

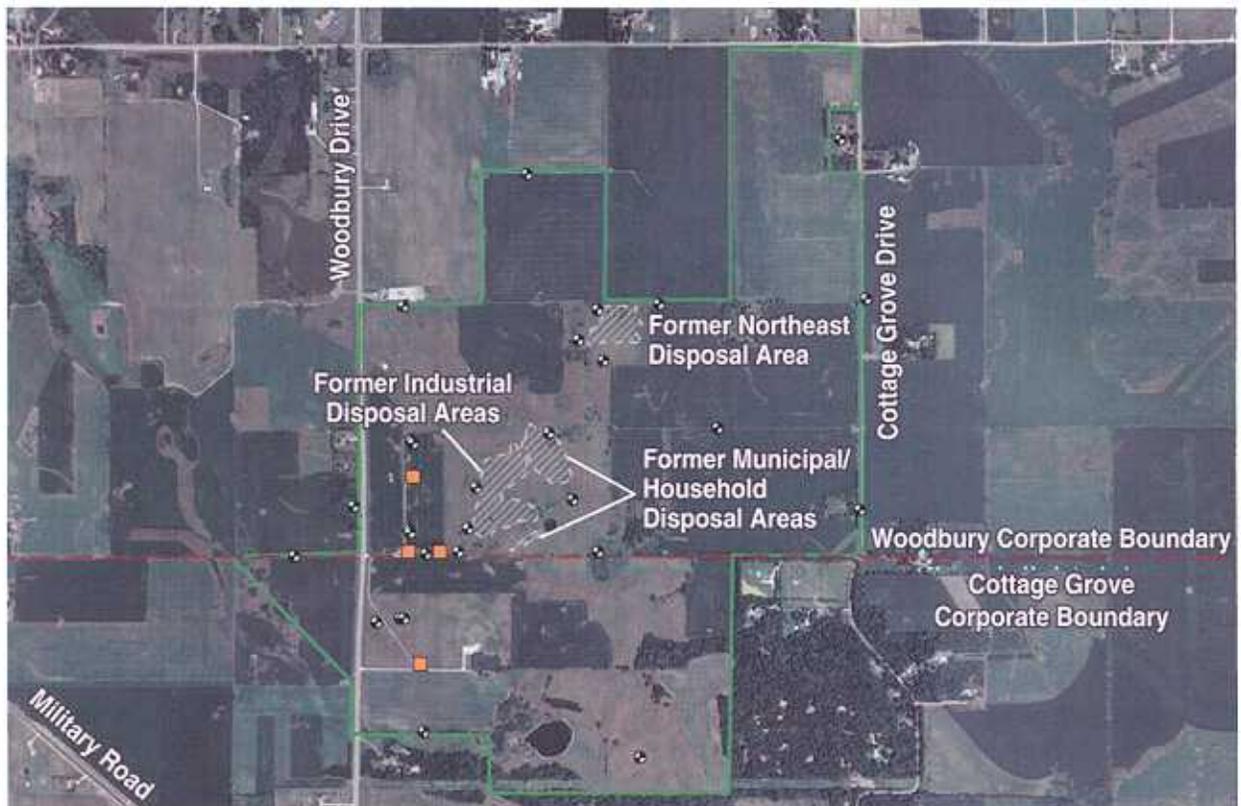
MINNESOTA DECISION DOCUMENT

3M Woodbury Disposal Site City of Woodbury, Washington County, Minnesota

SITE DESCRIPTION

Background

The 3M Woodbury Disposal Site (aka Woodbury Dump Site, or the "Site") is located on the border of Cottage Grove and Woodbury, between Cottage Grove and Woodbury Drives and south of Dale Road (Figure 1). The Site comprises several former waste disposal areas that had received industrial wastes from the 3M Company from 1960-66. The 3M wastes were disposed of primarily in two areas, known as the Main Disposal Area and the Northeast Disposal Area. In addition, municipal wastes from the cities of Woodbury and Cottage Grove were placed in two other separate areas. Together these disposal areas cover about 20 acres of the approximately 656 acres of land which 3M owns.



