

ORIGINAL

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

RECEIVED
CLERK'S OFFICE

JAN 14 2003

STATE OF ILLINOIS
Pollution Control Board

WASTE MANAGEMENT OF ILLINOIS, INC.,)
)
Petitioner,)
)
vs.)
)
COUNTY BOARD OF KANE COUNTY,)
ILLINOIS,)
)
Respondents.)

No. PCB 03- 104
(Pollution Control Facility
Siting Appeal)

NOTICE OF FILING

TO: See Attached Service List

PLEASE TAKE NOTICE that on January 14, 2003, we filed with the Illinois Pollution Control Board, the attached Waste Management of Illinois, Inc.'s **PETITION FOR HEARING TO CONTEST SITE LOCATION DENIAL** in the above entitled matter.

WASTE MANAGEMENT OF ILLINOIS, INC.

By: 
One of Its Attorneys

Donald J. Moran
PEDERSEN & HOIPT
161 North Clark Street, Suite 3100
Chicago, Illinois 60601
(312) 641-6888
Attorney Registration No. 1953923

PROOF OF SERVICE

Victoria L. Kennedy, a non-attorney, on oath states that she served the foregoing **Waste Management of Illinois, Inc.'s Petition for Hearing to Contest Site Location Denial** on the following parties by depositing same in the U.S. mail at 161 N. Clark St., Chicago, Illinois 60601, at 5:00 p.m. on this 14th day of January, 2003:

Mr. Michael W. McCoy
Chairman - Kane County Board
Kane County Government Center
719 S. Batavia Avenue, Building A
Geneva, IL 60134

Bernadine C. Murphy
Kane County Clerk
Kane County Government Center
719 S. Batavia Avenue, Building A
Geneva, IL 60134


Victoria L. Kennedy

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COUNTY BOARD OF KANE COUNTY,)
ILLINOIS,)
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Respondent.)

No. PCB 03- 104

(Pollution Control Facility
Siting Appeal)

**PETITION FOR HEARING
TO CONTEST SITE LOCATION DENIAL**

Petitioner Waste Management of Illinois, Inc., ("WMII"), by Pedersen & Houpt, its attorneys, respectfully requests a hearing to contest the decision of the County Board of Kane County, Illinois ("County Board") denying site location for the proposed Woodland Transfer Facility ("Facility"). In support of this Petition, WMII states as follows:

1. This Petition is filed pursuant to Section 40.1(a) of the Illinois Environmental Protection Act (the "Act") (415 ILCS 5/40.1).

2. On June 14, 2002, WMII submitted its request for site location approval for the Facility ("Request"). The Facility is a waste transfer station located on an 8.9-acre site on Illinois Route 25 in unincorporated Kane County, Illinois. It will process, consolidate, and transfer an average of 2,000 tons of non-hazardous municipal waste per day.

3. On December 10, 2002, following service and publication of notice and public hearings conducted before a hearing officer and two County Board members, said hearings having been held from September 17 to October 10, 2002, the County Board denied the Request. A true and correct copy of the County Board Resolution denying same is attached hereto and made a part hereof as Exhibit A.

THIS DOCUMENT IS PRINTED ON RECYCLED PAPER.

4. WMII contests and objects to the County Board's decision to deny the Request because the siting process and procedures used by the County Board in reaching that decision were fundamentally unfair.

5. WMII further contests the County Board's siting denial because it is wholly unsupported by the record and is against the manifest weight of the evidence.

6. To the extent the County Board's siting denial held that criteria (ii), (iii), (vi) and (viii) of the Act were not met, the denial was clearly against the manifest weight of the evidence.

WHEREFORE, WMII respectfully requests that the Board enter an order (a) setting for hearing this contest of the County Board siting denial decision, (b) reversing the County Board siting denial decision, and (c) providing such other and further relief as the Board deems appropriate.

Respectfully submitted,

WASTE MANAGEMENT OF ILLINOIS, INC.

By



One of Its Attorneys

Donald J. Moran
PEDERSEN & HOUP
Attorneys for Petitioner
161 N. Clark Street
Suite 3100
Chicago, IL 60601
Telephone: (312) 641-6888

STATE OF ILLINOIS

COUNTY OF KANE

RESOLUTION NO. 02 - 431

**DECISION ON SITING APPLICATION FROM
WASTE MANAGEMENT OF ILLINOIS, INC. FOR THE
WOODLAND TRANSFER FACILITY IN UNINCORPORATED KANE COUNTY
(Deny)**

WHEREAS, WASTE MANAGEMENT OF ILLINOIS, INC. (hereafter "Waste Management") pursuant to the Illinois Environmental Protection Act (415 ILCS 5/39.2) as supplemented by the Kane County New Regional Pollution Control Facility Siting Ordinance, 01-281, of the Kane County Code, filed an application on June 14, 2002 for siting approval for a waste transfer facility in unincorporated Kane County; and

WHEREAS, pursuant to Kane County Ordinance, Michael W. McCoy, appointed Patrick M. Kinnally as Hearing Officer; and

WHEREAS, in compliance with the Illinois Environmental Protection Act, public hearings were held on September 17, 19, 24, 26 and 30, and October 1, 3, 9 and 10, 2002; and

WHEREAS, the Hearing Officer, Patrick M. Kinnally, submitted his Findings (marked as Exhibit A, attached hereto and made a part hereof) to the Kane County Board Chairman as required by Kane County Ordinance; and

WHEREAS, the Kane County Board Chairman, Michael W. McCoy, accepts the findings of the Hearing Officer, Patrick M. Kinnally, and the Chairman respectfully requests the decision of the Kane County Board on the application submitted by Waste Management subject to the Findings and Conditions as delineated by the Hearing Officer.

NOW, THEREFORE, BE IT RESOLVED by the County Board of Kane County, Illinois, that:

1. The Findings of the Hearing Officer, Patrick M. Kinnally, (Exhibit A, attached hereto), are accepted and adopted except to the extent that they are inconsistent with the December 10, 2002, memorandum prepared by Dan Walter; and
2. The application of Waste Management for Siting Approval for the Woodland Transfer Facility is hereby denied; and

BE IT FURTHER RESOLVED that the County Clerk be directed to transmit certified copies of this Resolution with Exhibits to the interested parties, as follows:

Attorney Jennifer J. Sackett Pohlenz
QUERREY & HARROW
175 West Jackson Blvd., Suite 1600
Chicago, IL 60604-2827
Attorney M.E. Gorecki
KANE COUNTY STATE'S ATTORNEY
37W777 Route 38
St. Charles, IL 60174

Attorney Donald Moran
PEDERSEN & HOUP
161 North Clark Street, Suite 3100
Chicago, IL 60601-3242
Patrick M. Kinnally
KINNALLY, KRENTZ, LORAN,
HODGE & HERMAN, P.C.
2114 Deerpath Road, P.O. Box 5030

Passed by the Kane County Board on December 10, 2002.


Clerk, County Board
Kane County, Illinois


Chairman, County Board
Kane County, Illinois

Vote:
Yes 4
No 21

12Transfer.Deny



STATE OF ILLINOIS COUNTY OF KANE	DATE <u>JAN 07 2003</u>
I, John A. Cunningham, Kane County Clerk and Keeper of the Records in Kane County, Illinois do hereby certify that the attached is a true and correct copy of the original record on file.	
	In witness whereof, I have hereunto set my hand and affixed the Seal of the County of Kane at my office in Geneva, Illinois.  John A. Cunningham, Kane County Clerk

EXHIBIT "A"

STATE OF ILLINOIS)
 :
COUNTY OF K A N E)

IN THE MATTER OF :
APPLICATION OF WASTE MANAGEMENT OF ILLINOIS, INC.
FOR SITING APPROVAL FOR THE WOODLAND TRANSFER FACILITY

FINDINGS OF THE HEARING OFFICER

I. INTRODUCTION

Waste Management of Illinois, Inc. ("Waste Management") filed a site location application ("application") with the Kane County Clerk's Office for consideration by the Kane County Board pursuant to §39.2 of the Illinois Environmental Protection Act. The application seeks siting approval for a facility of approximately 8.9 acres located on Route 25 and Route 64 in unincorporated Kane County. The proposed regional pollution facility is a transfer station. The County's authority regarding the local siting approval for such a regional pollution facility is governed by the provisions of the Environmental Protection Act (415 ILCS 5/39.2) and is supplemented by the Kane County Siting Ordinance No. 01-281 ("Ordinance"). The Kane County Board has the authority to approve or disapprove the request for local siting approval since the property in question is located in an unincorporated area of Kane County.

Siting approval shall be granted only if the proposed facility meets the following criteria:

1. The facility is necessary to accommodate the waste needs of the area it is intended to serve;

2. The facility is so designed, located and proposed to be operated that the public health, safety and welfare will be protected;
3. The facility is located so as to minimize incompatibility with the character of the surrounding area and to minimize the effect on the value of surrounding property;
4. The facility is located outside the boundary of the 100 year flood plain or the site is flood-proofed;
5. The plan of operations for the facility is designed to minimize the danger to the surrounding area from fire, spills or other operational accidents;
6. The traffic patterns to or from the facility are so designed as to minimize the impact on existing traffic flows;
7. If the facility will be treating, storing or disposing of hazardous waste, an emergency response plan exists for the facility which includes notification, containment and evacuation procedures to be used in the case of an accidental release;
8. If the facility is to be located in a county where the county board has adopted a solid waste management plan consistent with the planning requirements of the Local Solid Waste Disposal Act or the Solid Waste Planning and Recycling Act, the facility is consistent with that plan; and
9. If the facility will be located within a regulated recharge area, any applicable requirements specified by the Board for such areas have been met.

In addition, the County Board is authorized by the Act to "consider as evidence the previous operating experience and past record of convictions or admissions of violations of the applicant, as well as any subsidiary or parent corporation, in the field of solid waste management" when

considering Criteria 2 and 5. The latter information is contained in Waste Management's application.

Chairman McCoy, in consultation with Kane County State's Attorney Mary Elizabeth Gorecki, appointed Patrick M. Kinnally as the Hearing Officer pursuant to the County Ordinance. Waste Management's application was filed with the Kane County Clerk, requesting site location approval for the Woodland Transfer Facility on June 14, 2002. Copies of the site location application were filed with the Village of Bartlett, the Village of South Elgin and the Village of Wayne on the same day. Waste Management is a partial beneficial owner of the site location and the proposed operator of the facility. Waste Management served notice, in person, on the owners of all property within the subject area not solely owned by Waste Management and on the owners of all property within four hundred (400) feet in each direction of the lot line of the subject property. The owners were persons or entities which were obtained from the tax records of Kane County. Also, Waste Management served notice of its filing of the application in person on the members of the General Assembly from the legislative district in which the proposed facility is located.

On May 27, 2002, notice was published in newspapers of general circulation published in Kane County, namely the *Kane County Chronicle*, indicating that Waste Management was filing its application with the County Clerk. Notice was served and published within the prescribed time period in accordance with the requirements of the Act. Waste Management paid the required filing fee to Kane County in accordance with §11-102 of the Ordinance.

At the start of the public hearings, Kane County, caused notice of the public hearing on the application to be served by certified mail, return receipt requested, on the members of the General Assembly from the legislative district in which the facility is located, as well as the Illinois

Environmental Protection Agency. The Clerk of Kane County caused the public hearing notice to be published in a newspaper of general circulation, published in Kane County. The public hearing notice was published within the prescribed time period in accordance with the requirements of §39.2(d) of the Act and the Ordinance.

