ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
MUNICIPAL SOLID WASTE)
LANDFILLS- NON-METHANE) No. R98-28
ORGANIC COMPOUNDS 35 ILL.) (RULEMAKING-AIR)
ADM. CODE 201.103, 201.146)
AND PART 220)
)

Record of proceedings before

MS. CATHERINE GLENN, Hearing Officer, reported by

Lisa H. Breiter, CSR, RPR, CRR, Notary Public,

within and for the County of DuPage and State of

Illinois, CSR License No. 84-3155, at Room 9-031,

James R. Thompson Center, 100 West Randolph

Street, Chicago, Cook County, Illinois, on the 1st

day of May 1998 commencing at 11:00 o'clock a.m.

APPEARANCES

BOARD MEMBERS PRESENT:

MS. CATHERINE GLENN, Hearing Officer
MS. MARIE TIPSORD
DR. RONALD L. FLEMAL
MR. ANAND RAO

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY:

MR. YOGINDER PAUL MAHAJAN
MR. RICHARD FORBES
MR. MICHAEL E. DAVIDSON
MS. RACHEL DOCTORS

MEMBERS OF THE AUDIENCE:

MS. KIMBERLY HARMS, Waste Management
MR. LIONEL TREPANIER, Chicago Greens

I N D E X

E X H I B I T S

HEARING OFFICER GLENN: Good morning. My name is Catherine Glenn, and I'm the Hearing Officer in this proceeding. I would like to welcome you to the hearing being held by the Illinois Pollution Control Board in the matter of Municipal Solid Waste Landfills, Non-Methane Organic Compounds, 35 Illinois Administrative Code 201.103, 201.146 and part 220, rulemaking 98-28.

We're going to recess for one hour because the Agency, due to inclement weather, is going to arrive late. I would like to recess until noon. Thank you.

(Recess taken.)

HEARING OFFICER GLENN: Let's go back on the record, Lisa. Good morning, for those of you not present at 11:00 o'clock, I would like to welcome you to this hearing being held by the Illinois Pollution Control Board. My name is Catherine Glenn.

I'm the Hearing Officer in R98-28 in the matter of Municipal Solid Waste Landfills, Non-Methane Organic Compounds, 35 Illinois Administrative Code 201.103, 201.146 and Part 220.

Present today on behalf of the Illinois

Pollution Control Board and seated to my right is Dr. Ronald Flemal, the board member coordinating the rulemaking. Also present and seated to Dr. Flemal's right is Anand Rao of the Board's Technical unit, and seated to my left is Marie Tipsord, attorney assistant to Board Member Tanner Girard.

In the back on the table, I have placed notice list and service list signup sheets. Please note that if your name is on the notice list, you will only receive copies of the Board's opinions and orders and all the Hearing Officer orders.

If your name is on the service list, you will not only receive those items, but you will also receive copies of all documents followed by all persons on the service list in this proceeding. Please keep in mind that if your name is on the service list, you are required to serve all persons on the service list with all documents that you file with the Board.

Copies of the Board's March 19th, '98, proposed rule and the March 19, 1998, Hearing Officer Order are also located on the table in the

back. Also on the table is a letter from Chairman Manning to the Department of Commerce and Community Affairs regarding the economic impact study in rulemaking 98-28.

On March 13th, 1998, the Illinois Environmental Protection Agency filed this proposal for rulemaking to amend 35 Illinois Administrative Code 201.103 and 201.146. Additionally, the Agency submitted a proposal to add a new part, 35 Illinois Administrative Code, Part 220.

The Board adopted for first notice the amendments to Part 201 as proposed by the Agency. This proposal was published in the Illinois Register on April 10th, 1998, at 22 Illinois Register 6466. Also on March 19th, 1998, the Board adopted for first notice the new Part 220. This proposal was also published in the Illinois Register on April 10th, 1998, at 22 Illinois Register 6500.

This proposal was filed pursuant to Section 28.5 of the Environmental Protection Act entitled Clean Air Act Rules and Fast Track Procedures. Pursuant to the provisions of that

section, the Board is required to proceed within set time frames toward the adoption of this regulation.

As stated in the Board's March 19th, 1998, order, the Board has no discretion to adjust these time frames under any circumstances. Also pursuant to Section 28.5, the Board has scheduled three hearings. As announced in the Hearing Officer order dated March 19th, today's hearing is confined to testimony by the Agency witnesses concerning the scope, applicability and basis of the rule.

Pursuant to Section 28.5, the hearing will be continued on the record from day-to-day, if necessary, until completed. The second hearing, besides including economic impact considerations in accord with Public Act 90-489 effective January 1st, 1998, shall be devoted to presentation of testimony, documents and comments by affected entities and all other interested parties.

The third and final hearing will be held only at the Agency's request. If the third hearing is canceled, persons listed on the notice

list will be advised of the cancellation through a Hearing Officer Order. The second hearing is currently scheduled for Wednesday, May 13th, 1998, at 1:00 p.m. in the County Board Chambers at the Sangamon County Building in Springfield. It will be devoted to economic impact considerations and presentation of testimony, documents and comments by affected entities and all other interested parties. Prefiling deadlines are in the March 19th, 1998, Hearing Officer Order.

The third hearing currently is scheduled for Thursday, May 21st, at 1:30 in Room 9-031 here in this building, the James R. Thompson Center. It will be devoted solely to any Agency response to the materials submitted at the second hearing. The third hearing will be canceled if the Agency indicates to the Board that it does not intend to introduce any additional material.

This hearing will be governed by the Board's procedural rules for regulatory proceedings. All information which is relevant and not repetitious or privileged will be admitted. All witnesses will be sworn and subject to cross questioning. Again, the purpose of

today's hearing is to allow the Agency to present testimony in support of the proposal and to allow questioning of the Agency.

The Agency will present any testimony it may have regarding its proposal. Subsequently, we will allow for questioning of the Agency regarding its testimony. I prefer that during the question period, all persons with questions raise their hands and wait for me to identify you so -- and also acknowledge when I call on you who you are and what organization you represent, if any.

Are there any questions regarding the procedures we'll follow this morning? Seeing none, at this time, I would ask Board Member Flemal if he has anything else he would like to add.

DR. FLEMAL: I'd just like to welcome everybody to the hearing and express my gratitude to the Agency for the fine quality of the proposal that they put before us. It's a joy to be able to attack a proposed rule like this with as much background and information as you put together for us in a very comprehensive form, and certainly it's welcome by the Board and I expect by the

public as well to have proposals brought to us in this form. I appreciate it.

HEARING OFFICER GLENN: At this time, I would like to ask the Agency if it would like to make an opening statement. We will then turn to the Agency's presentation of its proposal.

MS. DOCTORS: I would like to make a short opening statement after my two witnesses, Richard Forbes and Yoginder, make their statements, and they will need to be sworn in.

HEARING OFFICER GLENN: Let's swear them in then, and then we'll hear their testimony.

(Witnesses sworn.)

HEARING OFFICER GLENN: Mr. Forbes, did you want to begin?

MR. FORBES: Yes, I'll start. Good morning, my name is Richard A. Forbes. I am employed by the Illinois Environmental Protection Agency as the manager of the Ozone Regulatory Unit in the Air Quality Planning Section, Bureau of Air. I've been employed by the Agency in this capacity for 13 years. Prior to that, I served as analysis unit manager and new source review unit manager, both in the Permit Section of the

Agency's Bureau of Air. Prior to that, I served as an environmental protection engineer in the Permit Section of the Agency's Bureau of Water. In all, I've been employed by the Agency for 26 years.

My educational background includes a Bachelor of Science degree in general engineering from the University of Illinois at Urbana-Champaign and a master of science degree in environmental engineering from Southern Illinois University at Carbondale. I hold a professional engineering license and am registered as a professional engineer in the state of Illinois.

As part of my current duties in the Air Quality Planning Section, I am responsible for the overall development and preparation of regulatory submittals to the Pollution Control Board to address Federal Clean Air Act requirements as well as the preparation and submittal of state implementation plan revisions and emission inventories for air contaminants to the United States Environmental Protection Agency or USEPA.

In this capacity, I was responsible for the overall development of the proposal before you

today regarding the control of emissions of non-methane organic compounds or NMOC at municipal solid waste landfills. My testimony today addresses the need for Illinois to adopt regulations to control such emissions and describes the scope of the proposed rulemaking. Other Air Quality Planning Section staff will address the specific requirements of the proposed rule including necessary capture and control provisions, the technical feasibility and cost effectiveness of such controls, the potentially impacted sources and the emissions reduction from implementation of the proposed rule provisions.

Section 111(d) of the Clean Air Act requires all states to adopt a plan that establishes standards of performance for any existing source to which a standard of performance under Section 111 of the Clean Air Act would apply if the source were a new source. On March 12th, 1996, USEPA promulgated, pursuant to Section 111(d), a new source performance standard or NSPS for new municipal solid waste landfills and adopted an emissions guideline or EG for existing municipal solid waste landfills that requires that

emissions of NMOC be controlled in landfill gas.

Landfill gas is comprised of organic compounds, primarily methane and carbon dioxide with a smaller proportion of NMOC and is produced by decomposition of the waste by microorganisms in the landfill. NMOC includes volatile organic material or VOM, hazardous air pollutants or HAPs and other non-methane organic compounds.