■ = Barrier Wells

Figure 1
Site Map

The Site predates the creation of the MPCA and there are no historic records available at the MPCA from the time of the actual use of this landfill. In addition, no historic records were kept by 3M describing the type and quantities of waste disposed at the Site, but it has been estimated that approximately 200,000 cubic yards of dry industrial waste such as waste adhesive, rolls of film, rags, resins and off specification materials were disposed of at the Site. In addition, it is estimated that approximately 400,000 gallons of wet scrap resulting from the manufacturing process for scotch tape and sandpaper (including wash water, filter trappings, discarded rolls of tape and general residue of manufacturing process and general housekeeping equipment wastes) were disposed of at the Site. Acids, chiefly sulfuric were dumped in limestone pits at the Site. In late 1963, the Minnesota Water Pollution Control Commission informed 3M that ground water contamination could occur as a result of their practices and recommended that dumping of acids be discontinued and that all other wastes be placed in clay pits. The first clay lined pit was installed at the 3M Woodbury Disposal Site in 1962 and in 1963, a limestone pit was constructed at the 3M Chemolite plant in Cottage Grove (3M Cottage Grove Facility) and additional disposal of acid was discontinued at the 3M Woodbury Disposal site.

Disposal methods at the Site included open dumping and burial of industrial wastes including liquid wastes dumped both in bulk and in containers such as 55 gallon drums. During the period of use of the Site, concentrated wastes from 3M's fluorocarbon production primarily went into the Platteville limestone pits in the Northeast Disposal Area (as well as various other acids.) These fluorocarbon production wastes contained Perfluorochemicals (PFCs). PFCs are a family of synthetic compounds that have been used for decades to make products that resist heat, oil, stains, grease and water. 3M made PFCs from the late 1940s until 2002 at its 3M Cottage Grove Facility. However, the presence of PFCs in the environment and their potential risks has only become generally known to environmental regulators since the year 2000. That was when 3M disclosed information about PFCs to regulators and improved analytical capabilities to detect them became more readily available.

Contaminants called Volatile Organic Compounds (VOC's mostly solvents) were discovered in ground water at the site by 1966, after which time, 3M stopped further disposal and began a ground water investigation. Cleanup actions to address VOC releases to soil and ground water at the Site began in 1966 when 3M first discovered groundwater contamination in a residential well near the western border of the Site. In January of 1968, 3M excavated and burned 200,000 cubic yards of waste at the Site. After the burn was completed, the remaining residue was stockpiled above ground near the excavation pits.

During 1969 and 1970, four ground water removal wells were installed in the main disposal area (Removal Wells). They served to aid in the removal of impacted groundwater directly beneath the main disposal area. The Removal Wells were shut down in 1970 when the water table was depressed and they became ineffective. The Removal Wells were abandoned in accordance with Minnesota Department of Health guidelines in the fall of 1991. In addition, four barrier wells were installed at the property between 1967 and 1973 to create a hydraulic barrier to groundwater flow away from the Site. The barrier wells currently have a combined pumping rate of approximately 4.6 million gallons per day. The water is used both as process water or as non-contact cooling water at the 3M Cottage Grove Facility, which is located about five miles south of the Site. The water withdrawn at the Site is conveyed in an underground force main pipeline to the 3M Cottage Grove Facility (Figure 2). The total length of the line is 31,238 feet or 5.92 miles. A relatively small portion of the water transmitted in this pipeline is used in contact process applications. The amount varies on a daily basis and is difficult to quantify. While contact process application water from the Site is run through 3M Cottage Grove Facility's granular activated carbon filters, water used strictly for non contact cooling water is discharged without treatment to the Mississippi River at mile point 817. Annual Ground Water Reports show concentrations of VOC's in groundwater are decreasing in the monitoring wells at the Site.

Additional remedial measures taken to address Site contamination over time include purchasing over 600 acres of buffer land around the Site, placing a restrictive covenant on the Site, restricting access with signs and a fence, placing an engineered soil cap over the disposal areas, and managing the disposal areas as open space.



Figure 2
Water Pipeline

In 1992, 3M entered the Site into the MPCA's Voluntary Investigation and Cleanup (VIC) program, under which various investigations and response actions were conducted to further address contamination at the Site. In 1996, 3M backfilled open areas and re-graded the Site, placed a soil cap over the former disposal areas and recorded a restrictive covenant on the property. These activities were all aimed at further managing VOC contamination at the Site.

