



Meeting Notes

TREE Community Advisory Committee

Monday, September 20, 2004

Committee Members Attending:

Clifford A. Newton, Rochester State Representative-Serving as Chairman
Alan Davis, Waste Management; *John Larochelle*, Rochester City Councilor; *Trey Dykstra*, NH Department of Environmental Services; *Rhonda Knapp*, Rochester Resident Representative; *George Jenness*, Rochester Business Representative; *Kenn Ortmann*, Rochester Planning Dept. Representative; *Lorie Chase*, Cocheco River Watershed Coalition; *Sam Crowley*, Dover Resident; *Dean Peschel*, Dover City Representative.

Public:

Approximately 12 individuals from the public attended.

I. Introduction of New Members

Dean Peschel, Environmental Projects Manager for the City of Dover was introduced as a new member representing the city of Dover. Sam Crowley was introduced as a new member representing Dover residents.

II. Meeting Notes

The committee accepted without comments or changes the "Meeting Notes" of the Community Advisory Committee meeting of August 16, 2004.

III. Landfill Odor Issues

Review of Odor complain Log Data for August 2004

The committee was briefed by fellow member Trey Dykstra of the NH Department of Environmental Services (DES), regarding odor complaints. Specifically, a total of 33 odor complaints were logged by 18 individuals. The following represents a review of odor complaints as compiled by the DES on a year-to-date basis:

DES Odor Statistics 2004		
Month	No. of Complaints	No. of Complainants
4-Jan	12	4
4-Feb	7	6
4-Mar	6	6
4-Apr	24	10
4-May	24	15
4-Jun	17	9
4-Jul	21	9
4-Aug	33	18

Members of the public asked several questions regarding the complaint logs. Additionally, there was public comment regarding the unpleasant nature of the odors and frustration expressed by residents who believe there has been an increase in odors over the past several years.

Up-Date on TREE Odor Mitigation Efforts

The committee was briefed by Alan Davis on the status of Waste Management's current efforts to reduce landfill odors. He noted that the odor mitigation program includes a number of efforts. However, the single most important was the construction of new landfill gas extraction wells and new engineering associated with the placement and operation of these new wells.

According to Alan, as of this date construction of 35 new wells has been completed. However, as he reported last month the more complex process of attaching header pipes and associated connections to these new wells are still underway. He noted that ___ (29?) yes wells are planned for Phase II of the new well construction program which will begin in mid September. _____.

Alan described, in some detail, the engineering aspect associated with well operation and placement.

It was suggested that a report be prepared by Waste Management indicating the percent of gas mitigation effort completed. It was also suggested by the committee that information on construction at TREE, which might have an impact on landfill odors, be provided to the DES for use in communicating to the public.

Municipal Waste Biosolids

Alan Davis spoke briefly regarding Municipal Waste Biosolids disposal at TREE. He noted that the volume of Biosolids disposal at TREE, although up slightly over last year, was not significant and not directly related to the recent increase

in reported landfill odors at TREE . He added that unpleasant odors occurring from the disposal of Municipal Waste Biosolids are generally localized odors as these biosolids are covered soon after they are spread out over the landfill area. Nevertheless, management at TREE has advised municipalities of the need to more aggressively treat their biosolids with lime and other odor suppressants prior to their arrival at TREE. In addition, the timing of biosolid disposal is and will continued to be spread out over the day to ensure large quantities of biosolids are not disposed of in one particular period wich might contribute to unnecessary odor problems.

City of Dover Resolution

The Committee received a copy of a resolution passed by the Dover City Council regarding TREE and landfill odors. It was noted that a copy of the resolution was available to the public on the City of Dover website.

IV. Status of Brown and Caldwell Review

The committee received a report from Brown and Caldwell Senior Associate Alan R. Kirschner. Brown and Caldwell were retained at the request of the DES to review landfill odor issues at TREE.

Kirschner briefly outlined the study methodology, testing and recommendations. A written report was prepared which was provided to the DES as well as Waste Management with additional copies to be provided to the committee. Trey Dykstra of DES noted that while the report was paid for by the DES it was mandated by the state.

The conclusions and recommendations of the report are as follows:

5.0 CONCLUSIONS AND RECOMMENDATIONS

Brown and Caldwell has performed an investigation of odors related to the TLR-III Refuse Disposal Facility in Rochester, New Hampshire. The study was performed at the request of New Hampshire Department of Environmental Services (NHDES) as part of their overall review of landfill odors at the facility. The study focused principally on the following:

1. Review and analysis of background information pertaining to the Facility;
2. Field investigation with air monitoring and data analysis; and
3. Recommendations and final report preparation.

