



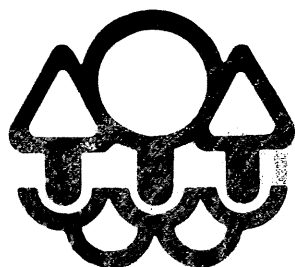
3 0307 00062 3382

2 copies

850766

LAKE SUPERIOR PAPERMILL PROJECT

Duluth, Minnesota
March, 1986



Minnesota
Pollution Control Agency

FINAL ENVIRONMENTAL IMPACT STATEMENT

TD
195
.P37
L342
1986

TABLE OF CONTENTS

	<u>Page</u>
1.0 SUMMARY	1-1
1.1 PURPOSE AND FORMAT OF THE FEIS	1-1
1.2 PROPOSED ACTION	1-2
1.3 PERMITS/APPROVALS REQUIRED FOR THE PROJECT	1-2
1.4 ENVIRONMENTAL IMPACTS AND MITIGATION	1-2
1.5 PUBLIC MEETING AND DEIS COMMENTS	1-5
2.0 ENVIRONMENTAL IMPACTS AND MITIGATION SUPPLEMENT	2-1
2.1 PROJECT DESCRIPTION	2-1
2.1.1 Project Cost	2-1
2.1.2 Hibbard Station Causeway	2-1
2.1.3 Liquid Storage and Spill Control	2-2
2.1.4 Fire Suppression Systems	2-2
2.1.5 Construction Parking and Staging	2-2
2.1.6 Sludge Transportation	2-3
2.1.7 Fuel Handling	2-3
2.1.8 Construction Schedule	2-3
2.1.9 Revised Table 3.6-1	2-3
2.1.10 Topographic Map	2-3
2.2 AIR QUALITY	2-6
2.2.1 Expanded/Refined Air Quality Modeling	2-6
2.2.2 Fogging and Icing Analysis	2-12
2.2.3 Acid Deposition Analysis	2-14
2.2.4 Trace Metals Analysis	2-16

TABLE OF CONTENTS (Continued)

		<u>Page</u>
2.3	SURFACE WATER	2-16
2.3.1	Erosion Control/Stormwater Management Plan	2-16
2.3.2	Flooding Impacts	2-21
2.3.3	Dioxin Analysis	2-22
2.4	NOISE	2-24
2.4.1	Traffic Noise Analysis	2-24
2.4.2	Local Noise Ordinance	2-26
2.5	TRANSPORTATION	2-26
2.5.1	Revised Construction Truck Traffic Estimates	2-26
2.5.2	Alternative Truck Traffic Routes	2-27
2.5.3	Traffic Safety	2-32
2.6	SOLID AND HAZARDOUS WASTE	2-33
2.6.1	Hibbard Station Ash Generation	2-33
2.6.2	Soils Unsuitable for Fill	2-34
2.6.3	Hazardous Waste Cleanup	2-35
2.7	ECOLOGY	2-38
2.7.1	Endangered Species	2-38
2.7.2	Wetlands	2-40
2.7.3	Impingement/Entrainment	2-42
2.8	TIMBER HARVESTING	2-43
2.8.1	Fuelwood Consumption	2-43
2.8.2	Surplus Timber	2-43
2.8.3	Employment	2-44
2.8.4	Environmental Impact and Mitigation Measures	2-44

TABLE OF CONTENTS (Continued)

	<u>Page</u>
3.0 RESPONSES TO DEIS COMMENTS	3-1
3.1 SUMMARY OF THE PUBLIC MEETING	3-1
3.1.1 Summary of Public Meeting Comments	3-1
3.1.2 Responses to Comments Received at Public Meeting	3-4
3.2 LETTERS NOT REQUIRING RESPONSE	3-7
3.3 COMMENT LETTERS AND RESPONSES	3-10
3.3.1 List of Comment Letters	3-10
3.3.2 Responses to Comment Letters	3-41
REFERENCES	R-1
APPENDIX A Minnesota Model Noise Control Ordinances	

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1.3-1	Lake Superior Paper Industries Required Permits	1-3
2.1-1	Summary of Proposed Action and Fully Permitted Action (Revised Table 3.6-1 of the DEIS)	2-4
2.2-1	Hibbard Station Revised Boiler Heat Inputs	2-7
2.2-2	Parameters Treated in Additional Modeling	2-8
2.2-3	Summary of NAAQS Compliance Analysis (PSD Modeling)	2-9
2.2-4	Summary of NAAQS Compliance Analysis (EIS Modeling)	2-10
2.2-5	Summary of SO ₂ PSD Compliance Analysis	2-11
2.2-6	Wet Sulfate Deposition at Nearby Lakes/Reservoirs	2-15
2.2-7	Change in Rainfall pH in the Duluth Area	2-17
2.2-8	Comparison of Predicted 8-Hour Trace Metal Concentra- tions with Acceptable Ambient Levels	2-18
2.7-1	Approximate Acreages for Cover Types Identified at the Lake Superior Papermill	2-42

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
2.1-1	Papermill Site Area Topography	2-5
2.2-1	Extent of Fogging and Icing	2-13
2.3-1	Sedimentation and Erosion Control Plan	2-19
2.5-1	Alternative Truck Routes Cody Street Interchange and 40th Avenue West Interchange	2-29
2.7-1	Principal Habitat/Land Cover Types of the Project Site	2-41

CHAPTER 1

SUMMARY

1.0 SUMMARY

This final environmental impact statement (FEIS) has been prepared in accordance with the Minnesota Environmental Quality Board (MEQB) rules, Minnesota Rules Parts 4410.0300-4410.7800. As is required by the MEQB rules, the Minnesota Pollution Control Agency (MPCA), as the responsible governmental unit, has prepared responses to the timely, substantive comments on the draft EIS (DEIS) consistent with the scoping decision for the project. This chapter includes the purpose of the FEIS, a brief description of the proposed project, a listing of environmental permits required, and brief descriptions of Chapters 2.0 and 3.0.

1.1 PURPOSE AND FORMAT OF THE FEIS

The purposes of the FEIS are to:

- Provide technical information supplementing or revising the DEIS
- Describe potential impacts and commitments to mitigation measures for the project
- Respond to DEIS and public meeting comments.

The FEIS consists of this document plus the DEIS.

The contents of this FEIS are presented in the following order:

- Environmental impacts and mitigation supplement
- Responses to DEIS comments
- Letters not requiring response
- Comment letters and responses

1.2 PROPOSED ACTION

Lake Superior Paper Industries, a joint venture of Minnesota Power and Pentair Inc., proposes to build a papermill in the west end of Duluth, Minnesota. The Duluth Papermill Project will involve the acquisition and removal of homes and businesses onsite and the construction of facilities for the production of 234,900 tons per year of lightweight supercalendered paper. Modifications will be made to the M.L. Hibbard Steam Electric Station to allow it to burn a wood/coal/sludge mixture to produce steam for the papermill. The project will permanently employ approximately 300 workers. Construction of the project is slated to commence in May, 1986 with completion in December, 1987. Construction costs are estimated at \$348 million and will involve approximately 1460 construction workers.

1.3 PERMITS/APPROVALS REQUIRED FOR THE PROJECT

The permits that Lake Superior Paper Industries must obtain before construction and operation of the project are listed in Table 1.3-1. For the following reasons, elevator, OSHA, and open burning permits are no longer contained in the list:

- Elevators and OSHA permits are not related to the environment
- There are no plans for open burning.

1.4 ENVIRONMENTAL IMPACTS AND MITIGATION

This FEIS supplements the DEIS analysis with technical information and mitigative measures, where appropriate, if project information changed significantly or if a topic needed further analysis. The following topics are included in Chapter 2.0:

- Project description
- Air quality
- Surface water
- Noise

Table 1.3-1. Lake Superior Paper Industries Required Permits

Permit Name	Structure/Activity	Agency
PAPERMILL		
Air Emission Facility Permit (need to be determined)	Clay/starch handling Storage piles Fugitive emissions Debarking facilities Wood handling and transport Associated pollution control equipment	MPCA
NPDES Permit	Stormwater (may be required)	MPCA
Pretreatment Permit	Plant discharges to POTW	WLSSD
Section 404	Dredge and fill activities	U.S. Army Corps of Engineers
Section 401	Water quality certification for activities in water	MPCA
Liquid Storage Permits	Acid tanks Caustic tanks Bleach tanks Oil storage	MPCA State Fire Marshall
Conformance to Spill Prevention Counter-measures and Control Plans	Oil storage	EPA
Conformance with Asbestos Removal Requirements	Demolition activities	MPCA
Solid Waste Disposal	Waste soil disposal	MPCA
Approval of Potable Water System	Plumbing of Potable Water	MDH St. Louis County
HIBBARD STATION		
Air Emission Facility Permit (includes PSD requirements)	Boilers (1 through 4) Wood/coal/ash handling Fugitive emissions Associated pollution control equipment	MPCA (EPA review)

Table 1.3-1. Lake Superior Paper Industries Required Permits (Continued)

Permit Name	Structure/Activity	Agency
NPDES Permit Modifications	Plant discharges Impingement & entrainment	MPCA
Pretreatment Permit	Sanitary wastes Demineralizer waste Misc. plant wastes discharged to POTW	WLSSD
Surface Water Appropriation and Consumption	Station and mill water using systems	MDNR
Work in Public Waters	Intake and discharge structures, activities below high water mark Barges, piers, etc.	MDNR
Activity in Water Way	Any activities in waters/intake and discharge	U.S. Army Corps of Engineers
Section 404	Dredge and fill activities	U.S. Army Corps of Engineers
Section 401	Water quality certification for activities in state waters	MPCA
Liquid Storage	Oil, acid, caustic storage facilities	MPCA State Fire Marshall
Conformance with Asbestos Removal Requirement	Demolition activities	MPCA
Obstruction to Navigation	Barges, docks, activities in waters	U.S. Coast Guard
National Board Boiler	Boiler	MDL&I
Conformance to Spill Countermeasure and Control Plan Requirements	Oil storage	EPA
Approval of Potable Water System	Plumbing of Potable Water	MDH St. Louis County

- Transportation
- Solid and hazardous waste
- Ecology
- Timber harvesting

There are no changes in the land use, geology, or socioeconomic sections.

1.5 PUBLIC MEETING AND DEIS COMMENTS

A public meeting to obtain comments on the DEIS was held in Duluth on February 18, 1986. Written comments were also received during an official comment period following distribution of the DEIS. The comment period ended March 4, 1986. Chapter 3.0 includes the following:

- A summary of the comments received at the public meeting along with MPCA responses
- Letters of comment on the DEIS and responses to those letters
- Letters received which did not need a response.

Primary areas of concern from the DEIS comments include truck traffic, truck noise, and dioxins. Other significant areas of concern are endangered species, wetlands, air quality, and traffic safety.

CHAPTER 2

ENVIRONMENTAL IMPACTS AND MITIGATION SUPPLEMENT

2.0 ENVIRONMENTAL IMPACTS AND MITIGATION SUPPLEMENT

This Environmental Impacts and Mitigation Supplement is a supplement to the DEIS prepared for the Lake Superior Paper Industries project. It and the response to comments on the DEIS, and the DEIS, constitutes the FEIS for the project. The supplement contains technical information on the project description and a description of potential environmental impacts and mitigation measures associated with air quality, surface water, noise, transportation, solid and hazardous waste, ecology, and timber harvesting associated with the project.

2.1 PROJECT DESCRIPTION

New and revised information for the project description is presented in this section. This revised information stems from the finalization of operating parameters and engineering plans by Lake Superior Paper Industries (LSPI). A topographic map of the site vicinity is also included.

2.1.1 Project Cost

The revised estimated total cost of the project is \$348 million. This increase of \$74 million from the original total project cost of \$274 million is attributed to revised design and resultant greater cost of the papermill equipment and buildings.

2.1.2 Hibbard Station Causeway

Plans for the rehabilitation of the Hibbard Station causeway have been completed, with construction on the causeway to include installation of a 14-inch diameter high pressure-high temperature steamline, a process water line, and a return condensate line to serve the papermill. The existing 14 kV electric distribution lines on the causeway will be modified to maintain service to residential and commercial customers adjacent to the papermill. The existing utilities, municipal water and sewer lines, and natural gas line may also be modified during causeway rehabilitation. A 24-foot wide

asphalt road will be constructed to provide access for fuel trucks to the Hibbard Station.

The existing causeway to Hibbard Station requires rehabilitation in order to control erosion and to enable the hauling of coal, wood, or ash by truck to or from the steam plant. The alternative causeway route, from Hibbard Station across St. Louis Bay to the papermill, will not be constructed.

2.1.3 Liquid Storage and Spill Control

A Spill Prevention Control and Countermeasure (SPCC) plan will be written for the LSPI papermill. The Hibbard Station's present SPCC plan will be revised to ensure safe handling and provide emergency control of all liquid materials. The main purpose of SPCC plans is to prevent discharges of hazardous materials into public waters. "Prevention" as opposed to "after-the-fact" measures are stressed in the regulation.

In addition to these onsite plans, the Duluth Fire Department has an Emergency Operations Plan to handle hazardous waste spills. The Duluth Fire Department handles mostly small (< 5 gallons) spills. Assistance on larger spills is given by the U.S. Coast Guard and by Bay West, Inc., a Duluth-based company dealing with hazardous chemical management (Heim, 1986).

2.1.4 Fire Suppression Systems

The coal unloading area and existing tipper room, and the wood storage facility at Hibbard will be equipped with a fire suppression system. The system will be supplied by the existing city water supply and include fire hydrants and a fire department pumper connection.

2.1.5 Construction Parking and Staging

Approximately 15 acres will be required for the construction staging area; not two acres as stated in the calculation on page 5.5-5 of the DEIS. No additional impacts are expected from this change.

2.1.6 Sludge Transportation

The sludge from the primary clarifier will be mixed with woodbark at the mill and transported by truck to the Hibbard Station for incineration. There should be no odors associated with subsequent combustion. The trucks conveying the mixture of sludge and woodbark will be covered if necessary.

2.1.7 Fuel Handling

A pneumatic conveyance system for the woodbark and sludge mixture at the Hibbard Station is no longer under consideration. A screw-type delivery system will be used, thus noise levels will be much less than stated on page 5.3-7 of the DEIS.

2.1.8 Construction Schedule

Because of the fast-paced construction schedule, shiftwork and/or overtime including weekends will be required, at least during 1986. The increase in work hours is expected to follow the seasonal increase in daylight hours and to continue to as late as 10:00 PM.

2.1.9 Revised Table 3.6-1

Changes in Hibbard Station operating parameters have resulted in new numbers for fuel consumption, truck traffic, ash generation and air emissions (Table 2.1-1). All revisions, except ash generation, are minor. A further discussion of ash generation impacts is presented in FEIS Section 2.6.1.