In 2005, after 3M disclosed that industrial wastes containing PFCs were disposed at the Site, MPCA requested 3M to collect ground water samples from the four barrier pumping wells and the combined discharge from these wells. The samples were analyzed for four PFCs: Perfluorooctanoate (PFOA), Perfluorooctane Sulfonate (PFOS), Perfluorobutanoic acid (PFBA) and Perfluorohexane sulfonate (PFHS). The four PFCs were detected in three of the four barrier wells and in the combined discharge from these wells. PFCs were not detected at barrier well B-2 (at a detection limit of 0.025 ppb). The MPCA subsequently requested 3M to install a series of additional sentinel wells surrounding the Site, to determine if the barrier wells were effectively controlling ground water migration away from the Site, to determine if the pipeline carrying discharge water to the Cottage Grove Facility was leaking, and conduct a supplemental investigation to determine the extent and magnitude of PFCs present in the waste deposits at the Site.

STATEMENT OF PURPOSE

This Minnesota Decision Document (MDD) presents MPCA's selected response actions for PFC contamination at the Site and summarizes the facts and determinations made by the MPCA in selecting the response actions.

The response actions address releases of PFCs to soil and ground water at the Site. Previous response actions have been taken by 3M to address VOC releases. The selected response actions in this MDD are intended to prevent human receptors and the surrounding environment from being exposed to releases of PFCs from the Site.

The Commissioner or his delegate has determined that the response actions set forth in this MDD are reasonable and necessary to protect the public health and welfare and the environment from the release and threatened release of PFCs from the Site.

DESCRIPTION OF PROBLEM

PFCs at the Site

Wastes containing PFCs were disposed at the Site. PFCs have been released in the soil at the Site and to ground water flowing beneath the Site. PFCs have been detected in a number of private and public wells in Southern Washington County, and some wells in Cottage Grove and Grey Cloud Township were found to have PFCs above MDH health risk limits or health based values.

The MPCA has tested over 1,000 private and public wells in South Washington County for PFCs. As a result of that testing, the MPCA provided 27 homes in the Langdon and River Acres neighborhoods of Cottage Grove and Grey Cloud Township, respectively, with bottled water or in-home carbon filtration of their private well water.

The MPCA and 3M signed a Settlement Agreement and Consent Order on May 22, 2007 (2007 CO), requiring 3M to conduct an investigation and cleanup of PFC releases at and from the Site and two other 3M Disposal Sites (the 3M Oakdale and 3M Cottage Grove Disposal Sites). As part of its obligations under the 2007 CO, 3M completed Remedial Investigations (RI) and Feasibility Studies (FS) for the Site, in order to identify threats to public health or the environment from releases of PFCs. The 2007 CO also

required that in developing cleanup alternatives, primary consideration should go to those alternatives involving excavation and destruction of the remaining PFC wastes; or excavation and disposal of PFC wastes in a permitted isolated, engineered containment facility.

The RI for the Site showed that the ground water pump out system at the site is preventing the off-site migration of PFCs as well as VOCs. There are PFCs in the groundwater at substantial distances away from the Site, but they are thought to have escaped or moved off-site before the pump-out system was in place and source reduction activities were completed.

In regard to PFCs in soil on the Site, the RI and previous investigations of the Site showed that some residual PFCs remained in parts of all four of the former disposal areas (Northeast, Main and 2 Municipal Fill Areas), soil concentrations of PFCs vary widely, but were deemed sufficient in some cases to be acting as possible continuing sources of PFCs to the localized ground water at the Site (although contaminated ground water is not migrating off-site because it is captured by the pump-out system). In all cases, the PFC soil concentrations that are above the MPCA's soil reference values are well below the ground surface (5 to 26 feet) due to earlier removal actions, backfilling and soil cap installation (i.e., there would be no pathway for human exposure to PFCs in soil).

The objective of the FS is to evaluate various response action alternatives which address PFCs in soil and ground water at the Site, and to provide a recommendation for implementation.

The FS for the Site was developed using guidance and remedy screening criteria developed by the U.S. EPA which are used in the federal and Minnesota Superfund programs. The FS evaluates, compares, and contrasts each remedy alternative for:

- short and long-term effectiveness
- reduction of toxicity, mobility, or volume through treatment
- implementability
- cost effectiveness
- overall protection of human health and the environment.