Pursuant to the Act and the Siting Ordinance, the public hearings were scheduled in this matter and notices were filed in newspapers of general circulation within the County pursuant to the Act and Siting Ordinance. Newspaper notices of public hearings were published in the following papers on the following dates: *Kane County Chronicle*, on August 2, 2002, *Aurora Beacon News* on August 25, 2002, *Elgin Courier* on September 10, 2002. The original Certificates of Publication for the above referenced notices were filed with the Kane County Clerk. Additionally, timely notice via certified mail, return receipt requested, was served on the municipalities within one and a half miles of the proposed site. The townships within one and a half miles of the proposed site were served via facsimile and certified mail, return receipt requested. Although the Act does not require service of notice on such townships and the townships were served with notice. Despite notice, no townships participated in the public hearings. Originals of these notices and facsimiles and certified mail receipts were filed with the Kane County Clerk on October 9, 2002.

A public informational meeting was held by the Hearing Officer on September 12, 2002. At this meeting, the Hearing Officer described the procedure for the hearing consistent with the Act and as supplemented by the Ordinance and answered questions concerning public participation in the hearing process. A transcript of this public meeting is on file with the Kane County Clerk. The public meetings in this matter were held on the following dates: September 17, 19, 24, 26 & 30 and October 1, 3, 9 & 10, 2002. Copies of the transcripts from each public hearing are on file with the

Kane County Clerk. The Hearing Officer scheduled the October 3, 9 & 10, 2002 hearings as additional hearings. All persons who were registered as participants in the public hearings were provided notice either at the public hearing or by telephone or facsimile by or at the direction of the Hearing Officer of the additional hearings, including the dates and locations of such hearings.

Members of the general public were permitted at the public hearings to ask questions by completing the "Submittal of Written Questions to be Asked of Witnesses" form as provided by the Hearing Officer and as authorized by the Ordinance. Submissions were made to the Hearing Officer, who then asked questions of the witnesses and the general public were permitted to make oral statements during and at the end of the public hearing, as well as submitting written comments at the end of the public hearings. The proceedings in which witnesses testified or oral statements were made were transcribed by a court reporter, totalling 1,411 pages and are part of the record of these proceedings, having been filed with the County Clerk. The public hearing was finally adjourned on October 10, 2002. Consistent with the Act and the Ordinance, any person had the opportunity to file written comments to the County Clerk concerning the appropriateness of the proposed site not later than thirty (30) days after the date of the last public hearing. Due to a holiday and one of the days falling at the end of the week, public comments or written documents received or postmarked not later than **November 13, 2002** are also part of the record herein. The record has been available for public inspection during normal business hours at the office of the County Clerk in Geneva, Illinois. The public hearing record consists of:

1. The Application for Site Approval filed by Waste Management of Illinois, Inc.;
2. Proof of Notice Published and Served as described in the Act and the Ordinance;

3. Proof of Notice Given by Waste Management as required by the statute in accordance with the Ordinance.

4. Written Comments filed by the public and received by the County Clerk or postmarked within thirty days after the close of the hearing.

5. All reports, studies, exhibits and documents received into evidence at the public hearing;

6. The transcript of the pre-hearing conference, public hearings and these Findings of Fact and Conclusions of Law

II. FINDINGS OF FACT AND LAW

A. JURISDICTION AND PRELIMINARY MATTERS

1. There are several things that should be clear as to the Hearing Officer's role in this siting application. First, the Ordinance authorizes me to make findings of fact or conclusions of law. This I have attempted to do in conjunction with the Director of Environmental Management, Tim Harbaugh, which the Ordinance authorizes. Under state statute, there are three alternatives for the Board to consider. Although this was stated differently by the "County Review Team" in its closing submission, that is erroneous. The options for you to consider are: to approve the application as submitted; to approve it with conditions; or, to deny it. I want you to be aware that the "County Review Team" is not your counsel in this matter. This is because you are now acting in a quasi-judicial function, as opposed to a legislative one. You are acting as the judge as to whether or not the application should be approved. Your collective vote as the Kane County Board will decide the merits or demerits of the application site of the proposed regional pollution facility. Finally, as required by the Ordinance and state law, my role in this proceeding is limited. I do not have a vote

or a recommendation. I make findings of fact or law, or both, based on the evidence adduced at the hearings, the oral statements and written submissions of those who filed them according to the procedures established. My findings of fact and conclusions of law follow.

2. On June 14, 2002, Waste Management filed an application in conformance with the requirements of the Ordinance for Siting Approval for a new pollution control facility in the nature of a transfer station to be known as the Woodland Transfer facility;

3. At least fourteen (14) days prior to filing the application, Waste Management served notice of its intent to file the application in person and by registered mail, return receipt requested, on the owners of all property within the subject area not solely owned by Waste Management and on the owners of all property within four hundred (400) feet in each direction of the lot line of the subject property. Waste Management also served the filing notice in person and by registered mail, return receipt requested, at least fourteen (14) days prior to filing the application on the members of the General Assembly from the legislative district in which the proposed facility is located and caused filing notices to be published in newspapers of general circulation in Kane County. The notices satisfy the statutory requirements of the Act and the Ordinance;

4. Prior to the commencement of the public hearing, the Kane County Clerk caused notice of the public hearing on the application to be published in the *Kane County Chronicle*, *Aurora Beacon News* and *Elgin Courier* on August 8 and 25, and September 10, 2002, respectively. The County Clerk also caused notice of the public hearing to be served by certified mail, return receipt requested, on the members of the General Assembly from the legislative district in which the proposed facility is located, the Illinois Environmental Protection Agency, and the governing authority of each municipality contiguous to the proposed facility or within one and a half miles of

the proposed facility. The publication of said public hearing notice is in conformance with the Act as well as the Ordinance;

5. The subject property for which siting approval is sought for the transfer facility is located on the west side of Route 25 in unincorporated Kane County, Section 1, Township 40 N., Range 8 E in Kane County, Illinois.

6. Waste Management paid the application fee and entered into a Host Benefit Community Agreement with the County of Kane, consistent with the Ordinance. The application of Waste Management is not prohibited pursuant to the provisions of §39.2(m) of the Act since no request for siting approval substantially the same as the present request was disapproved within the preceding two (2) years.

7. Public hearings were held on September 17, 19, 24, 26 and 30 and October 1, 3, 9 and 10, 2002, pursuant to due and appropriate notice and in accordance with the requirements of the Act and the Ordinance.

Findings of Law: The Board has jurisdiction to hear this matter.

B. FACILITY BACKGROUND - Findings of Fact

The proposed Woodland Transfer Facility is an 8.93 acre site with boundaries as delineated on the applicant's Application Drawing Number 3. On this site, Waste Management proposes to build a pre-fabricated steel structure of boundaries, a layout of which is shown on Application Drawing Number 4. The structure is proposed to have a footprint of 37,800 square feet, inclusive of a tipping area, offices and primary and auxiliary loading areas and will be forty two feet (42') at its highest point. The site is proposed to be located adjacent to the former Woodland Landfill at the southwestern corner. The access road to the proposed facility is proposed to be the same access road

as currently services the Woodland Landfill. The area on which the transfer station is to be erected is not part of the Woodland Landfill as permitted by the Illinois Environmental Protection Agency.

The partial owner and operator of the proposed facility is the applicant, Waste Management of Illinois, Inc.. The site is currently owned in a land trust and the applicant has committed that sole ownership will be transferred to it prior to permitting or construction should the proposed facility be approved by the County Board.

The facility as proposed and designed, is to accept for transfer to an ultimate destination, municipal solid waste from residential and commercial generators. The applicant committed during the hearing that the facility would not receive special waste, soils, hazardous wastes, industrial process wastes, pollution control waste, sludge, potentially infectious medical waste, special waste, poly-chlorinated biphenyls, source, special or by-product nuclear materials, radioactive waste, high level or low level radioactive waste, transurantic waste, lead acid batteries or bulk liquid waste or any liquid waste. The proposed facility is to accept for transfer an average of 2,000 tons per day of acceptable waste and recyclables based on a 286 day year. The facility as proposed is to accept these materials from packer and roll-off vehicles only and no evidence was submitted by the applicant to support locating the facility with rail transfer capabilities. The proposed duration of operation of the facility is indefinite. Waste Management presented the following witnesses as to each criteria applicable to the facility.

C. WITNESS TESTIMONY / EVIDENCE - Findings of Fact

1. Ms. Cheryl Smith testified on Criterion 1.
2. Andy Nickodem of Earth Tech, Inc. and Mr. Dale Hoekstra, Director of Operations, Chicago Market Area, Waste Management of Illinois, Inc. testified concerning Criterion 2.

3. Chris Lannert, owner of Lannert Group and Ms. Patricia Biever-McGarr, a real estate appraiser and consultant with Integra Realty Resource in Chicago testified on behalf of Waste Management as to Criterion 3.

4. Andy Nickodem testified on behalf of Waste Management testified as to Criterion 4. Andy was of the opinion that, with respect to Criterion 4, since the facility is not located within a 100 year flood plain, Criterion 4 is inapplicable.

5. Mr. Dale Hoekstra testified on behalf of Waste Management concerning Criterion 5.

6. Mr. Dave Miller of the Metro Transportation Group testified on behalf of Waste Management concerning Criterion 6.

7. As to Criterion 7, since the facility will not be treating, storing or disposing of hazardous wastes, Criterion 7 is not applicable.

8. Cheryl Smith testified on behalf of Waste Management concerning Criterion 8. Andy Nickodem testified with respect to Criterion 8 on behalf of Waste Management.

9. With respect to Waste Management's testimony, Andy Nickodem testified to Criterion 9 which is, again, inapplicable to this facility since it is not located within a regulated re-charge area.

10. Mr. Joseph Cluchey testified on behalf of the South Elgin / Countryside Fire Protection District and presented testimony concerning Criteria 5 and 6. The testimony neither supported nor opposed the application.

11. Mr. Daniel Lynch, a professional engineer, testified on behalf of the Village of Wayne, and presented testimony regarding Criterion 6. He testified against the application.

12. Members of the general public were permitted to make an oral statement and/or submit various documents which were admitted into the record. All of these people spoke against the application and most submitted written statements against the application. The municipalities of St. Charles, South Elgin, Bartlett and Wayne oppose the application.

13. Kane County retained legal counsel, Jennifer Sackett-Pohlenz, as well as technical consultants Deigan & Associates, L.L.C., Coulter Transportation Consulting, L.L.C. to perform legal and technical reviews of Waste Management's application. Mr. Gary Deigan and Mr. Brent Coulter testified on the application regarding Criteria 2, 5 and 6, respectively. Mr. Coulter did not undertake any independent investigation of the application. Neither Mr. Coulter nor Mr. Deigan testified in opposition to the application.

III. STATUTORY CRITERIA

Following hereafter are my findings concerning the record as it relates to the specific criteria enumerated in the Act. I specifically find that the application would not meet the criterion(a) indicated but for the conditions I find to be applicable in Paragraph IV, *infra*.

(1) **IS THE FACILITY NECESSARY TO ACCOMMODATE THE WASTE NEEDS OF THE AREA IT IS INTENDED TO SERVE?**

Findings of Fact.