2.1.10 Topographic Map

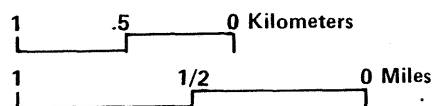
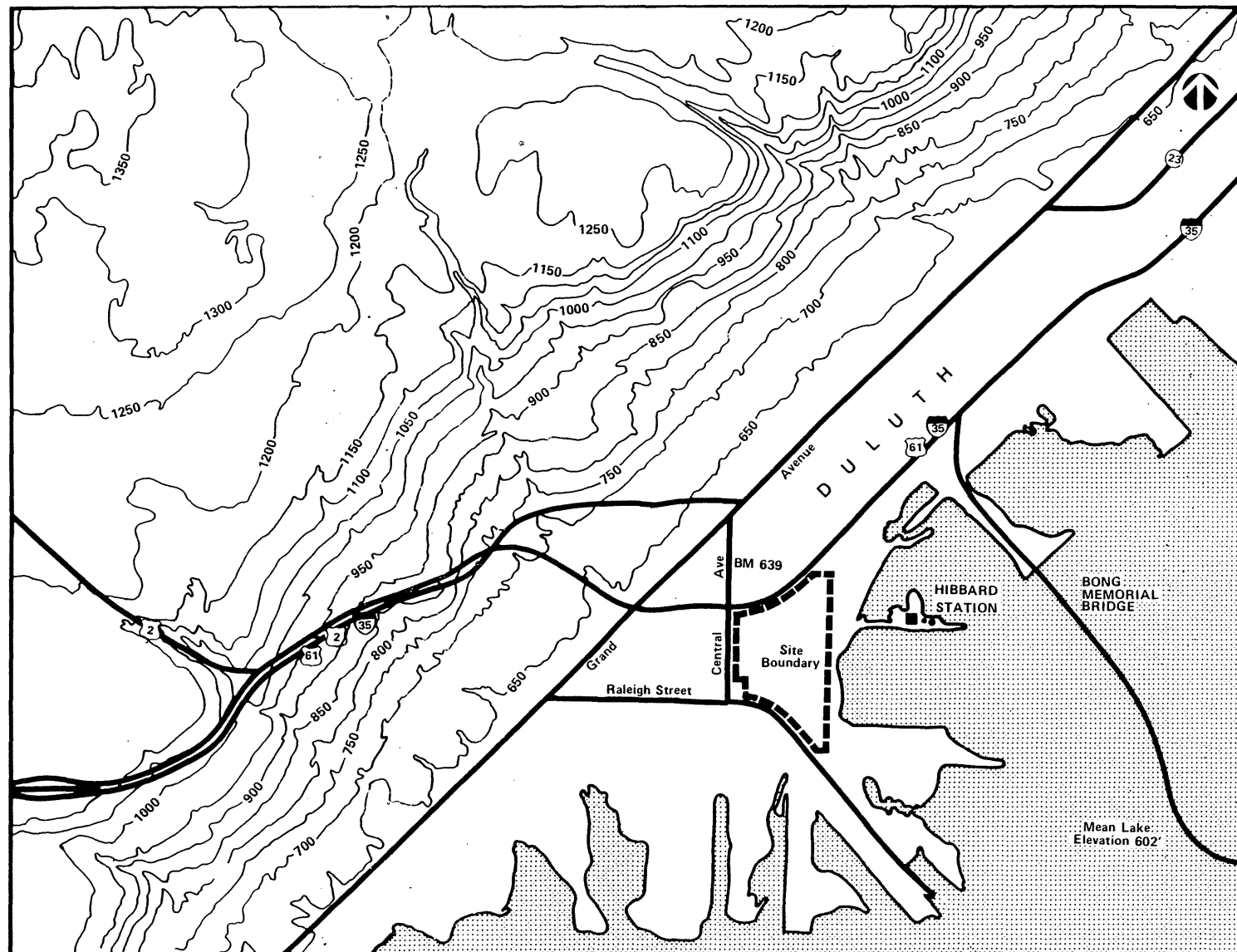
A topographic map (Figure 2.1-1) is presented to better delineate terrain elevations above and below Hibbard Station stack heights as described in the air quality modeling analysis. Constraints placed on transportation systems and development are also shown more clearly.

Table 2.1-1. Summary of Proposed Action and Fully Permitted Action (Revised Table 3.6-1 of the DEIS)

	Proposed Action		Fully Permitted Action ^c
	Annual Average ^a	Maximum Daily ^b	
<u>Pulpwood Consumption</u>	973 tons/day	973 tons/day	973 tons/day
<u>Fuel Consumption</u>			
- Wood	655 tons/day	861 tons/day	1702 tons/day
- Coal	223 tons/day	294 tons/day	581 tons/day
- Sludge	11.4 tons/day	11.4 tons/day	11.4 tons/day
- Oil	0	0	178,654 gal/day
<u>Truck Traffic</u>	80/day	96/day	175/day
<u>Ash Generation</u>	92 tons/day	132 tons/day	264 tons/day
<u>Air Emissions</u>			
- SO ₂	4.0 tons/day	5.3 tons/day	13.3 tons/day
- NO _x	2.5 tons/day	3.3 tons/day	12.8 tons/day
- TSP	.11 tons/day	.17 tons/day	.5 tons/day
<u>Electricity Production</u>	0	0	93 megawatts
<u>Water Consumption</u>	4 million gallons per day (St. Louis Bay)	4 million gallons per day (St. Louis Bay)	182 million gallons per day (St. Louis Bay)
	0.3 million gallons per day (municipal system)	0.3 million gallons per day (municipal system)	0.3 million gallons per day (municipal system)
<u>Thermal Discharge</u>	0	0	178 million gallons per day
<u>Process Wastewater Discharge</u>	3 million gallons per day	3 million gallons per day	3 million gallons per day

Source: Lindholm, 1986a.

- Annual Average = Units 3 and 4 operating at 35 percent capacity or approximately 380 MMBtu/hr total input capacity.
- Maximum Daily = Winter conditions; Units 3 and 4 operating at 50 percent capacity or approximately 540 MMBtu/hr total input capacity.
- Units 1 and 4 operating at 100 percent capacity or approximately 2097 MBtu/hr total maximum input capacity.



Source: USGS, 1983a and b

**Papermill Site Area
Topography**

Figure 2.1-1

2.2 AIR QUALITY

The purpose of this supplement is to present revised emission conditions and the results of the associated ambient air quality impact analysis for the retrofit of the Hibbard Station as part of the Lake Superior Paper Industries project. Also included are refined analyses addressing concerns about fogging and icing, trace metal concentrations, and acid deposition and precipitation.

2.2.1 Expanded/Refined Air Quality Modeling

In January 1986, Minnesota Power submitted revised boiler heat inputs for the retrofit of the Hibbard Station (Table 2.2-1). These scenarios are as follows:

- 60 percent wood/40 percent coal/sludge
- all wood/sludge
- coal/natural gas/sludge
- coal/sludge

The fuel scenarios are listed above for the Proposed Action, which is defined as the operation of Units 3 and 4 to produce steam for the papermill. The Fully Permitted Action is defined as the operation of Units 3 and 4 to produce steam for the papermill from the various fuel scenarios listed above and the operation of Units 1 and 2 to produce electricity from number 2 distillate oil.

The modeling methodology used to treat these scenarios is summarized in Table 2.2-2. The same conservative screening modeling approach employed in the Draft Environmental Impact Statement was utilized. The "Prevention-of-Significant Deterioration Modeling" that was carried out to conform with PSD permitting requirements used a good-engineering-practice stack height for Hibbard Station Units 3 and 4. The "Environmental Impact Statement Modeling", based on actual stack heights, is more reflective of actual operating and design conditions.

Table 2.2-1. Hibbard Station Revised Boiler Heat Inputs

Fuel Scenario	Heat Inputs @ 100% Load			
	Unit 1	Unit 2	Unit 3	Unit 4
#2 Oil	490 MMBtu	527 MMBtu	-	-
60% Wood ^a 40% Coal ^b Natural Gas ^c	-	-	540 MMBtu	540 MMBtu
Wood	-	-	590 MMBtu	590 MMBtu
Coal ^d /Natural Gas	-	-	491 MMBtu	491 MMBtu
Coal ^d	-	-	380 MMBtu	380 MMBtu

Source: Lindholm, 1986b.

a. Wood: 4377 Btu/lb, 0.1 percent sulfur, 0.5 percent ash.

b. Coal: 8500 Btu/lb, 0.9 percent sulfur, 9 percent ash.

c. Natural Gas: 1000 Btu/Ft³, trace sulfur, trace ash.

d. Coal: 0.58 percent sulfur

Results of the supplemental analysis are summarized in Tables 2.2-3. Tables 2.2-3 and 2.2-4 show that predicted air quality concentrations expected from the proposed action and fully permitted action are less than, or, in two cases, equal to the applicable ambient standards. In these two cases the conservative background TSP concentration of 143 $\mu\text{g}/\text{m}^3$ contributed 95 percent to the total predicted concentrations. Table 2.2-5 shows that the predicted SO₂ increment consumption is only a small fraction of the Class II increment. The supplemental air quality analysis demonstrates that the proposed alternative fuel and emission scenarios should not result in adverse effects on air quality in the Duluth area.

Table 2.2-2. Parameters Treated in Additional Modeling

I. PREVENTION OF SIGNIFICANT DETERIORATION MODELING

A. Short-term Modeling

Fuel Type: (1) wood/coal/sludge; (2) coal/sludge; (3) coal/natural gas/sludge; (4) wood/sludge

Load: 100%, 90%, 75%, 50%

Operational Level: Proposed action; fully permitted action

Receptor Locations: Above stack height; below stack height

Pollutant Predictions: SO₂, TSP, NO₂, CO

Stack Parameters: Based on good-engineering-practice stacks

B. Long-term Modeling

Fuel Type: Hypothetical "worst case" fuel that maximizes emission rates and minimizes gas exit parameters.

Meteorology: 1981-1984

All other parameters as above

II. ENVIRONMENTAL IMPACT STATEMENT MODELING

Fuel Type: (1) wood/coal/sludge; (2) coal/sludge

Operational Level: (1a) Units 3 and 4 at 35% (annual average) load; (1b) Units 3 and 4 at 50% load; (2) Units 1-4 at 100% load

Receptor Locations: Above stack height; below stack height

Pollutant Predictions: SO₂, TSP, NO₂, CO

Stack Parameters: Based on actual stack

Averaging Time: Short-term, long-term (1 year of meteorological data)

Table 2.2-3. Summary of NAAQS Compliance Analysis^a (PSD Modeling)

Operational Level	Pollutant	Maximum Model Prediction	Highest Background	Total Concentration	Ambient Standard ^b
Proposed Action (Units 3-4)	SO ₂				
	1-hr	691.8	235.7	927.5	1300
	3-hr	622.6	151.9	774.5	1300
	24-hr	276.7	86.4	363.1	365
	Annual	22.7	18.3	41.0	80
	TSP				
	24-hr	7.0	143.0	150.0	150
	Annual	0.8	39.7	40.5	75
	CO				
	1-hr	0.3	22.0	22.3	35
	8-hr	0.18	8.8	8.98	9
	NO ₂				
	Annual	16.5	35.8	52.3	100
Fully Permitted Action (Units 1-4)	SO ₂				
	1-hr	565.3	235.7	801.0	1300
	3-hr	508.7	151.9	660.6	1300
	24-hr	226.1	86.4	312.5	365
	Annual	15.5	18.3	31.9	80
	TSP				
	24-hr	7.0	143.0	150.0	150
	Annual	0.6	39.7	40.3	75
	CO				
	1-hr	0.2	22.0	22.2	35
	8-hr	0.1	8.8	8.9	9
	NO ₂				
	Annual	15.6	35.8	51.4	100

Source: ERT, 1986a.

a. All concentrations in $\mu\text{g}/\text{m}^3$ except CO which is in ppm.

b. The most stringent of the Federal and Minnesota primary and secondary standards is listed.

Table 2.2-4. Summary of NAAQS Compliance Analysis^a (EIS Modeling)

Operational Level	Pollutant	Maximum Model Prediction	Highest Background	Total Concentration	Ambient Standard ^b
Proposed Action (Units 3-4)	SO ₂				
	1-hr	297.3	235.7	533.0	1300
	3-hr	267.5	151.9	419.4	1300
	24-hr	118.9	86.4	205.3	365
	Annual	12.9	18.3	31.2	80
	TSP				
	24-hr	3.7	143.0	146.7	150
	Annual	0.3	39.7	40.0	75
	CO				
	1-hr	0.1	22.0	22.1	35
	8-hr	0.1	8.8	8.9	9
	NO ₂				
	Annual	7.7	35.8	43.5	100
Fully Permitted Action (Units 1-4)	SO ₂				
	1-hr	480.8	235.7	716.5	1300
	3-hr	432.7	151.9	584.6	1300
	24-hr	192.3	86.4	278.7	365
	Annual	9.9	18.3	28.2	80
	TSP				
	24-hr	5.5	143.0	148.5	150
	Annual	0.4	39.7	40.1	75
	CO				
	1-hr	0.2	22.0	22.2	35
	8-hr	0.1	8.8	8.9	9
	NO ₂				
	Annual	10.6	35.8	46.4	100

Source: ERT, 1986a.

a. All concentrations in $\mu\text{g}/\text{m}^3$ except CO which is in ppm.

b. The most stringent of the Federal and Minnesota primary and secondary standards is listed.

Table 2.2-5. Summary of SO₂ PSD Compliance Analysis

Operational Level	Averaging Time	Maximum Increment Consumption (µg/m ³)	Class II Increment (µg/m ³)
Proposed Action (Units 3-4)	3-hr	14.1	512
	24-hr	6.3	91
	Annual	0	20
Fully Permitted Action (Units 1-4)	3-hr	8.3	512
	24-hr	3.7	91
	Annual	0	20

Source: ERT, 1986a.

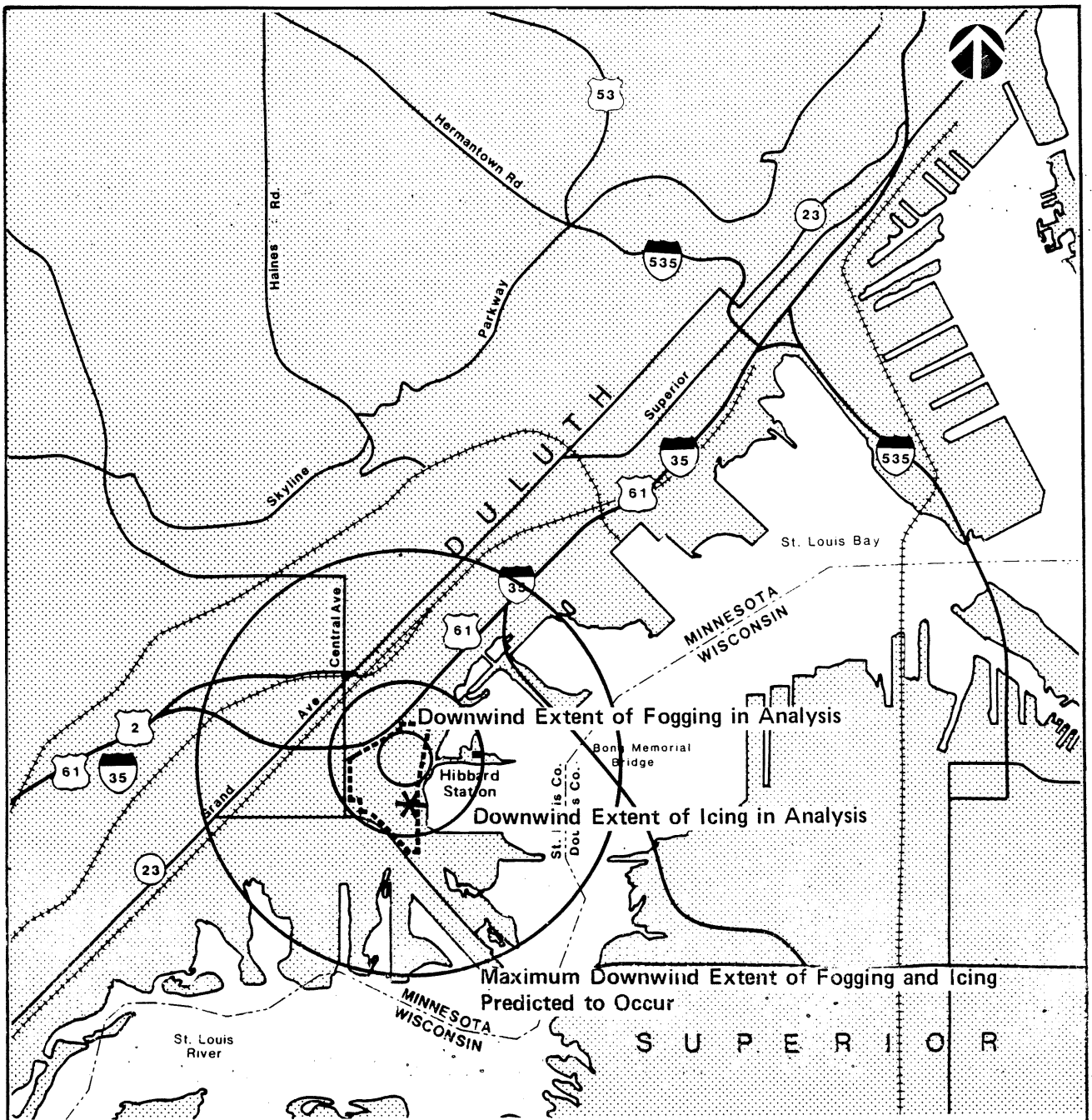
2.2.2 Fogging and Icing Analysis

The purpose of this supplemental section is to present the results of additional calculations performed to further assess fogging and icing that may occur from the proposed LSPI papermill primary clarifier. Meteorological parameters used as input to the Cooling Tower Model (CTM) were selected to maximize the potential for fogging and icing (ERT, 1986a).