The MPCA reviewed and evaluated the alternatives presented in the FS and recommended a proposed cleanup plan for the Site.

Summary of Alternatives

Remedy alternatives were developed in three categories: Site-Wide (SW), Soils (S), and Ground Water (GW). The following alternatives were developed for the FS:

Alternative SW-1 -- No Further Action, (ground water pump out would continue and institutional controls are already in place), Standard baseline option evaluated at all Superfund Sites. Estimated cost: \$48,000.

Alternative SW-2 – Institutional controls, access restriction, and ground water monitoring. Would continue existing restrictive covenant on the Site which requires the barrier well system remain operational until the Commissioner states in writing that it may be discontinued and to prevent future development and/or soil disturbance activities in any of the disposal areas, install fencing to restrict access, and develop, in conjunction with the Minnesota Department of Health, special well construction areas or prohibitions, in affected areas on new drinking-water wells. Ground water monitoring would continue for the long term (30 years minimum). Estimated cost \$856,000.

Alternative GW-1 - Continued ground water recovery with treatment by carbon filtration prior to discharge. This alternative would continue to operate the ground water extraction system to capture and prevent off-site migration of PFCs in ground water. A number of studies have concluded the existing system is an effective barrier to PFC migration. Currently four extraction wells pump continuously at a combined rate of 4.6 million gallons a day. The water is conveyed via underground pipeline to 3M's Cottage Grove Facility and used as process or cooling water and discharge to the Mississippi River. Currently only a portion of the water is treated before discharge, but under this alternative all the water would be treated with carbon filtration before discharge. The discharge would be subject to PFC effluent limits contained in an MPCA issued permit. Estimated cost \$2,050,000. (GW-1 was the only ground water alternative developed in the FS because the MPCA will require it as part of any other remedies selected for the Site).

Alternative S-1 – Excavation of the former Northeast Disposal Area trenches. The three soil alternatives are all designed to remove PFCs in soils at the Site and reduce migration of PFCs from soils to ground water; they differ mainly in volume of soil removed and from where, and in degree of source reduction to ground water. Alternative S-1 would remove 31,500 cubic yards of soils from the surface to bedrock in the area of the former disposal trenches in the Northeast Disposal Area. The soils would be trucked to a permitted landfill disposal Site for engineered isolation and containment. Estimated cost: \$7,830,000.

Alternative S-2 –Excavation of the former Northeast Disposal Area trenches; disposal at off-site permitted landfill for engineered isolation and containment; augmentation of the soil cover on the former Main Disposal Area. Same as S-1 plus additional soil cover over selected parts of the Main Disposal Area. Would bring total cover over Northeast Area by two feet. Estimated cost: \$8,190,000.

Refined Soil Alternative S-3 -- Excavation of the former Northeast Disposal Area trenches and selected areas on the Main Disposal Area; disposal at existing off-site landfill for engineered isolation and containment. Same as S-1 and S-2 but with selective excavation of soils to a depth of 18 feet or bedrock in the Northeast Area and in the Main Disposal Area to a depth of 12 feet. Final cover would be placed over all excavated areas. Estimated cost \$12,695,000.

3M also submitted an Addendum to the FS which outlined proposed off-site disposal locations. 3M is recommending that the excavated PFC wastes from the Site be taken to the SKB Landfill in Rosemount, Minnesota. SKB's recently reissued permit allows SKB to build a separate engineered cell within its existing industrial waste containment facility at the SKB disposal facility to contain the excavated PFC-contaminated material. This separate cell would also be used for PFC wastes excavated from the Woodbury and Cottage Grove Disposal Sites. The MPCA has determined that this separate cell at the SKB Landfill for containment of PFC wastes from the 3M Disposal Sites meets the terms of the 2007 CO for engineered isolation and containment. Leachate from this separate PFC waste disposal cell will be collected and taken to the 3M Cottage Grove plant wastewater treatment facility for treatment prior to discharge.

DOCUMENTS REVIEWED

MPCA's decision to select the remedy set forth in this MDD is based primarily on the following documents describing the Site as well as the effectiveness and cost analysis of response action alternatives for the Site.