Cheryl Smith testified concerning Criterion 1. Ms. Smith is a solid waste consultant with twenty (20) years of experience in the solid waste industry. She previously prepared reports for several transfer stations and fourteen (14) landfills. Generally, she testifies on behalf of commercial applicants seeking approval of transfer stations and landfills. She concluded the proposed facility was necessary to meet the waste needs of the area it intends to serve. The area to which this facility

pertains was provided to Ms. Smith by Waste Management. The determination of the "area of need" is specified by the applicant. It determines the area's boundaries. It includes portions of five (5) counties: Kane, Wayne Township in Dupage County, Hanover and Barrington Townships in Northwest Cook County, Cuba and Wauconda Townships in Lake County, and Marengo, Seneca, Dorr, Nunda, Riley, Coral, Grafton and Algonquin townships in Southern McHenry County. Ms. Smith then gave her opinion of "need" within that area. She was the only person to testify as to Criterion 1.

In performing her study and analysis, Smith collected information on the population of this area and evaluated a thirty (30) year planning period from 2003-2033. She obtained waste generation rates and recycling goals from the solid waste plans for the counties in the service area. Based on this information, she then determined the amount of waste to be generated over a thirty year planning period, attempted to apply the recycling goals identified by each county, in the area to be served, and determine the net amount of waste which requires handling. Ms. Smith testified that, in her opinion, the waste generated within the service area was 4,276 tons per day, which included municipal, industrial and landscape waste. She determined there was 1,847 tons per day capacity available to the service area to handle this waste. The latter determination was based on the available capacity of existing disposal facility's transfer facilities and transfer facilities that handle municipal waste in the area. Given those calculations, Smith concluded there was an existing shortfall of 2,429 tons per day. Depending on the ability of the various county plans to meet their recycling goal, Smith was of the opinion that if no recycling took place, the shortfall could increase to over 4,500 tons per day over the thirty year planning period.

Smith was qualified to testify as an expert on Criterion 1 and was the only person to testify concerning that Criterion. The service area for the facility as determined by Waste Management includes all of Kane County, Wayne Township in Dupage County, Hanover and Barrington Townships in Northwest Cook County, Cuba and Wauconda Townships in Lake County and Marengo, Seneca, Dorr, Nunda, Riley, Coral, Grafton and Algonquin townships in Southern McHenry County.

Kane County's Solid Waste Plan has a preference by the County Board to site transfer stations in the County of Kane. The Solid Waste Ordinance cites the need for transfer stations due to the fact that landfill siting is not permitted.

Ms. Smith did not include all available capacity or availability of other transfer stations to the service area in her report.

Ms. Smith chose to utilize a thirty (30) year planning period, although the application seeks siting of a transfer facility for an indefinite period of time. She had no opinion as to whether the addition of another facility during the thirty year planning period would effect her need analysis.

Finding of Law.

Based upon the record, the proposed facility is necessary to accommodate the waste needs of the area it intended to serve subject to the proposed conditions stated in Paragraph IV, *infra*.

(2) IS THE FACILITY SO DESIGNED, LOCATED AND PROPOSED TO BE OPERATED THAT THE PUBLIC SAFETY AND WELFARE WILL BE PROTECTED?

Findings of Fact.

Andy Nickodem testified concerning the design of the facility and indicated the structure is proposed to have a footprint of 37,800 square feet, inclusive of a tipping area, offices and primary and auxiliary loading areas. The building is made of pre-fabricated steel. Mr. Nickodem is a civil engineer and is a specialist in designing and constructing solid waste facilities. He has worked on and designed, in conjunction with others, more than 10 transfer facilities, four of which are located in Illinois. He testified the facility is designed to protect the public health, safety and welfare, and I find him to be a knowledgeable, credible witness. According to his testimony, there are three considerations designing and erecting a transfer station: waste containment, waste movement, efficiency and stormwater management. All waste operations, including unloading and loading of waste are contained within the transfer station building. Throughput and maximum efficiency in operations and the facilitation of incoming and outgoing trucks based on a traffic pattern for the facility were discussed by Mr. Nickodem in detail. With respect to stormwater runoff, he stated there are a series of structures to ensure that such water will run off directly into the detention basin, which is a pond on the site.

Mr. Nickodem described the difference between a landfill and a transfer station. He indicated his opinion was based on several factors, which include that a transfer station is a thing which is utilized to transfer waste to the site and off the site, whereas a landfill is a final resting place for the waste. Also, he testified this facility was not part of the original permitted site for the Woodland Landfill, and, that this facility would not add waste to the existing Woodland Landfill.

Mr. Nickodem testified as to the type of vehicles that would bring waste to the site, which are mainly packer trucks, roll-off trucks, and smaller vehicles. He testified about the spacing for these trucks and how they unload their waste onto the tipping floor. The waste is then pushed to the grappler which then moves the waste onto the trailers for transportation out of the facility. Mr. Nickodem described how the building would be erected, including openings for doors; he described how the transfer trailer trucks will be loaded and unloaded and how and when they will leave the facility.

The building is designed with an automatic air ventilation system, which is activated by carbon monoxide detectors. The building has a compression system which is called a "dry sprinkler system" which has been designed to avoid freezing of pipes during the winter months. The system is charged by a pump station which is supplied with water from the detention basin. The detention basin has approximately 3,000,000 gallons of water available for fire suppression when it is full.

Mr. Nickodem testified as to how any liquids generated at the facility will be managed through a drainage system. No liquid waste will be accepted. The only liquid which might occur is from incidental liquids in the municipal waste and wash water. That fluid will be directed to a 10,000 gallon, double-walled underground storage tank through a piping system.

Mr. Dale Hoekstra testified with respect to his twenty six years of experience in the solid waste industry and operating landfills and transfer stations. At the current time, he oversees operations for eight landfills and three transfer stations located in northern Illinois. Mr. Hoekstra is a certified landfill operator. He described how the facility would operate, including times of operation, how the scale was operated, video and surveillance systems, how a tipping floor was

operated and other day-to-day operations relating to a transfer station. I find his testimony to be helpful and believable.

Mr. Hoekstra testified with respect to how vehicles will enter the facility from Route 25, how tarping and un-tarping of trucks will occur with respect to arrival and departure of loads. He explained how a grapppler is used with respect to moving waste from the tipping floor and putting it into transfer trucks. Mr. Hoekstra testified with respect to the management of litter and noise, and how the latter will be attenuated during the operation of the transfer station. He testified the transfer station will be operated to protect the public health, safety and welfare.

The proposed transfer station is scheduled to operate from 4:00 a.m. to 12:00 midnight, Monday through Friday, and 4:00 a.m. to 12:00 noon on Saturday, except during weeks which contain a holiday. Waste Management projects an average of approximately 1800-2200 tons per day handled at the facility. It does not intend to accept hazardous waste, liquid waste, potentially infectious medical waste, regulated polychlorinated biphenyls, materials containing regulated asbestos, special waste, radioactive waste, or lead-acid batteries at the transfer station. Incoming trucks containing waste will enter the site on the west side of Route 25 and continue to a scale to be weighed. The trucks will then proceed to the transfer station to one of the tipping bays. Once the truck has dumped its load on the tipping floor, the waste will then be loaded onto a waiting transfer trailer in one of the two loading bays and will be temporarily stock-piled. The trailers will enter the site at the same entrance drive as incoming trucks containing waste, but will take a different route past the inbound scale.

All waste handling will be done within the transfer station building and all waste will be removed from the tipping floor by the end of the operating day, with floor push-walls and loading

bays clean. Full staffing of the transfer station facility will be 8-12 employees spread out over two shifts. Odors will be controlled through the paving of all roadway surfaces and the utilization of the station's ventilation system. Noise will be minimized by the conduct of all waste transfer stations within the confines of the waste transfer station which has door openings on the north side. Mr. Hoekstra stated waste vehicles will be tarped or otherwise covered upon entry or exit of the building and the site will be surrounded with fence and berming to intercept any blowing litter.

Finding of Law:

Based upon on the record, the facility is so designed, located, and proposed to be operated that the public health, safety and welfare will be protected, subject to the conditions contained in my findings, Paragraph IV, *infra*.

- (3) **IS THE FACILITY LOCATED SO AS TO MINIMIZE INCOMPATIBILITY WITH THE CHARACTER OF THE SURROUNDING AREAS AND TO MINIMIZE THE EFFECT ON THE VALUE OF SURROUNDING PROPERTY?**

Findings of Fact:

Christopher Lannert and McGarr testified with respect to Criteria number 3. On information provided at the hearing, Mr. Lannert was qualified to testify as an expert in land use and planning. Based upon his experience and qualifications, Ms. McGarr was qualified to testify the facility will or will not minimize the effect of the value of surrounding property. Mr. Lannert evaluated the location of the facility relative to adjacent land uses within a one mile radius of the facility, by reviewing certain documents including aerial photos, networks and the corporate limits of South Elgin, Bartlett and Wayne, land uses, zoning maps, and other information. The County's Ordinance indicates the applicant is to conduct a study within a five (5) mile radius of the site. State statute is

silent on any area where the study must be conducted. I have carefully reviewed Mr. Lannert's reports, studies and testimony, and I find them to be in substantial compliance with the Ordinance.

Mr. Lannert testified that the predominant land uses in the study area of the facility were agricultural, open space or farmland approximately 46% and the balance of 26% being residential. The remaining 28% of the surrounding area is in industrial or other uses. Mr. Lannert testified that, historically, the land in the vicinity has been devoted to industrial or in open space, agricultural uses. The facility is located within an industrial zoning district within the planning jurisdiction of Kane County.

McGarr testified with respect to how the facility will minimize the effect on the value of surrounding property. She performed a "property value impact study" with respect to the proposed transfer station. She included an evaluation of a "target area" and "control area" and compared the value of properties with the sale of properties located in the area of two other existing transfer stations. There is a transfer station on Elmhurst Road near Elk Grove Village, and the other was a transfer station located on Shermer Road in Northfield Township. Of her evaluations, Ms. McGarr concluded that the value of residential properties did not decrease because of the location of a transfer facility, but actually increased. Mr. Scott Richmond of the South Elgin Economic Development Council submitted a statement and written submission critical of the application indicating the facility would be a dramatic departure from the Council's economic development expectations. I find the testimony of Ms. McGarr and Mr. Lannert to be probative of Criterion 3.

Findings of Law:

Based upon the record, I find the applicant has substantially complied with the Act and the Ordinance and established that the facility is located so as to minimize incompatibility with

the character of the surrounding area and to minimize the effect on the value of surrounding property, subject to the conditions of Paragraph IV, *infra*.

(4) **IS THE FACILITY LOCATED OUTSIDE THE BOUNDARY OF A 100 YEAR FLOOD PLAIN OR IS THE SITE FLOOD PROOFED?**

Findings of Fact/Law:

Andy Nickodem was the only witness to testify with regard to Criterion 4. He testified that the facility is located outside the boundary of the 100 year flood plain. Therefore, I find this criterion is inapplicable to the application.

(5) **IS THE PLAN OF OPERATIONS FOR THE FACILITY DESIGNED TO MINIMIZE THE DANGER TO THE SURROUNDING AREA FOR FIRES, SPILLS OR OTHER OPERATIONAL ACCIDENTS?**

Findings of Fact:

The location and design of the proposed facility as referenced in discussion of Criterion 2 constitutes evidence of compliance with this Criterion; however, the testimony of Mr. Joseph Cluchy on behalf of the South Elgin / Countryside Fire Protection District was useful and helpful since it appears there are few regulations, national or state, if any, that apply to fire, safety and emergency management at transfer stations. Although he neither supported nor opposed the application, he is the assistant fire chief for the District. In Mr. Cluchy's opinion, the application did not adequately address the need for fire suppression at the facility. He questioned the applicant's reliance on a dry sprinkler system without power backup for the building and suggested a provision for fire suppression outside of the building. Mr. Cluchy was concerned with the provisions to ensure that adequate water levels were in the detention pond and, finally, voiced concern over an alternate emergency access route. Also, Mr. Cluchy expressed concerns over access to the facility in

emergency situations. Mr. Cluchy's testimony provided insights not provided by other witnesses.