A municipal solid waste landfill is one that accepts household waste regardless of what other types of waste are accepted by the landfill. The Federal NSPS and EG applies to municipal solid waste landfills that accept household waste, although these landfills may also accept other types of waste, for example, commercial or industrial.

The NSPS applies to municipal solid waste landfills where construction, reconstruction or modification commenced on or after May 30th, 1991. The EG applies to municipal solid waste landfills where construction, reconstruction or modification commenced before May 30th, 1991. In addition, the municipal solid waste landfill owner must either have accepted waste since November 8,

1987, or have unused capacity for additional waste. An existing municipal solid waste landfill may be currently accepting waste or may be closed.

The Agency is proposing regulations to implement the requirements of Section 111(d) of the Clean Air Act as they apply to existing municipal solid waste landfills. In Illinois, Federal NSPS's are automatically implemented by a pass-through federal delegation to the state so that new municipal solid waste landfills are already covered with no further state action being necessary.

As noted previously, Section 111(d) requires that states adopt plans to control emissions from existing sources where USEPA has regulated the same type of new source as it has done with municipal solid waste landfills. The state's plan for existing municipal solid waste landfill sources must require the same level of control as USEPA does in the NSPS for municipal solid waste landfills.

USEPA has also adopted an EG for existing municipal solid waste landfill sources that must be used by states as a guide for its

state plan. The federal NSPS and EG provisions for municipal solid waste landfill sources are substantially identical. The Agency's proposal includes the standards and emission control provisions for existing Illinois municipal solid waste landfill sources that are equivalent to those of the federal NSPS and EG.

The Agency's proposed rules will apply to existing municipal landfill owners or operators if construction, reconstruction or modification of the landfill commenced before May 30th, 1991, and the landfill has accepted waste since November 8th, 1987, or has unused design capacity. The federal NSPS and EG apply to all geographic regions, that is, the state of Illinois, so the Agency's proposed rule will apply statewide to municipal solid waste landfill sources.

The Agency has found that Illinois has approximately 47 landfills that will be affected by the proposed rule. Of these 47 landfills, 21 have a design capacity less than 2.5 million megagrams or million cubic meters and will only be required to submit an initial design capacity report.

The remaining 26 landfills have design capacity equal to or greater than 2.5 million megagrams or million cubic meters and will be required to file both an initial design capacity report and an emission rate report. Owners or operators of landfills reporting emissions equal to or greater than 50 megagrams per year will be required to install a gas collection and control system.

The Agency estimates that all of these 26 landfills have or will have NMOC emissions in excess of the 50 megagram per year criteria and will therefore be subject to the control requirements of the proposed regulation. The Clean Air Act requires that standards for performance of new and existing sources reflect the best demonstrated technology or BDT.

For municipal landfills, USEPA has defined as BDT as (1) a well designed and well operated gas collection system, and (2) a control system achieving 98 percent reduction of landfill emissions for municipal landfills with emissions equal to or greater than 50 megagrams per year.

A well designed and well operated

collection system is (1) capable of handling the maximum expected gas generation rate; (2) has a design capable of monitoring and adjusting the operation of the system; and (3) is able to collect gas effectively from all areas of the landfill that warrant control.

In addition to requiring BDT, Section 111 of the Clean Air Act requires that performance standards or emission limits be prescribed. However, when USEPA determines that an emission limit is not feasible or enforceable, the Clean Air Act provides USEPA with discretion to allow an alternate to be prescribed. This is the case for the required municipal solid waste landfill gas collection system.

In the NSPS and EG, the gas collection system is subject to a design, operational and work practice standard rather than a performance standard. The performance standard for the gas collection system is not appropriate because it is not technically feasible to measure the amount of gas available for collection, only to estimate how much gas is produced.

USEPA has also included provisions in

the NSPS and EG that allow an owner or operator to install an alternate gas collection and control system because of the variety of landfill designs. Pursuant to the NSPS, USEPA allows an owner or operator to apply for permission to install an alternate system if he/she can demonstrate equivalent control.

Since this provision is consistent with the NSPS, the Agency's proposal also allows for equivalent alternative collection and control systems to be used when reviewed and approved by the Agency and contained in a federally-enforceable permit. In addition, the Agency's proposal contains an exemption to the requirement that existing municipal landfills meet the same emission standards as new sources.

USEPA supported such state flexibility, as stated in its preamble to the adoption of the NSPS and EG, where it recognized that in some situations, the requirements may be unreasonable for existing municipal solid waste landfills, and appropriate adjustments would be necessary on a case-by-case basis. The Agency's proposal recognizes this concern and provides a mechanism

for granting an alternate emissions standard or schedule where warranted.

In addition to the typical record keeping, reporting and monitoring provisions of air regulations adopted by the Board and which are included in the proposed rule, the Agency has also included a number of compliance reporting provisions. First, within 90 days of the effective date of the adopted regulation, any existing municipal solid waste landfill constructed or modified before May 30th, 1991, and which has accepted waste at any time on or after November 8th, 1987, must file an initial design capacity report with the Agency.

This information will verify the size and/or capacity of the municipal solid waste landfill and assist the Agency and the source in determining the applicability of the rule. Next, within 90 days of the effective date of the adopted regulation, any existing municipal solid waste landfill subject to the rule and which has a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters must submit an initial NMOC emissions report using

one of the methodologies specified in the rule.

Thereafter, an annual NMOC emissions report must be filed with the Agency by June 1st of each subsequent year. For any existing municipal solid waste landfill subject to the ruler whose NMOC emissions equal or exceed 50 megagrams per year and do not have a collection and control system, a construction permit application must be filed within one year after reporting that the NMOC emissions equaled or exceeded the 50 megagram per year threshold.

Within 30 months of reporting the NMOC emissions rate equally or exceeding the threshold, the municipal solid waste landfill must install a gas collection and control system meeting the provisions of this regulation. Lastly, within 180 days of the startup of the gas collection and control system, an initial performance test of the system must be conducted and the results reported to the Agency in accordance with the provisions of this regulation.

These provisions are intended to provide the municipal solid waste landfill owner/operator sufficient time to evaluate the

status of their municipal solid waste landfill, determine the need for gas collection and control equipment, time to install and calibrate the system to meet the provisions of the regulation and provide the Agency with sufficient documentation to ensure that subject sources are in compliance with the rules.

The attached table 1 provides an example of how these dates would work for an existing municipal solid waste landfill source subject to the provisions of the proposed rule whose NMOC provisions currently exceed 50 megagrams per year. The example is for illustrative purposes only and assumes the effective date of the rule to be July 1st, 1998.

In summary, Illinois is required to prepare a plan which addresses the control of NMOC emissions from existing municipal solid waste landfills. This plan must provide equivalent control of NMOC emissions as the federal NSPS and EG for municipal solid waste landfills. In developing the rule, the Agency has prepared a substantially identical rule allowing for equivalent alternatives where appropriate.

Based on preliminary data available to the Agency, the proposed rule will initially affect 47 of the state's municipal solid waste landfills, but only 26 will be potentially impacted by the gas collection and control provisions, of which 23 have already installed or have been issued Agency permits to install such equipment. This information will be verified by the source reporting requirements included as part of the rule. This concludes my testimony.

HEARING OFFICER GLENN: Thank you, Mr. Forbes. Ms. Doctors, would you like to move to submit table 1 that Mr. Forbes referenced in his testimony and submit that as an exhibit?

MS. DOCTORS: I believe it's already an exhibit. I think it's already part of the record as attachment 2. Yeah, attachment 2, table 3.

HEARING OFFICER GLENN: Okay. Would you mind doing it anyway so it will be easier to read with the transcript?

MS. DOCTORS: Sure, that's fine, I don't mind.

HEARING OFFICER GLENN: Thank you.

MS. DOCTORS: I'm sorry. You want me to

make a motion? Yes, I would request at this time that table 1 as attached to the testimony be admitted into record.

HEARING OFFICER GLENN: Are there any objections to this motion? Seeing none, the motion will be granted, and we'll admit table 1 as an exhibit.

(Document received in evidence.)

HEARING OFFICER GLENN: The title of table 1 is Example Timetable for Compliance with MSWL Regulations. We'll make this Exhibit No. 1, and Mr. Mahajan, would you like to proceed.

MR. MAHAJAN: Good morning. My name is Yoginder Paul Mahajan, and I'm employed as an environmental protection engineer in the Air Quality Planning Section in the Bureau of Air of the Illinois Environmental Protection Agency or Agency. I have been employed in this capacity since March 1992.

Prior to my employment with the Agency, I worked for various metal fabrication industries for nine years. My educational background includes a bachelor of engineering degree in

mechanical engineering from Bhopal University of Bhopal, India. As part of my regular duty with the Air Quality Planning Section, I was involved with preparing emission estimates for various source categories used in the development of the 1990 ozone season weekday emissions inventories, evaluating control technology applicable to volatile organic material or VOM emissions sources utilized in the preparation of the 15 percent rate of progress plan for the Chicago and St. Louis ozone non-attainment areas and assisting in the development of the regulations for the control of VOM emissions from source categories included in the 15 percent rate of progress plans.

Regarding the proposal before you today, I am involved in the development of the municipal solid waste landfills or MSWL regulations and personally prepared the technical support document or TSD for the proposal. An MSWL is an entire disposal facility in a contiguous geographical space that receives household waste on or in land. It may receive other types of waste such as commercial solid waste, nonhazardous sludge and industrial solid waste.