- Remedial Investigation/Feasibility Study, February 2007
- Draft Fluorochemical Groundwater Monitoring Plan, February 2007
- Fluorochemical Assessment Work Plan, February 2007
- Feasibility Study Work Plan, July 2007

- Woodbury Water Line Evaluation Final Report July 2007
- Addendum to the Flurochemical (FC) Assessment Work Plan for the 3M Woodbury Site, August 2007
- Hydraulic Evaluation of the Barrier Well Recovery System, September 2007
- Addendum to the Hydraulic Evaluation of the Barrier Well Recovery System, January 2008
- Addendum to the Feasibility Studies for the Oakdale, Woodbury and Cottage Grove Sites, April 2008
- Main Disposal Area Additional Geoprobe Sampling Program, May 2008
- Addendum 2 to the Feasibility Study, July 2008

ESTABLISHMENT OF RESPONSE ACTION OBJECTIVES AND SOURCE AREA CLEAN-UP CONCENTRATIONS

Response action objectives have been developed by the MPCA to minimize human exposure risk. Soil exposures will be addressed by removal of PFC contaminated soil, as well as backfilling with clean soil. Contaminated ground water will be controlled from migrating off-site to avoid impact to drinking water supplies and adjacent surface water bodies. Ground water that is pumped-out will be treated prior to discharge to Cottage Grove for treatment and discharge to the Mississippi River, thus reducing potential impacts to surface water bodies. The 2007 CO requires primary consideration be given to the excavation and destruction or excavation and engineered isolation and containment of PFCs at the Site. Response action objectives have been developed using Applicable or Relevant and Appropriate Requirements (ARARs) and are based on soil and ground water contamination data present in the MPCA Site files. The ARARs and other criteria considered by MPCA in selecting a remedy for the Site are listed below:

1. 29 CFR 1926. OSHA regulations for persons engaged in site-related activities
2. 40 CFR 264. Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities
3. 40 CFR 265. Interim Status Standards for Owners of Hazardous Waste Treatment, Storage and Disposal Facilities
4. 40 CFR 268. Land Disposal Restrictions
5. Minn. Stat. 103A. Provides State jurisdiction over surface water features, including wetlands such as lakes and ponds, and other wetland types
6. MPCA Soil Reference Values (SRV's)
7. MDH Health Risk Limits (HRL's) and/or Health Based Values (HBVs)

A. Response Action Objectives

The objectives for response actions at the Site are:

1. To reduce unacceptable human risk exposure to PFCs in ground water;
2. To reduce PFC concentrations in the soil and ground water;
3. To reduce PFC concentrations in discharges to surface water;
4. To maintain an open space as a natural asset to the community.

RESPONSIVENESS SUMMARY

Pursuant to Minn. Stat. § 115B.17, subd. 2b (2006), the MPCA issued a public notice describing the MPCA-recommended response actions. The public notice was published in the Woodbury Bulletin on

July 23, 2008 for the purpose of soliciting comments from the community. MPCA staff also held a public meeting at the Woodbury city hall on July 24, 2008, to discuss alternatives and provide the public the opportunity to ask questions and provide comments on the proposed remedy. The MPCA also held a separate informational meeting with the city of Cottage Grove on August 13, 2008. No written comments were received at the public or informational meeting.

While no comments were received at the public meeting, four comment letters were received during the public comment period.

1. City of Cottage Grove

The City of Cottage Grove submitted a comment letter which commended the MPCA for the positive steps being taken in the cleanup plan to prevent the spread of PFCs in the environment. The City of Cottage Grove also commented that it preferred that the carbon filtration treatment of the pump-out water from the barrier wells be located at the Site rather than at the 3M Cottage Grove Facility. Treatment of the pump-out water will reduce or eliminate concerns over possible leaks from the pipeline carrying the water from Woodbury to the Cottage Grove Facility. The current plan approved by the MPCA does not specify which location will be used. The MPCA will relay this recommendation to 3M for careful consideration. A second comment by the City of Cottage Grove requested that a copy of the Remedial Design Document be provided to the City so that comments on truck haul routes and other matters may be submitted before final approval. The MPCA will provide the City with a copy of the Remedial Design Document when it becomes available.

