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WOLF CREEK NUCLEAR OPERATING CORPORATION

WASTE MINIMIZATION PLAN

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for K. Moles

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WASTE MINIMIZATION PLAN FOR WOLF CREEK GENERATING STATION

Purpose

This waste minimization plan has been created to help Wolf Creek Generating Station (WCGS) achieve a reduction in both the volume and toxicity of waste generated. This will be accomplished using techniques such as product substitution, more efficient use of chemicals, improved chemical control, improved work processes, reuse, and recycling. One of the primary goals of this plan established in 2003 was to allow WCGS to drop from an EPA (Large Quantity) Generator classification (2200 lbs. or more of hazardous waste / month) to a Kansas Generator classification (55 - 2200 lbs. of hazardous waste / month). **This goal was achieved with a notification letter to the Kansas Department of Health and Environment in October of 2004.** The goal now is to continue to decrease the volume of waste generated and work towards the Small Quantity Generator classification (less than 55 lbs. of hazardous waste / month).

Scope

The successful implementation of this plan requires the support and participation of all employees and contractors working at WCGS. While this plan is driven by requirements to reduce the volume and toxicity of hazardous waste generated, it is not limited to this one waste (hazardous) classification. It is also the goal of this plan to reduce the amount of nonhazardous solid (industrial) waste and ordinary office trash. The Supervisor Regulatory Support is responsible for the implementation of this program.

Previously Implemented Practices

There have been a number of programs and practices implemented already which have either reduced the amount and toxicity of waste generated or reduced the volume of waste being disposed of in a landfill. Some of these programs and practices are:

1. office paper recycling
2. corrugated cardboard recycling
3. laser printer toner cartridge recycling
4. use of low mercury lamps
5. spent lamp recycling
6. lead-acid battery recycling
7. nickel-cadmium battery recycling
8. dry cell alkaline battery recycling
9. recycling of all other batteries
10. scrap metal recycling
11. use of reusable shop towels
12. aluminum can recycling
13. used oil recycling
14. antifreeze recycling
15. use of EPA 2000 as primary cleaning solvent in parts washers
16. use of hot water parts washers
17. paint wastes segregation

18. fiberboard drum reuse
19. recycling of some poly and steel drums
20. "reuse" of diesel fuel from offloading process and sample testing
21. selling or giving away materials obsoleted from the warehouse
22. reusing styrofoam peanuts and other packing materials

Plan

This plan encourages the continuance of all programs and practices previously implemented. When this plan was revised in 2003, several additional programs and practices being implemented were listed as goals of the plan. Following are updates on these specific goals:

1. **Paint Wastes** – There has been a concerted effort to reduce the volume of hazardous waste paint solids, sludges, and paint-related materials. The goal of this effort was to eliminate the use of paints that could result in the generation of a hazardous waste when the paint has been used and is dry. This was to be accomplished through discontinued use of certain paints, product substitution, and control of approved paints. Hazardous waste paint solids and paint-related materials had been two of the larger volume hazardous wastes generated at WCGS for many years. The goal of this plan was to generate no hazardous waste paint solids or paint-related materials from painting processes. Because some hazardous waste paint sludges may be generated from shelf-dated (and no longer usable) paints, leaking containers in storage, or spills, it would be somewhat unrealistic to expect zero generation of hazardous paint wastes. In 2002, seven drums (2095 lbs.) of hazardous waste paint solids and paint related materials were generated. **The goal established in 2003 was to generate no more than one 55 gal. drum (approx. 450 lbs.) of hazardous paint waste per year.** In 2003, 1620 lbs. of hazardous paint waste were generated. **In 2004, 394 lbs. of hazardous paint waste were generated, and the goal was achieved.**
2. **Parts Washer Cleaning Solvent** - While the use of EPA 2000 as the primary parts washer solvent has been a positive step as the waste is no longer ignitable hazardous waste and it presents fewer health and safety concerns to workers compared with the previously used petroleum distillate solvents, it has not completely eliminated the generation of hazardous waste from the parts cleaning process. Through use, the solvent can pick up high enough levels of certain heavy metals (primarily cadmium and lead) to require disposal as hazardous waste. If the solvent in the parts washers is changed out more frequently, the concentration of heavy metals may be below the level that would require it to be disposed of as hazardous waste. **The goal established in 2003 was to sample and test the parts washer solvent frequently (at least bi-monthly) to determine if more frequent change-out would reduce or eliminate the volume of this waste which is disposed of as hazardous waste. Sampling and testing began in 2004. It was determined that an increased frequency of changing out the EPA 2000 could result in the waste solvent being characterized as nonhazardous waste.** In 2002, two drums (800 lbs.) of hazardous waste EPA 2000 were generated. In 2003, 1455 lbs. were generated. **In 2004, 737 lbs. of hazardous waste EPA 2000 were generated. The installation of a filtration unit on a parts washer in 2005 should extend the**

life of the EPA 2000 and further reduce the possibility of the waste solvent being characterized as hazardous waste.

3. Diesel Fuel - Because of its flashpoint, diesel fuel which was disposed of had been managed as hazardous waste. One source of diesel fuel which was being managed that way was the fuel drawn from the storage and day tanks by Operations to inspect for the presence of water. This is clean diesel fuel, and there was no good reason why it should be managed as waste. Operations and Administrative Services implemented a program for accumulating it as clean diesel and using it as fuel in vehicles or equipment. In 2002, approximately 1150 lbs. of diesel fuel from this source were disposed of as hazardous waste. **The goal established in 2003 was to completely eliminate this as a waste stream. This goal has been achieved, and no waste diesel fuel has been generated from this process since 2003.**

4. Batteries - Recycling programs had been in place for lead-acid and nickel-cadmium batteries for many years. Although not requiring management as a hazardous waste, a large number of dry cell alkaline batteries had been disposed of as office trash. A small number of other types of batteries are also likely being disposed of in the trash. **The goal established in 2003 was to implement a recycling program for dry cell alkaline batteries and for as many other types of batteries as is possible. This goal was achieved in October of 2003.**

Opportunities exist for WCGS to find other businesses that may reuse or recycle materials that would otherwise be disposed of as waste. Several material and waste exchanges can now be accessed via the internet. Inventory control can also play a significant role in waste reduction. A significant amount of both hazardous and nonhazardous waste has been generated in the past by the disposal of shelf-dated or obsoleted products. Supply Chain Services is now pursuing other options before determining that materials should, as a last resort, be disposed of as waste.

The use of products that will not produce a hazardous waste can contribute greatly to the reduction in the volume of hazardous waste generated. There are also more opportunities for recycling additional types of wastes and spent products.

In order to heighten employees' awareness of the need for waste minimization and to encourage individuals to actively support the effort, a program has been implemented to solicit minimization ideas and reward employees for those ideas which are implemented. While all ideas which are implemented will earn the originator a reward, those which result in more significant reductions will earn the originator a more significant reward.

Monthly hazardous waste generation volume will continue to be tracked. Performance indicators will be utilized to track both monthly hazardous waste generation and total cumulative quantities of hazardous waste.

This waste minimization plan should be revised annually to reflect accomplishments and update goals.