This report contains the final results of the Brown and Caldwell study.

WMNH has instituted a variety of measures designed to enhance odor and landfill gas controls as a part of its ongoing landfill operation. The most recent measures implemented at the site are described in Section 4.2 of this report and include changes in routine landfill operations (i.e. cover materials), upgrades and expansion of the landfill gas system, and

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installation of interim low permeability covers on large surfaces of TLR-III and installation of additional final cover. In addition, WMNH commissioned the creation of interim grading plans for the landfill. These plans, submitted to the NHDES in June 2004, provide a road map for the sequence of landfill development for the next 8 years and a schedule for placing additional low permeability cover on the surfaces of the landfill. These plans will be augmented by a similar plan for the landfill gas system. The recent measures and long term plans developed by WMNH generally reflect best management practices employed by the solid waste industry today. Moreover, some of the practices being employed are a step beyond what is typical due to the cost associated with their implementation.

WMNH ceased accepting C&D fines in June 2004. In July 2004, the NHDES banned the codisposal of C&D fines with municipal solid waste, unless the fines originate from a facility that segregates gypsum. The NHDES believes there is a link between fines landfilled with municipal solid waste and the production of hydrogen sulfide, mercaptans and other reduced sulfur compounds, which have low odor thresholds.

Based on our investigation, we recommend additional measures as described below and the continued implementation of others already undertaken by WMNH. It should be noted that the current LFG enhancements are expected to reduce odors, however the installations of these systems will likely cause odors over the short term. Our recommendations are grouped in three categories: Routine Operations, Landfill Gas System and Cover Systems. Although these categories are interrelated from the standpoint of odor and landfill gas controls, they may be considered distinct from an implementation standpoint. Our final recommendation, presented below, is to integrate all aspects of landfill development into a comprehensive odor control strategy, which should be a part of the landfill operations plan.

A. Recommendations Related to Daily/Routine Operations

The potential for odor and gas emission begins with the delivery of solid waste to the landfill. Routine landfill operations include spreading, compacting and covering the waste received. Thus, the ways the waste is handled and managed may be a first line of defense in the control of odors. With respect to routine operations, we offer the following suggestions:

1. Alternative daily cover materials (ADC). Landfills play an important role in the reuse and recycling of materials as daily cover. The net environmental benefit is a reduced reliance on soil, a natural resource. However, some ADC may present the potential for producing odors while others may not provide the same level of odor abatement. Construction and Demolition (C&D) Fines One alternative daily cover material, C&D fines, is extremely popular because of its availability and other operational benefits (i.e. it provides a good working base during wet weather). However, the use of C&D fines as daily cover has been associated with odor problems at a number of landfills in the northeastern United States during the past few years. TLR-III landfill had used C&D fines for daily cover up until June 2004. In July 2004, the NHDES banned the co-disposal of C&D fines and municipal solid waste at landfills. C&D fines may be a suitable ADC with the appropriate controls in place and sensitivity to the potential for odors. Therefore, we suggest the following guidelines related to the use of C&D fines:

- a. Give preference to C&D fines from sources that actively remove gypsum during production;
- b. C&D fines that are believed to contain gypsum should be amended to neutralize the potential for odors;

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- c. Avoid using C&D fines on areas that will not be covered with low permeability interim or final covers in a short period of time or with solid waste the following day, unless they are amended.

When amending C&D fines for use as daily cover, use coal ash, cement kiln dust, soil or some other product that will neutralize the production of hydrogen sulfide. Typically, materials with a high pH are necessary for neutralization. The use of any C&D fines at TLR-III would require specific approval of the NHDES.