The results of the fogging analysis indicate that fogging may occur at a temperature of 60°F and 80 percent relative humidity within a 200 meter (0.1 mile) radius of the clarifier. This means that I-35 and the neighborhoods on the west side of I-35 could experience fogging. As the temperature decreases and the relative humidity increases, the radius of influence will increase and include more residential areas. However, fogging is not expected to be experienced beyond a 1600 meter (one mile) radius of the clarifier (Figure 2.2-1).

The results of the icing analysis show that icing may occur at a temperature of 32°F and 80 percent relative humidity within a 600 meter (0.4 mile) radius of the clarifier. This area encompasses residential areas to the north and west of I-35. Icing is not expected to occur beyond 1600 meters (1 mile) from the clarifier. This 1-mile zone of the maximum extent of fogging and icing encompasses the Bong Bridge (Figure 2.2-1).

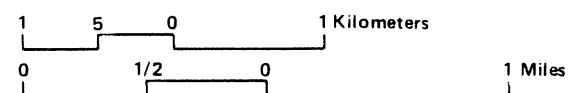
Actual frequencies of fogging and icing have not been determined because representative, hourly meteorological data required for such an analysis are not available. Fogging and icing on I-35 and the Bong Bridge could occur under appropriate wind conditions when the relative humidity is high. The annual and wintertime frequencies of east through south winds that would cause the vapor plume from the primary clarifier to be transported toward I-35 are about 11 percent and 12 percent, respectively. West-southwest and west winds would transport the plume toward the Bong Bridge; the annual and wintertime frequency of these winds are about 13 percent and 15 percent, respectively. The occurrence of fogging and icing would be less than these percentages because in addition to the winds, temperatures and humidities favoring fogging and icing would also have to occur.



Legend

 Site Boundary

 Proposed Papermill



Source: ERT, 1986a

Extent of Fogging and Icing

Fogging and icing potential due to steam discharges from the Hibbard Station was also analyzed. The analysis indicated that no significant potential existed for such occurrences due to operation of the Hibbard Station.

2.2.3 Acid Deposition Analysis

This section details short-range acid deposition impacts associated with sulfur dioxide emissions from the retrofitted Hibbard Station. Acid precipitation is also discussed.

Annual average acid deposition impacts associated with sulfur dioxide (SO_2) emissions from the Hibbard Station were evaluated at nearby lakes/reservoirs and at receptors located in the City of Duluth. Sulfur dioxide emissions, Hibbard Station stack parameters, and a climatological windrose for the Duluth Airport represented input to the CADMOD model (Pleim, 1986) which estimated the resultant wet sulfate deposition rate and the change in pH of the rain. Three scenarios were evaluated: Units 3 and 4 burning wood, coal, and sludge at 35 percent load (Case 1); Units 3 and 4 burning coal and sludge at 100 percent load (Case 2); and Units 1 through 4 at 100 percent load with Units 3 and 4 burning coal and sludge and Units 1 and 2 burning number 2 distillate oil (Case 3).

Wet sulfate deposition rates were estimated at lakes/reservoirs in the Duluth area. The results are presented in Table 2.2-6. The proposed Minnesota wet acid deposition standard of 11 kg/hectare was originally developed to protect sensitive bodies of water. The maximum estimated annual wet sulfate deposition rate of 0.25 kg/hectare was predicted to occur at Pike Lake (located 11 miles northwest) for Case 3. Previous modeling performed by MPCA indicated that the maximum wet acid deposition rates were not close to the proposed standard (MPCA, 1985). Therefore, SO_2 emissions from the Hibbard Station are not expected to adversely impact the lakes/reservoirs in the Duluth area.

There are no standards or guidelines which can be used as indicators of adverse acid deposition impacts on exterior surfaces of homes, cars, buildings, etc. Annual average changes in the acidity (pH) of the rainfall

Table 2.2-6. Wet Sulfate Deposition at Nearby Lakes/Reservoirs

Lake Reservoir	Case 1 ^a		Case 2 ^b		Case 3 ^c	
	Dep. (kg/ha) ^d	Δ pH ^e	Dep. (kg/ha)	Δ pH	Dep. (kg/hr)	Δ pH
Wild Rice Reservoir	0.08	-.005	0.10	-.012	0.12	-.014
Pike Lake	0.17	-.011	0.21	-.024	0.25	-.024
Fish Lake Reservoir	0.07	-.004	0.08	-.010	0.10	-.012

Source: ERT, 1986b.

a. Case 1: Units 3 and 4 at 35 percent load, wood, coal, sludge fuel scenario

b. Case 2: Units 3 and 4 at 100 percent load, coal and sludge fuel scenario

c. Case 3: Units 1 through 4 at 100 percent load, coal and sludge fuel scenario for Units 3 and 4, No. 2 distillate oil for Units 1 and 2

d. Wet sulfate deposition in kilograms per hectare

e. Change in pH; background pH assumed to be 5.00

caused by SO₂ emissions from the Hibbard Station were estimated at receptors located throughout the City of Duluth; a background pH of 5.00 was assumed (Nieman, 1982). The results are summarized in Table 2.2-7. The predicted rainfall pH for the most likely Hibbard Station operating scenario (Case 1) ranged from 4.93 to just under 5.00, with a city-wide "average" of 4.98. The lowest rainfall pH (4.93) was predicted to occur approximately 0.4 miles (0.69 km) northwest of the Station. Assuming the Hibbard Station operated under Case 3 conditions (an extremely low probability of occurrence), the predicted rainfall pH ranged from 4.84 to just under 5.00, with a city-wide "average" of 4.94. Again, the lowest pH (4.84) was predicted to occur approximately 0.4 miles northwest of the Hibbard Station. It is unlikely, therefore, that the relatively minor predicted decreases in rainfall pH caused by SO₂ emissions from the Hibbard Station will have a significant impact on the exterior surfaces of homes, cars, or buildings in the Duluth area.

2.2.4 Trace Metal Analysis

Further modeling of ambient air trace metal concentrations due to project emissions are presented in this section. Concentrations of trace metals were predicted for the DEIS scenarios (Units 3 and 4 at 35 percent and 50 percent loads and Units 1 through 4 at 100 percent load - 100.58 meter stack height) based on emission factors previously determined. The results of this analysis are listed in Table 2.2-8. The results show that all predicted trace metal concentrations are below the Acceptable Ambient Levels (AALs) used as guidelines by the MPCA, therefore, no mitigation measures are suggested at this time.

2.3 SURFACE WATER

2.3.1 Erosion Control/Stormwater Management Plan

A sedimentation and erosion control plan for the construction activities and papermill operating conditions has been designed for the entire 92 acre site (Figure 2.3-1). Stormwater from the site, including drainage from the primary and spring surge woodyards, will be discharged to three adjacent

Table 2:2-7. Change in Rainfall pH in the Duluth Area

Receptor	Distance (km)	Direction ^d	Case 1 ^a		Case 2 ^b		Case 3 ^c	
			Δ pH	pH' ^e	Δ pH	pH'	Δ pH	pH'
1	1.31	340	-.022	4.978	-.047	4.953	-.055	4.945
2	1.26	323	-.038	4.962	-.082	4.918	-.095	4.905
3	1.32	300	-.031	4.969	-.068	4.932	-.079	4.921
4	1.46	279	-.017	4.983	-.037	4.963	-.043	4.957
5	2.06	270	-.012	4.988	-.027	4.973	-.031	4.969
6	0.69	310	-.067	4.933	-.138	4.862	-.159	4.841
7	0.77	278	-.032	4.969	-.068	4.932	-.079	4.921
8	1.14	270	-.015	4.985	-.047	4.953	-.055	4.945
9	1.61	262	-.008	4.992	-.034	4.966	-.039	4.961
10	1.80	248	-.012	4.988	-.018	4.982	-.021	4.979
11	1.23	249	-.008	4.992	-.026	4.974	-.030	4.970
12	1.38	236	-.001	4.999	-.019	4.981	-.004	4.996
	Average		-.022	4.978	-.051	4.949	-.058	4.943

Source: ERT, 1986b.

a. Case 1: Units 3 and 4 at 35 percent load, wood, coal, sludge fuel scenario

b. Case 2: Units 3 and 4 at 100 percent load, coal and sludge fuel scenario

c. Case 3: Units 1 through 4 at 100 percent load, coal and sludge fuel scenario for Units 3 and 4, No. 2 distillate oil for Units 1 and 2

d. Compass Direction - Azimuth

e. pH' = background pH (5.00) + Δ pH

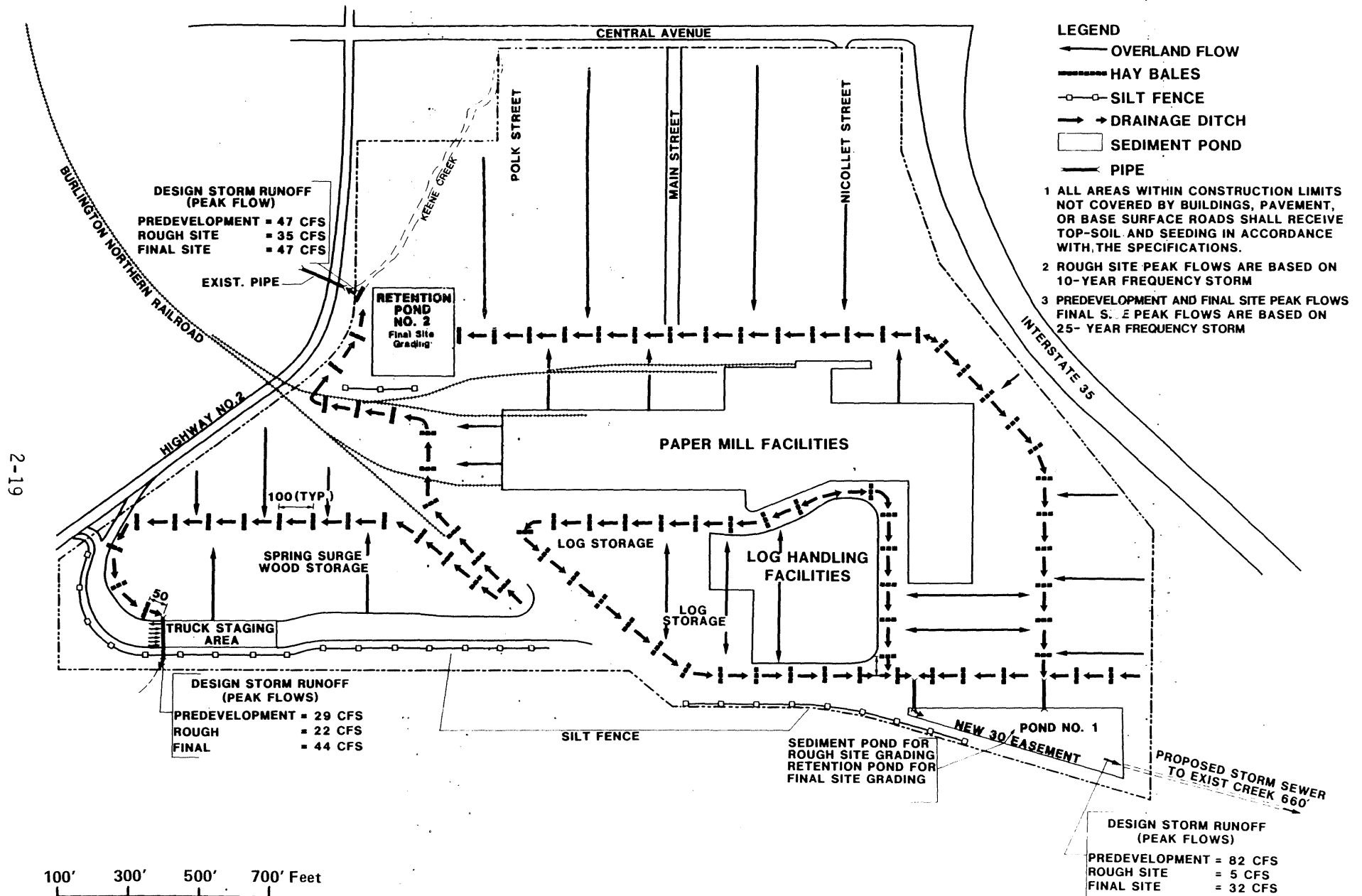
Table 2.2-8. Comparison of Predicted 8-hour Trace Metal Concentrations ($\mu\text{g}/\text{m}^3$) with Acceptable Ambient Levels (AAL)

Pollutant	AAL ^a	Proposed Action				Fully Permitted Action	
		Units 3 and 4 at 35% Load		Units 3 and 4 at 50% Load		Units 1 thru 4 at 100% Load	
		Wood/Coal	Coal Only	Wood/Coal	Coal Only	Wood/Coal ^b	Coal Only ^b
Aluminum	100	3.8×10^{-1}	5.1×10^{-1}	4.2×10^{-1}	5.5×10^{-1}	3.3×10^{-1}	5.6×10^{-1}
Antimony	50	5.5×10^{-4}	5.9×10^{-4}	7.0×10^{-4}	6.6×10^{-4}	7.3×10^{-4}	8.4×10^{-4}
Arsenic	20	1.4×10^{-4}	2.4×10^{-4}	1.8×10^{-4}	2.7×10^{-4}	1.8×10^{-4}	3.4×10^{-4}
Barium	50	8.8×10^{-4}	1.8×10^{-4}	1.1×10^{-3}	2.0×10^{-4}	1.1×10^{-3}	2.0×10^{-4}
Cadmium	5	4.1×10^{-5}	3.0×10^{-5}	5.2×10^{-5}	8.8×10^{-6}	5.4×10^{-5}	4.2×10^{-5}
Chromium (VI)	5	4.3×10^{-4}	6.0×10^{-4}	5.4×10^{-4}	6.7×10^{-4}	5.6×10^{-4}	8.4×10^{-4}
Cobalt	10	3.0×10^{-4}	5.0×10^{-4}	3.9×10^{-4}	5.7×10^{-4}	4.0×10^{-4}	7.1×10^{-4}
Copper (fumed)	20	6.6×10^{-4}	9.0×10^{-4}	8.2×10^{-4}	1.0×10^{-3}	8.2×10^{-4}	1.2×10^{-3}
Iron (fumed oxide)	500	1.3×10^{-1}	2.1×10^{-1}	1.6×10^{-1}	2.4×10^{-1}	1.7×10^{-1}	3.0×10^{-1}
Magnesium (fumed oxide)	1000	1.5×10^{-2}	5.7×10^{-3}	1.9×10^{-2}	6.0×10^{-3}	1.8×10^{-2}	5.6×10^{-3}
Manganese (fumed)	100	5.3×10^{-3}	1.3×10^{-3}	6.6×10^{-3}	1.3×10^{-3}	6.5×10^{-3}	1.1×10^{-3}
Nickel	10	1.5×10^{-3}	2.0×10^{-3}	1.9×10^{-3}	2.3×10^{-3}	2.0×10^{-3}	2.9×10^{-3}
Silver (metal)	10	1.8×10^{-5}	1.6×10^{-5}	2.3×10^{-5}	1.8×10^{-5}	2.4×10^{-5}	2.1×10^{-5}
Thallium	10	3.0×10^{-4}	1.6×10^{-4}	3.9×10^{-4}	1.8×10^{-4}	3.9×10^{-4}	2.2×10^{-4}
Zinc (fumed oxide)	500	1.5×10^{-3}	2.0×10^{-3}	1.8×10^{-3}	2.2×10^{-3}	1.8×10^{-3}	2.7×10^{-3}

Source: ERT, 1986c.

a. 1 percent of American Council of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV) as per MPCA guidelines.

b. Units 3 and 4 - Units 1 and 2 fire No. 2 distillate oil.