Landfill gas is generated naturally by the decomposition of the waste. Landfill gas primarily consist of methane, carbon dioxide and trace amounts of non-methane organic compounds or NMOC. NMOC include volatile organic material or VOM, hazardous air pollutants or HAP, H-A-P, and odorous compounds. Emissions of NMOC results from NMOC contained in the landfill waste and from their biological processes and chemical reactions within the landfill.

Waste arriving at the landfill is placed in open cells where some of the NMOCs are emitted to the ambient air. Although soil covers are used to control emissions, NMOC continue to escape into the air even after a cell is closed. As part of my evaluation of the control of NMOC emissions from MSWL, I identified several source of guidance.

On May 30, 1991, the United States Environmental Protection Agency or USEPA proposed a new source performance standards or NSPS for new MSWL and emission guidelines or EG for existing MSWL. After receiving public comments from the industry representatives, governmental entities,

environmental groups and private citizens, USEPA in December 1995 published the background information document, Air Emission From Municipal Solid Waste Landfills - Background Information For Final Standards and Guidelines.

Subsequently, on March 12, 1996, the USEPA promulgated standards of performance for new MSWL and EG for existing MSWL. The intended effect of the standards and guidelines is to require certain MSWL to control emissions to the level achievable by the best demonstrated emissions reduction system considering costs, non-air quality health and environmental and energy impacts.

The guidance documents discuss the various control available for reducing emissions from MSWL. In selecting best demonstrated technology or BDT for new and existing source, USEPA considered various technologies associated with gas collection and control devices used to destroy the collected gas.

The BDT for the EG requires the reduction of MSWL's emissions from existing MSWL emitting 50 megagram per year of NMOC or more

with, number one, a well-designed and well-operated gas collection system, and two, a control device capable of reducing NMOC in the collected gas by 98 weight percent or 20 parts per million by volume.

A well-designed and well-operated gas collection system, would, at a minimum, number one, be capable of handling the maximum gas generation rate predicted over the life of the equipment; number two, have a design capable of monitoring and adjusting the operation of the system; and number three, be able to collect gas effectively from all areas of the landfill that warrant control.

Properly designed and operated flares, both open and enclosed, can achieve 98 percent or more destruction efficiency with landfill gas. Energy recovery systems, such as internal combustion engines, gas turbines, and steam boilers have also been demonstrated to achieve 98 percent emission control.

Energy recovery systems have the potential to offset the cost of control. However, the capital cost for these systems is higher than

for flares, and a site-specific study would be needed to determine the technical and economical feasibility of installing an energy recovery system for a given landfill. Thus, an open flare -- thus, an open flare as an add-on control device along with properly designed collection system are the best demonstrated technology for control of landfill emissions.

The guidance documents contain the control costs and economic impacts of the final standard and guidelines. The MSWL regulations require control at a given landfill only after the emission rate reaches the regulatory applicability level of 50 megagram per year. During the control period, costs and emission reduction will vary from year to year. Therefore, the annualized numbers for any impact will change from year to year.

Nationwide, average cost effectiveness of control using flare for the affected existing MSWL in 1992 is $1,147 per megagram or $1,043 per ton of NMOC reduced. The annual cost of waste disposal is estimated to increase by an average of $1.30 per megagram for the existing MSWL. Costs

per household would increase approximately $5 per year when the household is served by an existing landfill.

However, the USEPA anticipates that many landfills will elect to use recovery system, and costs per household for those areas served by the landfill with a recovery system would be less. The Agency believes that these costs of waste disposal are representative of affected households in Illinois.

At present, the Agency's Bureau of Air does not have any specific standards for the control of landfill gases. Landfills are regulated by the Agency's Bureau of Land. 35 Illinois Administrative Code 700 through 871 contains regulations pertaining to waste disposal. The Bureau of Land requires a gas collection system when any of the following conditions exists:

Number one, a methane concentration greater than 50 percent of the lower explosive limit in the air is defected below the ground surface by a monitoring device or is detected by an ambient air monitor located at or beyond the

property boundary or 100 feet from the edge of the unit, whichever is less.

Number two, methane is detected at a concentration greater than 25 percent of the lower explosive limit in the air in any building on or near the facility. Number three, malodors caused by the unit are detected beyond the property boundary.

Landfill gas may not be discharged directly to the atmosphere unless treated or burned on site prior to discharge. Landfills are required to obtain construction and operating permits from the Bureau of Air to install control devices such as flare and internal combustion engine.

Current Bureau of Land regulations are focused on the management of the waste disposal and the explosive hazard of methane. They do not regulate emissions of landfill gas. Based on the EG, the Agency is proposing a regulation to control emissions of NMOC from the existing MSWL in Illinois. The geographic region subject to the proposal is the entire state of Illinois. The provision of this proposal are substantially

identical to NSPS.

Today's proposal requires the owner or operator of an existing landfill constructed or modified before May 30th, 1991, and has accepted waste any time on or after November 8, 1987, to report the design capacity of the landfill within 90 days of the promulgated rule. The owner or operators of an MSWL with a design capacity equal to or greater than 2.5 million megagram and 2.5 million cubic meters are required to report the periodic calculation of annual NMOC emissions rate within 90 days of the promulgation of rule and thereafter on June 1st of subsequent year.

Within 30 month of the date when a reported NMOC emissions rate equal to or greater than 50 megagram per year, the owners and -- the owners and operator of existing MSWL must install a well-designed an well-operated gas collection and control system to achieve control of collected NMOC by 98 weight percent or less than 20 parts per million by volume as hexane at 3 percent oxygen.

The collected gas may be treated for subsequent sale or use, provided that all

emissions from the -- from any atmospheric vent from the treatment system are routed to a control device meeting either specification above. Within 180 days of the installation of collection and control system, an owner or operator of an MSWL is required to test performance to show compliance with either of the above specifications.

The proposal also include provision that allow an owner or operator to install an alternate gas collection and control system or a system that meets an alternate emissions standard. The proposed rule provides a three-tiered system for calculating whether the NMOC emissions rate is less than or greater than 50 megagram per year.

Under tier 1, the owner or operator uses the USEPA's approved default values for the NMOC concentration, methane generation rate constant and methane generation potential. Tier 2 allows the use of a site-specific NMOC concentration value based on the sample taken at the landfill. An owner or operator electing to use a site-specific NMOC concentration is required to retest every five years.

Tier 3 allows an owner or operator to

use site-specific values for the methane generation rate constant and the NMOC concentration. The three-tier system does not need to be used to model the emission rate if an owner or operator has or intend to install controls that would achieve compliance.

The provision of the operational standard for gas collection and control system include, number one, collection of gas from each area, cell or group of cells in which non-asbestos degradable solid waste has been placed for a period of five years or more for active areas and two years or more for closed areas.

Number two, operation of the collection system with each wellhead at negative pressure, with a nitrogen level less than or equal to 20 percent or oxygen level less than or equal to 5 percent. Number three, operation with landfill gas temperature less than 55 degrees centigrade at each wellhead transporting the collected gases to a treatment or control system operated at all times when the collected gas is vented to it.

And number four, a requirement that the collection system be operated to limit the surface

methane concentration to 500 parts per million or less over the landfill determined according to a specified monitoring pattern. The proposed rule allows an owner or operator to cap or remove the gas collection and control system when the following conditions are met:

Number one, the landfill is no longer accepting waste; number two, a system removal report has been submitted to the Agency; number three, the collection and control system have been in continuous operation for a minimum of 15 years; and number four, the annual NMOC emission rate routed to the control device is less than 50 megagram per year on three successive dates, between 90 and 180 days apart; and number five, the system is not required to satisfy any applicable requirement of 35 Illinois Administrative Code 800 through 849.

The proposed rule requires an owner or operator of an MSWL to monitor the gas collection system including measuring the gauge pressure, temperature and oxygen or nitrogen concentration at collection header on a timely basis and for the control system monitoring the parameters that

indicate that the gas stream is routed continuously to the destruction or recovery device. Owners or operators are required to be in compliance at all times except during period of startup, shutdown or malfunction.

Reporting and record keeping provision of the proposal require the owners or operator to submit an initial design capacity report, and if applicable, an initial NMOC emission report, and thereafter, an annual NMOC emissions report until either they install a gas collection and control system or they close the landfill. Prior to installing a gas collection and control system, the owners or operators are required to apply for a construction permit to install a collection and control system within one year of the first report in which the NMOC emissions exceed 50 megagram per year.

Within six months of the installation of the collection and control system, the owners or operators are required to certify compliance, and if applicable, submit the result of the performance test. Owners or operators are also required to submit annual emission report pursuant

to Section 201.302 and Part 254. Owners or operators wanting to cease operating or to remove a gas collection and control system are required to submit an equipment removal report 30 days prior to removal of the control equipment.

Owners or operators are required to keep on-site records of the total design capacity for life and maintain readily accessible records of the data on the control equipment for the life of the equipment. For at least five years, the owners or operators are required to keep on-site records of design capacity, the current amount of solid waste, the year-by-year waste acceptance rate, up-to-date readily accessible continuous records of the equipment operating parameters as well as the records of the period of exceedances.