2. Washington County

A comment letter from the Washington County Board and the Washington County Department of Public Health commended the MPCA on the cleanup being proposed at the Site. One issue that the Washington County would like to see evaluated further is the potential for beneficial re-use of the pump-out water. The current plan is to treat the pump-out water before discharge to the river either before or after usage at the 3M Cottage Grove Facility. While the MPCA cannot require 3M to use the pump-out water for beneficial purposes, the MPCA can relay this recommendation to 3M for further consideration. The primary concern for the MPCA is that contaminated ground water is appropriately treated prior to discharge to ensure that receiving waters are adequately protected.

3. Woodbury Resident

A Woodbury resident submitted the comment that not enough ground water monitoring has been done to determine the vertical extent of PFC or VOC contamination in deeper aquifers, such as the St. Lawrence and Franconia formations. The resident stated that PFC contamination has been detected in Jordan aquifer wells downgradient of the Woodbury Site disposal areas, and if hydraulic barriers are not present, this contamination may be moving downward from the Jordan into deeper aquifers. In response to concerns about the possible impacts of the PFC release on drinking water supplies, the MPCA and Minnesota Department of Health attempted to define the full extent and magnitude of the PFC release to public and private wells in southern Washington County. Over a two-year period, over 1,000 private and public wells were tested for PFCs, upgradient and downgradient of the Site. Wells drawing water from all major aquifers were selected for testing, including approximately 60 wells screened in the Franconia Formation. The great majority of wells are screened in the Prairie du Chien and Jordan formations, which provide the greatest volume of water for domestic and industrial use. Wells are ordinarily not installed in the Franconia formation, unless no other large supply aquifers are present, and only a limited number of Franconia wells were available for testing. The PFC testing program found that nearly all of the Franconia

wells were not contaminated with PFCs. Approximately 12 of the Franconia wells had PFBA present at concentrations less than 1 part per billion (ppb); the MDH health based value for PFBA is 7 ppb.

The PFC testing program indicated that just two isolated locations, with 27 homes affected, had levels of PFCs above the health based values established for PFCs. The MPCA staff has not definitively identified the PFC source that has impacted these neighborhoods; the release could have resulted from the use of fire-fighting foam at a large industrial fire. Thus, with only a few exceptions, the ground water from wells in southern Washington County is well below levels of concern.

Though the Woodbury Disposal Site is the likely source for many of the PFC impacted wells in this area, the evidence seems to show that the PFCs escaped from the Site during the early years of dump operation, before the pump-out wells were put into operation. This means that the low concentrations of PFCs that have already moved downgradient from the Site should remain stable or diminish over time. Because MPCA staff doesn't believe that PFC contamination is still moving away from the Site, there is much less probability that PFCs will migrate downward from the Jordan aquifer and cause greater impacts to deeper aquifers such as the Franconia formation.

At the request of the MPCA, 3M conducted additional ground water monitoring and hydraulic testing at the Site. The additional testing provided further evidence that the barrier well system is containing the PFC contamination present at the Site. MPCA will continue to monitor ground water wells downgradient from the Site, to insure that PFC concentrations remain stable. At present, the MPCA staff believes that the extent and magnitude of the PFC contaminant plume has been determined, and that there is little likelihood that ground water quality in these aquifers, including the Franconia formation, will be impacted by PFCs from the Site.

The Woodbury resident also questioned whether the pump-out water could be directed towards a more beneficial consumptive use, such as an ethanol plant. While the MPCA cannot require 3M to use the pump-out water for beneficial purposes, the MPCA can relay this recommendation to 3M for further consideration. The primary concern for the MPCA is that contaminated ground water is appropriately treated prior to discharge to ensure that receiving waters are adequately protected.

4. Law Firm

A fourth comment letter was received from a law firm representing the plaintiffs in a civil action against 3M. The commenter stated that 3M should remain financially responsible for the full cost of the cleanup at the Site. Under the 2007 CO, 3M is financially responsible for the entire cost of the cleanup, not only for 3M's direct costs of the cleanup, but for all costs associated with operation and maintenance to ensure the selected remedy remains protected, and for all MPCA costs to provide oversight of 3M actions. The commenter also stated that the citizens of Minnesota should receive the best cleanup plan regardless of cost. As noted previously, based on feasibility studies done at Minnesota Superfund Sites the MPCA evaluates the alternatives, determines the effectiveness and implementability of each, reviews the cost effectiveness and above all, determines if the proposed remedy is protective of public health and the environment. In this case, the MPCA has determined that the selected remedy for cleanup of releases of PFCs at the 3M Woodbury Disposal Site is the best overall remedy. The commenter also stated that the excavated material be disposed at a more secure location than proposed. As noted previously, the SKB permit recently issued by the MPCA allows the construction of a separate cell to contain PFC contaminated wastes excavated from the 3M Disposal Sites. This permit specified requirements for design, construction and monitoring of this separate cell. As also noted previously, this facility meets the terms of the 2007 CO for disposal of PFC contaminated wastes in an engineered isolation and containment facility.