Source: LSP1

Sedimentation and Erosion Control Plan

Figure 2.3-1

water bodies after solids have been settled out in two sediment ponds. Prior to rough site grading, silt fences, sediment barriers, and diversion ditches will be constructed. The mitigating measures referenced below will tend to improve the quality of surface runoff prior to discharge to adjacent water bodies. After construction, the site will be landscaped to reduce erosion and sedimentation. Skimming devices may be installed to remove oil, grease and floatable solids, such as bark and woodchips, if this problem develops in the ponds.

Stormwater will be directed to Keene's Creek, St. Louis Bay wetlands, and to an unnamed creek, which flows into St. Louis Bay. The Keene's Creek discharge will have solids settled out in a retention pond near the southern site boundary. The final design of the pond will be such that the peak flow, based on a 25-year frequency storm, will not exceed the present flow.

The second discharge point will be located near the southeast corner of the site and will discharge to St. Louis Bay. The final design peak flow will be greater than the present flow, but the direct flow to St. Louis Bay will be lessened by the "sponge" effect of the wetlands adjacent to the discharge point.

The third discharge point will be located near the northeast corner of the site. The final design peak flow will be significantly less than the pre-development peak flow. A large retention pond will be constructed to settle solids prior to discharge through a proposed storm sewer to the unnamed creek 660 feet north of the site. The final location and configuration of this sediment pond will be determined after negotiations between the proposers and the state.

The proposer shall be required to apply for an NPDES permit for the runoff from the site 180 days prior to the commencement of operations. The applicant shall further assess the potential for woodyard, bleach plant, and other area runoff to comply with Minnesota Water Quality Rules. This assessment will be based on data or findings for operations similar to the proposed facility. The assessment shall recommend necessary runoff control

and treatment technology such as primary and/or secondary treatment, runoff containment or treatment by the WLSSD facility.

2.3.2 Flooding Impacts

As discussed in Section 4.2.1 of the DEIS, Chapter 51 of the Duluth City Code defines several flood zone districts and places restrictions on construction and activities in the various districts. The floodway district is technically determined as the part of the 100-year floodplain as determined by the Flood Insurance Administration of the Federal Emergency Management Agency, in which filling or other floodplain encroachment would cause a rise in the 100-year flood elevation by more than 1 foot. In compliance with the Duluth City Code, there will be no filling, construction, or facility operations in the floodway district as a result of the proposed action. Existing grades along the banks of Keene Creek will be maintained and no construction will alter the creek or its alignment. The flood fringe district corresponds to the remainder of the 100-year floodplain. Generally, the Duluth City Code requires that structures in the flood fringe district be placed on fill above the elevation of the 100-year floodplain and that they be flood-proofed. There will be limited project construction in the flood fringe zone. The southern end of the manufacturing (paper machine) building will extend into the flood fringe zone, as will its appurtenant paved loading area. The southern half of the log storage area will also be in the flood fringe district.

Approximately 12 to 15 feet of fill will be placed to construct papermill facilities, placing them above the 100-year flood elevation. These measures will put the proposed facility into compliance with Chapter 51 of the Duluth City Code and will not appreciably impair the passage of flood flows nor raise the 100-year flood stage by more than 1 foot. Mitigation measures for hydrology-related impacts of the fully permitted action are the same as those for the proposed action.

2.3.3 Dioxin Analysis

Dioxin is a collective term for a family of 75 different compounds. Dioxins are known to be by-products from the production of many substances including the banned pesticides, 2,4,5-TCP and Silvex. Some paints, wood preservatives, and the once popular hospital cleanser hexachlorophene also contained traces of dioxin.

Concerns regarding water-related dioxin emissions from the pulp and paper-making industry arose in early 1985 during the U.S. EPA National Dioxin Study. As part of this study, tissue samples collected from fish in the Rainy River (Minnesota), Wisconsin River (Wisconsin) and Androscoggin River (Maine) were analyzed for dioxins. Most of the dioxin concentrations measured in these samples were in the range of from Below Analytical Detection Limits (BDL) to 20 parts per trillion (ppt). One apparent link among these results was that pulp and paper manufacturers appeared to be the major wastewater dischargers on these streams. To determine whether the pulp and paper mills might be contributing to the dioxin content of the fish, wastewater sludge samples were collected from mills in Minnesota, Wisconsin and Maine and analyzed for dioxin. Sludges rather than wastewater effluents were examined because dioxin has a natural affinity for solids (i.e., sludge) and is, therefore, easier to detect in sludges than in wastewater. The final results of the analysis of the Minnesota sludge showed a maximum concentration of 414 ppt dioxin. Results from the Maine mills showed dioxin levels in sludge from BDL to 51 ppt. Sludge samples from the Wisconsin mills indicated levels from BDL up to 159 ppt. These data became available only recently as the complete results of the National Dioxin Study will not be available until sometime in April, 1986. As a basis of comparison, the Center for Disease Control has utilized a dioxin concentration of 1,000 ppt to define a level of concern for soil involving human contact.

Pulp and Paper Industry Response

The National Council of the Paper Industry for Air and Stream Improvement, Inc. (NCASI), as the scientific research association of the pulp and paper industry, has recently undertaken an investigative program in response to

reports of dioxin in waste treatment sludges from pulp and paper mill operations. The principal concerns to be addressed include the extent to which dioxin and related compounds are present in waste streams, and whether such a presence is at environmentally significant levels considering likely avenues of exposure and present or evolving water management practices. NCASI has implemented Phase I of a Dioxin Study Program which includes the following elements:

- Confirmation and quantification of the possible presence of dioxins and related compounds in treated pulp and paper mill effluents and sludges
- Determination of levels of dioxins and related compounds in fish and other appropriate environmental samples upstream and downstream of pulp and paper mills
- Quantification of the presence of dioxin and related compounds in human food and animal forage crops that have been grown in soils that have been amended with sludges from pulp mills using a chlorine bleach process
- Assembly and analysis of existing information by an independent reviewer that allows preliminary identification of risks that might be associated with the levels of dioxin and related compounds found in the outlined analytical program.

State of Minnesota Response

Based on the limited information now available, the Minnesota Pollution Control Agency (MPCA) will undertake a sampling program for all bleached kraft pulp and paper mills located in the state. The relevance of this decision is that with cooperation from the U.S. EPA Laboratory in Duluth and the Western Lake Superior Sanitary District (WLSSD), MPCA will collect samples from the WLSSD wastewater treatment facility as well as contributing pulp and paper mills in the area.

Lake Superior Paper Industries (LSPI) Response

As an active member of NCASI, LSPI is a direct supporter of NCASI's research program to investigate the reports of dioxin in waste treatment sludges of pulp and paper mill origin. LSPI would also subscribe to sampling undertaken by MPCA or WLSSD if the state and local programs were implemented following construction of the proposed mill. Given the absence of an existing data base for the subject, it is prudent to identify the extent of the problem now and determine the adequate monitoring requirements for the new mill when more data are available. The use of a primary clarifier for the proposed mill will remove up to 80 percent of solids, and thus significantly reduce the likelihood of dioxin in the effluent (dioxin has a natural affinity for solids). Possible impacts associated with incineration of the primary clarifier sludge will be determined as further analysis continues. It may also be significant that the proposed LSPI paper mill will purchase, but will not produce pulp bleached with chlorine. The facilities where dioxin has been found in sludge in the greatest concentrations have been mills producing chlorine-bleached pulp. LSPI is committed to participate in NCASI-sponsored research on dioxin and to cooperate in state and local research programs.

2.4 NOISE

Numerous concerns were voiced during the public meeting over truck noise and its control. Although these topics were addressed in the DEIS they are discussed further in this section.

2.4.1 Traffic Noise Analysis

The FHWA Highway Traffic Noise Prediction Model used in the DEIS adequately addressed the impact of truck noise on nearby receptors. Minnesota Rules Parts 7010.1 through 7010.16 also prescribe certain noise limitations for various types of vehicles. In addition, state regulations provide guidance on the maximum noise levels to which a receptor should be exposed. In sum, the noise prediction model and state regulations regarding project noise are believed to adequately address potential project impacts.

Minnesota Rules Parts 7010.1 through 7010.16 address noise limits for various types of vehicles. Part 7010.11 discusses certain prohibitions on the operation, sale, and modification of vehicles in general. Part 7010.14 specifically addresses noise limits for vehicles over 10,000 pounds, typically referred to as heavy trucks.

For example, noise levels at a receptor located 100 feet from the center lane of travel, with trucks operating at speeds greater than 35 mph, cannot exceed 84 dBA. Similarly, vehicles manufactured after January 1, 1982 tested at less than 35 mph cannot exceed 74 dBA at 100 feet.

Although the standards primarily relate to noise limitations, which must be met by manufacturers, they are equally applicable to subsequent operation of such vehicles. Heavy trucks must meet certain noise limitations depending upon the age of vehicle manufacture, operating speeds, and distance of the receptor from the roadway.

The project will result in increased truck traffic in Duluth and consequently, more noise from trucks. The noise assessment presented in the DEIS included an adjustment for increased noise from heavy truck traffic. The FHWA Highway Traffic Noise Prediction model required an estimation of the number of trucks to which a given receptor will be exposed. The model included an assumption that any individual truck will produce noise emissions equivalent to approximately 84 dBA at a reference distance of 100 feet. This value corresponds with the Minnesota Noise limitations previously mentioned.

As previously indicated, the noise assessment presented in the DEIS utilized the FHWA noise prediction model which specifically addressed the effect of truck traffic on noise generation. The model incorporated the noise limitations contained in Minnesota Rules Parts 7010.1 through 7010.16. The proposer anticipates that the average vehicle accessing the proposed facility will comply with the state statutes on noise limitation. The proposer expects that all vehicles involved in the project will be properly registered, inspected and maintained. As a result, although the project will generate

more noise as described in the DEIS, the proposer does not anticipate the violation of any relevant noise regulations due to truck traffic.

2.4.2 Local Noise Ordinance

The question of noise enforcement is an important concern regarding the Minnesota motor vehicle noise regulations discussed above. The enactment of a local noise ordinance by the City of Duluth would serve as a further deterrent to potential excessive noise emissions and thereby, act as a mitigating measure for limiting noise impacts. The league of Minnesota Cities has prepared a model short-form noise control ordinance that addresses enforcement, along with other aspects of noise control (Appendix A).

2.5 TRANSPORTATION

In addition to noise from trucks, numerous concerns over truck traffic and potential routes to be used were voiced at the public meeting. New truck estimates from recent engineering studies have also been developed. Further analysis beyond that presented in the DEIS was performed for estimates of truck traffic and potential truck routes. The results are discussed in this section.

2.5.1 Revised Construction Truck Traffic Estimates

Based on the site and facility design engineering completed to date, the project will generate peak truck traffic demand during the early onsite construction activity. Excavation and site grading, the major work elements during this period, will require approximately 600 trucks to enter and exit (1200 trips) the site on a daily basis. This number is significantly lower than the 1000 trucks (2000 trips) estimated in the DEIS. This activity is scheduled to start May 1, 1986 and to build quickly to a peak activity level by mid May. After September 1, 1986, the excavation activity, which will generate the predominant portion of the 600 trucks daily, will quickly decline. Construction material deliveries, which contribute a minor amount of the 600 daily trucks, will start in a late May/June period. Average daily

truck demand during the later onsite construction period will total 100 trucks (200 trips) on a daily basis.

In 1975, a truck route implementation study conducted by the City of Duluth indicated that 800 to 900 trucks used Central Avenue daily. This level is approximately twice the current truck activity. The reduction from 2000 truck trips will not, however, result in any change to the level of service impacts discussed in the DEIS.

Careful scheduling of excavation activities and material deliveries, along with the use of a truck staging area, will help mitigate neighborhood traffic impacts. The truck staging area will be located onsite in the southeast corner; away from residential areas. The use of the truck staging area will reduce possible truck back-ups onto local streets and further reduce the likelihood of trucks idling on neighborhood streets. Additional measures to be taken to minimize the number of construction trucks during the peak demand period include:

- Use of the same truck fleet to haul excavated material from the site and deliver fill to the site. The goal is to avoid having empty trucks enter/exit the site.
- Use of barge and rail transportation to deliver certain construction materials to the site.

2.5.2 Alternative Truck Traffic Routes

In the transportation engineering analysis completed for the DEIS, facility generated truck traffic was routed to and from the site via Central Avenue which connects directly with the I-35 interchange. Central Avenue is a designated truck route in Duluth.

A further analysis was conducted to determine the feasibility of utilizing alternative routes to the site from I-35 for truck traffic as part of the response to DEIS review comments. The primary focus of the evaluation of

alternative truck routes was on the peak vehicle generation associated with the early onsite construction activity.

Two alternative truck routes were analyzed. Alternative 1 consists of the existing I-35 interchange at Cody Street west of Central Avenue in combination with the Highway 2 interchanges. Alternative 2 consists of the existing I-35 interchange at 40th Avenue West. The Alternative 2 routing option lies northeast of Central Avenue (Figure 2.5-1).

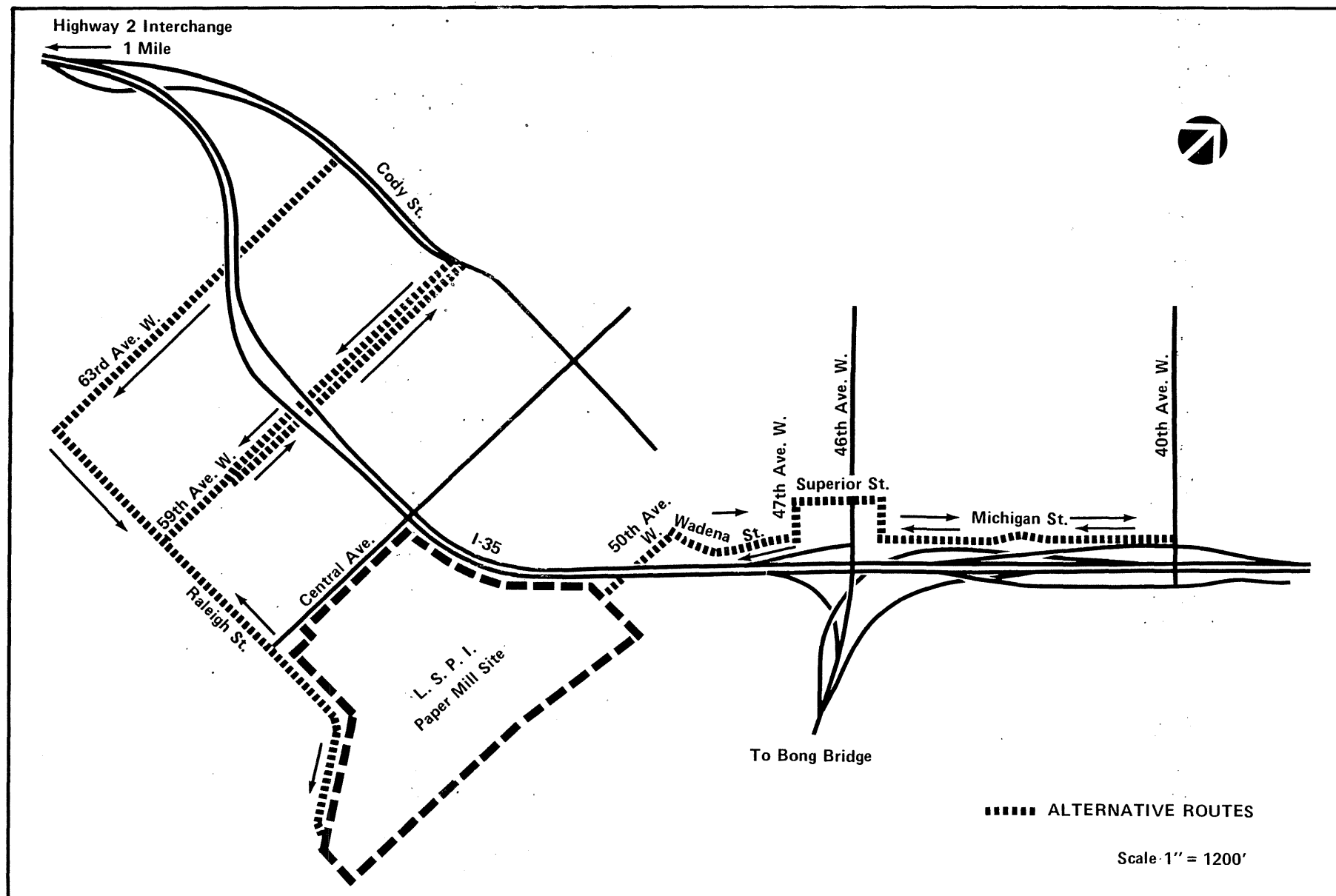
In evaluating the feasibility of utilizing the truck routes, the following engineering and land use criteria were applied:

- Roadway physical configurations - includes consideration of travel lane widths, turning radii at intersections, traffic control and pavement conditions
- Routing alignment - incorporates consideration of existing traffic flow patterns (i.e. - one-way or two-way circulation), length of route, and ease of use as measured by travel time, number of streets used and turning movements
- Land use compatibility - an evaluation of the compatibility of land uses along the route for truck traffic.