To identify the sources affected by the MSWL rule, the Agency initially relied on the list of the existing landfill in the Illinois provided by the Bureau of Land. The Bureau of Air then mailed out a questionnaire to 538 owners or operators of the landfills to obtain information regarding the capacity of the landfill, type and quantity of the waste in place, whether it was

receiving waste on and after November 8, 1987, et cetera.

The preliminary review of the information received from the sources indicated that there were 47 MSWL affected by today's proposal. Of these 47 MSWL, 21 have design capacities less than 2.5 megagram of waste. Therefore, they are subject to only the reporting requirement of their design capacities of the landfill. Of the remaining 26 MSWL, 4 are closed, while 22 are operating, and these 26 are potentially impacted by the MSWL rule.

The proposed rule requires that within 90 days of the promulgated rule, each owner or operator of existing MSWL must report the design capacity of the landfill, and if the design capacity is equal to or greater than 2.5 million megagram and 2.5 million cubic meters, they must report the NMOC emission rate. The preliminary information submitted by the owners or operators contained the design capacity in mass or volume.

To identify which of the MSWL will be potentially impacted, the Agency assumed that if the design capacity exceeded the threshold for

mass, it would also exceed the threshold for volume and vice versa. Sources will need to notify the Agency in their initial design capacity reports if this assumption is incorrect for their MSWL.

To identify which of these MSWL will require gas collection -- will require gas collection and control systems, the Agency estimated the NMOC emissions. Information provided by the sources and the default values for concentration of NMOC, methane generation rate constant, and methane generation potential provided in the NSPS and proposed MSWL rule were used to calculate NMOC emissions.

Each of the 26 potentially impacted MSWL meet the design capacity and NMOC emission levels referring installation of gas collection and control system. Further review of the sources showed that of -- that of the 22 operating MSWL, 14 have the gas collection and control system in place, and 5 have applied for the construction permit to construct gas collection and control system. Of the 4 closed MSWL, 2 have that -- two have gas collection and control system in place,

and 2 have applied for construction permit to construct gas collection and control systems.

The Agency estimated the NMOC uncontrolled emission from 26 impacted MSWL, as described in the AP-42, Compilation of Air Pollutant Emission Factors, to be 5.53 tons per day. Of 5.53 tons per day of NMOC emissions, 3.81 tons are in the Chicago ozone non-attainment area and .45 tons are in the metro east ozone non-attainment area.

After gas collection and control systems are installed, the total NMOC emissions will be reduced from 5.53 tons per day to 1.47 tons per day. Thus, a net NMOC emissions reduction of 4.06 tons per day will be achieved. Please note that in my TSD, there is a subtraction error, the net NMOC emission reduction is 4.06 tons per day and not 4.01 tons per day.

The USEPA document AP-42, Compilation of Air Pollution Emission Factor, described that 39 weight percent of NMOC emissions are VOM. Therefore, the total uncontrolled VOM emissions from 26 impacted MSWL are estimated to be 2.15 tons per day. Of the 2.15 tons per day VOM, 1.49

tons are in the Chicago ozone non-attainment area, and .18 tons are in the metro east ozone non-attainment area.

After gas collection and control systems are installed, the total VOM emissions will be reduced to .57 tons per day. Thus, a net VOM emission reduction of 1.58 tons per day, i.e. 1.1 tons in Chicago non-attainment area and .13 tons in the metro east non-attainment area, be achieved.

In summary, the Agency relied upon the guidance document published by the USEPA in developing the proposal for MSWL rule. The proposed rule is consistent with the requirements of the EG. The provisions of the proposals are substantially identical to provision contained in the NSPS that require an MSWL with design capacity of 2.5 million megagram or above and 2.5 million cubic meters or above and that has NMOC emissions 50 megagram per year or above to install gas collection and control system to reduce NMOC emissions by 98 weight percent.

The Agency relied on the cost estimate contained in the USEPA guidance documents. The

cost of controls using flare for the affected existing MSWL is $1,147 per megagram or $1,043 per ton of NMOC reduced. The annual cost of waste disposal is estimated to increase by an average of $1.30 per megagram for the existing MSWL. Cost per household would increase approximately $5 per year when the household is served by the affected existing landfill. In some cases the cost will be less when energy recovery system will be used.

The proposed MSWL rule will affect 26 existing MSWL, of which 16 already have the gas collection and control systems, and 7 have applied for the construction permit to construct the gas collection and control system. The state NMOC emissions will be reduced by approximately four tons per day.

On the basis of the Agency's review of the USEPA guidance documents and NSPS regulations, the proposed rule on MSWL is considered technically feasible and economically reasonable.

HEARING OFFICER GLENN: Thank you, Mr. Mahajan. Just by means of clarification, when you referred to TSD, was that for the technical support documents?

MR. MAHAJAN: Yeah.

HEARING OFFICER GLENN: Ms. Doctors, would you like to submit anything further?

MS. DOCTORS: I'd like to mention a few points. This is a complex rulemaking, and there are other parts of our rules and programs that it will affect, although it did not require any amendments to the Board regulations, I'd like to just mention it so it's on the record before presentation.

The deadline that we're required to file the state plan is by July 31st, 1998. We were delayed in filing our rule in part because the National Solid Waste Management Association challenged some key provisions in the final rule including the definition of modification and design capacity, and in part because we needed to do outreach activities, both with affected sources and link between our bureaus with the Bureau of Land and make sure we had consistency between the two types of rules.

It was not until November 13th, 1997, that USEPA and the National Solid Waste Management Association were able to reach a proposed

settlement on these key terms. We, the Illinois EPA, included these as well as the other changes that were in their proposed settlement in its proposal, and I checked yesterday on the Internet, and they still haven't signed off on the settlement so I would like to reiterate the commitment that we made to sources that the Agency's committed to proposing any further amendments, should they be necessary, after the settlement has been finalized in order to ensure that the rules for the existing landfills are consistent with the rules for the new landfills.

We can -- in addition, we finally completed our outreach activities in January of 1998. I'd like to briefly mention what our state plan includes besides the municipal solid waste rules, these rules. It also includes -- we have an agreement with USEPA that requires us to file certain types of reports detailing emissions in the state of Illinois and what types of enforcement activities we've been pursuing.

In addition, the Illinois EPA's committed to funding and enforcing this program, the provisions. Once the rules are adopted, we're

committed to following through. I'd like to note that this rulemaking was filed pursuant to Section 28.5 of the Act because both monetary and administrative sanctions are provided for. Specifically, Section 111(d), the Clean Air Act requires USEPA to promulgate a federal plan within two years after it makes a finding that the state has failed to require -- has failed to submit a required plan.

In addition, should they make such a finding, they would also have the authority to reduce part of our grant that we receive under section 105 of the Clean Air Act. I'm going to make a couple more comments. With regard to the additional flexibility, while the rule provided for when we went out to -- outreach facilities indicated specifically that they would like the additional flexibility.

So with regard to types of collection control systems, owners and operators may install alternate systems that they demonstrate that the collection and control system that does not meet the specification in the proposal achieves equivalent control, and they must also indicate if

there's a need for different compliance monitoring, operation testing requirements.

They must obtain approval from the Agency and have these new requirements included in the federally-enforceable permit for a state implementation plan revision, and then the provisions would supersede the particular requirements specified in this part. With regard to alternate emissions standards, the Clean Air Act and the Federal Code of Regulations allow states to provide for alternate emission standards and compliance schedules for the section existing guidance, for sources affecting via existing guidance because they recognize an existing source when compared to a new source might face some kind of unreasonable burden, an unreasonable cost, a physical impossibility or some other factor specific to the source.

So in addition to the requirements that are required under Section 28.1 of the Act for adjusting standards, the source must also demonstrate that they meet one of the -- that it's unreasonable in some factor and must include, of course, the necessary compliance monitoring,

operation testing, record keeping, reporting requirements if they differ from what's in the proposal.

The petition, of course, must be approved by the Pollution Control Board, and then that petition would be included in either a federally-enforceable permit or in SIP provisions, and then the provisions would supersede the particular requirements specified in the proposed rule. The emissions guidance also affect two other programs that we have. One is the Clean Air Act Permit Program, and sources that are at least 2.5 megagrams or cubic meters are required to obtain the Clean Air Act Permit Program, whether they're going to be affected by the NSPS or EG within 12 months after submitting the design capacity report showing that their design capacity is above this threshold.

However, given that the smaller landfills that are less than 2.5 will not be required to install control, they will also -- we've proposed that they become -- that they will be exempt from the permit -- from regular state permitting requirements unless they already have

some other kind of discrete device that would be permitted under the Board's rules, and this amendment was proposed at Section 201.146.

In addition, the landfill owners are now required, if they haven't prior been submitting annual reports pursuant to Section 201.302 and 254, the calculation for this is slightly different, as Mr. Mahajan mentioned, that they can use the AP-42 factors or site-specific data rather than using the more conservative emission calculations specified in the rule.

And then finally, I had talked to the Hearing Officer, Cathy Glenn, about the Agency's oversight in submitting Chapter 3 as part of the background document, and I'd like to do that at this time. It's the chapter -- table of contents, No. 13, and it's the star document and here is Chapter 3.

HEARING OFFICER GLENN: Does anyone have any objections to admitting this document as Exhibit 2? Seeing no objections, the Chapter 3 --

MS. DOCTORS: 3, economic impact -- impacts.

HEARING OFFICER GLENN: Chapter 3

economic impacts is so admitted as Exhibit 2.