Mr. Dale Hoekstra testified for Waste Management. He said the facility is designed to minimize the danger to surrounding areas due to fire, spills or other operational accidents. Also, he discussed the plan of operations that has been established for the facility, including specific plan contingencies related to on-site communications, fire control, employee emergency training, spill control, a Spill Prevention Control and Countermeasure (SPCC) Plan, on-site operational procedures and local response agencies. Mr. Hoekstra has substantial experience in operation and supervision of transfer station operations.

Gary Deigan testified on behalf of Kane County regarding Criterion 5. Mr. Deigan is not a licensed professional engineer. He indicated that he was an environmental consulting engineer. He opined that a waste transfer station is a necessary operation which is a significant factor in waste distribution in the Chicago-Metropolitan area. He indicated it is an important link between the collection process and final disposal. Mr. Deigan testified that the vicinity of the proposed facility is an established solid waste infrastructure. He testified that there are few performance standards with respect to the operations of waste transfer stations.

There was substantial evidence that was submitted on this Criterion and, to some extent, Criterion 2, where the two criteria overlap. In addition to the above witness comments, questions or written submissions were made by the Village of Bartlett; Mr. Jim Hanson, the Mayor of South Elgin; Carol Hecht on behalf of F.R.E.S.H.; Attorney Robert Morrow; Roger Tillbrook; James and Barbara Bachman; Jill Scheenberger; Robert Hayes; Sandy Lance; Barbara Ross; and, Mary Byrne, as well as others. I find that all of these persons' contributions to be genuine and of assistance to me in attempting to make my findings of fact.

All of these contributors were concerned with the following matters as they pertain to this Criterion and Criterion 2:

- a. The absence of any code or standard for fire protection as it relates to fire protection;
- b. The quality of the air ventilation systems;
- c. Noise, and the attenuation of such from the facility's operations and its effect on the Prairie Path which is used by County residents for recreation;
- d. The applicant's compliance with the County's recently enacted Stormwater Management Ordinance and the effect non-compliance will have with groundwater; Brewster Creek, and local water wells;
- e. The problem with litter, vectors and rodents;
- f. The proposed life of the facility.

Findings of Law:

Based upon the record, the plan of operations for the facility has been designed to minimize the danger to the surrounding area from fires, spills and other operational accidents, subject to the conditions contained in Paragraph IV, *infra*.

(6) **ARE TRAFFIC PATTERNS TO AND FROM THE FACILITY SO DESIGNED AS TO MINIMIZE THE IMPACT ON EXISTING TRAFFIC FLOWS?**

Findings of Fact:

There was extensive testimony at the hearing concerning traffic based upon the proposed service area and the tonnage of waste anticipated to be transferred to and from the facility. The transfer station will generate approximately no less than 402 truck trips per day. There was no definite testimony with respect to the overall amount of increase or decrease in total truck traffic given the closure of the Woodland Landfill, which apparently occurred on November 5, 2002. It appears from the testimony the majority of the trucks entering the facility will be coming from the north, east and west, with only 5% of the vehicles coming from Southern Kane County. Waste is expected to be transported to various landfills to the west of the site. It was the opinion of the applicant's expert witness that the existing roadway system can more than adequately handle the projected traffic volumes generated by the site. Corridors were discussed during the testimony with respect to how traffic will be routed. The corridors are Route 25 south to Route 64 east to Route 59 south; Route 25 north to Dunham/Kirk, south on Route 64, east to Route 59; Route 25 north to Dunham Road south, to Stearns east to Route 59; and Route 25 north to West Bartlett Road east to Route 59.

Mr. David Miller, on behalf of the applicant, testified that at the waste receipt of 2,000 tons per day, the facility will generate approximately 402 truck trips per day. He stated that of those trips, all of the transfer trailers would be exiting the facility and traveling south on Route 25 to Illinois Route 64 and then turn left and travel east to Route 59. This routing is proposed as it utilizes

all state maintained routes and eliminates the need for transfer trailers to turn left from the facility and travel through the Route 25/Dunham Road intersection. I find this alternative to be unsuitable.

Peak traffic from the facility is expected to occur between 11:00 a.m.-12:00 noon in the morning and 1:00-2:00 p.m. in the afternoon. The peak hours do not coincide with the peak traffic on Route 25, which occurs from 7:00-8:00 a.m. and 4:00-5:00 p.m.. Mr. Miller opined that with the addition of the facility, traffic on Route 25 will be operating at 56% of its capacity, an increase of approximately 3%. He also opined that after the Stearns Road realignment occurs in 2005 or 2006, Route 25 in the vicinity of the facility will be operating at 28% of its capacity. On further examination, Mr. Miller testified the West Bartlett Road corridor was an acceptable alternative.

Mr. Daniel Lynch, a professional engineer, testified on behalf of the Village of Wayne. Mr. Lynch did not do any independent investigation with respect to traffic studies in the area, nor did he perform any traffic counts and he relied on data provided to him by the local police department of the Village of Wayne. Mr. Lynch's testimony revealed that the Village of Wayne is concerned with the number of trucks traveling on Route 25 and Dunham Road and the number of transfer trailers exiting the facility and traveling south on Route 25. His opinion was that, at the very least, the proposed facility would create traffic congestion and safety concerns. He offered no alternative routing for the facility and the Route 25 corridor south.

Mr. Brent Coulter, a professional engineer, testified on behalf of Kane County concerning traffic criterion. He, too, did not undertake any independent investigation relating to traffic on Route 25, Dunham Road, Stearns Road or Bartlett Road. Mr. Coulter agreed with Mr. Miller as to the methodology in reviewing the traffic entering the facility and its effect on local traffic patterns. Mr. Coulter evaluated alternative transfer truck routes. It was his opinion that the proposed routing for

transfer trailers via Route 25 to Route 64 to Route 59 was not suitable and did not minimize impact on existing traffic flow. Mr. Coulter also evaluated the Dunham/Kirk Road route, as well as the existing Stearns Road route. He found neither of these alternatives acceptable. Mr. Coulter next evaluated the traffic route for transfer trailers heading north on Route 25 to West Bartlett Road. He indicated this route, of the four alternatives, is the best route to minimize impacts on existing traffic. I find this testimony, which agrees with Mr. Miller, to be credible and probative. Mr. Coulter testified that the Stearns Road realignment will shift Stearns Road which would be an acceptable, preferable route to minimize the impact on existing traffic. It was his opinion that this realigned Stearns Road would make a suitable transfer trailer route. I find this testimony to be credible, and I agree with it, but this alternative does not exist at this time.

Same participants have objected that the applicant has failed to study every road upon which waste vehicles will enter the County in violation of the siting ordinance. I find this objection to be somewhat artificial. There is no way the applicant can know every road into the County that a waste vehicle will travel. The applicant has presented an adequate, not perfect, study of this criterion and has substantially complied with the siting ordinance.

Others also submitted statements or written submissions concerning this Criterion. Ms. Susan Klinkhamer, the Mayor of the City of St. Charles, submitted a written statement opposing the facility because of traffic congestion and safety concerns on Route 25. Also, Patricia and Edward Haering echoed those comments. Valerie Hammond of the Village of Bartlett submitted a written commentary, consisting of 9 pages, which indicated that all of the proposed routing of trucks to and from the facility were problematic, but if the facility were to be opened, it should be limited to a daily maximum of 1,000 tons per day and that the realigned Stearns Road corridor would be the

preferable option. Her comments were based on a memorandum sent to Ms. Hammond by Yves Marie-Monereau, a traffic engineer. Other persons, including but not limited to, Sandy Lance, Janet Craft and others, also opposed the application due to traffic problems due to transfer trailers stacking on Route 25 awaiting entry into the facility and their effect on school bus routes and the children in such buses.

Findings of Law:

Based upon the record, I find that the traffic patterns to and from the facility are designed to minimize the impact on existing traffic flows subject to the conditions indicated in Paragraph IV, *infra*.

- (7) **IF THE FACILITY WILL BE TREATING, STORING AND DISPOSING OF HAZARDOUS WASTE, DOES AN EMERGENCY RESPONSE PLAN EXIST FOR THE FACILITY WHICH INCLUDES NOTIFICATION, CONTAINMENT AND EVACUATION PROCEDURES TO BE USED IN CASE OF AN ACCIDENTAL RELEASE.**

Findings of Fact/Law:

The facility will not be treating, storing and disposing of hazardous waste. Therefore, Criterion 7 does not apply.

- (8) **IF THE FACILITY IS TO BE LOCATED IN A COUNTY WHERE THE COUNTY BOARD HAS ADOPTED A SOLID WASTE MANAGEMENT PLAN CONSISTENT WITH THE PLANNING REQUIREMENTS OF THE LOCAL SOLID WASTE DISPOSAL ACT OR THE SOLID WASTE PLANNING AND RECYCLING ACT, IS THE FACILITY CONSISTENT WITH THAT PLAN?**

Findings of Fact:

Ms. Cheryl Smith testified regarding the consistency of the facility with the solid waste plan. Ms. Smith reviewed the 1992 Kane County Solid Waste Management Plan, and the March, 1998 Kane County Solid Waste Management 5 Year Plan Update. These plans created programs that Kane County wanted to implement in order to maximize the amount of waste that could be recycled, minimize the amount of waste generated, and minimize the amount of waste requiring disposal.

In March, 1998, Kane County had two operating landfills, including Settler's Hill Landfill and Woodland Landfill. The Woodland Landfill closed on November 5, 2002. Settler's Hill is scheduled to close on December 31, 2006. At the current time, the Kane County Board has passed a resolution which indicates the siting of landfills will not occur within the County. That resolution indicates that Kane County has a preference for the siting of transfer stations and landfills within the county. Ms. Smith testified that the proposed facility was consistent with the Kane County Plan, as well as the Plan Update.

Based on the record, the proposed facility is consistent with the County's Solid Waste Management Plans, subject to any condition of Paragraph IV, *infra*.

- (9) **IS THE FACILITY LOCATED WITHIN A REGULATED RE-CHARGE AREA AND, IF SO, ARE THERE ANY APPLICABLE REQUIREMENTS SPECIFIED BY THE BOARD FOR SUCH AREAS WHICH HAVE BEEN MET?**

Findings of Fact:

The term "regulated re-charge area" refers to an area in which geology renders the groundwater particularly susceptible to contamination. Such an area is defined by the Illinois

Pollution Control Board pursuant to §17.3 and §17.4 of the Act. Mr. Nickodem testified that this particular area is not in a regulated re-charge area.

Findings of Law:

Based upon the record, the proposed site is not located within a regulated re-charge area.

IV. CONDITIONS

The following conditions are made a part of my findings of fact and law:

1. The facility may operate for the period January 1, 2006 up to December 31, 2036 at which time it will close, unless the owner/operator seeks Kane County Board written approval for an expansion of the facility and/or an extension to operate the facility beyond December 31, 2036 upon terms and conditions to be established by the Kane County Board in its sole discretion. The facility will not open for waste transfer until the first of the following events occur: (1) July 1, 2006; or (2) the realignment of the Dunham-Stearns corridor. Such Board shall be under no duty or obligation to expand or extend the use of the facility. The facility cannot operate beyond December 31, 2036, without prior written authorization of the Kane County Board to do so.