Each of the alternative truck routes was field checked to obtain the information required for application of the evaluation criteria. In addition, discussions were held with both the City of Duluth Traffic Engineering Department and the Minnesota Department of Transportation.

Alternative 1 - Cody Street

The Cody Street interchange with I-35, which is west of the Central Avenue interchange, consists of a southbound on ramp to I-35 and a northbound off ramp from I-35. Exiting the site to I-35 northbound or entering the site from I-35 southbound requires the use of the U.S. #2 interchange with I-35.



Source: LSPI

Alternative Truck Routes Cody Street Interchange and 40th Avenue West Interchange

Figure 2.5-1

Potential routings from the Cody Street interchange to the site are as follows:

- I-35 - Cody Street - 63rd Avenue West - Raleigh Street - papermill site
- I-35 - Cody Street - 59th Avenue West - Raleigh Street - papermill site.

The field survey revealed that 63rd Avenue is a narrow residential street. The primary land use along the facility is residential with several blocks of commercial activity. A "No-Trucks Allowed" sign is posted on 63rd Avenue and Grand.

Raleigh Street is a designated truck route. Land use along the segment of Raleigh Street that would be utilized consists of six blocks of residential development and two blocks of industrial/commercial use. The Good Shepherd Church, which provides day-care service, is located at the intersection of 59th Avenue West and Raleigh Street.

Field inspection revealed that 59th Avenue West is a residential street in poor condition. Traffic using 59th Avenue West would be traveling through densely developed residential neighborhoods.

The conclusion relative to the trucks using the Cody Street interchange with I-35 and the local streets to access the site is that neither of the routing alignments evaluated offers an acceptable alternative to Central Avenue. This conclusion is based on the following observations:

- Several of the streets are narrow with limited turning radii at intersection areas. Maneuvering and turning movements would be restricted as the streets were not designed for truck traffic
- Densely developed residential land uses front the streets comprising the routing alignment

- Use of the Cody Street - I-35 interchange would result in a more circuitous truck route to the site.

Alternative 2 - 40th Avenue West

The 40th Avenue West interchange with I-35 consists of a southbound off ramp to Michigan Street and a northbound on ramp from Oneota Street. The southbound on ramp from Michigan Street is at 41st Avenue West and the northbound off ramp to Oneota Street is at 44th Avenue West. The 40th Avenue West interchange operates as a full diamond interchange (Figure 2.5-1).

The route from the interchange to the site boundary is bordered by commercial land use interspersed with strips of vacant land. The extent of residential land use along this route is similar to that along Central Avenue.

The primary limitation of the 40th Avenue interchange alternative is the length and circuitous routing involved in its use. When approaching the site at 50th Avenue West, trucks would have to traverse several horizontal alignment curves on Michigan Street made necessary by the approach to the new Bong Bridge. The traffic flow pattern instituted due to the Bong Bridge would also require trucks accessing the site to double back a total of 30 blocks. In addition, 50th Avenue West would require redesignation as a two-way street to allow trucks through this residential area (Figure 2.5-1).

For trucks exiting the site to I-35, Michigan Street would have to be redesignated as a two-way street for the ten block segment from 50th Avenue West to 40th Avenue West. Trucks exiting at 40th Avenue West and traveling south would need to route themselves around the 41st - Superior - 40th block to access the I-35 southbound exit ramp (trucks could not make the turn from Michigan to the I-35 southbound ramp).

Based on the field survey performed, use of the 40th Avenue interchange with I-35 is not considered a viable alternative to the Central Avenue truck route to the site. The discussions held with both the Minnesota Department

of Transportation and the City of Duluth Traffic Engineering Department support this conclusion.

Specific rationale for the conclusion are:

- Use of the 40th Avenue interchange would require trucks to follow circuitous and complex routes
- Due to existing traffic flow patterns, trucks would have to double back when entering or exiting the site. To avoid these maneuvers, several street segments would require redesignation as two-way facilities
- Trucks would encounter several difficult operational maneuvers given the existing physical street geometry; access within the site from 50th Avenue West would be precluded by various plant facilities.

In conclusion, use of Central Avenue presents the most direct and efficient truck route to the site. With Central Avenue designated as a city truck route, the facility has historically been used for truck movement.

2.5.3 Traffic Safety

The traffic engineering analysis evaluated the operational safety of trucks using Central Avenue. The analysis indicated that operational safety standards would be met. Specific standards met include the following:

- Central Avenue is a designated truck route with a wide pavement width and good vertical/horizontal alignment. Stopping sight distance requirements far exceed standards for prevailing vehicle operating speeds on Central Avenue
- With the wide pavement width, trucks will have sufficient lateral clearance between opposing traffic flows

- Adequate capacity exists on the Central Avenue approach to the site to efficiently handle the peak construction truck traffic
- Intersection turning radii from Central Avenue to the streets connecting to the site can accommodate truck maneuvers.

With the project acquiring the land east of Central Avenue, the potential for vehicle and pedestrian interaction from residential land use located east of Central Avenue with facility trucks will be minimized. The playground contiguous to Central Avenue on the west is currently separated from traffic flow by both a major grade differential and a chain link fence. No sidewalks currently exist between the playground and Central Avenue. As residential development is acquired east of Central Avenue, the level of potential pedestrian movement across Central Avenue will be decreased.

The physical barriers created by the grade differential and chain link fence preclude direct movement from the playground across Central Avenue. The barriers, in conjunction with the peak construction truck demand occurring during the extended daylight hours characterizing the mid-May to August period, eliminate the need for additional lighting in the area of the playground. Further implementation measures, such as guardrails, will be evaluated as needed.

2.6 SOLID AND HAZARDOUS WASTE

New and revised information in three areas of the solid/hazardous waste management plans for the project is presented in this summary. Refinements in Hibbard Station fueling parameters resulted in an increase in ash generation. Field and engineering studies have found a large volume of organic soils, unsuitable for fill activities, and cleanup of the Union Compressed Steel hazardous waste site has begun, with work continuing.

2.6.1 Hibbard Station Ash Generation

The expected quantity of ash generated by Hibbard Station has been revised because of the greater heat input requirements of the Unit 3 and 4 boilers

and because unburned carbon was not included in the expected ash volumes presented in the DEIS. The unburned carbon must be landfilled along with the bottom and fly ash.

The DEIS reported a projected annual Hibbard Station ash quantity of 7600 tons. The revised quantity is approximately 34,000 tons or 42,500 cubic yards (CY). Derivation of the quantity is as follows:

5.5 tons/hour per unit is the maximum total ash generation rate

$5.5 \text{ tons/hour} \times 2 \text{ units} \times 35\% \text{ load} \times 8760 \text{ hours/year} = 34,000 \text{ tons/year}$

The total annual waste to be landfilled from the project is 39,220 tons or 49,115 CY, revised from 12,820 tons or 16,215 CY as stated in the DEIS. Hibbard Station ash may be landfilled at the Rice Lake landfill or, possibly, Beck's Road landfill. The Rice Lake landfill was estimated to have a remaining capacity of approximately 1,300,000 CY, as of 1982. As stated in Section 5.7.1.5 of the DEIS, ash will be disposed of according to MPCA regulations. Further testing will determine the final disposal method.

2.6.2 Soils Unsuitable for fill

Major site preparation activities include earthwork that will require disposal of waste soil. About 10,500 CY of topsoil and 148,000 CY of soil will be stockpiled onsite for reuse during final grading. A maximum of 255,000 CY of excess excavation from cut areas and unsuitable excavated material will be wasted. The need for a solid waste disposal permit or other permit will be determined. It is proposed that wasted material be deposited on a 20 acre site on a nearby 2,300 foot long, man-made peninsula on St. Louis Bay about 0.4 miles southeast of the project site. The site is owned by the Hallett Dock Company. The material would be graded to a slope of 3:1, seeded and mulched. During deposition, the material will be kept moistened as required to control fugitive dust emissions. The spoil will consist of clay-silt, silty fine sand, and medium to loose sand interspersed with small amounts of peat and old demolition wastes. The spoil disposed of in this manner will be free of free-flowing moisture. The truck traffic implicit in the disposal was considered in the previous truck traffic estimates.

2.6.3 Hazardous Waste Cleanup

The West Duluth Industrial Hazardous Waste Site (West Duluth site) comprises 90 acres that correspond very nearly with the papermill project site. Within the West Duluth site are two areas known to be contaminated by hazardous substances: 1) Approximately 10 acres formerly occupied by the Union Compressed Steel Company (Union Compressed Steel site); and 2) a well located on the site of the former Chun King Plant (W-7 site). The Minnesota Pollution Control Agency is strictly regulating cleanup of these two areas through a separate Remedial Investigation and Feasibility Study (RI/FS) and Response Action Plan (RAP) for each area.

Since publication of the DEIS, Lake Superior Paper Industries (LSPI) has developed and begun implementation of a cleanup plan for the Union Compressed Steel site. The work consists of a scrap removal action, remedial investigation, and feasibility study (RI/FS), and Response Action Plan (RAP).

The removal action was necessary to provide access for the remedial investigation and feasibility study. The ten acre site was covered with large piles of nonhazardous scrap metals. Removal of the scrap is 90 percent complete. Contaminated soil and some hazardous scrap remains on the site. Disposal of these wastes will be addressed in the remedial investigation and feasibility study.

The purpose of the remedial investigation is to provide sufficient information to allow selection and implementation of appropriate response actions to mitigate the release of hazardous substances at the Union Compressed Steel site. Preliminary results from field work suggest minimal groundwater contamination at this site. Laboratory analysis of soil samples has identified 11,000 CY of lead contaminated soil and 1,500 CY of PCB contaminated soil.

The purpose of the feasibility study (FS) is to provide a detailed evaluation of the feasibility and effectiveness of implementing alternative response actions to mitigate soil and groundwater contamination at the Union

Compressed Site. The FS shall use and build upon the information generated by the RI.

Following completion of the RI/FS, a response action plan will be developed to provide a detailed design of response actions which, upon implementation, will mitigate soil contamination at the Union Compressed Site and will protect the public health, welfare, and the environment from the threatened or actual release of hazardous substances, pollutants or contaminants associated with the Union Compressed Site.

The proposers plan to begin project construction activities in or adjacent to the Union Compressed site prior to completion of the response action. Therefore, a special element of the response action plan will address the removal, handling and temporary onsite storage of contaminated soils and materials located in areas directly affected by mill construction. The final disposition of these materials will be addressed in the approved response action for the site.

LSPI has also developed and submitted a separate cleanup plan for the W-7 site. LSPI has provided this input to the owner of the site in order to expedite cleanup of the existing groundwater contamination problem at the W-7 site. Further consultation between MPCA, the owner, and LSPI will lead to final details of that plan, with the site owner being responsible for execution of the RI/FS and RAP. The MPCA, after considering the urgency of actions needed to protect the environment for cleanup of the Union Compressed Steel site has determined that the following timetable is necessary and reasonable. The timetable references specific milestones of cleanup activity. A similar schedule will be followed for cleanup of the W-7 site.

Approve (with conditions) the scrap removal work plan.	Completed (1/21/86)
Issue a RFRA to the Union Compresses Steel Company and a notification to an indispensable party to the Union Compressed Bankruptcy Trustee.	Completed (1/28/86)

Approve or request modification of the RI/FS Work Plan, the W-7 RAP, the RI/FS QAPP and the scrap removal QAPP.	Completed (2/7/86)
Final approval of the RI/FS Work Plan.	Completed (2/17/86)
Request the MPCA Board to issue a Determination of Inadequate Response (DIR) to the Union Compressed Steel Company.	Completed (3/25/86)
Approve or request modification of the final scrap removal report.	3/31/86
Approve or request modification of the final RI Report.	4/15/86
Forward a draft Consent Order to Jeno's Inc. for W-7 and forward a draft Consent Order without technical details for the Union Compressed Site to the Lake Superior Paper Industries.	4/15/86
Approve or request modification of the Alternatives Report.	4/30/86
Approve or request modification of the Detailed Analysis Report and begin preparation of a Record of Decision (ROD). By approving the Detailed Analysis Report the MPCA Executive Director will have selected the remedy for the Site.	5/19/86
Approve or request modification of a RAP work plan.	5/26/86
Approve or request modification of the RAP which includes a remedial design, QAPP, and a response action monitoring plan.	6/16/86
Forward a draft Consent Order containing technical details including the selected remedy, a response action implementation schedule and a RA funding plan to the Lake Superior Paper Industries	6/16/86

Present to the MPCA Board for approval a Record of Decision 7/22/86
for the Union Compressed portion of the West Duluth
Industrial Hazardous Waste Site together with a request
for authorization to expend State Superfund monies and
Consent Orders executed by Jeno's Inc. and Lake Superior
Paper Industries.

2.7 ECOLOGY

Two areas of further ecological concern have been identified since publication of the DEIS: endangered species and onsite wetlands. Section 2.7.1 addresses the four federally listed endangered or threatened species located in St. Louis County, Minnesota, while Section 2.7.2 is an assessment of the wetland acreage present onsite. Each section discusses impacts and mitigation measures, as appropriate.

2.7.1 Endangered Species

The U.S. Fish and Wildlife Service has identified four federally listed threatened or endangered species whose ranges include St. Louis County, Minnesota (Smith, 1986). These species are the piping plover (Charadrius melodus), peregrine falcon (Falco peregrinus), bald eagle (Haliaeetus leucocephalus), and gray wolf (Canis lupus). This section presents a description of each species with respect to its possible occurrence on or near the papermill site, possible impacts from the project, and possible mitigation measures where appropriate.

Piping Plover - The Great Lakes population of the piping plover was listed as federally endangered effective January 10, 1986 (U.S. Wildlife Service, 1985). Populations in other areas were listed as threatened. This species is also listed as endangered in Minnesota (Minnesota DNR, 1984) and Wisconsin (Wisconsin DNR, no date). Piping plovers nest in shallow, scraped depressions on sandy beaches along the ocean and inland lakes, bare areas on dredge and natural alluvial islands in rivers, gravel spits along rivers, and salt-encrusted bare areas of sand, gravel, or pebbly mud on interior

alkali lakes and ponds. Within the St. Louis Harbor area, piping plovers nest during May and June (Pfannmuller, 1985).

The occurrence of this bird and two other colonial species within the St. Louis Harbor area is discussed in Section 4.8.1.2 of the DEIS. Possible indirect impacts to this species resulting from disruption of the ring-billed gull colony which nests on the peninsula east of the Hibbard Station are discussed in Section 5.8.1 of the DEIS. Possible impacts to the ring-billed gull colony resulting from the fully-permitted action have been reassessed; the peninsula east of the Hibbard Station will not be used as part of a rail-coal delivery system for the fully-permitted action. Thus, mitigation measures discussed for the proposed action (i.e., avoidance of direct human disturbances during the nesting season and limitation of access by placing a fence at the western end of the peninsula) would also be appropriate for the fully-permitted action. These actions should prevent gulls from abandoning their nesting area and potentially disturbing the piping plover.