(Document received in evidence.)

MS. DOCTORS: I only have one copy. Do you need more copies?

HEARING OFFICER GLENN: We can take care of that afterward. We'll make one.

MS. DOCTORS: Okay.

HEARING OFFICER GLENN: Thank you.

MS. DOCTORS: Thank you. This concludes my statement.

HEARING OFFICER GLENN: Does the Agency have anything further to offer for this proposal, or is that all the information the Agency wanted to submit at this time?

MS. DOCTORS: This concludes our testimony.

HEARING OFFICER GLENN: Before we get to the question portion of the hearing, let's take a short five-minute break. I have that it's 1:17 so we'll reconvene in five minutes. Thank you.

(Recess taken.)

HEARING OFFICER GLENN: Let's go back on the record. We will now proceed with the

questions for the Agency witnesses. As I previously mentioned, if anyone has a question if you could so indicate to me, I'll acknowledge you and you can identify yourself for the record and who you represent, if anyone, or any organization. Does anyone have any questions? Yes.

MR. TREPANIER: I'm Lionel Trepanier.

HEARING OFFICER GLENN: Could you spell that, please.

MR. TREPANIER: T-R-E-P-A-N-I-E-R. I'm with the Chicago Greens. Thank you. My first question is to the Agency. The megagrams and the meters cubed seem to be equated in places and to my mind equated in places like the exemption that's like at 201.146 sub PG. What is the basis of that, of -- why has the Agency chose that a megagram is being used equivocally with a meter cubed?

MS. DOCTORS: We didn't make that choice. This rule comes directly from the federal regulation from the NSPS. That's how they do it.

MR. TREPANIER: Is that also the source of the 50 megagram per year limit for emissions?

MS. DOCTORS: Yes, it is.

DR. FLEMAL: I wonder if you would allow me just a question to sneak in here because I think it fits in.

When you then talk about the emissions reductions, you changed units from megagrams to tons. Why -- are the tons there the English tons or the metric?

MR. MAHAJAN: Tons we use for the US tons, and the megagram is the metric.

DR. FLEMAL: Okay. So there is a change in the unit you're discussing there from megagrams equals metric tons?

MR. MAHAJAN: Yeah, approximately 1 megagram equal to 1.1 US ton.

MR. TREPANIER: Does the Agency look at if there's any likelihood that a landfill that has less than 2.5 million either megagrams or meter squares may have an MOS emissions greater than 50 megagrams per year?

MR. MAHAJAN: The USEPA did the study, and they found out that -- not very economical to have control on that smaller landfills.

MR. TREPANIER: A question looking at page 34 of the Board's March 19th order, and there

under the subsection H, sub 4, talks -- there the rule is speaking about testing the NMOC emissions on three successive test dates, and I'm wondering is there any requirement that the three tests be exclusively the only tests that are done during that time period, or might the source perform as many tests as they wish and find three that have this level that they're looking for?

MS. DOCTORS: I don't think that there's anything that prohibits what you're talking about. It's just expensive. The expense would prohibit them, but there's nothing -- as its written, I don't think we contemplated that people would perform more tests.

MR. TREPANIER: But yet, there would be no restriction?

MS. DOCTORS: I don't see a restriction.

MR. DAVIDSON: I think what we could as an Agency require the test be representative --

HEARING OFFICER GLENN: I'm sorry, could we swear you in.

MR. DAVIDSON: Sorry.

HEARING OFFICER GLENN: That's okay.

(Witness sworn.)

MR. DAVIDSON: My name's Mike Davidson. I'm with the permit section, and our section would probably be the one to evaluate sections of the test -- testing and probably would require that the company, if they have a series of tests performed on a specific day demonstrate the specific test they pick out is representative of emissions from the landfill.

So they would not necessarily be able to pick out one specific test with a low number to show that they're below. They would have to show why that test is representative of a series of tests performed on that day.

MR. TREPANIER: If I might, does the Agency have any indication that the levels of NMOC emissions is steady throughout the year? Have you looked at, if possible, these emissions vary by season?

MS. DOCTORS: That's why USEPA did that study. It's in the background, if you've got a copy of the Federal Register. If not, I will provide it for you, and they discuss why they varied the time period, and they felt that that's why they staggered the times that it had to be

done, that it couldn't just be 30 days, 30 days, 30 days. It had to be over 180.

MR. TREPANIER: No more than 180?

MS. DOCTORS: Yeah. No more than 180, no less than 90 days so it can't be done any less than 90 days apart in order to take that into account.

MR. TREPANIER: So a 91-day period would be the shortest allowed?

MS. DOCTORS: Yes.

MR. TREPANIER: I don't know, was there an indication that -- about the variations, seasonal variations in the emissions?

MS. DOCTORS: There is some seasonal variation. I mean, I believe that's what it said. I would have to look it up.

MR. MAHAJAN: The decomposition of the waste depends on the moisture content so it does vary with the season.

MR. TREPANIER: The Agency is satisfied that 91 days would sufficiently put us past any wet period?

MR. MAHAJAN: Yeah.

MR. TREPANIER: Thank you.

HEARING OFFICER GLENN: Are there any further questions? Seeing none, I'll turn to Dr. Flemal and Mr. Rao and Ms. Tipsord. Are there any questions that any of you have for the Agency?

DR. FLEMAL: I think we have quite a few questions that go to particulars in the rule and are mostly -- these are in our part to get some clarification of what language is intended, but I do have sort of one question which probably is an overall question let me pose first.

The justification that USEPA makes in both the new source performance standard and the EG refer both to non-methane organic compounds and methane. In other words, it appears, if one looks at that document, that they're intended to -- justification for this whole program is to control both of those categories, methane and the broader category. Yet, when we are adopting the regulations, the focus is only on the NMOC. Why?

MS. DOCTORS: Dick, would you like to --

MR. FORBES: I think because the focus is on something that can be measured. The NMOC is a test that they can measure. When you capture the gas, you're also going to be capturing methane

along with that. I think the concern is not so much with the methane except methane is being more of an explosive gas and a possible fire hazard in a landfill.

In fact, I think that in many ways that's most of the concern that the land division rules pertain to is making sure that heavy concentrations don't build up to an excessive amount. But more specifically, I think it's from the VOM for the HAPs and the other non-methane materials from the environmental perspective that the rule is really going forward, I think, from the air side.

DR. FLEMAL: I can certainly understand the rationale for wanting to control the non-methane organic compounds. There's some bad actors there, and we ought to address them. But in the process of controlling those, we are also controlling methane. Shouldn't we, in effect, take credit for the fact that we are doing something in addition with this program than just the non-methane organic compounds?

MR. FORBES: Well, I guess in most instances, I think our rules really look at

volatile organic material or non-methane materials, and I think in almost all through most of the hazardous -- control of hazardous materials, it's the same way. We generally do exclude methane in any of those instances. So I guess you're right, we would be getting some credit for reducing the methane content, but I'm not sure that there was particular interest at least on the EPA's part to --

DR. FLEMAL: USEPA or federal EPA?

MR. FORBES: USEPA.

DR. FLEMAL: USEPA. I would point out that in their summary in which they adopt the NSPS, methane sort of gets as high level press as the NMOC does. Yet, when we come here, we're not. I don't know that we should have a purpose in life to gain credit for things we do, but on the other hand, as that document points out, methane emissions contribute to global climate change in addition to their problems associated with fire and explosion and what not, and it seems to me that we have more justification for what we're talking about today than simply the NMOC, and I suppose we could say so.

MR. MAHAJAN: But those documents, they do refer to there will be methane reduction so those will be done. That's the ancillary benefits of this rule.

DR. FLEMAL: Ancillary rather than as a --

MR. MAHAJAN: Yeah.

DR. FLEMAL: We can then move on to some of the questions that go to more particular provisions.

MR. RAO: I had some questions, hopefully verification type questions concerning the rules, and I just go section by section and start with 220.110, definitions. You proposed a definition for closed landfill, and in that definition you refer to a notification of modification as described in 35 Ill. Admin. Code 811.110. When I looked at 811.110, I didn't see any specific procedures there. Can you please explain what you meant by that.

MS. DOCTORS: Do you have that with you? That would be helpful. Under D-2 --

MR. RAO: I don't have it now.

MS. DOCTORS: Under D-2, the rule

provides that a modification in the written closure plan shall constitute a significant modification of the permit and then -- so that's really what we were -- we worked very closely with land, and that's what they indicated would be the trigger for their program.

MR. RAO: Okay. So what you're saying is for a closed landfill to accept waste, they had to file a significant modification application?

MS. DOCTORS: Yes.

MR. RAO: I still -- you know, I don't have clearly in my mind how a closed landfill can open just by filing a significant modification permit, but if you can ask your land people to clarify that, if you can.

MS. DOCTORS: Let me see if I can.

MR. RAO: If you can, fine.

MS. DOCTORS: The way the term closed landfill is being used here is different than the way the Bureau of Land typically talks about a closed landfill. They're talking about one that's gone through that whole closure process, and we were trying to kind of -- this kind of captures the fact that there's no waste being placed in

there and they've done their closure, I'm assuming, under this process. And then if they want to reopen, they have to do the significant mod and obtain a developmental permit. So they would have to do two things to do that. Does that --

MR. RAO: Maybe, yeah. It was just when I saw that, it strike me that this concept was not in there. That's how it's supposed to operate.

