2014

Comparison of the ECS Program to Traditional Methods

Addressing small spill cleanup to the maximum extent practical

Environmental Chemical Solutions, Inc.

Fm 186-2 Spill Cleanup Program

addressing small spill cleanup

To

the Maximum Extent Practical …(MEP)

FM Method

Conventional Method

Comparison of the ECS Program to Traditional Methods

Issue	Traditional Method	ECS Program
Spill Response	1. Utilize kitty litter material to soak up the spilled fuel. 2. Move clean up materials to the sealed hazardous waste container area. 3. Open the sealed container and deposit the materials inside. 4. Re-seal the container. 5. When container is full or has been on site for the maximum allowable days, call for removal. 6. Fill out hazardous waste manifest and have removed from site. 7. Materials are sent to transfer facility (long term liability). 8. A CESQG may utilize the Household Hazardous Waste Program in accordance within applicable rules and regulations	1. Spray FM 186 onto spill. 2. Mix/agitate with stiff bristle brush following protocol. 3. Utilize wiper sorbent to soak up the spilled fuel mixture. 4. Handle materials as solid waste. 5. Disposal Options include: a. Traditional Disposal Methods b. Characterize the waste as non-hazardous in accordance with all applicable statutes and regulations, as discussed elsewhere. (see *Program Evaluation* and *Waste Analyticals*)
Safety	This type of program does not reduce the dangers of gasoline vapors. During spill response, customers and employees are subjected to the potential fire and explosiveness of the fuel and associated hazards from its vapors. The proximity of the ignitable/flammable waste container to fuel islands, property lines, and buildings usually increases the exposures and dangers associated with raw gasoline. Health issues arise with benzene from the spilled gasoline evaporating into the air and being inhaled by customers and employees during cleanup response. This type of program does not reduce VOC's at the island or at the hazardous waste container during disposal. Customers and employees are subjected to the dangers of the benzene these VOC's produce.	This program immediately addresses many of the safety concerns. First, as soon as the fuel and the FM186 product are properly mixed, dangerous vapors are suppressed. This results in reduced flammability of the spilled fuel. Based upon prior test results summarized in the document "*Waste Analyticals*" the spilled fuel cleanup materials are not ignitable when used in accordance with the *FM 186-2 Program Manual*. This results in a much safer environment for customers and employees around the entire facility. Due to the reduction of the VOC's the health issue with the inhalation of benzene is dramatically reduced or eliminated.

Issue	Traditional Method	ECS Program
Environmental	This type of program reduces the major impact of spilt fuel, but the residual that is left becomes a source for non-point source pollution. Residuals from the typical cleanup process contribute to the rainbowing effect in stormwater runoff pollution. The act of responding to the spill does not suppress vapors during the cleanup procedure and while and depositing the clean up materials into a sealed container. The vapors continue to build up and be released from the container every time new waste material is added. If spill clean up materials are disposed of in hazardous waste landfills, biodegradation will likely not occur because of anaerobic conditions. As a result, the hydrocarbons in the spill material could become a source of water pollution.	This program out distance's current practices by further reducing the spilt fuel's impact on non-point source pollution. The VOC's contributing to air pollution are dramatically reduced while cleaning up the spill, whereas current practices do not stop the VOC release until sealed in the hazardous waste container, and are continually released each time the waste drum is opened. The cleaning action diminishes the residual spilt fuel from the concrete. This reduces or eliminates the rainbows in stormwater runoff. As discussed in the FM 186-2 Program Evaluation and the MWS Landfill Degradation Study, hydrocarbons in FM treated spill materials will biodegrade in both aerobic and anaerobic environmental, including landfills.
Training	There is no formalized corporate training associated with this type of program. Owners and operators are responsible for designing the contingency plan and the training program. Hazardous waste drums are dropped off and left to the owner to devise his own spill cleanup procedures. Spill clean up equipment is usually insufficient or non-existent.	Training is very important to reducing the risks associated with fuel spill clean up. To protect the environment it is essential that the response be swift and properly done. The ECS program provides written and video training along with written protocols on how to safely and properly deal with the spill. The protocols are not only included in the training materials, but also in the spill response kit. Spill training is continual through onsite, video or online availability.

Issue	Traditional Method	ECS Program

Service & Support	This type of program consists of the drop off of hazardous waste containers and in some cases, a bag of sorbent material. The second part of the program is removal of the hazardous waste container when full. There is no monitoring of response equipment or ongoing training.	To accomplish the goals associated with each customer's spill response program, ECS monitors the use of spill response equipment and supports continuous training at each site. This is done by representatives in the field and by customer service representatives in our home office. Each site is contacted on a regular basis to identify the needs of each facility. These needs may be in the form of replacement of spill response equipment or the training/retraining of new personnel.

When one takes an in-depth look at the two types of spill response programs, it become evident that one program is dramatically superior in attaining the maximum extent practical (MEP) requirement as set forth in the Clean Water Act to achieve NPDES stormwater pollution total maximum daily load (TMDL) requirements.

*Petroleum waste is a presumptive hazardous waste and the users/generators are responsible for proper waste characterization and disposal. Regulations establish that prior knowledge of the waste and the treatment process in which it was generated can be applied in determining a waste's classification. The FM 186 program is an immediate response spill treatment procedure that can be applied as part of prior knowledge in which the waste was generated. Federal and state regulations state that generators shall determine their waste classification and dispose of it correctly. Nothing herein is to be taken as approvals that all spill materials would be rendered non-hazardous.