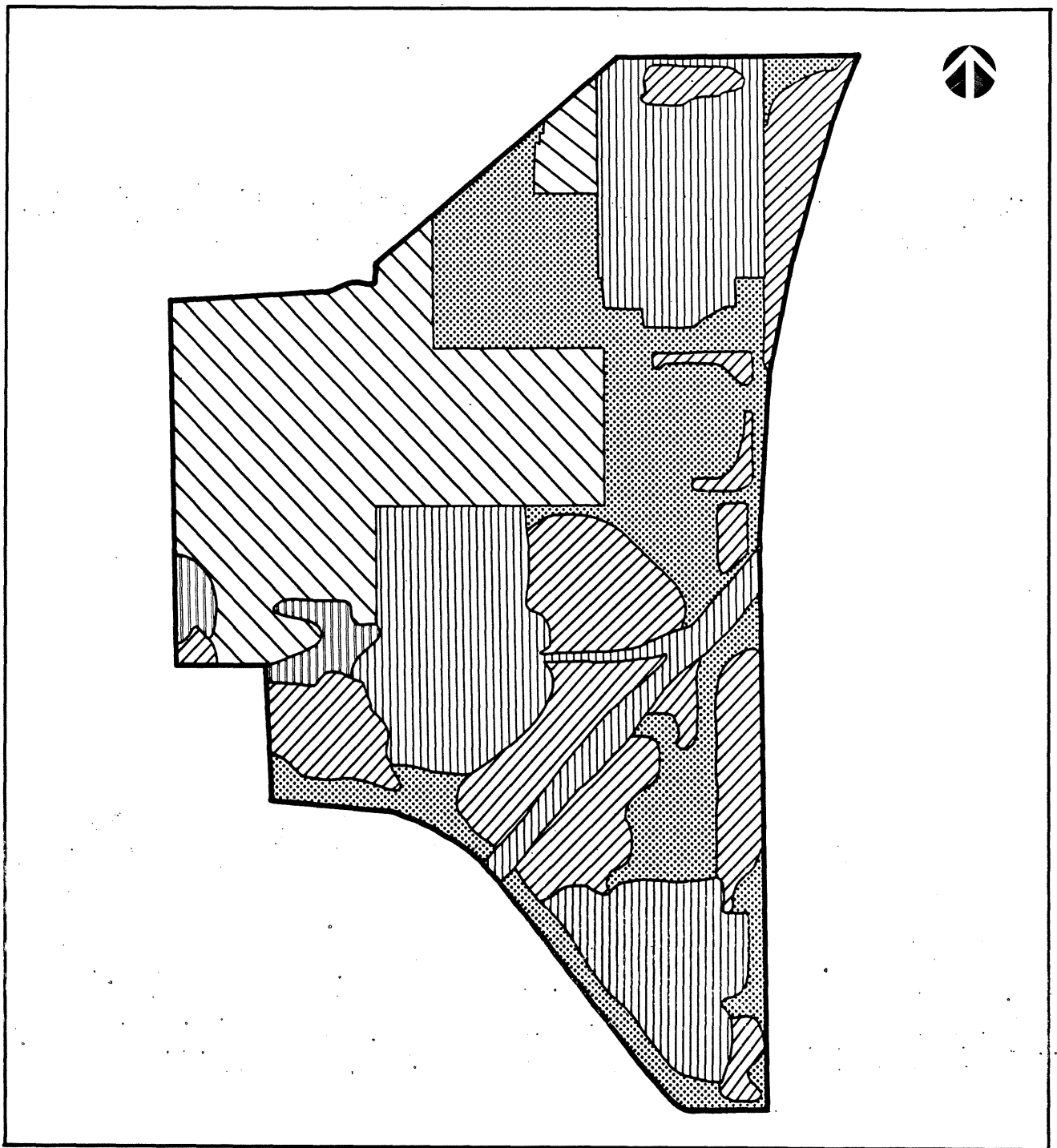
Peregrine Falcon - The peregrine falcon is listed as endangered by Minnesota (Minnesota DNR, 1984) and Wisconsin (Wisconsin DNR, no date), as well as by the federal government (U.S. Fish and Wildlife Service, 1986). Peregrine falcons are known to migrate through the Duluth area, particularly along Hawk Ridge (about ten miles from the site of the proposed papermill (Pfannmuller, 1986)). These migratory birds primarily pass through the area; however, some may stop over for short periods in the spring and fall (Evans, 1986). Birds that do stop over are known to feed on shore birds and pigeons in the area of Erie Pier (about one mile from the site) and Minnesota Point (about four miles from the site). A falcon was recently seen over the site by U.S. Fish and Wildlife Service personnel. It should be noted that peregrine falcons are being released on the North Shore of Lake Superior. One of these birds has overwintered in Duluth. It apparently feeds on pigeons in a railroad yard about three miles from the site and had a roost in the downtown area (Evans, 1986). It is unlikely that the proposed papermill would adversely impact either the migration of falcons through the Duluth area or any overwintering birds.

Bald Eagle - The bald eagle is listed as endangered by Wisconsin (Wisconsin DNR, no date) and threatened by Minnesota (Minnesota DNR, 1984). The federal government lists this species as threatened in both Minnesota and Wisconsin (U.S. Fish and Wildlife Service, 1986). Bald eagles are known to migrate along Hawk Ridge about ten miles from the proposed papermill (Pfannmuller, 1986). It is unlikely that they would use the immediate area of the site during migration. A pair has been known to nest about five miles upstream from the site (Evans, 1986). The proposed project would not be expected to adversely impact this pair.

Gray Wolf - The gray wolf is listed as endangered in Wisconsin by the state (Wisconsin DNR, no date) and federal government (U.S. Fish and Wildlife Service, 1986). Within Minnesota, this species is listed as threatened by both Minnesota (Minnesota DNR, 1984) and the federal government (U.S. Fish and Wildlife Service, 1986). The wolf is a species that requires sizable tracts of wilderness or semi-wilderness in which to live. This species would not be found on or near the proposed papermill site and hence would not be impacted by the project.

2.7.2 Wetlands

Wetland acreage at the papermill site has been reassessed (Figure 2.7-1 and Table 2.7-1). This has led to the identification of about 19 acres of on-site wetlands. Wetland types present include Types 2, 3, and 6 (U.S. Fish and Wildlife Service, 1971). Type 2 wetlands are inland fresh meadows, while Types 3 and 6 are inland shallow fresh meadows and shrub swamps, respectively. In conjunction with the 404 permit required by the U.S. Corps of Engineers, a consultation was held by the proposers with the Minnesota Division of Wildlife, U.S. Fish and Wildlife Service, and U.S. Corps of Engineers to define the type and acreages of wetlands potentially disturbed. It was determined that 9.3 acres of wetlands will be filled as a result of the project. This acreage can be broken down as follows: 3.3 acres of Type 2, 2.9 acres of Type 3; and 3.1 acres of Type 6. The wetlands along Keene Creek will not be filled.



Legend

-  Field
-  Woodland
-  Industrial
-  Residential/Commercial
-  Wetland Area

1 Inch = 460 Feet

**Principal Habitat/Land Cover Types
of the Project Site**

Figure 2.7-1

Impact mitigation will require compensation for the loss of onsite wetlands. This compensation will take place onsite to the greatest extent possible and could involve improvements to remaining wetlands and designing retention basins as permanent wet areas. If wetland loss cannot be fully compensated onsite, then neighboring property, Grassy Point, or other state or federal lands will be utilized in that order. Compensation will involve balancing the number of habitat units lost with the creation of an equal number. Specific measures utilized will be coordinated through additional consultation with the Minnesota Division of Wildlife and the U.S. Fish and Wildlife Service.

Table 2.7-1. Approximate Acreages for
Cover Types Identified at the
Lake Superior Papermill

Open fields	22 acres
Woodland	2 acres
Industrial/vacant	24 acres
Residential	25 acres
Wetland areas	<u>19 acres</u>
Total Project Area	92 acres

2.7.3 Impingement/Entrainment

The withdrawal of water from St. Louis Bay for papermill processes will entrain fish eggs and larvae to a variable degree depending on aquatic characteristics as well as the extent to which mitigation measures discussed in the DEIS Section 5.8 are employed and successful. Minnesota Power will begin a preliminary study in late spring and summer of 1986 to determine the fishery as it presently exists near Hibbard Station. The study will include, but not be limited to, collection of fish eggs and fry, and assessment of spawning and juvenile nursery areas used by the various fish species. Minnesota Power will submit a request to modify the Hibbard Station NPDES permit this winter. The modification will be directed at modifying the intake structure as well as outlining a more comprehensive study of the fishery for the late spring and summer of 1987. The goal is to assess what

final mitigative efforts need to be determined, if any, for a fully operational Hibbard Station and before the papermill begins its proposed operation in late 1987. Final mitigative measures will be determined during consultations between the project's proposers, MPCA, MDNR, and the USFWS.

2.8 TIMBER HARVESTING

Changes in Hibbard Station fueling parameters have resulted in changes to fuelwood consumption numbers. Revisions to surplus timber and employment numbers are also discussed in this section.

2.8.1 Fuelwood Consumption

Currently, the project is scheduled to use 251,000 cords of balsam fir, spruce, and birch per year. Approximately 115,000 cords will be balsam, 56,000 cords spruce, and 80,000 cords birch. This represents a 20,000 cord-per-year increase in birch over figures presented in the DEIS. Aspen will eventually replace spruce in the wood mix.

2.8.2 Surplus Timber

It has been estimated that about 25 percent of the balsam fir and 10 percent of the spruce and birch could come from Wisconsin (Prosek, 1985, 1986). Previously, all birch was projected to come from Minnesota. Utilizing this data and the surplus calculated for each species (see DEIS, Section 4.10), it is possible to determine how much of this surplus will be used in each state. Within Minnesota, an estimate of 40, 50, 15, and 19 percent of the surplus balsam, spruce, aspen, and birch would be used per year, respectively. Within Wisconsin, 25 percent of the balsam surplus, 5 percent of the spruce surplus, and 7 percent of the birch surplus would be used by the project each year. As noted in the DEIS, Section 4.10.2.2, there does not appear to be a surplus of aspen in Wisconsin.

2.8.3 Employment

Due to changes in the volume of wood to be used and the fact that some birch is now projected to come from Wisconsin, direct and indirect employment figures must be recalculated. Using the volume of wood set forth in Section 2.8.1 and the percentages of each species coming from Minnesota and Wisconsin (see Section 2.8.2), as well as the values of 1,710 cords per year for one full-time equivalent logging position and a 0.9 multiplier for spin-off jobs, it is possible to calculate revised direct and indirect employment resulting from the proposed project for each state. Within Minnesota, values for direct and indirect employment are 122 and 110, respectively, while within Wisconsin, they are 25 and 22, respectively.

2.8.4 Environmental Impact and Mitigation Measures

The cutting of an additional 20,000 cords of birch should not significantly change those environmental impacts discussed in Section 5.10 of the DEIS. Mitigation measures, noted in this section, should also be applicable to the revised timber requirements.

CHAPTER 3

RESPONSES TO DEIS COMMENTS

3.0 RESPONSES TO DEIS COMMENTS

A major purpose of the FEIS is to represent a forum for addressing public concerns and questions. Comments on the DEIS were solicited by MPCA and received through letters and the public meeting in Duluth. The following sections detail the concerns raised during this process and how each is addressed.

3.1 SUMMARY OF THE PUBLIC MEETING

A public meeting was held regarding the adequacy of the DEIS in Duluth on February 18, 1986. The comments from the transcript of the meeting were summarized and organized under the general areas of concern listed below. Responses to the comments are presented on the following pages and are numbered to correspond to the comment numbers.

3.1.1 Summary of Public Meeting Comments

<u>Transcript Comment</u>	<u>Commenter</u>	<u>Transcript Page Number</u>
<u>DEIS SECTION 5.1 - AIR QUALITY AND ODOR</u>		
1. Concern about odor from Western Lake Superior Sanitary District Facilities due to papermill loadings	Downs	12
2. Concern about fogging and icing impacts from papermill and Hibbard Station	Downs Talarico	15 52
3. Concern about fugitive dust and blowing demolition debris	Downs	16

DEIS SECTION 5.2 - SURFACE WATER

4. Concern about papermill as source of dioxin contamination	Jones	29, 30
	Zimmerman	35
	Malachi	38, 39
	Bohlman	44, 45, 47
5. Concern about contamination of water supply	Jones	29
	Malachi	41

DEIS SECTION 5.3 - NOISE

6. Concern about truck noise	Downs	14
	Talarico	51, 52
	Boltti	56

DEIS SECTION 5.4 - LAND USE

7. Concern about diminished recreation values	Talarico	52
8. Concern about site aesthetics - final grading and landscaping	Talarico	52
9. Concern that project zoning was inappropriate	Talarico	53
10. General concern about project siting	Jones	29, 30
	Zimmerman	35, 36
	Malachi	38

DEIS SECTION 5.5 - TRANSPORTATION

11. Concern about changes in truck traffic estimates	Downs	13, 18, 19
--	-------	------------

12. Concern about impacts from increased truck traffic	Downs	14
	Talarico	50
	Boltti	56
13. Concern about truck routes and alternatives	Downs	14
	Talarico	50, 51
	Boltti	56
	Spehar	57
14. Concern about traffic safety/lighting	Talarico	50

DEIS SECTION 5.7 - SOLID AND HAZARDOUS WASTE

15. Concern about large quantity of ash and where it will be disposed	Downs	17
16. Concern about chemical handling and transportation safety	Jones	29, 32
	Talarico	51
17. Concern about "stirring up" contamination at Union Compressed Steel Site	Zimmerman	36, 37

DEIS SECTION 5.8 - ECOLOGY

18. General concern about impacts on vegetation and wildlife	Downs	17
--	-------	----

DEIS SECTION 5.9 - ECONOMICS AND SOCIAL CONDITIONS

19. Concern about loss of homes in project area	Talarico	53
---	----------	----

DEIS GENERAL CONCERNS

20. Concern about permitting process and the adequacy of review	Downs Bohlman	12, 13 43-45
---	------------------	-----------------

3.1.2 Responses to Comments Received at Public Hearing

1. See DEIS Section 5.1.9. As stated in paragraph 5, operating parameters of the pretreatment system at the mill will prevent odor excursions. The project will not impact the level of odor excursions which may occur at WLSSD collection and treatment facilities.
2. See FEIS Section 2.2.2.
3. See DEIS Sections 5.1.2.3 and 5.1.2.4 for a complete discussion of mitigation measures concerning fugitive dust. Contracts with contractor(s) hauling demolition type waste will clearly stipulate control of blowing demolition debris.
4. See FEIS Section 2.2.3.
5. Protection of local water supplies and water quality in general is of great importance. Cleanup of existing hazardous wastes onsite should dramatically improve a continuing local problem. Duluth's water supply intake plant is located approximately 12 miles north of the project site, and situated 2 miles offshore in Lake Superior. The water intake for the City of Superior is located on Minnesota Point in Lake Superior approximately 6 miles east of the project site. No contamination of this source by the project is expected.
6. See FEIS Sections 2.4.1 and 2.4.2.
7. The project will maintain existing site recreation opportunities.
8. Cleanup of the Union Compressed Steel site along with consolidation of site land uses into one consistent plan should improve current site

aesthetics. Careful site grading and landscaping will complement community and neighborhood aesthetics. The more industrial appearing facilities of the papermill project will be largely shielded from neighborhood view by the plant itself.