2. (a) The facility shall not open for waste transfer until the first of the following events occur:

i. July 1, 2006; or

ii. The realignment of the Stearns-Dunham corridor as depicted in Exhibits 1 and 2 of this report, which has been certified for use by the public by the Kane County Department of Transportation or other appropriate authority.

iii. Due to increased truck traffic generated by the facility, the payment by Waste Management of \$500,000.00 to the County of Kane which is to be used for road improvements for the Stearns-Dunham corridor as depicted in Exhibits 1 and 2.

(b) The facility maximum monthly solid waste receipts shall not exceed the following limitations unless written authorization from the Kane County Director of Environmental Management or his designee is granted.

YEAR

MAXIMUM MONTHLY VOLUME
(U.S. regular tons / per calendar month)

2006 (Jan. 1 - June 30)	15,000
2006 (July 1 - Dec. 31)	30,000
2007	50,000

3. No more than two thousand, five hundred (2,500) tons of solid waste per month from the Woodland Transfer Facility shall be disposed of at Settlers Hill Landfill by Waste Management of Illinois, Inc., or any party with whom it contracts for waste disposal or carriage.

4. Subject to Condition 2 which shall take precedence, the facility maximum daily solid waste receipts shall not exceed two thousand (2,000) tons unless written authorization from the Kane County Board, or its designee, is granted.

5. The facility hours of operation shall not exceed 6:00 a.m. until 4:00 p.m. Monday through Friday, and 6:00 a.m. until 2:00 p.m. on Saturdays. The closing hours may be extended with written permission from the Kane County Board, or its designee.

6. The operator shall design, locate, construct, monitor, and operate the facility as stated and defined in the site location application and testimony presented by the applicant at the public hearings in this matter, including where modified by special condition(s) by Kane County, and in accordance with the Woodland Transfer Facility Host Community Benefits and Reimbursement Agreement. The site location application, the public hearing transcripts, and all related exhibits are repeated and incorporated herein. In the event of any conflict, first the special condition(s) shall prevail, followed by terms of the Woodland Transfer Facility Host Community Benefits and Reimbursement Agreement, and finally the more protective or restrictive requirement shall prevail. Further, all special conditions shall be defined, incorporated, and specifically included in the application(s) for a construction and operating permit submitted to the Illinois Environmental Protection Agency (hereafter IEPA). The facility shall operate in compliance with all local, state and federal laws.

7. Prior to accepting solid waste, Waste Management of Illinois, Inc. shall own the transfer station facility, including the entire access road to the Il. Rt. 25 Right of Way. Documentation demonstrating property ownership shall be submitted to the Kane County Director of Environmental Management.

8. All closure activities shall be completed and Woodland landfill shall be certified closed by the IEPA prior to the acceptance of solid waste at the facility. Documentation demonstrating that certified closure of Woodland landfill has been granted shall be submitted to the Kane County Director of Environmental Management.

9. Prior to accepting solid waste, the operator shall have two (2) separate internal entrance lanes on the facility: one (1) for waste collection vehicles; and, one (1) for vehicles not required to access the entrance scale.

10. Vehicles entering the facility shall not stack on to Il. Route 25.

11. Solid waste shall not remain on the tipping floor after 10:00 p.m. except in an unforeseen event. Under this condition, no more than one thousand (1,000) tons of waste may be stored on the tipping floor overnight. All solid waste shall be removed from the tipping floor by the end of the next working day. Any accumulation of solid waste left overnight on the tipping floor shall be reported in writing detailing the reason(s) for this occurrence to the Kane County Board, or its designee, within fourteen (14) hours of the occurrence.

12. Any vehicle or transfer trailer which contains waste, yard waste, or recyclable may remain on the site after 10:00 p.m. only if parked within the transfer station building. No more than four loaded or partially loaded solid waste transfer trailers may be permitted to remain overnight unless permission from the Kane County Board, or its designee, is granted. These vehicles or trailers shall be the first to leave the facility at the beginning of the next work day.

13. Transfer trailers departing the site containing waste, yard waste, or recyclables shall not be permitted to be parked overnight anywhere within Kane County except in the event of an emergency. If an emergency occurs, it shall be reported to the Kane County Board, or its designee.

14. No more than ten (10) empty transfer trailers shall be stored outside the facility during non-operational hours or overnight. These transfer trailers may only be staged or stored on the west side of the transfer station building

15. The operator shall ensure that at all times all diesel fueled heavy equipment (excluding collection or transfer trailer vehicles) is equipped with add-on exhaust scrubbers that meet or exceed the specification attached as Exhibit 3 (but do not have to be made by the same manufacturer as indicated in Exhibit 3), to reduce carbon monoxide, hydrocarbon, and diesel particulate emissions inside the building. Such add-on controls shall be maintained per manufacturer's recommended intervals and service plans until such time that alternative control technology or fuel formulations provide equal or greater diesel particulate, CO, and hydrocarbon air emissions controls.

16. The operator shall design, construct, and operate an air ventilation system at the facility building that is designed to exhaust air from inside the building, particularly near the waste piles and loading areas at a rate of two (2) air exchanges per hour. The system shall compensate for and prevent the potential for "short circuiting" the system which occurs when the system draws the majority of air coming into the facility from the outside through the air hanger door or other door openings at the facility. The facility shall design the ventilation system using appropriately placed ceiling strip curtains and air control baffles to improve the capture efficiency of the ventilation

system at emission source locations (i.e. waste storage and load out areas). This air ventilation system shall be engaged at all times (i.e., circulating air) when waste is present at the facility. In the event odors are detectable beyond the property line, and mitigation efforts by the operator have been unsuccessful at containing such odors, and the Kane County Board, or its designee, determines additional odor controls are warranted, the ventilation system shall be retrofitted with odor treatment (mist scrubbers, biofilter, carbon, or equal or other controls) approved by the Kane County Board, or its designee. The air ventilation system shall be designed, constructed and operated with the capability of a higher rate of air exchanges (1.5 times greater) in the summer than the winter.

17. The operator shall design, construct and operate the facility to minimize noise emissions from the facility to neighboring uses, such as the recreational Illinois Prairie Path, and any residences. At a minimum, this design and construction shall include sound attenuation/noise mitigation panels and/or insulation on the walls and roof of the transfer station building for sound absorption, which still maintains a material surface that can be cleaned and maintained. Alternately, if a building construction material is chosen other than steel panels, which have insulating qualities that will attenuate noise, such as prefabricating masonry or concrete panels, then the alternative construction material may be utilized to meet this condition. Additionally, a landscaped berm or fence to be approved in the discretion of the Kane County Board, or its designee, shall be designed, built and maintained by the owner and/or operator of the facility adjacent to and entirely contiguous to the Prairie Path.

18. The underground storage tank which will contain the liquids conveyed to it from inside the transfer station building shall have an audible and visible alarm that is designed to alert the operator prior to the tank being overfilled. The tank shall be designed with visual level indicators so it can be and is regularly checked and emptied prior to the alarms being triggered.

19. The operator shall design, construct and maintain an impermeable seal at all concrete floor joints and floor to wall joints. PVC water stops shall be used in the floor joints and floor to wall joints.

20. The operator shall incorporate into its written operational plan and implement a rodent and vector control policy as necessary and at a minimum of a quarterly basis, the facility shall be inspected by an independent contractor who specializes in rodent and vector control as to quality control. The operator shall implement all necessary responses to control rodents and vectors.

21. The operator of the facility shall insure that the generation of litter is minimized both by the operations of the facility and by vehicles utilizing the facility. All windblown litter from the facility or vehicles using the facility shall be collected continuously. If the Kane County Board, or its designee, notifies the operator that, in his opinion, adequate litter control is not being maintained by the operator, the Kane County Board, or its designee, may employ or utilize labor to complete any necessary litter control. If this occurs, the operator or owner shall reimburse Kane County for all expenses incurred by the County of Kane in enforcing this condition in addition to any penalty imposed under Condition 37.

22. The parking and truck maneuvering areas and entrance road will be swept daily. All sweepings shall be mechanically collected and properly disposed of. The floor of the trailer loading bays and the auxiliary loading area will be swept at the end of each work day.

23. Accumulated residuals in the triple basin, sluice gates, and oil/grit separator will be removed as needed, and at a minimum of once a month. Specific waste streams and waste types which have demonstrated to cause detectable odors beyond the limits of the facility will not be accepted.

24. A radiation detection system with an alarm system shall be installed at the inbound scale(s) and operated during the life of the facility.

25. The operator shall design, construct, operate, and maintain the facility with methane monitors in all buildings at the facility, and with carbon monoxide monitors in the transfer station building. Carbon monoxide monitors shall be placed, at a minimum, on each wall of the tipping area and within the primary and auxiliary loading area. Methane monitors shall be placed, at a minimum, to monitor subsurface openings, confined spaces, and the office/administration area.

26. Mechanical aeration of the stormwater basin shall be completed and maintained through the operating life of the facility and reports shall be generated quarterly in a calendar year by the operators as to its findings.

27. The operator shall design, construct and maintain undulating berms along the west, north and east portions of the facility, sufficient to buffer off-site views from the facility. The design of such berms shall be determined by the Director of Environmental Management in his/her sole discretion.

28. The operator shall design, construct and maintain the following fire suppression system and controls at the facility:

- a. The transfer station building shall be equipped with a fire suppression system that complies with NFPA 13, Extra Hazard Group 1 occupancy classification.
- b. The fire suppression system shall be designed, constructed and maintained to include manual and automated controls that will engage the system.
- c. The transfer station building shall be equipped with a back-up electrical generator to operate fire water pumps, in the event electrical power is not available, to allow for the fire suppression system to still operate, and all other vital functions.
- d. The operator shall maintain a twenty (20) ton sand pile on or directly adjacent to the transfer station building. Such sand pile shall be covered in a manner so as to prevent runoff and erosion.

- e. The detention basin shall be designed with gauging or level indicators for determining the level of sedimentation and the level of the water pool. A water supply shall be constructed to re-fill the detention basin if the water level in the basin ever falls below 110% of the minimum water pool requirements for the sprinkler demand as per NFPA 13 extra hazard group 1. The stormwater basin shall be inspected quarterly to ensure significant sediment accumulation has not occurred. If significant sediment accumulation is found, sediment removal shall be completed within six months.
 - f. A hard driving surface shall be constructed and maintained from the transfer station building to the stormwater basin for emergency vehicle use. The design of this roadway shall be submitted to the Kane County Director of Environmental Management and the South Elgin and Countyside Fire Protection District for review and comment.
 - g. The operator shall design and construct the detention basin so that its water supply can be easily accessed by the South Elgin and Countyside Fire Protection District and, in doing so, shall communicate with the Fire Protection District concerning the type and access limitations of equipment it uses, to assure that the site/facility design is compatible with the Fire Protection District's equipment.
 - h. All fire extinguishers, the sprinkler system, and the fire alarm will be inspected and maintained as necessary, and as a minimum on a monthly basis.
 - i. Adequate ventilation of the stormwater basin for emergency water discharge during freezing condition shall be maintained. The method to accomplish this condition shall be submitted to the Kane County Director of Environmental Management and the South Elgin and Countryside Fire Protection District for review and comment.
29. The operator shall utilize audio or visual based signaling between the operators of the facility and preclude use of equipment horn signals as loading/unloading or operational signals.
30. The facility's Emergency Action Plan (hereafter EAP) shall include contingencies for management of incidental unacceptable hazardous wastes inadvertently received at the facility now or in the future. Qualified contractor characterization, overpacking, and staging or immediate off-site removal of unacceptable wastes shall be specified. The 20 cy container designated to be stored in the facility shall only be utilized for unacceptable materials that cannot be practicably placed in an 85-gallon DOT-approved overpack drum. The 20 cy roll off shall be lined and tarped if hazardous substances are placed inside.