MS. TIPSORD: Anand, can I follow up on that?

MR. RAO: Uh-huh.

MS. TIPSORD: Wouldn't, though, it be correct that if they filed the significant modification permit and got a developmental permit, then it becomes -- it's no longer a closed landfill?

MS. DOCTORS: That's right.

MS. TIPSORD: So isn't it sufficient for this definition just to say in which no additional solid waste will be placed, period? Because once it starts accepting new waste, it no longer is a closed landfill.

MS. DOCTORS: This definition, I

believe -- and I can check to be sure, but I believe it is almost verbatim out of the Federal Register because I remember I had taken out in one of my proposals the last sentence, "Once a permit has been received and additional solid waste is placed in the landfill," and then I received a comment from one of my affected facilities that requested that the sentence as they negotiated it with the USEPA be put back in the rule. So I put it back in the rule.

I guess maybe that should have been part of my opening statement is that I believe Waste Management and BFI were very closely associated with the development of the rule with USEPA, and they negotiated out many of these definitions that seem a little different than the way air definitions have typically been worded. So I don't know if that's helpful or not helpful.

MS. TIPSORD: I guess my concern and I think probably what Anand is getting at is the problem is not only not typical of air, but it doesn't sound like it's typical of our landfill closed definition either. So we're almost creating a third definition of what's a closed

landfill.

MS. DOCTORS: Can I look at it and indicate that I'll address this a little further in comments?

MR. RAO: That would be helpful.

MS. DOCTORS: Okay.

MR. RAO: Moving along, this is just a minor format thing I wanted to ask you. When you referred to the landfill rules, you referred to part 800 to 849 in the rules. Would it be acceptable for you if we just refer to those parts that deal with the landfill regs because I think part 810 through 817 are the ones that deal with landfills. Because some of these other rules, you know, apply to used tires, infectious waste and other types of solid waste.

MS. DOCTORS: Can I check with the Bureau of Land and see?

MR. RAO: Okay.

DR. FLEMAL: The basic point there is that 800 through 849 is more encompassing than just the landfill regulations. It's the solid waste regulations, some of which have nothing to do with landfills.

MR. MAHAJAN: We just wanted to cover --

MR. RAO: The whole universe?

MS. DOCTORS: Is that --

MR. RAO: Yeah, it's something that you can check and let us know.

MS. DOCTORS: Okay. And your recommendation would be 800 through 817?

MR. RAO: Yeah.

DR. FLEMAL: Or even subtitle G.

MR. RAO: Subtitle G would be okay, too.

MS. DOCTORS: I don't think we have a problem with subtitle G. I think we need to start it there.

MR. RAO: Moving along to section 220.200, applicability of the rules, in this section, you've used these terms, construction, reconstruction or modification, and modification has been defined in the rules, but the other two terms have not been defined.

Can you explain what these terms, construction and reconstruction, mean in the context of this rule.

MS. DOCTORS: Do you want to do that, Dick?

MR. MAHAJAN: Construction and reconstruction means if they have -- when they apply for the permit to accept the waste, they apply for the permit, that is when they start accepting waste as the construction, and in between if they do any kind of reconstruction before May 30th, 1991, then they would be under EG, if it is done after that.

MR. RAO: Are you saying that construction refers to a new landfill or -- because modification covers any kind of expansion in a landfill. So I just wanted to get this clear as to what the other two terms mean, like if there's some construction activity going on in a landfill, existing landfill, will that be covered by the rule if it meets the other two conditions that you have about the landfill existing before May 30th, 1991, and if it has accepted waste after November 1987.

MR. MAHAJAN: If they accepted waste after that date and so they are in the EG if they don't modify it. If they're still accepting the waste, they are in the EG. They are existing.

DR. FLEMAL: I take it these three terms

come directly out of the federal regulations, is that it?

MS. DOCTORS: (Nodding head.)

DR. FLEMAL: Is there a definition of those terms anywhere within the federal regulation?

MS. DOCTORS: I would have to check.

DR. FLEMAL: Federal regulations, I should say, because I don't think they're part of the current NSPS.

MS. DOCTORS: Right. I think for the construction term, we were using our definition of construction out of Part 201 because that would be the hierarchies, not to go back to the federal regulations, but to look within what was already in Part 201 or the Act 211. That's where we would go, but construction does refer to something that's new, and reconstruction would be --

DR. FLEMAL: So here you're relying on the definitions from 211 to support construction and reconstruction but not modification?

MS. DOCTORS: That's right. That's true.

MR. RAO: So reconstruction would be

something where they may be upgrading their landfill without expanding the capacities?

MR. FORBES: Reconstruction could be, also, for some existing gas equipment that possibly has gone bad, you know, you need to replace a pipe. So depending on how people would view that, they might say, well, it's not like construction because it's already there, but it's reconstruction, I guess.

MR. RAO: Okay. I just wanted to get that cleared up, you know, because the thing is we have these other definitions in the landfill rules about what's new, what's existing and just making sure that everything's consistent.

DR. FLEMAL: I take it in your outreach, there was no question raised by the affected industries that the definitions we might be using here out of 211 would conflict with something that's in subtitle G?

MS. DOCTORS: That's correct. I got two sets of very extensive comments, plus we had a number of outreach meetings, and that issue was not raised except for the one on the closure where they wanted some language put back in on

modification.

MR. RAO: One more question on that same subsection in 220.200, subsection A. You have these two conditions, you know, that a landfill has to meet to be subjected to this rule. One of them is that the landfill has to accept waste after November 8, 1987, or it should have additional design capacity available for future waste deposition.

Could you explain what the second condition means in terms of existing landfill.

MR. MAHAJAN: It means that if the landfill is operating right now, they were operating on this spot in between, they're not accepting waste, but if it's still available, they can start off with one month or so. So they are not closed.

MR. RAO: So are you saying that if a landfill stopped accepting waste before November 8, 1987, and has stayed dormant till now, like over the last ten years --

MR. MAHAJAN: Yeah.

MR. RAO: -- those are the landfills you're referring to here?

MS. DOCTORS: Yeah, it's included.

MR. MAHAJAN: That means they are -- if they didn't accept waste after November 8, 1987.

MR. RAO: No. What if they have additional design capacity?

MS. DOCTORS: It's affected. It's covered.

MR. RAO: Are there such landfills around that have been dormant for a long period of time?

MS. DOCTORS: Mike?

MR. DAVIDSON: What was the question again?

MR. RAO: The question was are you aware of any landfills in the state which have been dormant for the last ten years which have not been accepting waste but which have additional design capacity to meet the condition here?

MR. DAVIDSON: Yes, but that goes back to the question of closure. If they haven't completed closure, they're still considered by land to be open. They haven't accepted any waste. They still have additional capacity, and there may be ongoing closure, maybe extend for years.

So if they have additional capacity and if the company wanted to, they could accept waste after filing an application for modification with the Bureau of Land to accept more waste.

DR. FLEMAL: The similar problem we've had with this term, though, or this concept is the additional design capacity available. That's different from permitted capacity or allowed capacity.

I can say I'm going to design a landfill that's huge, does that mean -- and then sit on it for ten years, does that mean I have to go through this rule? I have design capacity. I designed it for something bigger than I've actually used.

MS. DOCTORS: Yes.

DR. FLEMAL: But it's only in my head, it's a design. Why do I, under that circumstance, fall under the regulation?

MS. DOCTORS: I mean, this rule, partly there's some history involved. The original proposal was in 1991. Nobody thought it was going to take them five or six more years to do a final rule. So that in part is where the gaps in the

time lines come in because this is straight federal regulation requirement that we do it this way.

DR. FLEMAL: Including this term, this additional design capacity available for future deposition?

MS. DOCTORS: Yes, right. That's their applicability scenario, and it is complicated.

DR. FLEMAL: Do you guys keep records of each landfill's design capacity and hold the landfill to actually using all their design capacity?

MS. DOCTORS: We don't make them use all their design capacity. When we permit them, it's now being included in their permit, their design capacity.

MR. FORBES: The Bureau of Land's requirements. So when they would apply for whatever appropriate permits that they have, they would indicate what that design is. So instead of being in your mind, it would have to have been --

DR. FLEMAL: So we're really talking about permitting capacity here if you have permitted capacity still available, but then does

anybody have an 11 or greater old -- year-old permit that is still active?

MS. DOCTORS: Well, the issue is for -- the issue is this was to pick up some -- because we really struggled. It said permitted, and then we had the same kind of questions that you're now asking us, and we realized that for some of the older landfills that might be out there, there might be -- because before the last set of landfill regulations were adopted, they didn't routinely put the design capacity into the permit. So we wanted to make sure that if there was additional -- if the hole was there and there was space, that we pick them up, and for most landfills, we don't believe this will be terribly onerous, as you heard in our testimony.

Most people have either -- have the gas collection system installed or have applied for a construction permit to install the gas collection system. So as far as we know, there isn't -- we don't have a lot of outliers. We feel that we've identified affected sources.

DR. FLEMAL: Wouldn't have some little landfill sitting out there that at one time had

grandiose designs of being a big landfill. It fell through, didn't develop or whatever, and we now come back years later and say, yeah, but you said you were going to be a big one, you have design capacity, would they come under this regulation?