9. Rezoning of the project site is part of a larger plan (the Border City Enterprise Zone Program) enacted by the State of Minnesota and the City of Duluth. The program, begun in 1983, is designed to encourage new and existing business activity. The project parcel encompasses one of approximately 15 parcels identified as target areas within the Duluth Enterprise Zone. The project is also consistent with the "Land Use and Management Plan for the Duluth-Superior Harbor" prepared by the Metropolitan Interstate Committee (Powers, 1985). This plan addressed the use and protection of the waterfront.
10. No potential alternatives to the present site were identified in the Environmental Impact Statement (EIS) scoping process. Generally, an EIS evaluates the environmental impacts of only a number of feasible alternative sites presented by the proposer. Significant reasons for siting the project at this location include: proximity of the Hibbard Station for steam generation, excess capacity at nearby WLSSD facilities, existing transportation systems, and the economic incentives provided by the City of Duluth.
11. See FEIS Section 2.5.1.
12. See FEIS Section 2.5.1.
13. See FEIS Section 2.5.2.
14. See FEIS Section 2.5.3.
15. See FEIS Section 2.6.1.
16. See FEIS Section 2.1.4.

17. See FEIS Section 2.6.3.
18. The DEIS did not identify any major or significant vegetation or wildlife impacts from the project which were not addressed by proposed mitigative actions.
19. The loss of housing resulting from the project was not identified as a major impact because of the large surplus of housing units available in Duluth. In recent years, housing units of various types have become available as the local population declined, including over 700 homes for sale in Duluth in December 1985. Of these, approximately 180 were in West Duluth. Current rental vacancy rates range from over 5 percent in newer buildings to 25 percent in older buildings.
20. During the construction phase most permits are issued on a one-time basis. However, operation of the project will require a number of permits that are reissued on a periodic basis. The review of these permits can consider and address new areas of concern that may develop as the facility operates or operational problems that may result in failures to comply with permit requirements.

3.2 LETTERS NOT REQUIRING RESPONSE

Two flyers are included that were circulated at the public hearing in Duluth on February 18, 1986. No responses are given to these as all substantive issues are addressed in responses to public hearing or letter comments.

FRAUD!

FRAUD!

FRAUD!

FRAUD!

FRAUD!

THIS HEARING IS A FRAUD!!!!!!!

NO ONE WILL HEAR YOUR CONCERNS ABOUT THE ENVIRONMENT

NO ENGINEER WILL USE HIS GOOD JUDGMENT

THE LAND AND WATER WILL BE POLLUTED

YOU AND YOUR CHILDREN WILL BE POISONED BY DIOXINS

LABOR UNIONS WILL BE "DOUBLE-BREASTED"

SUPPLIERS WILL BOYCOTT DULUTH

THIS WILL BE ANOTHER RESERVE MINING

THIS WILL BE ANOTHER LOVE CANAL

NO ONE WILL STOP IT!!!!!

THIS HEARING IS A FRAUD!!!!!!!

WHAT WILL (AND WILL NOT) LAKE SUPERIOR PAPER CO. DO FOR THE NORTHLAND?

* * * * * LAKE SUPERIOR PAPER COMPANY WILL * * * * *

* NOT WAIT FOR APPROVAL OF THE ENVIRONMENTAL IMPACT STATEMENT BEFORE STARTING WORK

(The City of Duluth has already awarded a \$360,000 contract to demolish buildings where the paper plant is going to be built; people are being relocated; CONTAMINANTS ARE BEING STIRRED UP; street and sewer modifications are out on bids; Minnesota

Power is modifying the Hibbard Steam Plant...ALL WITHOUT ENVIRONMENTAL APPROVAL)

* PASS THE COST OF CLEAN-UP OF THE UNION COMPRESSED STEEL CONTAMINATION ON TO THE TAXPAYER, RATHER THAN FORCE THE OWNERS TO CLEAN UP THEIR OWN MESS.

* INTERFERE WITH VITAL ENVIRONMENTAL CLEAN-UP MEASURES WHILE THE PCA "RUSHES THRU" THE APPROVAL OF THE LAKE SUPERIOR PAPER CO. ENVIRONMENTAL IMPACT STATEMENT.

* FORCE LOCAL PRODUCERS OF FOREST PRODUCTS TO SELL AT UNREASONABLY LOW PRICES BY USING M, P & L FOREST LANDS TO DOMINATE THE MARKET.

* DUMP DEADLY DIOXINE INTO THE WATER SUPPLY OF MINNESOTA, WISCONSIN, MICHIGAN AND CANADA

* THREATEN THE AQUATIC LIFE OF THE ST. LOUIS RIVER AND LAKE SUPERIOR

* PRODUCE A PRODUCT WHICH IS ALREADY IN OVERSUPPLY

* WASTE GOOD HOUSES AND BUILDINGS IN WEST DULUTH

* ADD TO THE ALREADY CONTAMINATED WEST DULUTH RIVER FRONT

* ABSORB MILLIONS OF DOLLARS OF FEDERAL AND STATE GRANTS AND TAX CONCESSIONS

* FOLD UP THEIR BUSINESS AFTER A FEW YEARS, and

* LEAVE TOWN

The President of Lake Superior Paper Co. has gone on record as refusing to have any dealings with representatives of local business interests. Doesn't that tell you something? If Lake Superior Paper Company was a legitimate business enterprise, would they be in such a hurry to get environmental approval or would they wait until they have assurance that the area they intend to operate in for years to come is suitable in every respect?

Think twice...think three times...before you jump on the Lake Superior Paper co. bandwagon. It will be your children and grandchildren who might have to live with the birth defects.

3.3 COMMENT LETTERS AND RESPONSES

Seven comment letters were received for which responses were required. These letters are listed below and copied on the following pages. Specific comments in the letters for which responses were developed are noted in the margins and numbered. The numbers correspond to the numbers on the responses to comment letters immediately following the seven letters.

3.3.1 List of Comment Letters

1. The Moline Company, letter, dated February 25, 1986.
2. Superior National Forest, U.S. Forest Service, USDA, February 25, 1986.
3. Minnesota Department of Natural Resources, March 3, 1986.
4. Wisconsin Department of Natural Resources, March 3, 1986.
5. Earth Protector, Inc., March 3, 1986.
6. Allen Lind, Ph.D., March 4, 1986.
7. Fish and Wildlife Service, U.S. Department of the Interior, March 4, 1986.
8. U.S. Environmental Protection Agency, March 10, 1986.



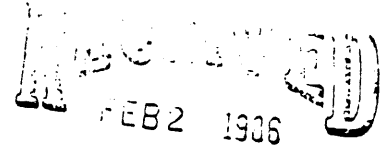
Bakers' Equipment

A Division of The Bakers' Equipment Company

P.O. BOX 16308 DULUTH, MINNESOTA 55816-0308

Telephone (218) 624-5734

February 25, 1986



MINN. POLLUTION
CONTROL AGENCY

Minnesota Pollution Control Agency
Attn: Mr. Craig Affeldt
Office of Planning and Review
1935 West County Road B-2
Roseville, MN. 55113

Subject: Lake Superior Papermill Environmental Impact Statement

Dear Mr. Affeldt:

I have examined the Environmental Impact Statement on the Lake Superior Papermill Project and I am particularly concerned with the control of traffic during the construction period.

1 Our business is located on the N E corner of Central Ave. and Raleigh Street. The proposed officer control at this intersection, paragraph 5.5.4, does not appear to be sufficient to provide for an orderly flow of traffic in or out of our plant, parking lots or provide adequately for the safety of our employees at the beginning or end of the work shifts.

I would like to discuss this matter in detail with you or your representative.

Yours very truly,
THE MOLINE COMPANY

A handwritten signature in cursive script that reads 'Don Moline'.

Donald V. Moline
General Manager

DVM/ap

SPECIALISTS IN PASTRY PRODUCTION EQUIPMENT



United States
Department of
Agriculture

Forest
Service

Superior
National
Forest

515 West 1st Street
P.O. Box 338
Duluth, MN 55801

Reply to: 2120

Date: February 25, 1986

Mr. Craig N. Affeldt
EIS Project Manager
Office of Planning and Review
Minnesota Pollution Control Agency
1935 West County Road B2
Roseville, MN 55113-2785

10-1-1986

MINN. POLLUTION
CONTROL AGENCY

Dear Mr. Affeldt:

We have reviewed the Draft Environmental Impact Statement (DEIS) on the Lake Superior Paper Company Duluth Papermill Project. The Superior National Forest in northeastern Minnesota and the Chequamegon National Forest in northwestern Wisconsin strongly support the potential increased utilization of balsam, spruce, birch, and aspen associated with either the Proposed Action or Fully Permitted Alternative. Without question, the economic and social benefits associated with increased jobs in timber operations and the mill, secondary employment, purchases of locally-produced goods and services, and a broadened tax base are an attractive addition to the economically depressed area of northeastern Minnesota and northwestern Wisconsin.

We do, however, have one concern related to either the Proposed Action or Fully Permitted Action. Our concern involves emissions of air pollutants from the Hibbard Station and effects (if any) they would have on the air quality related values (AQRVs) of the Boundary Waters Canoe Area (BWCA) Wilderness and Rainbow Lake Wilderness Area--the two nearest Prevention of Significant Deterioration (PSD) Class I areas.

2

As you clearly state in the DEIS Introduction (item 2.2), one major purpose of the EIS process is generation of information that can be used in making decisions on permit applications. Our concern about potential air pollutant impacts on PSD Class I wilderness fulfills our Clean Air Act mandated role discussed in the DEIS on page 4.1-5--The Federal Land Manager of Class I PSD areas reviews new pollution sources to ensure that AQRVs are not adversely impacted. This letter is to inform you that we (the Federal Land Manager of the two nearest Class I areas) wish to become involved in the PSD permit review related to re-activation of the Hibbard Station as a major source for SO₂, CO, and NO_x.

Dispersion modelling or other predictive tools used to analyze either the Proposed or Fully Permitted Action should specifically address potential increased pollutant concentrations in both the BWCA and the Rainbow Lake Wilderness. We request that we be given an opportunity, at the earliest possible stage in the PSD permitting process, to review results of the modelling work and that those individuals knowledgeable





about how the models were applied be available to answer questions and interpret the results. We are willing to help arrange a meeting involving the Forest Service, MPCA, and the contractor(s) involved in the modelling work, but we are also open to other suggestions on how this information exchange can be accomplished.

As you are probably aware, the role of the Federal Land Manager in PSD permit review is somewhat different than that of the permitting authority (MPCA). The degree to which a specific PSD increment is consumed is a secondary consideration in our review. Our concern is first and foremost that identified air quality related values of wilderness areas not be unacceptably changed by a reduction in air quality. To initiate the exchange of information suggested earlier, we offer you the following list of air quality related values which have been identified as needing protection in each wilderness:

BWCA: visibility, water quality, vegetation, fish and wildlife, odor, historic and prehistoric resources

Rainbow Lakes: water quality, vegetation, fish, soil, and odor

These are the values which we will seek to protect by way of our review of information submitted pursuant to any PSD permit.

2

The statement is made on DEIS page 5.1-8 that analysis of predicted concentrations of SO_2 at Rainbow Lakes Class I wilderness area demonstrate that increment consumption there would be less than zero. We are uncertain as to exactly what this means. If it means there would actually be no change or a reduction in annual average concentration and no change in maximum 3 hr. and 24 hr. concentrations, it appears to us that there would be no increased risk of SO_2 impact on Rainbow Lakes wilderness AQRVs. Alternatively, if it means that the new emissions may result in increased short term maximum concentrations, there may be a need to do additional analysis to determine what impact this might have on AQRVs. To resolve this uncertainty, it would be helpful to us if the results of the SO_2 modelling as it applies to Rainbow Lakes could be explained in greater detail.

We noted that the potential for air quality impacts on the BWCA Class I wilderness is not discussed in the DEIS. This omission should be corrected in the Final EIS. We would like to review the data, modelling results, or other facts that lead to the decision not to include the BWCA in the air quality analysis in the DEIS. In addition, we would appreciate your sharing of any data or analyses indicating that emissions from the Hibbard Station would or would not result in increased concentrations of other significant pollutants (CO , NO_x , TSP) in either the BWCA or Rainbow Lakes.

3

On page 4.1-12, ozone concentration monitored in Roseville, MN is stated as a conservative estimate of rural ozone. Rather than relying on this assumption, we suggest that actual measured ozone concentrations be used where available for identifying "background" levels in rural locations of concern. Ozone data is available for the





3

Fernberg air monitoring station (BWCA) and from USEPA reports (Rainbow Lakes). Our concern arises from Forest Service review of air quality data from the Northeastern U.S. which shows episodic ozone concentrations in rural areas to be higher than urban source areas of precursors.

4

In addition to our interest in the PSD process, we would also like to review information which better explains why the Hibbard Station retrofit is exempt from New Source Performance Standards. Clarification is also needed on whether the modelled concentrations represent total or net (total minus 1978 baseline for Hibbard) emissions.

Please do not view our concern with protecting wilderness air quality as a major stumbling block to progress on the Papermill Project--we do not presently view it that way. Our interest is in assuring that we get an opportunity to review and have explained to us the air quality predictive data and interpret what the data means in terms of potential impacts on BWCA and Rainbow Lakes wilderness values. If we can feel reasonably confident, based on our review, that wilderness AQRVs will not be negatively impacted by Hibbard Station emissions, we will be free to offer our unreserved endorsement of the Papermill Project.

If you have further questions on our interests in this matter or wish to discuss ways the information exchange could take place, please contact Bob Berrisford of our office at 218-720-5385.

Sincerely,

Clay G. Beal

CLAY G. BEAL
Forest Supervisor

cc: Forest Supervisor, Chequamegon N.F.
Gordon Small, RO-LWM





BOX 10, 500 LAFAYETTE ROAD • ST. PAUL, MINNESOTA • 55146

DNR INFORMATION
(612) 296-6157

March 3, 1986

Mr. Craig Affeldt
Office of Planning and Review
Minnesota Pollution Control Agency
1935 West County Road B2
Roseville, Minnesota 55113

MINN. POLLUTION
CONTROL AGENCY

RE: LAKE SUPERIOR PAPERMILL - DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)

Dear Mr. Affeldt:

The Department of Natural Resources (DNR) has reviewed the above-referenced document. In general we feel that the DEIS provides an adequate analysis of the potential impacts of this project.

We are concerned however, about the effects that this project may have on water resources in St. Louis Bay, Keene Creek, and wetland areas on the site, and on the associated fish and wildlife resources. We also have comments regarding the sections in the DEIS describing timber supply and harvesting impacts.

5 We feel that the DEIS should have provided more discussion of the project's effects on wetlands. This should include a more complete description of the existing on-site wetlands according to acreage and type. Figure 4.8-1 should be modified to indicate wetland configurations by type and an additional map should be provided to show post-construction wetland conditions. We strongly encourage the mitigation of on-site wetland losses. The mitigation alternatives should be addressed in the FEIS. We suggest that the existing wetland northeast of the site between the railroad tracks be enhanced to provide additional mitigative habitat value. The Grassy Point area to the south of the project site would provide excellent mitigation for many of the project's impacts if it could be acquired and transferred to state ownership. This area would provide a long-term fisheries nursery area as well as an access point for anglers to replace the lost access via the Hibbard Station road.

A related impact of the project is the effect of stormwater runoff on surface water resources. We support the plan to use the wetland in the northeastern corner of the site as a retention basin for stormwater runoff prior to discharge to St. Louis Bay. We suggest that surface runoff which will drain to Keene Creek also be routed through a retention basin prior to its discharge. A DNR protected waters permit will be required if a stormwater outfall structure is constructed in the creek. The natural habitat values of stormwater retention areas can be enhanced by retaining a fringe of cattail vegetation around each basin and maintaining normal condition water depths between 1.5 and 2 feet.

AN EQUAL OPPORTUNITY EMPLOYER

6 In discussions with the project proposers we have learned that they are considering construction of a second causeway to the Hibbard Generating Plant. The potential impacts of the causeway were not addressed in the DEIS. It is our understanding that the primary purpose of the causeway is to provide a route for the steam line from the generating plant to the papermill. We believe that the resulting adverse impacts on the bay environment, including fish spawning area reduction, are unnecessary because the steam line could be routed on the existing causeway. Also, because time is a factor in construction of the plant, it may be more expeditious for the proposers to pursue an alternative more compatible with our protected water permit standards. We would like the FEIS to address the impacts of the causeway and identify potential alternatives.