2. Evaluate alternative cover materials that have a neutralizing effect on odors. WMNH should consider seeking other alternative daily cover materials to off-set the use C&D fines, which would have a neutralizing affect on odors. Also, a product to consider is Posi-Shell Cover System, an alternative cover material developed by Landfill Services Corporation, which due to its cementitious property may mitigate landfill odors.
3. Enhanced strategy for odor neutralizing related to daily operations. The existing odor neutralizing system for the active landfill face is in a fixed position on the landfill. Since the system is not portable, it cannot be relocated to accommodate the location of the active face or wind direction. We recommend supplementing the existing fixed -position system with a portable misting system.
4. Odor neutralizing during construction activities. Landfill construction activities that result in the disturbance of landfilled waste should include odor neutralization. These activities have the potential to produce short term odor problems that should be addressed in a manner similar to the daily landfill operation. Projects that will disturb waste should include provisions for deploying odor neutralizing compounds.
5. Routine landfill operations. Landfill operations should be conducted with odor control and minimization as a top priority. With this end in mind, we recommend the following:
 - a. Limit the number of active landfill faces. WMNH's goal should be to minimize the number of active faces. Multiple active faces should only be employed to address weather-related concerns, when there is need to place select waste on new cells or to segregate specific wastes (i.e. asbestos containing material). The goal of routine operations should be to attain interim or final landfill elevations, which permit the installation of landfill gas controls and interim, or final, cover systems.
 - b. Plan routine operations to address incoming waste. The operator should seek to identify patterns in the delivery waste that may contribute to odors. For example, in the summer months, the delivery of restaurant waste following a weekend may require special management to control odors. Similarly, the delivery of wastewater sludge should be scheduled so there is sufficient waste to readily mix with the sludge and landfilled without delay.
 - c. Weekly plan for routine landfill operations. In keeping with odor control as a top priority, we recommend that landfill operations be planned on a weekly basis. The plan should address the location of the active face, filling progression for the week, potential odorous waste deliveries and contingencies for weather-related problems. This level of planning should include operations and engineering/environmental staff with decision making responsibilities.

B. Recommendations Related to Landfill Gas Collection

The existing landfill gas system and proposed expansion of the system should provide adequate gas control. However, we recommend a few refinements to the current design criteria and a change in the operating strategy for the gas system.

1. Design recommendations. To address the pipe grade reversals and blockages experienced in the past year, we recommend modifying some of the criteria now employed for the landfill gas system.

a. Where feasible from a design and construction standpoint, the gradient on gas collection pipelines should be increased from 3 percent to 5 percent to accommodate landfill settlement.

b. The minimum diameter of lateral collection pipes should be increased from 4-inches to 6-inches, if pipe gradients of 5 percent or greater cannot be achieved.

c. The minimum diameter of sub-header collection pipes should be increased from 6-inches to 8-inches, if pipe gradient of 5 percent or greater cannot be achieved. d. Collection pipes on landfill side slopes should be installed, where feasible, perpendicular to the grade of the slope.

2. System operation strategy. The priority of the operational strategy for the landfill gas collection system should be odor control. Accordingly, we recommend WMNH consider approaching landfill gas extraction and control in manner that would maintain a steady flow of gas from the landfill. This has the potential to significantly affect the quality of landfill gas managed at the power generation facilities so a thorough evaluation of impacts should be conducted first.

C. Cover Systems

WMNH's interim cover strategy is a good one and we recommend this strategy continue as landfilling progresses. The interim cover strategy should be closely coordinated with the landfill gas installation strategy. It should also be amended as needed to ensure it is consistent with the filling progression.

D. Integrated Odor Control Plan

WMNH should develop an Integrated Odor Control Plan to more formally align the many elements of the landfill operations, fill progression, landfill gas control, covering operations, and waste acceptance. The plan should unite these elements by placing a priority on odor control. In addition, the landfill operations, engineering and sales teams should be united in setting their priorities as well.

We recommend the development of an Integrated Odor Control Plan that includes the following key components:

1. Identify key roles and responsibilities for controlling landfill odors;
2. Provide training and education on odor mitigation to those playing a key role in odor control and provide awareness training for others associated with the landfill;
3. Link fill progressions, and interim and final cover placement, to odor control;
4. Link landfill gas system development and operational strategy to odor control;

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5. Develop a program for evaluating the suitability, from an odor control standpoint, of cover materials for use at the landfill;
6. Develop an odor response plan; and
7. Develop a routine monitoring plan to assess the effectiveness of odor control strategies employed at the landfill.

The Integrated Odor Control Plan should include an integrated landfill interim grading, and development sequence plan, and landfill gas control plan providing a single point of reference for many of the critical elements for odor control.

Following the presentation a question and answer period followed with the committee. Questions were also taken by members of the public in attendance regarding the report, the testing and the conclusions. Trey Dykstra of DES also responded to questions asked by members of the public regarding the study and engagement scope.

V. Review of Potential Topic Areas for Future Review

The committee discussed potential topic areas for future review. It was agreed that the topic of air quality would possibly be a good subject for consideration. It was agreed that M. Bodi would communicate with committee members for further input and scheduling as needed.

VII. Communications

Mark Bodi reported on communications and community outreach efforts. He noted that the website would be available for preliminary review by the committee shortly.

It was reported that the Metrocast Cable bulletin as well as a cable television commercial was now being used as a communications vehicle to also keep the community advised of committee activity.

It was noted that no additional information was available on developing a website for the committee to better inform the community. The matter will be reviewed at the next meeting.

VIII. Next Meeting

Monday, October 18, 2004