MS. DOCTORS: They would, and what they'd have to do is simply file the design capacity report. They're not going to have emissions obviously so they're not going to have to install control equipment, and if they felt like they needed to amend their permit to reduce their design capacity, that's what we would do.

MR. FORBES: I might add, too, that we did attempt to work with the Bureau of Land to find out through their records who they have as landfills in the entire state, and we looked at ones that were closed as well as active landfills, and that I believe we mentioned was --

MR. MAHAJAN: 538.

MR. FORBES: -- 538 landfills that were identified, and from that we tried to apply the rules that we proposed before you today, and our understanding is there would be 47 that would be

impacted. So I don't think there's any like that that would be out there to the best of our understanding.

DR. FLEMAL: If we ever have one come down now, hopefully we will be prepared after this discussion to somehow treat that person fairly.

MR. RAO: Moving along to subsection C under section 220.210. This sets out the reporting requirement.

MS. DOCTORS: I'm sorry, what page are you on?

MR. RAO: Subsection C, page 20 of the Board order.

MS. DOCTORS: Page 20.

MR. RAO: In your testimony you state that these emission reports must be submitted on an annual basis, but the rule doesn't seem to say that. Is this an oversight?

MS. DOCTORS: There's a tier system. Depending on how you estimate your initiative, you use the most conservative formula for estimating your emissions, tier 1. Then you can report every five years, and if you use tier 2 or tier 3, then you must report annually, and that's a federal

requirement.

DR. FLEMAL: That's the January 1 report date?

MR. RAO: June 1.

MS. DOCTORS: June 1, yes.

MR. RAO: Where does it say in the rule?

MS. DOCTORS: Okay. In the rule, that would be under the reporting requirements in -- okay, it's on page -- let's see.

MR. FORBES: Page 41.

MS. DOCTORS: Oh, yes.

MR. RAO: Okay. I have a general question about requirements for gas collection systems and the control system, and I think you may have done it but I just wanted to ask you on the record.

Are these requirements consistent with what we have in Part 811 for the landfills?

MR. MAHAJAN: No.

MR. RAO: No?

MR. MAHAJAN: Part 11, you mean the land regulations?

MR. RAO: Yes.

MR. MAHAJAN: Land regulations are

focusing on the explosive nature of the methane. They have to monitor first and then, you know, apply that control --

MR. RAO: Yeah.

MR. MAHAJAN: -- of the gas collection system. In this case, these are the regulations based on the capacity of the landfill and the waste they have in there.

MR. RAO: I realize the criteria for installing a system is different, but what I'm asking is about the actual collection system and the control system, are they -- the requirements, are they consistent?

MR. MAHAJAN: Yeah, they are consistent with those, yeah. And actually we are requiring them -- requiring the landfill to have approval from the Bureau of Land.

MR. RAO: For example, you stated that on some of these affected landfills, some of them are already in the process of installing the gas collection system, and are they installing pursuant to the land regulations or the air rules?

MR. DAVIDSON: Both.

MR. RAO: Both.

MR. DAVIDSON: In some regards, they are complying with the limitations to -- to keep below the explosive limit, methane and concentration around the landfill. In other cases, they're just converting waste energy, more due to public concern over some controlled methane in that regard or they're trying to comply with the perceived nature of these rules.

Based on the NSPS requirements, they perceive that they would have to comply with substantially the same thing as NSPS. They're installing a system pursuant to the NSPS requirements at this time.

MR. RAO: So if there's an existing landfill which has put in a gas collection system pursuant to the land regulations, it should not have a lot of additional things that need to be done to meet these rules.

MR. DAVIDSON: We'd have to go on a case-by-case basis.

MR. RAO: Based on your knowledge, will there be substantial additions or something that you can approve under your --

MR. DAVIDSON: It should be fairly

simple.

MR. RAO: -- alternate standard?

MR. DAVIDSON: They may evaluate it doesn't meet the criteria as far as concentration wells. They may have to install more wells, or they may have to upgrade their flare or whatever system to meet the requirements such as having them install a temperature monitor or something like that.

DR. FLEMAL: Let me try looking at the same issue from just some slightly different perspectives. Based upon the record, your count is that of the 26 facilities that would be greater -- that have NMOC emissions greater than 50 megagrams per year, 23 of them either have or are in the process of installing gas collection systems. Am I right on that figure?

MR. FORBES: Yes.

DR. FLEMAL: That's not, however, to say that 23 of them will be in compliance. Is that also a correct statement?

MR. FORBES: Yes.

MS. DOCTORS: Yes.

DR. FLEMAL: Do you have any estimate of

those -- how many may not be in compliance of those 23 or even a likelihood? Are we likely to see a few or a lot of those 23?

MR. DAVIDSON: I don't foresee any of them really being out of compliance, a few modifications, but not --

DR. FLEMAL: But they wouldn't be in compliance immediately with their current systems or even the systems that are already under construction or somehow permitted but not necessarily in operation?

MR. DAVIDSON: I think that's what we have foreseen, allowing them additional time to come into compliance based on this proposal.

DR. FLEMAL: Well, one of the hoops we certainly have to jump through on this one is what is the cost of it. We can say that 23 of 26 have no cost because they already have a system in. That's different than saying that there are X which will have no costs, some which will have bearing cost and three maybe will have some, and that's what I'm trying to get a handle on. They're certainly going to ask us what's it going to cost. What can we tell them about the systems

that are already in place?

MR. FORBES: Maybe I can end this. I think based on the feedback that we got from our outreach with the affected sources, and I think most of the ones who would be impacted in the 26 attended one or the other of our outreach meetings, and in addition to our outreach with our Bureau of Land, I think we generally feel that most of those that are installing collection systems or have systems installed will substantially comply with the requirements.

We can't say that they will 100 percent apply because, as mentioned, there may be some temperature monitoring. There may be a couple of other monitoring aspects that are not currently required in the landfills that will be required here, but I think the main portion of the collection system that's there or is being contemplated will meet the requirements that are proposed here today.

Of course, final determinations will have to be made once the rule is on the books, and as part of the Title V applications and review, the permit section will be making those

determinations, but we think they will substantially meet the requirements.

DR. FLEMAL: Could we then based upon that analysis say as well that the cost figure that you've given us for the average cost of removal of a ton of NMOC at a thousand plus dollars will not apply in fact in most of the landfills, at least as marginal increased costs?

MR. FORBES: Yeah, I think we could say that. The cost effectiveness value that we've cited here --

MR. MAHAJAN: They are based on the USEPA studies, and they studied 572 landfills, and each landfill they come up with how much -- how long the control will be installed and how much it will cost and how much reduction will be there.

From there they have the cost effectiveness, and according to that economic impacts, they say the average cost for the landfill, if they don't have that control system installed already, it will be around 3.68 million average per landfill.

MR. FORBES: Maybe I can just finish my thought. What I was going to say was I think the

costs that we've cited there, the thousand dollars, a little over a thousand dollars per ton, would be for an uncontrolled landfill to add the collection and control system.

DR. FLEMAL: The entire capital cost would be attributed to --

MR. FORBES: Correct.

DR. FLEMAL: -- the NMOC reductions?

MR. FORBES: Correct. So since many of these existing landfills already have some of that equipment in place, the costs would be less than that since they already expended the funds for collection.

DR. FLEMAL: This figure of a cost per ton of removal of a contaminant is one I know that is regularly used in air, but for the record in this proceeding, how does this compare to cost per ton reductions that you folks deal with? Is this a big cost, low cost?

MR. FORBES: I would say it's on the low side for the more recent air regulations that we have been talking about. If you recall, the 15 percent rate of progress plan regulations averaged somewhere between $3500 to $5,000 per ton. In the

Emissions Reduction Market System rulemaking, we were talking probably an equivalent cap -- direct control option to -- as opposed to the marketing system, we were thinking would probably be close to $10,000 a ton. So something in the range of a $1,000 per ton, we would consider very reasonable and probably on the low side.

DR. FLEMAL: That's all I have.

MS. TIPSORD: I have some -- just some minor questions regarding consistency within the rule. First off, I noticed that in several of the formulas, you say where colon, but there are a couple where you say where comma. For example, the commas are used in --

MS. DOCTORS: If you give me maybe the page number, I'll be able to --

MS. TIPSORD: Page 28 of the Board's order.

MS. DOCTORS: 28?

MS. TIPSORD: Yeah, that's 220.240.

MS. DOCTORS: I got it.

MS. TIPSORD: Versus --

MS. DOCTORS: 23, page 23.

MS. TIPSORD: Yeah, page 23 and back

1 further, you use the colons as well.
2 MS. DOCTORS: I'm open to the Board's
3 recommendation, whichever you want to go with a
4 colon or a comma is fine.
5 DR. FLEMAL: Don't you suppose --
6 MS. TIPSORD: I just did this with GLI
7 so I know.
8 MS. DOCTORS: I appreciate this. I'm
9 sorry.
10 MS. TIPSORD: That's okay. The other
11 thing I just went through GLI, in Section 220.110,
12 subsection D at the top of page 21, you used a
13 colon at the end of subsection C(ii).
14 MS. DOCTORS: Yes.
15 MS. TIPSORD: And then you used
16 semicolons after subsection A and subsection B.
17 MS. DOCTORS: And then a colon after --
18 MS. TIPSORD: Then a colon at C and then
19 semicolon again at C(i). My question is when you
20 use A, do you mean A, B and C or A, B or C?
21 MS. DOCTORS: No, it's A, B and C. It's
22 the description of the system, the date the system
23 was installed and a demonstration that the
24 collection C -- the collection system meets the

requirements of X.

