

ITRC PROJECT PROPOSAL: Best Management Practices for Perchlorate

PROPOSAL DATE: *May 23, 2007*

Please use brief statements or bullet items to input the requested information.

Proposal Contact:

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Problem Statement (why is this project necessary?)

Perchlorate contamination can occur because responsible parties are unaware of the best practices to minimize it. Perchlorate contamination is not limited to military bases and associated industries where numerous significant groundwater plumes have been documented nationwide. The incorporation of perchlorate in non-military products, such as fireworks, road flares and commercial explosives, has increased the risk of smaller releases of perchlorate to the environment. Such releases may be locally significant, resulting in perchlorate concentrations in groundwater up to 1,000 µg/L or more. The misuse or mishandling of perchlorate-containing products can exacerbate the release, while the implementation of Best Management Practices can minimize it. These conditions include the application of nitrate fertilizers containing this substance, the use of perchlorate-containing safety flares by state and local police forces to delineate temporary accident investigation areas on our nations highways, the use of perchlorate-containing pyrotechnics in community fireworks displays; and the use of perchlorate-containing explosives in difficult blasting operations. Environmental decision makers need guidance on the best management practices that can be used for storage, transport, disposal, and management of perchlorate-related products.

Solution / Impact (how will the project impact the environmental marketplace?)

The products produced by this project will have an impact not only on the "traditional" environmental marketplace, but also on some non-traditional sectors, such as police agencies, blasting contractors, and fireworks operators.

- Best Management Practices ("BMPs") might include guidelines to minimize perchlorate contamination from the use of road safety flares that describe how unspent flares are collected, transported to a common location, and ultimately disposed.
- BMPs for fireworks displays would describe appropriate site selection criteria (e.g., distant from drinking water supplies) and recommend practices for the management and disposal of debris and unexploded shells.
- BMPs for blasting operations would encourage substitution of low-perchlorate-containing explosives and good housekeeping practices.

The team will focus its attention on possible perchlorate use patterns and develop strategies to eliminate or minimize the impact on the environment.

Success Measures (how you determine the project impact to the market place)

1. The number of states that incorporate ITRC-recommended BMPs into state guidance documents. Massachusetts and California are currently the only states that have produced such guidance.
2. The number of people trained, through ITRC seminars.
3. The number of states that concur on the guidance document and
4. Observations of private-sector vendors (e.g., fireworks contractors) incorporating perchlorate-related BMPs in their marketing and sales strategies.

Summary of Deliverables (primary project outputs)

A tech/reg guidance document and associated internet training will be developed as part of this project. The tech/reg may include case studies showing success stories on how BMPs have helped to minimize perchlorate contamination.

Project Schedule

- 1.) Tech/reg document – November 2009
- 2.) Internet training – March 2010

Target Audience

The primary audience will consist of environmental regulators and decision-makers concerned with managing perchlorate source products. Secondary audiences may consist of such diverse groups as highway workers and law enforcement agencies who use explosives or road flares. In addition, the target audience should also include Pyrotechnic operators, pharmaceutical companies that market perchlorate as a therapeutic agent, fire departments, water suppliers, and other local officials who are responsible for issuing permits for fireworks displays and blasting operations.

Resources Required

- Lee Lippincott, New Jersey, is the Team Leader of the existing team
- States that are members of the current team include NJ, MA, CO, CA, NV, AL, and D.C.
- The existing team has an excellent skill mix of scientists and engineers that would benefit the proposed project.
- The team requires a broad mix of federal, state, industry, academia, and stakeholder members to accomplish the proposed project. The current team consists of such a mix.

Financial Resources:

2008 - \$76,000
2009 - \$80,000
2010 - \$10,000

Related Work:

The ITRC Perchlorate team has produced an overview document that describes the situation and status with regards to perchlorate contamination of the environment. This document was published in September 2005 with the title *Perchlorate: Overview of Issues, Status, and Remedial Options*. The team is currently finishing a tech/reg document on remediation options that will be published in December 2007.