required to comply under RCRA, 40 CFR 262 (i.e., recordkeeping, reporting, inspections, transportation, accumulation time and emergency measures).



Achieving Environmental Compliance Through Pollution Prevention

Every day the Navy faces the challenge of operating and maintaining the fleet while complying with environmental regulations. This burden can be reduced by using pollution prevention technologies and methods to reduce compliance requirements. This fact sheet is one in a series designed to encourage activities to use pollution prevention technologies and methods. The overall goal of this series is to promote sustained environmental compliance at the lowest life-cycle cost.

For additional information, contact:

Program POC:

(805) 982-5318, DSN 551-5318

E-mail: Fact.Sheet.ProgramPOC@nfesc.navy.mil

Technical POC:

(805) 982-1493, DSN 551-1493