MS. TIPSORD: Okay. And then under C(i), is that C(i) and 2 or C(i) or 2?

MS. DOCTORS: Do the active collection systems include flares. Okay, it's "or." We cannot test an open flare.

MS. TIPSORD: And then in 220, just to sure because you did use the "and" there, under subsection a, 1, 2, 3, 4 and 5, you want all five of those?

MS. DOCTORS: Yes.

MS. TIPSORD: And you used an "or" on subsection 2 for A and B so either "a 2 A" or "a 2 B," right?

MS. DOCTORS: Yes, it's --

MR. MAHAJAN: a 2 A or --

MS. DOCTORS: Yes, or B.

MS. TIPSORD: And I have one other. Back on page 28, we're talking about that section 220.240 A 1 B, there's no punctuation at the end of that. Do you use a colon after A?

MS. DOCTORS: There should be a colon, that's correct.

MS. TIPSORD: That's all I have.

DR. FLEMAL: I think I have one last one. It goes back to the affected facilities and what the affected facilities are. My reading of what you've given us in the testimony and in the record is that there are three facilities that you've been able to identify that either don't currently have gas collection systems or currently are not in the process of installing such. Am I correct on that number?

MR. DAVIDSON: What we can say is they don't have currently any air pollution control permits so they either don't have an ID number or they don't have any identification through the Bureau of Air.

We didn't check directly with those companies to see if they've complied through the Bureau of Land with obtaining permits for the control of methane, just identified them as not having air pollution control permits.

DR. FLEMAL: I see. So it's possible that these three also have gas collection systems that they put in in response to land requirements?

MR. DAVIDSON: I would say they would be in violation of probably land's permit because

they would be required to install -- to obtain permits through us.

MS. DOCTORS: But is it possible?

MR. DAVIDSON: It's possible.

DR. FLEMAL: It is possible. I was confused on that because my assumption was, first off, these are operating landfills, these three, as I understand?

MR. DAVIDSON: Yes.

DR. FLEMAL: You are simply not certain that they have gas collection systems under some land permit. Is it possible for you to identify for us whether in fact they do have such?

MR. DAVIDSON: Sure.

DR. FLEMAL: Check with land and see if they have any understanding or records that indicate that these three remaining landfills either have or are in the process of installing gas collection.

From the perspective of what the impact of this proposed rule is, I think that that might be useful information, and if you can provide that for us perhaps at the next hearing, I think that that would be useful or written comment at that

time frame.

MS. DOCTORS: Is that when you'd like written comments is at the next hearing to address the issues raised here?

HEARING OFFICER GLENN: To answer your question, Ms. Doctors, since we have to have the second hearing for when it is set, if you'd like address these things at that time orally, that would be fine with us or if you'd rather wait and address these issues in your final comments, that would be okay, too.

MS. DOCTORS: I'm going to go back and we'll see how hard it is to obtain the information.

HEARING OFFICER GLENN: Okay. Are there any further questions then?

DR. FLEMAL: Just give me one minute to run through.

HEARING OFFICER GLENN: Okay.

DR. FLEMAL: Yes, I did have just one little small matter yet. The cost figures that we have been talking about regarding the cost effectiveness, for example, in terms of the cost per ton of reduction pollutant are figures, as I

recall, from 1992, is that correct?

MR. MAHAJAN: Yes.

DR. FLEMAL: Do you have any feeling for whether those figures would be within the same general area if we could somehow get them to 1998 figures?

MR. MAHAJAN: Probably they will. What happened, not that present value of 1992, but they did take the entire cost of the control for the entire period and then they discounted it to that one control period which is 1992.

DR. FLEMAL: So to the extent, though, that there's been any increase in cost and what not over this roughly six-year period, these figures would be underestimates of what a 1998 cost would be, but you don't think substantially so?

MR. MAHAJAN: No.

DR. FLEMAL: And then as well on the cost figures, you note that the annual cost of waste disposal is estimated to increase by an average of $1.30 per megagram as a result of this proposal. That $1.3 per megagram is an increase on what base? This is a marginal cost upon what

magnitude number?

MR. MAHAJAN: The first one is based on the -- what they call -- this one is based like they have tons of material so it will be $1.30 per megagram of waste.

DR. FLEMAL: I guess I didn't say that very well. This obviously is a marginal cost. I'm just wondering what is the basis. Does this represent a 10 percent increase, a 50 percent increase, 100 percent? Obviously it depends upon what the base cost per ton is.

MR. MAHAJAN: We didn't rely upon the base cost. We relied upon the USEPA documents, and they come up with that cost, 1.30.

MR. RAO: Is it $1.30 on top of the fees that they charge?

MR. MAHAJAN: Yes, whatever the existing is, it will be $1.30 more.

DR. FLEMAL: But we don't know more than what so we can't make a percentage comparison. If that kind of figure could be gotten without too much difficulty, I'm sure we've got it in our records all over the place because we have lots of places where people talk about what the cost of

waste disposal is.

It might be useful to put it in this record anyway again because I expect people are going to look at it and say how do we make sense of $1.30 per ton, and I think it will make sense by saying it's two percent or ten percent or something increase.

MR. FORBES: We'll look into that, too.

DR. FLEMAL: Okay.

HEARING OFFICER GLENN: Any further questions? Seeing none, I would ask if anyone else present has any comments regarding this rulemaking. Okay, there are none.

Again, then please note that the second hearing in this rulemaking is scheduled for Wednesday, May 13th, at 1:00 p.m. at the Sangamon County Building in the County Board Chambers. That's 200 South 9th Street in Springfield.

The third hearing is scheduled for Thursday, May 21st, at 1:30 here in this room. I remind you that if the Agency doesn't request -- does not request the third hearing, the Board will cancel the third hearing, and in that event anybody that's on the notice list will receive

notification of the cancellation. There is one other question, if we could backtrack.

MR. RAO: Sorry, this isn't on our list.

MS. DOCTORS: It's very complicated.

MR. RAO: Missed it. This question relates to a comment, public comment we received from BFI concerning interpretation of the federal rules and how you have it interpreted in requirement in our rule. I will tell you it deals with the reporting requirement that you have in your rule.

MS. DOCTORS: Yes, right.

MR. RAO: So far, let me ask you are you familiar with BFI's comment? Did you receive a copy of the comment?

MS. DOCTORS: No, I didn't receive it, but I'm assuming it is the same comment that I received earlier about whether reporting should be done. They felt if you used tier 2 or tier 3, you could also make use of the five-year.

MR. RAO: Yes, that's correct.

MS. DOCTORS: Right, and I went back in the Federal Register and the Federal Register for the NSPS required one year. In my statement of

reasons, I've got a discussion of that issue.

Where is it? Statement of reasons. On page 25, the Agency's statement of reasons, I cited the Federal Register. It's specifically at 40 CFR 60.757, and I just took the language right out of the NSPS.

MR. RAO: We will take a look at it, but it may be, you know, helpful to the Board if you can take a look at their comment because they, you know, cut and paste specific sections from the federal rules saying this is how it should be interpreted.

MS. DOCTORS: Right.

MR. RAO: So if you don't have a copy, we will be glad to provide you with a copy of those comments.

MS. DOCTORS: I never received it. It was never provided to me.

DR. FLEMAL: I think, in fact, there's a copy on the back table, is there not?

MS. DOCTORS: Right, but basically what they're saying, if you look at the CFR, they're saying at the beginning of Section 60.757, it's right at the beginning, A, that anything can

apply, but after it says anything can apply, it then goes forward and said, but if you use tier 2, you have to resume annual reporting.

So I'm happy to take a look at their comment again, but I think it's probably what they had said to me before on the telephone and in writing.

MR. RAO: Okay.

MR. FORBES: I guess maybe the concern there, too, is we, in order to try to ensure federal approvability of the state's rule, we were trying to exercise whatever, I guess, flexibility we could exercise given the EG and the NSPS language, but when we discussed this with BFI -- and they did raise it, I think, at the one outreach meeting or following one of the outreach meetings -- that, as Rachel said, as we've looked at it, we were concerned that it seemed to us pretty clear that USEPA was not providing for that provision, and so we were somewhat concerned about making that change.

MS. DOCTORS: Right, and I'd also like to be on the record that when we did speak with them, we said if you come up with anything in

writing that supports your interpretation, please provide it to the Agency, and that was not done. We obviously weren't even given a copy of the comment so I'd like to be on record just to say that it's a little unexpected.

HEARING OFFICER GLENN: Okay. I think that concludes our questions. If there are any other matters that need to be addressed, anyone have anything? Okay. Well, we'll see you all again then May 13th at 1:00 p.m. in Springfield, and thank you very much for coming, and this matter is hereby adjourned.

(Which were all the proceedings had in the above-entitled case.)

ILLINOIS POLLUTION CONTROL BOARD

LISA H. BREITER, CSR, RPR, CRR, being first duly sworn, on oath says that she is a court reporter doing business in the state of Illinois; that she reported in shorthand the proceedings at the taking of said hearing and that the foregoing is a true and correct transcript of her shorthand notes so taken as aforesaid, and contains all of the proceedings had at said hearing.

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