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STATEMENT OF BASIS

Salt Lake City Department of Airports Ground Water Discharge Permit Modification Permit No. UGW350005

May 2014

Introduction

Ground Water Discharge Permit UGW350005 for the Salt Lake City Department of Airports deicing operations storm water storage lagoons and land application operation is being modified to incorporate land application expansion. The storage lagoon facility is located 2175 North 4325 West, Salt Lake City, Utah. The land application site is located at the northwest end of the airport property.

Facility Description

The storage lagoon facility is comprised of three lagoons with a holding capacity of 10 million gallons and is part of the glycol recycling plant. The lagoons have a composite liner consisting of a clay sub-liner overlain by an ethylene inter-polymer alloy flexible membrane liner. Runoff from airplane deicing areas is captured and diverted into the storage lagoons where it is contained and recycled. Runoff may contain high concentrations of the deicing chemical propylene glycol. The use of ethylene glycol was discontinued in October 2006. Propylene glycol is rapidly degraded in all environmental media, and biodegradation is the most important transformation process in water and soil. The half-life of propylene glycol in water is expected to be one to four days under aerobic conditions, and three to five days under anaerobic conditions. The half-life in soil is expected to be equal to or less than that for water (ATSDR, 2008). This was confirmed by a land application pilot project that was conducted during the 2001-2002 season. In this pilot project glycol degraded to non-detect concentrations in soil at a depth of three feet after one week.

This Permit Modification is for expanding the 28-acre land application site located northwest of the lagoons to 34-acres. The modification also includes changing the three current 200-foot radius pivots to 400-foot radius pivots. Applications are conveyed through piping stemming from one of three lagoons used for recycling glycol for spray irrigation. The application concentration will remain below 1% glycol. No surface runoff from the site is permitted. The land application program will cease if it is determined to produce an unacceptable nuisance condition. The source lagoon will contain the early stream flows that consist primarily of storm water run-off and process waste water. As the monitored storm water concentration approaches 1% glycol, the flow will be diverted to the other two ponds. Fluids with concentrations greater than 1% will be recycled through the plant. Approximately four million gallons have been discharge to the POTW. This amount will now be included in the total discharge for land application. The resulting volume change will go from 3 million gallons, seasonally, to 7 million gallons seasonally. There will be no change in the application rate/acre.

Ground Water Quality

Ground water at the site is classified as Class IV Saline Ground Water based on total dissolved solids concentrations in excess of 10,000 mg/l. Depth to ground water varies seasonally from 4 to 10 feet below ground surface. Based on the naturally high concentration of total dissolved solids, the shallow water table aquifer is not generally suited for domestic or industrial purposes without extensive treatment. No degradation of ground water

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is likely to occur, as confirmed by ground water and soil sample analytical results collected during and after each application season.

Compliance History

During the period from the last Permit issuance the facility has been in compliance with both the technological and water quality aspects of the permit.

Previous Site History

Permit No. UGW35005 was originally issued in 1993. The original Permit covered evaporation ponds 1.4 acres in size that were discontinued and closed in 1998. Since 1998, this permit covers the recycling facility and current land application as described above. The permit was most recently renewed on February 19, 2013.

Monitoring Requirements

Ground water quality at the storage lagoon site is monitored semi-annually using four ground water monitoring wells (MW-1 through MW-4) and ground water quality at the land application site is monitored after each season using two new ground water monitoring wells (PZ-3 and PZ-4). In addition, soil samples are collected at the three land application areas to monitor the impact of land application on subsurface soils. Ground water samples are analyzed for pH, conductivity, total dissolved solids, propylene glycol, and total petroleum hydrocarbons. Soil samples are analyzed for propylene glycol.

References

Agency for Toxic Substances and Disease Registry (ATSDR), Division of Toxicology and Environmental Medicine, 2008. Addendum to the Toxicological Profile for Propylene Glycol, December 18, 2008, Atlanta, GA.

U.S. Department of Health and Human Services, 1997. Toxicological Profile for Propylene Glycol, prepared in accordance with guidelines developed by the Agency for Toxic Substances and Disease Registry and the Environmental Protection Agency, September 1997, Atlanta, GA.

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