The operator shall develop and implement a written EAP, and submit a draft copy of that plan to the South Elgin and Countryside Fire Protection District to allow for the District to comment on the plan, should it desire to do so. If the District comments on the plan, the operator

will coordinate with the District to properly address its comments in the written plan and make changes to that plan, accordingly.

The operator shall have the Emergency Coordinator or Alternate Emergency Coordinator on-site at all times during operating hours in which operations are taking place.

31. The operator shall prohibit transfer trailer truck traffic and any other facility related truck traffic from using Middle Street or Gilbert in South Elgin, except for collection vehicles collecting on or in the immediate vicinity of these streets. As part of this prohibition, the operator shall use its best efforts to restrict, contractually and through disciplinary measures, this routing restriction. For those vehicles which it has or can assert no control over through ownership or contract, it shall enforce this restriction by responding to any incidents of prohibited use, to which the operator becomes aware through its own observation or complaints made to the operator, by sending a warning letter to the employer of the driver or hauling company which owns the subject truck. If the same driver repeats the violation after he or his company receives such a warning letter on two or more occasions, the operator shall prohibit that driver and the vehicle from using the facility for a minimum of one (1) week.

32. The Applicant shall improve site line visibility at the facility entrance/access by doing all of the following:

- a. Trimming vegetation on the property as needed;
- b. Using its best efforts to request approval to trim vegetation which inhibits site line visibility and is on property not owned by the operator and, if such request is approved, trimming that vegetation, as needed;
- c. Regrading the berms near the site entrance/access and along the roadside;
- d. Using its best efforts to seek approval to and, if approved, place roadside signs warning of the facility entrance in accordance with the Illinois Manual of Uniform Traffic Control Devices;
- e. Using paint markings to identify in and outbound lanes on the facility driveway; and
- f. The owner/and or operator shall construct any entrance and roadway improvements to Route 25 as required by the County of Kane and/or the Illinois Department of Transportation to ensure the safety of the motoring public.

33. The Applicant shall install or provide the funds to the applicable highway authority to install a traffic signal control at the site driveway and access to Il. Rt. 25, if warranted or required by Kane County Division of Transportation or the Illinois Department of Transportation.

Within Kane County, the only routes a transfer trailer entering or exiting the facility may use unless a written temporary variance authorized by the Kane County Board is granted are:

- a. Rt. 25 between the facility entrance and West Bartlett Road.
- b. West Bartlett Road from Il. Rt. 25 to Il. Rt. 59.
- c. Interstate 88 and Interstate 90.
- d. Transfer trailers utilizing Settlers Hill Landfill shall also be permitted to use Fabyan Parkway between Settlers Hill Landfill and Il. Rt. 38.
- e. Route 25 between the facility entrance and Stearns Road (reconfigured in 2006) to Route 59.

34. Empty transfer trailers may be moved between this facility and the Speedway transfer station facility by the following routes:

- a. Rt. 25 between the facility and Il. Rt. 20
- b. Il. Rt. 20 between Il. Rt. 25 and Il. Rt. 47
- c. Il. Rt. 47 between Il. Rt. 20 and Keslinger Road
- d. Keslinger Road between Il. Rt. 47 and the Speedway transfer station facility

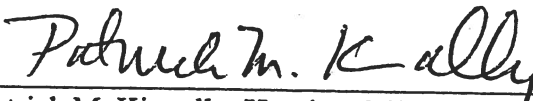
35. Upon completion of future road improvements at Stearns Road, mandatory routes for transfer trailers which utilize the facility may be revised by the Director of Environmental Management in consultation with the Kane County Director of Transportation. Any such revision must be executed in writing by the Director of Environmental Management and approved by the Kane County Board.

36. As to all disputes not covered by these conditions, they shall be submitted, exclusively, to binding arbitration in Kane County, Illinois, and no other venue or court. The arbitrator shall be the hearing officer or, in his absence, a licensed attorney authorized to practice in Illinois, appointed by the Chairman of the Kane County Board, with the advice and consent of the Kane County State's Attorney. In any arbitration, the prevailing party shall be entitled to an award of reasonable attorneys' fees, prejudgment interest, reasonable expert witness fees, and actual costs incurred in prosecuting and/or defending the arbitration, as the case may be.

37. These conditions are a part of my findings of fact and law. Documented evidence of the violation of any of these conditions shall result in the issuance of a fine by the Kane County board, or its designee, of not less than One Thousand (\$1,000.00) Dollars and not more than Five Thousand (\$5,000.00) Dollars per occurrence. Payment of this fine shall be made by Waste Management, the owner of the facility, the operator of the facility, or all of them, who agree to pay such fine(s) within thirty (30) days from the date of the notice of fine(s). The County Board or its designee's decision shall be final. Documented evidence of any violation shall include, but not be limited to, a record of a personal observation or photograph by law enforcement or Kane County staff. Nothing contained in this condition shall limit the County Board's authority to temporarily or permanently revoke the operator and/or owner's privilege to operate or otherwise use the facility for solid waste transfer, as a first step, for the violation of any of these conditions.

V. CONCLUSION

Based on the record, these are my findings of fact and conclusions of law. Also, I wish to thank all of those who participated in the process; the applicant, Waste Management of Illinois, Inc., the citizens who participated, the units of local government, counsel, members of the County Board, and especially our County Clerk's Office, who kept all of the information in order and appeared at every hearing.



Patrick M. Kinnally, Hearing Officer

12-9-02

Patrick M. Kinnally, Hearing Officer
KINNALLY, KRENTZ, LORAN,
HODGE & HERMAN, P.C.
2114 Deerpath Road
P.O. Box 5030
Aurora, IL 60507-5030
630/907-0909

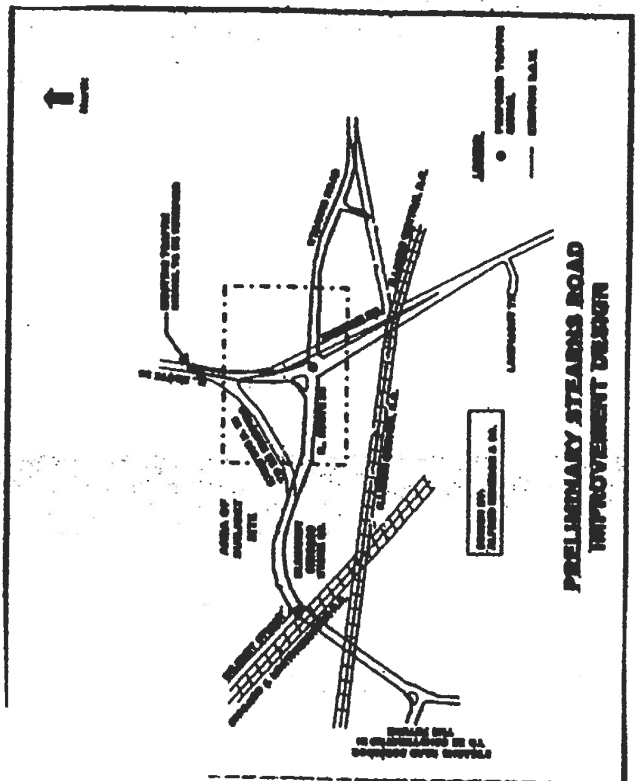


EXHIBIT
ONE

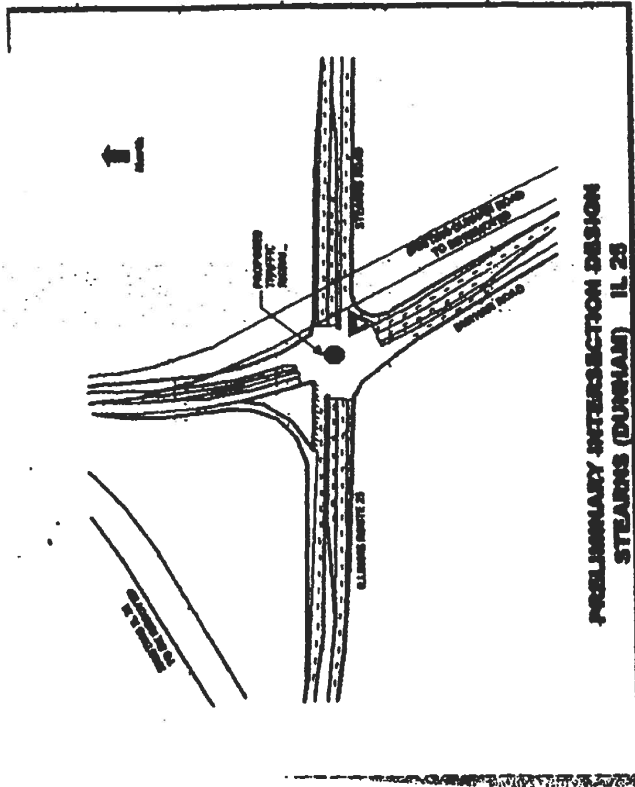


EXHIBIT
TWO

MINE-X® —

the most

efficient

solution for

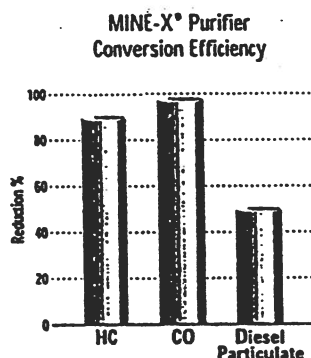
today's strict

emission

standards

MINE-X® Oxidation Purifiers

MINE-X® oxidation purifiers eliminate toxic gases and odor from engine exhaust.



High Exhaust Purification

MINE-X® oxidation purifiers eliminate dangerous carbon monoxide (CO), hydrocarbons (HC), odor and particulates from diesel fueled industrial vehicles and equipment. By using the most advanced catalyst formulations, MINE-X® oxidation purifiers are able to eliminate dangerous exhaust engine emissions even at low exhaust temperatures.

Versatile Designs

MINE-X® oxidation purifiers install directly in the exhaust gas stream between the exhaust manifold and muffler and are available in two designs. The first features two quick release clamps, which enable removal of the purifier center body for easy inspection or replacement. The second design is all-welded and has a fixed purifier center body. MINE-X® oxidation purifiers are ideal for large diesel applications, where space in the exhaust system is unrestricted.

The MINE-X® Advantage

Each MINE-X® oxidation purifier contains a patented stainless steel honeycomb, which is brazed to its stainless steel shell through a proprietary vacuum brazing process. This unique brazing process eliminates the possibility of the honeycomb loosening, cracking or telescoping inside the purifier.



EXHIBIT
Three

"The brazed metallic substrate design was the most durable"

Comparison of substrates for industrial equipment SAE Technical Paper 890117

MINE-X® -

the most

efficient

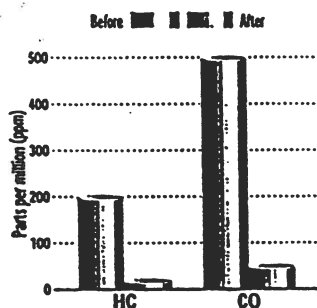
solution for

today's strict

emission

standards

MINE-X® Purifier Efficiency



Durable Construction

MINE-X® oxidation purifiers are designed for the rigorous demands of industrial equipment applications. Heavy gauge materials, superior workmanship and strict quality control ensure the durability and worry free performance of every purifier.

