PROGRAM 6 – MATERIAL-SPECIFIC HANDLING AND STORAGE

Activity 6.3 – Liquid and Solid Deicer Management

Description

This BMP applies at all facilities where liquid and solid deicer materials are stored or inventoried and where snow is disposed of (dumped after transport from its original location). Proper handling of liquid deicer, such as liquid magnesium chloride, and solid deicers, such as salt, sand, and cinders.

Applications and Limitations

Bulk deicer material must be stored on impervious, contained pads and not allowed to migrate off-site. A track-out permit may be required for work in Maricopa, Pinal, and Pima counties (refer to Chapter 3, Program 2, Activity 2.6). Coordinate with the DEC for applicability.

Do

- Designate storage areas away from storm drains inlets, watercourses, etc.
- Use safe handling techniques. Prevent spills on ground.
- Clean up any spills as soon as possible. Have spill control kits on hand (refer to Chapter 4, Program 9).
- Sweep any salt and sand material spilled during loading/unloading back into the storage building immediately.
- Cover salt, preferably in a permanent, roofed structure, to prevent precipitation from reaching it. If this is not feasible, the next best solution is a waterproof covering weighted and tied down.
- Close doors when loading/unloading is not taking place, including between multiple loading operations.
- Store salt on an impermeable pad, not on the ground. Asphalt is the most widely used material for pads because salt has little effect on it. However, concrete is sometimes used. Concrete must be high-quality, air-entrained, and treated with linseed oil or asphalt-type coatings to reduce chloride penetration and prevent scaling or spalling (i.e., flaking).
- Obtain storm drain markers and properly sign all storm drain inlets and dry well grates in the vicinity, indicating that no dumping is allowed.
- Enclose area or build berms or curbs around stockpile loading and unloading areas. Stormwater should not be allowed to leach any contaminants out of the materials and off ADOT property (refer to Chapter 3, Program 6, Activity 6.6 for material stockpiles).
- Storage pads should slope to let water drain away. The water should be channeled to a collection point or sump via ditches, pipes, or tile. The collection point or sump must only contain salt water (no additional contaminants from the maintenance yard).
- Transfer, use, and store deicing materials only in paved areas.
- Minimize generation of dust.

- Minimize track-out of stockpile materials to other areas of the site during load-out by installing track-out controls.
- Reapply brine held in the collection point or sump to the stockpile, applied to spreader loads prior to applications, or sent to a wastewater treatment plant for disposal.

Don't

- Dispose of salt brine or liquid deicer into a septic system.

Maintain

- Secondary containment for liquid deicer storage.
- A limited inventory of materials on-site to reduce the magnitude of potential spills and waste generation.

Inspect

- Pump and sump prior to precipitation. If sump is ½ full, pump solution out of sump into the holding tank, if applicable. Reapply to the stockpile or send to a wastewater treatment center for disposal.
- The holding tank and pump out if more than ⅔ full, if applicable. Solution can be reapplied to the stockpile or sent to a wastewater treatment center for disposal.
- For spill residue in the secondary containment and remove if present (refer to Chapter 3, Program 7 BMPs).
- Containment basins and perimeter berms for any possible leaks or breaches.