In addition, the law firm noted in its August 22, 2008 comment letter regarding the proposed cleanup plan for the Site, when MPCA staff recommended issuance of Requests for Response Actions (RFRAs) to 3M in April 2007, MPCA staff took the position that MPCA had jurisdiction to issue the RFRAs under the Minnesota Environmental Response and Liability Act (MERLA), because the release of PFOA and PFOS to the environment at the 3M disposal sites were releases of hazardous substances as defined in MERLA. The MPCA Board deferred issuance of the RFRAs and MPCA continued to assert its MERLA jurisdiction in the 2007 CO (although 3M continued to dispute such jurisdiction). It should be noted, however, that a determination that releases of these two compounds constitute releases of hazardous substances under MERLA, is not the same as determining that remediation wastes containing PFCs which are generated by cleanup of those releases would be considered hazardous wastes under MPCA rules. MPCA has not made any decision to classify PFOA or PFOS wastes as hazardous wastes under MPCA's hazardous waste rules.

A copy of the Final MDD will be sent to 3M, the MDH, the cities of Woodbury and Cottage Grove, the U.S. EPA and those submitting written comments regarding the proposed remedy.

MPCA's Selected Remedial Actions for the Site

The MPCA has selected a combination of the following alternatives outlined in the January 2008 FS as the remedy for PFC releases at and from the Site:

Alternative SW-2: Institutional Controls, Access Restriction, and Ground Water Monitoring.

Alternative GW-1: Continued ground water recovery with addition of carbon filtration prior to discharge. This alternative would continue to operate the ground water extraction system to capture and prevent off-site migration of PFCs in ground water. The granular activated carbon filtration for discharge water would be added before discharge to the Mississippi River. The point of the filtration either at the Site or at the Cottage Grove Facility would still need to be decided.

Refined Soil Alternative S-3: Excavation of the former Northeast Disposal Area trenches and selected areas in the Main Disposal Area; disposal at existing off site landfill for engineered isolation and containment, with selective excavation of soils to a depth of 18 feet or bedrock in the Northeast Area and in the Main Disposal Area to a depth of 12 feet. Final cover would be placed over all excavated areas.

The MPCA has determined that the permitted SKB industrial waste disposal facility in Rosemount, with a separate cell for the PFC wastes, meets the requirement of the 2007 CO for an isolated, engineered containment facility for the excavated PFC waste material. The MPCA has further determined that the excavation and off-site disposal of PFC contaminated material from the Site is necessary to protect public health and the environment from potential risk associated with the continued presence of the PFC contaminated materials. 3M shall submit for approval to the MPCA a waste management plan for the management and disposal of PFC-contaminated material excavated from the Site. In addition, under terms of the 2007 CO, and approved by the MPCA, 3M has submitted plans to install a Soil Vapor Extraction System as an Interim Response Action to reduce the concentrations of VOCs, in the areas of the Site to be excavated. Soils and Industrial Waste not meeting the Solid Waste Management Plan for SKB will be managed separately as required by law, the Response Action Plan and the 2007 Consent Order. The MPCA has determined that this combination of alternatives best meets the response action objectives for the Site, and meets the terms and conditions of the 2007 CO between 3M and the MPCA.

STATUTORY DETERMINATIONS

The selected response actions are consistent with the Minnesota Environmental Response and Liability Act, Minn. Stat. §§ 115B.01-.20, and are not inconsistent with the Federal Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9601 *et seq.*, and the National Contingency Plan, 40 CFR pt. 300. The selected response actions are protective of public health and welfare and the environment.



Paul Eger
Temporary Commissioner
Minnesota Pollution Control Agency

12/22/08

Date