Low Maintenance

Advanced catalyst coating technology combined with the ultra thin walls of the stainless steel honeycomb, provide a large open cross section that virtually eliminates purifier clogging and costly maintenance. MINE-X® oxidation purifiers also feature before and after test ports for quick and easy performance and emission compliance testing.

Cost Effective

The durable honeycomb construction and highest quality materials coupled with superior customer service and technical support make MINE-X® oxidation purifiers the most cost-effective solution to today's strict emission standards. Easy removal of the purifier center body is extremely helpful in reducing costly down time and maintaining productivity.



Lowest Back-Pressure

The unique MINE-X® honeycomb design provides the lowest exhaust flow restriction and engine power loss of any purifier available on the market today.



DCL International Inc.

140 Cidermill Avenue, Concord, Ontario L4K 4T6, Canada

Mailing address: P.O. Box 850, Station B, Toronto, Ontario M2K 2R1, Canada

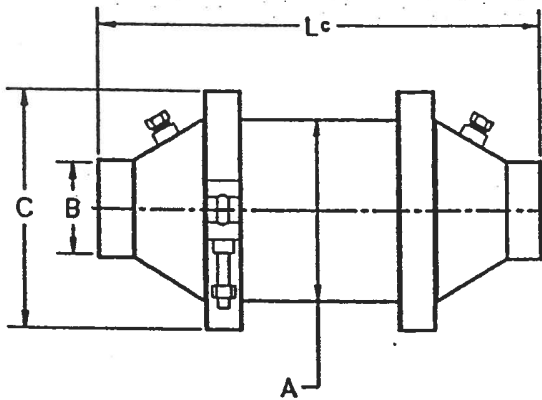


DCL International Inc.

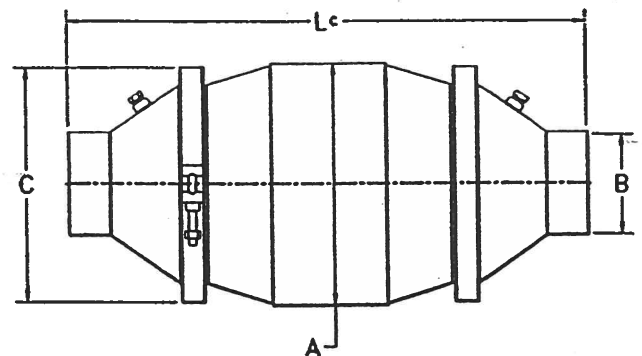
Mailing address: P.O. Box 90, Concord, Ontario, Canada L4K 1B2
 Toll free: 1-800-872-1968 or (905)-660-6450 Fax: (905)-660-6435 E-mail: info@dcl-inc.com

MINE-X® OXIDATION PURIFIER DIMENSIONS

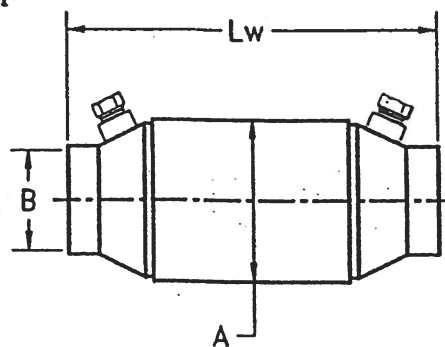
Model	DC2	DC3	DC4	DC5	DC6	DC7	DC8	DC10	DC12	DC14	DC16	DC18
Max Engine Power hp (kW)	9 (7)	16 (12)	32 (24)	53 (40)	84 (63)	123 (92)	168 (125)	248 (185)	363 (271)	456 (340)	733 (547)	1114 (831)
Max Exhaust Gas Flow cfm (m ³ /h)	54 (90)	96 (160)	192 (330)	318 (540)	504 (856)	738 (1250)	1008 (1700)	1488 (2500)	2178 (3700)	2736 (4700)	4398 (7500)	6684 (11400)
Approx. Weight - DP lb (kg)	0.5 (0.2)	1.0 (0.4)	1.8 (0.8)	2.7 (1.2)	3.9 (1.8)	5.5 (2.6)	6.9 (3.1)					
Approx. Weight - DQ lb (kg)			3.6 (1.6)	4.9 (2.2)	6.6 (3.0)	8.3 (3.8)	10.3 (4.7)	14.0 (6.3)	17.1 (7.7)	19.3 (8.7)	28.2 (12.8)	n/a
A - diameter in (mm)	1.65 (42)	2.43 (62)	3.12 (79)	4.00 (102)	5.00 (127)	6.00 (152)	7.00 (178)	8.50 (216)	10.12 (257)	11.50 (292)	14.50 (368)	n/a
L _w - length in (mm)	6.50 (165)	6.00 (152)	7.25 (184)	9.20 (234)	9.62 (244)	10.37 (264)	12.00 (305)					
L _c - length in (mm)			8.00 (203)	9.60 (244)	10.00 (254)	10.85 (276)	12.35 (314)	17.50 (445)	17.50 (445)	18.80 (478)	21.50 (546)	n/a
C - clamp diameter in (mm)			4.22 (107)	5.25 (133)	6.25 (159)	7.25 (184)	8.25 (210)	8.25 (210)	8.25 (210)	8.25 (210)	8.25 (210)	n/a
B - exhaust pipe outside diameter	CUSTOMER SPECIFIED											



MINE-X® Clamped Design
DC 5 to DC 8



MINE-X® Clamped Design
DC 10 to DC 18



MINE-X® Welded Design

DCL's policy is that of continuous product improvement. DCL reserves the right to change any information without notice.



DCL International Inc.
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Concord, ON, Canada
L4K 1B2

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Fax: 905-660-6435

Installation, Operation and Maintenance Manual

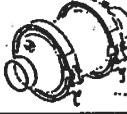



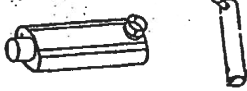

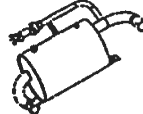
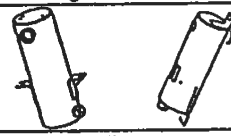

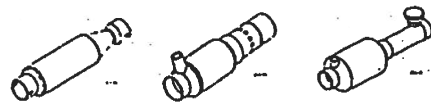
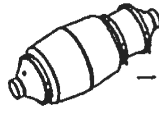
MINE-X[®] Catalysts and Catalytic Mufflers

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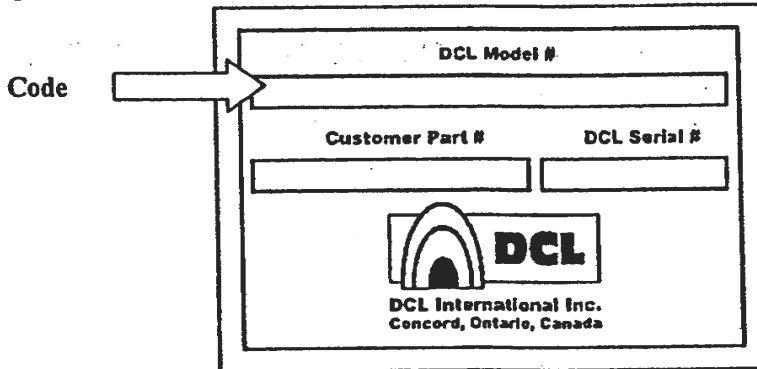
1 PRODUCTS

See the table below for examples of DCL catalyst products for industrial equipment.

Code	Description	Examples
DQ	A universal oxidation or three-way catalyst for many types of equipment. Includes quick-release clamps for easy removal of the substrate.	
DP	A universal oxidation or three-way catalyst for many types of equipment.	
ID	An oxidation catalyst for a specific model of equipment. Directly replaces a section of the exhaust pipe between the exhaust manifold and the muffler. Used on diesel engines.	
IT	A three-way catalyst for a specific model of equipment. Directly replaces a section of the exhaust pipe between the exhaust manifold and the muffler. Used on rich-burn spark-ignited engines.	
MD	An oxidation catalytic muffler for a specific model of equipment. Directly replaces the original muffler. Used on diesel engines.	
MV	An oxidation catalytic muffler for a specific model of equipment. Directly replaces the original muffler. Has a venturi for air intake. Used on spark-ignited engines.	
MA	An oxidation catalytic muffler for a specific model of equipment. Directly replaces the original muffler. Has an aspirator for air intake. Used on spark-ignited engines.	
MT	A three-way catalytic muffler for a specific model of equipment. Directly replaces the original muffler. Used on rich-burn spark-ignited engines.	
IV	An oxidation catalyst for a specific model of equipment. Attached after the equipment's muffler. Has a venturi for air intake. Used on spark-ignited engines.	
SV	A universal oxidation catalyst for many types of equipment. Attached after the equipment's muffler. Has a venturi for air intake. Used on spark-ignited engines.	
SAM™	A universal oxidation or three-way catalyst and muffler combination for many types of equipment. In some cases the muffler is provided without the catalyst.	

2 INSTALLATION

Prior to conducting the installation, identify the product code of your catalyst. The product code is located on the model # section of the nameplate. If in doubt, contact DCL. Follow the installation steps below that apply to your product code.



Code: DP or DQ

Step 1	Check to see if enough space is available in the exhaust. There must be enough straight pipe and sufficient clearance around the pipe for the unit to fit. For good performance it is recommended that the unit is installed as close as possible to the exhaust manifold of the engine. The maximum recommended distance from the exhaust manifold is 3 feet (1 meter).
Step 2	Once the location is found make all the necessary modifications to install the unit.
Step 3	Mount the purifier securely to minimize transmission of vibration while using flexible tube as required (may require welding or clamping to secure).
Step 4	Check that the system is free of leaks and all fittings are tightened.

Code: ID or IT

Step 1	Remove all necessary components to allow for removal of the exhaust pipe and remove the pipe.
Step 2	Install the unit and replace all components for a secure fit.
Step 3	Check that the system is free of leaks and that all fittings are tightened.

Code: MD, MV, MA or MT

Step 1	Remove all necessary components to allow removal of the original muffler and remove the existing muffler.
Step 2	Install the unit and replace all components for a secure fit (for manifold mounted mufflers DCL recommends that grade 5 nuts and bolts with lock-washers be used and torqued according to the manufacturer's specifications; re-torque nut or bolts after approximately 4 hours of installation).
Step 3	Check that the system is free of leaks and that all fittings are tightened (on MA designs an air supply valve is shipped loose with the muffler; screw this valve to the air supply tube by HAND ONLY).

Code: IV or SV

Step 1	Remove all the necessary components to allow for installation of the unit.
Step 2	Install the unit.
Step 3	Check that the system is free of leaks and that all fittings are tightened.
Step 4	Due to the weight of the unit, some support may be required to prevent damage to the muffler.

Code: SAM™

Step 1	Ensure there is enough straight pipe and sufficient clearance around the pipe to install the unit.
Step 2	Once the location is found make all the necessary modifications to install the unit.
Step 3	Install the unit.
Step 4	Mount the unit securely to minimize transmission of vibration using flexible tube as required (may require welding or clamping to secure).
Step 5	Check that the system is free of leaks and all fittings are tightened.

Reminder: With some three-way catalysts an air-fuel control kit is included. The air-fuel ratio controller works with the catalyst to allow simultaneous removal of NOx, CO and hydrocarbons. If an air-fuel controller is included, refer to the installation instructions separately provided with its package.

Reminder: With some MA and MV catalysts a Pyrometer Kit is included. The Pyrometer Kit is used to monitor exhaust temperature and prevent overheating of the catalyst. If a Pyrometer Kit is included, see the section in this manual titled "Pyrometer Kit Installation and Operation".

3 OPERATION

Working Principles

Two general types of DCL catalysts are used:

Oxidation: The oxidation catalyst converts carbon monoxide (CO) and hydrocarbons (HC) into carbon dioxide (CO₂) and water (H₂O). In diesel engine applications the catalyst additionally converts the volatile organic fraction of particulate matter of exhaust into CO₂ and H₂O.



Three-Way: The three-way catalyst works on gaseous fueled engines equipped with a stoichiometric (or rich-burn) air-fuel ratio controller. The catalyst converts oxides of nitrogen (NO_x), carbon monoxide (CO) and hydrocarbons (C_xH_y) into nitrogen (N₂), carbon dioxide (CO₂) and water (H₂O).



*All equations written in unbalanced form.

Equipment Operation

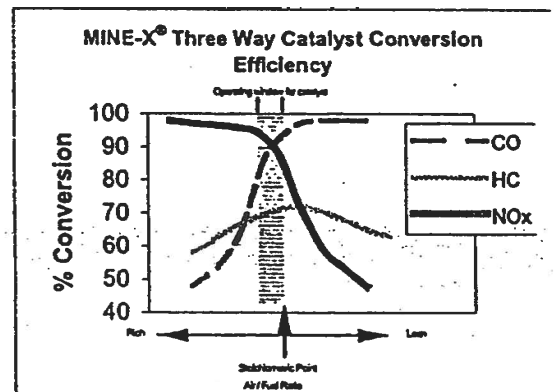
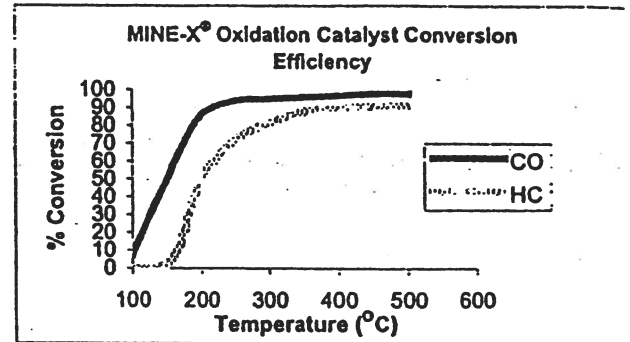
A well maintained engine is the first step in controlling emissions. Significant removal of pollutants by the catalyst starts when a properly operating engine is lightly loaded or with an exhaust temperature greater than 160 °C (320 °F). The removal efficiency is highest at the exhaust temperatures that occur when the engine is at high torque and speed with an exhaust temperature of 300-650 °C (572 - 1200 °F), or while the catalyst remains hot after recent heavy engine operation. If the engine is idling and the catalyst is cold, there may be little or no removal of pollutants. It is recommended that excessive idling is avoided, particularly when operating in in-door environments.

Durability

The durability and long-term performance of the catalyst is dependent on a variety of factors including engine maintenance, lube oil consumption, fuel quality, and duty cycle. The catalyst normally remains effective for over 10,000 hours of operation or several years, even in heavily used equipment.

Temperature Increase

The chemical reactions taking place in the catalyst honeycomb are exothermic and therefore create additional heat. In diesel engines very little temperature exotherm is typically produced. A catalyst used on a heavily polluting gaseous-fueled engine can have a temperature over 100 °C (180 °F) above the inlet exhaust temperature. In order to prevent thermal damage to the catalyst, the temperature of the unit should not exceed 650 °C (1200 °F).



4 MAINTENANCE

DCL catalysts typically require no maintenance for the large majority of applications. Some exceptions occur with very old or poorly running diesel engines, or with diesel engines that idle for long periods of time. In these exceptional cases soot may deposit within the catalyst honeycomb and partially plug the flow of exhaust gas, resulting in lower removal efficiencies, higher fuel consumption and higher back-pressure.

With some designs it may be possible to remove the unit from the machine for cleaning, particularly with DQ designs, where the catalyst honeycomb is detachable by opening a pair of quick-release clamps. With many other designs, cleaning of the unit may be impractical. If maintenance and cleaning is required and practical, follow the instructions below.

Maintenance (if applicable)

Step 1	Measure the backpressure across the unit under high load and rpm engine conditions and record the data.
Step 2	Repeat step 1 every 3 months or 1000 hours of operation whichever comes first. If the backpressure increases by more than 75 mm (3" w.c.) over the first measurement, or if backpressure exceeds that maximum allowed by the engine supplier, remove the part for cleaning.

Cleaning (if applicable)

Step 1 (Option A)	Clean the catalyst cells by blowing from the downstream (outlet) side towards the inlet face using compressed air (50-80 psi).
Step 1 (Option B)	In some situations, soaking in a cleaning solvent may be necessary. Be sure that the solvent you use does not contain chlorine, sulfur, phosphorous or any metals. Do not use gasoline. Soaking up to 2 hours may be necessary.
Step 2	If a solvent is used, all cleaning fluid must be flushed out with air. Allow the unit to dry thoroughly.
Step 3	Re-install the unit. If possible, the unit should be installed in reverse direction to the original installation.

Note 1: Improper cleaning may damage the catalyst.

Note 2: If cleaning is unsuccessful contact DCL.

5 PYROMETER KIT INSTALLATION AND OPERATION

Pyrometer Kit #0800-0512-00

INSTALLATION

Step 1	THERMOCOUPLE – Screw the thermocouple into the 1/4" NPT connection located at the outlet end of the catalyst or catalytic muffler.
Step 2	LEAD WIRE – Connect the longer red lead wire to the red thermocouple wire and the shorter yellow lead wire to the yellow thermocouple wire with the screws and nuts provided. Cover these connections with the protective sleeves supplied. Route the other end of the lead wire assembly to the pyrometer keeping it clear of any obstructions that may damage or burn the wires. If it should become necessary to replace the terminals use crimp or clip type only - DO NOT SOLDER TERMINALS TO THE WIRES.
Step 3	PYROMETER – The pyrometer requires a 52.4-mm (2 ¹ / ₁₆ ") diameter-mounting hole. Mount the meter in the instrument panel or mounting bracket. The light wires may be connected to the existing instrument light switch if dial illumination is required. Connect the lead wire to the pyrometer making sure that the yellow wire is connected to the positive (+) terminal and the red to the other terminal.

OPERATION

The exhaust temperature is monitored by observing the pyrometer readings. When the pyrometer gauge indicator is within the green zone, (from 300°F to 1200°F), the catalyst is in the acceptable temperature range.

When the pyrometer gauge indicator is within the red zone, (above 1200°F), the catalyst is overheating and is in danger of being damaged. The equipment operator should let the engine idle for a few minutes or until the purifier has cooled down and returned to the acceptable operating range. Frequent occurrences of catalyst overheating can be an indication of fueling or ignition system problems that require adjustment or repair to the engine.

6 TROUBLESHOOTING

General	
Operator complaining of odor, or eye and throat irritation	<ul style="list-style-type: none"> inspect air filter inspect the catalyst for obstruction clean the catalyst^{1,2} avoid excessive idling wrap catalyst with insulation¹ service the engine
High backpressure	<ul style="list-style-type: none"> inspect the catalyst for obstruction clean the catalyst^{1,2}
Noticeable power loss	<ul style="list-style-type: none"> inspect the catalyst for obstruction clean the catalyst^{1,2}
Excessive noise from catalytic muffler	<ul style="list-style-type: none"> check for exhaust leaks
Diesel Fueled Engines	
Heavy smoke is coming from tailpipe	<ul style="list-style-type: none"> inspect air filter service the engine clean the catalyst²
Gaseous Fueled Engines (Oxidation Catalysts)	
Excessive exhaust temperatures	<ul style="list-style-type: none"> inspect air filter lean fuel mixture³ inspect the catalyst for obstruction service the engine
Exhaust is coming out air feed opening	<ul style="list-style-type: none"> inspect the catalyst for obstruction remove any components added after the catalyst
Gaseous Fueled Engines (Three Way Catalysts)	
Proper air fuel ratio is not being maintained	<ul style="list-style-type: none"> inspect air-fuel control system for proper installation inspect vacuum lines for obstruction inspect and test components for proper operation check if proper air/gas valve is installed consult system installation manual
Air-fuel control system dash light will not go out	<ul style="list-style-type: none"> inspect air-fuel control system for proper installation check if proper air/gas valve is installed consult system installation manual

¹ applies to diesel fueled engines only

² refer to Maintenance section of this manual for cleaning instructions

³ is recommended if approved by the engine manufacturer

Contact DCL if unable to solve your emission related problem.

7 SUMMARY OF EXHAUST EMISSIONS

Emission	Description	Why Do You Have This Emission?	Untreated Diesel Exhaust	Untreated Gaseous Fueled Exhaust	Health Effects	Catalyst Performance
Carbon Monoxide (CO)	Colorless, odorless gas with density close to that of air.	Product of incomplete combustion of fuel.	500-1000 ppm	2000-20000 ppm	Affects the respiratory system by blocking oxygen uptake. Causes headaches and lethargy in lower doses; lethal in larger doses.	Typically exceeds 50% removal at 160 °C (320 °F). Typically exceeds 90% removal at above 260 °C (500 °F).
Hydrocarbons (HC)	A mixture of various hydrocarbons, including aromatics hydrocarbons and hydrocarbons with oxygen, sulfur and nitrogen.	Unburned or partially burned components of fuel and lube oil.	300-500 ppm C ₁	50-750 ppm C ₁	Some hydrocarbons in diesel engines have a harsh odor and cause eye and throat irritation, or are toxic or carcinogenic.	Typically exceeds 50% removal at 250 °C (482 °F) in diesel applications. Typically exceeds 70% removal at above 300 °C (572 °F).
Oxides of Nitrogen (NOx)	Includes nitric oxide (NO) and nitrogen dioxide (NO ₂). NO is colorless and odorless. NO ₂ is a toxic red-brown gas of unpleasant odor.	Formed due to a reaction between oxygen and nitrogen during high in-cylinder combustion temperatures and pressures.	700-1500 ppm	250-3000 ppm	Respiratory tract irritant. Ozone precursor.	Three-Way: Typically exceeds 50% removal at 160 °C (320 °F). Typically exceeds 90% removal at above 260 °C (500 °F). Oxidation: No significant change.
Diesel Particulate Matter (DPM)	The black, blue and white smoke commonly seen in diesel powered equipment (soot). Consists of sub-micron size carbon particles which adsorb unburned fuel, engine lubricants, water vapor and sulfur oxides. The liquid hydrocarbon components are commonly measured under the category of volatile organic fraction (VOF).	Formed due to the heterogeneous in-cylinder mixture of air and fuel occurring in the compression ignition process. Significant only in diesel engines.	25-150 mg/m ³		Most of the diesel particulates are small enough to be inhaled with detrimental effects on respiratory tissues. Classified as a probable human carcinogen by the US EPA.	The removal efficiency of the volatile organic fraction (VOF) is similar to that of hydrocarbons. The net result on DPM measurements is highly dependent on sulfur levels in the fuel.