7 We feel that the DEIS could have provided more information in Section 4.7 regarding the alternatives being considered for disposal of contaminated soil from the site. We are aware of the project proposer's consideration of a disposal alternative which would involve placing the contaminated soil within clay layers in the wetland area behind the Stellan Trucking site. We feel that disposal in this area would place the fill below the high water table near Keene Creek and St. Louis Bay. If the area were also used as a wood storage lot, the extreme overburden pressures could adversely affect the structural integrity of the disposal site. We are also concerned that tannic acid leaching from the overlying wood could contribute to release of lead from the contaminated soil.

The proposers have indicated that at least 125,000 cubic yards of off-site fill will be required during initial site grading. We recommend that dredged material from the nearby Erie Pier disposal site be used for the fill. Both polluted and unpolluted dredged spoil is available.

8 The DEIS adequately addresses the potential impacts on the ring-billed gull colony located near the Hibbard Station. We recommend that as much as possible, disturbance of the colony area be avoided. The critical period for these birds is the nesting and fledging season from early April to mid-July. As noted in the DEIS, the full development alternative may result in disturbance of the colony to the point where birds would leave the area and interfere with tern and plover nesting activity. The FEIS should suggest additional mitigation that would be applied in that event.

The sections of the DEIS describing timber supply and harvesting impacts are generally adequate. However, they do contain some errors and omissions which the following specific comments are intended to correct.

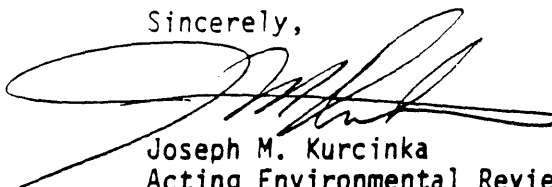
- 9 | Page 4.10-1, Sect. 4.10.1, ¶3 - The last sentence should be changed to read: "Spruce would likely come from ... balsam, fir, aspen and birch from within 75-100 miles."
- 10 | Page 4.10-5 - Footnote b. should be changed from 20 percent to 25 percent.
- 11 | Page 4.10-8 - Table 4.10-4 should be updated by employing the following 1984 surplus figures:
- | | |
|--------|---------------|
| Balsam | 159,000 cords |
| Spruce | 78,400 cords |
| Aspen | 220,100 cords |
- 12 | Page 4.10-10, ¶1 - A third sentence should be added as follows: "This estimate assumes that growing conditions and budworm population dynamics in 1983 - 85 were similar to the period 1972 - 82." The last sentence should be changed to read: "It should be noted that budworm mortality was taken into account when the Division of Forestry calculated the" An explanation of how the 164,000 cord loss was determined would also be helpful.
- 13 | Page 4.10-10, Sect. 4.10.3.2, ¶1 - Add Hennepin Paper Company of Little Falls, Minnesota and delete Potlatch in Cloquet, Minnesota from the list of spruce/fir users.
- 14 | Page 4.10-13 - Table 4.10-6 contains would use projections and estimates which may or may not be accurate.
- 15 | Page 5.10-1, Sect. 5.10.1.1, ¶1 - In first sentence change 231,000 to 290,000 cords. In second sentence change wording as follows: "Approximately 135,000 cords will be balsam, 65,000 cords will be spruce, and 95,000 cords will be birch fuelwood."
- 16 | Page 5.10-3 - The Streams and Soils section discussion should reflect the use of timber harvest setbacks, varying from 35 - 400 feet, used by the Division of Forestry to protect streambanks and water quality from erosion and sedimentation effects. Minnesota Statutes or the DNR Division of Forestry Forest Development Manual specify setback requirements and other timber harvest regulations.

17

The DEIS did not address the project's aesthetic and socio-economic impacts on the recreation values in the St. Louis Bay area. Recreation in the bay has increased with improvements in water quality. Because recreation is an important component of the City of Duluth's economic base, the effects on recreational use should have been addressed.

Thank you for the opportunity to comment on this document. We hope that these comments will aid in your preparation of an adequate final document.

Sincerely,



Joseph M. Kurcinka
Acting Environmental Review Coordinator

JMK/DB:j1

c: John Chell
Earl Huber
Wayne Edgerton
Pete Otterson
Rick Staffon
Herb Johnson
Barbara Coffin
Brian McCann
Carl Prosek
Robert Lindholm - Minnesota Power



State of Wisconsin / DEPARTMENT OF NATURAL RESOURCES

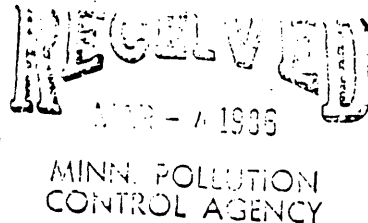
Northwest District Headquarters
P.O. Box 309
Spooner, Wisconsin 54801

Carroll D. Basadny
Secretary

March 3, 1986

1600

Mr. Craig N. Affeldt
EIS Project Manager
Office of Planning & Review
Minnesota Pollution Control Agency
1935 W. Co. Rd. B2
Roseville, MN 55113-2785



Dear Mr. Affeldt:

We have completed our review of your draft Environmental Impact Statement (EIS) for the proposed papermill development in Duluth. Our comments are outlined below for your review and consideration in preparation of the final EIS.

Air Quality

18

In reviewing the dispersion modeling results listed on pg. 5.1-4 of the draft EIS, it appears as though the modeled particulate emission concentrations from the proposed Hibbard Station conversion approach the secondary TSP ambient air quality standard of 150 micrograms/m³ (worst case conditions were modeled at 147.7 ug/m³ on a 24-hour basis). Will the final air permit for the Hibbard Station conversion to solid fuel firing include a contingency plan if TSP air quality exceedances are recorded in the vicinity of the power plant? If not, a contingency plan to prevent additional exceedances should be incorporated into the air permit. This may include fuel switching and load changes at the Hibbard Station.

As requested in our review comments on the Environmental Assessment Worksheet for this project, could you please provide us with a copy of your preliminary air quality analysis which details the air impacts on Duluth-Superior TSP nonattainment areas. Also, could you please submit draft copies of the Air Pollution Control Permits for the papermill project and the Hibbard Station fuel conversion to us for review.

19

We are concerned about the additional waste loading to the sludge incinerator operated by the Western Lake Superior Sanitary District (WLSSD). Has the incinerator been tested recently and does it currently conform to MPCA air pollution control standards?

Attached are some additional comments sent to us from our Bureau of Air Management in Madison for your consideration.

CORRESPONDENCE, MEMORANDUM

STATE OF MINNESOTA

Date: February 26, 1986

File Ref:

To: Jim Ross - NWD

From: Bill Adamski - AM/3 BA

Subject: Comments on Air Quality Portions of the MPCA's draft EIS of the Lake Superior Papermill Project (January, 1986).

My comments on the above referenced document are as follows:

- 20 | Page 3-8: A scrapyard containing lead contaminated soil has been identified near the proposed site. Have ambient airborne lead measurements been taken in this area? Such measurements can be derived by analysing TSP hi-volume sampler filters.
- 21 | Page 3-15: Section 3.5.1 lists the Hibbard Station generating units 3 and 4 as being converted to burn wood chips, waste bark and dewatered sludge. The planned use of these units are explicitly mentioned several times in subsections 2.5.2 and 3.5.5, and inferred in other subsections of Section 3.5. No mention of units 1 and 2 are made in Section 3.5. However, on page 2-3, the MPCA lists all 4 Hibbard boilers as requiring an Air Emission Facility Permit. Are units 1 and 2 planned to be used in this project?
- 22 | Page 3-6: What are the rated heat input capacities for each of the 4 Hibbard boilers? The last paragraph of this page refers to "preliminary calculations" that indicate that coal can contribute only 40% of the total heat input to the steam generators. A listing of these calculations would strongly aid in determining the adequacy of this EIS.
- 23 | Page 3-16: Low sulfur, bituminous coal is anticipated for use in this facility. Since this type of coal is already used at the nearby Boswell Station, the characteristics (heating, sulfur and ash content) of this coal should be explicitly listed. Are these the same coal characteristics that are used as assumptions in the last paragraph of Page 3-16?

Page 5.1-5: Hibbard station emissions and stack parameter data should be presented at a much earlier stage in Chapter 5. Currently, the reader has little understanding of the facility's air pollution modeling parameters after all other modeling information and results are presented beforehand.

Page 5.1-8: Allowable PSD increments for short term SO₂ and TSP levels are referenced in the modeling analysis. This discussion is related to the text on "Increment Consumption Determination" on Page 5.1-3. It is not clear as to what the allowable PSD increments are for this study. Calculations showing PSD increments and the modeled consumption of these increments should be displayed.

General Comments: It is difficult to determine from this report whether the air quality regulations are being maintained. This is because much air quality information for this draft EIS was derived, with some disorganization, from ERT's air quality report on this proposed facility. This same document is also often referenced in this EIS. A more succinct, straight forward use of the ERT report (i.e., more tables and figures) would make the EIS text more streamlined and easier to follow.

BA:1hw

Comments to "Lake Superior Papermill Project, Duluth, WI,
January 1986, - Draft Environmental Statement"

Prepared by Willard Kiefer, Area Forester
WI Department of Natural Resources
Box 125, Brule, WI 54820

Reference is made to Section 5.10.1, Page 5. 10-1.

This section deals with the proposed use of surplus timber in both Minnesota and Wisconsin. A statement in this section states: "It is unlikely that any birch will be acquired from Wisconsin."

Wisconsin does have a source of surplus white birch which is available to the market and it is assumed a percentage of white birch will be secured from Northwestern Wisconsin. Wisconsin also has a surplus of other dense hardwoods (soft maple, red oak, ash, and hard maple) which is available as pulpwood and/or fuelwood.

1. Table 4.10-5, page 4. 10-9 of the EIS; "Net Annual Growth (1983) and Removals (1982) of Growing Stock....in Northwest Forest Survey Unit, Wisconsin."

Table shows 120,000 cords of white birch available as surplus.

2. Douglas County and a portion of Bayfield County are within the suggested 50 mile purchase radius for white birch.
3. The following table shows the surplus of white birch and other dense hardwoods available from both the Bayfield County and Douglas County Forests, in the 10 Year period, 1986-1995.

Bayfield County Forest

	In Cords Equivalent		Surplus Available ^d
	<u>Total Available</u>	<u>Annual Removals^c</u>	
White birch	8000	5000	3000
Mixed hardwoods ^a	8000	5000	3000
Red oak ^b	6500	4000	2500

Douglas County Forest

	In Cords Equivalent		Surplus Available
	<u>Total Available</u>	<u>Annual Removals</u>	
White birch	17,200	4000	11,200
Mixed hardwoods ^a	12,200	5000	7,200

24

- a. Includes soft maple, ash, hard maple, and red oak.
 - b. Red oak timber type available in Bayfield County.
 - c. From annual reports, of each county forest.
 - d. Bayfield and Douglas County Forest 10 Year Comprehensive Plans and Compartment Recon printout. Timber type acres available that are not being harvested.
-
4. Two whole tree harvest operators have operated in Bayfield and Douglas counties over the past several years.
 5. Bayfield and Douglas County Forests have an active timber sale program and will make available to the market those type acres included in the Table in Item #2.
 6. There is 242,000 acres in Douglas County and 236,000 acres in Bayfield County of private non-industrial forest land that contains an unestimated volume of white birch and other dense hardwoods that can be assumed to be available to the market.

Forestry

24

The availability of white birch in northwestern Wisconsin is not addressed in the EIS. The attached data shows the surplus volumes of white birch and other dense hardwoods available from Douglas and Bayfield County Forests within the suggested 50-mile purchasing radius. This issue needs to be addressed in the EIS.

The other timber resource data presented in the EIS adequately addresses the forestry-related aspects of this project on northwest Wisconsin.

Miscellaneous

25

There appears to be a typographical error on page 3-16 under 3.5.6 Fuel Requirements. The third sentence reads..."The remainder of the wood to be fired...will come from sources in northwestern Minnesota" - shouldn't this be northeastern Minnesota?

Thank you for the opportunity to review and comment on your draft EIS. We look forward to reviewing a copy of your final EIS when available.

Sincerely,

William H. Clark

William H. Clark
Environmental Impact Coordinator

WHC:st

cc: Jerry Rieckhoff - Brule
Jim Ross - Spooner
Stan Druckenmiller - EA/6
Don Thailer - AM/3
Dale Higgins, U.S. Forest Service
Chequamegon National Forest
157 No. Fifth Avenue
Park Falls, WI 54552

earth protector

Mr. Craig Affeldt
Minnesota Pollution Control Agency
1935 W. County Rd. B2
Roseville, MN 55113-2785

RECEIVED
MAR - 4 1986

March 3, 1986

MINN. POLLUTION
CONTROL AGENCY

Dear Mr. Affeldt:

RE: Draft Environmental Impact Statement (DEIS) for the Lake Superior Paper Company

Earth Protectors' interest in this project is to protect the resources of this state from contamination and misuse.

The DEIS (3.5.4) suggests the Hibbard Station is capable of burning garbage and the feasibility of this practice will be examined in the future. The DEIS (3.5.7) further suggests electrostatic precipitators (ESP) will be used for particulate removal at the Hibbard Station.

Various documents previously supplied to your agency by Earth Protector, Inc. clearly indicate that garbage burning produces metal enriched sub-micron size particles, in addition to a variety of gasses that the proposed control equipment (ESP) is not capable of removing satisfactorily.

26 The suspended sub-micron respirable particles can be deposited deeply in the lungs where they can be dissolved in body fluids and mobilized. The DEIS (5.1.6) has failed to examine these potential future emissions and the effects of these elements on human health. If the possibility of garbage burning may occur, the time to address it is now.

Fly ash from garbage burning is hazardous and the bottom ash may well be also. If the proposers insist on leaving open the possibility of burning garbage at the Hibbard Station, the EIS must complete a review of the ash character that may result and the techniques and location for its disposal. Due to the sensitivity of the location for this proposed facility, this study should be completed now.

more

earth protector

Page 2, DEIS for Lake Superior Paper Company, March 3, 1986

In addition, if the garbage burning option is to be left open, an examination of emissions commonly associated with projects of this nature needs to be conducted. The following classes of pollutants need to be addressed in the EIS unless the garbage

burning option is removed from future consideration: Chlorinated Phenols
Chlorinated Benzenes
Polychlorinated Biphenyls (PCB's)
Polynuclear Aromatic Hydrocarbons
Chlorinated Dibenzodioxins (PCDDs)
Chlorinated Dibenzofurans (PCDF)

Metals - Antimony
Beryllium
Lead
Mercury
Vanadium
Manganese
Molybdenum
Tin
Cadmium
Chromium
Copper
Nickel
Zinc
Arsenic
Selenium

26

There is very little disagreement that the above mentioned pollutants will be emitted from burning garbage so the debate has focused on how much will be emitted and how harmful it is.

The EIS should examine the methods being implemented by the proposer to manage their solid waste from their general operations.

27

At the EQB meeting of January 23, 1986 where a variance was granted to the proposer, it was stated that the paper product being manufactured will be recyclable. The EIS should discuss this aspect because it relates to the future solid waste management plans of your agency and bears a direct relationship to future contamination.

28

Lastly, the Earth Protectors would like assurance and explanation on two points:
1. That the proposer is installing all the best available energy efficient applications

more

earth protector

Page 3, DEIS for Lake Superior Paper Company, March 3, 1986

to reduce energy consumption from areas such as lighting, air conditioning, ventilation.

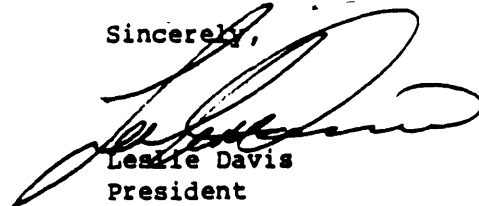
29

2. That petroleum coke will not be used as fuel in any part of this project for either steam or electricity production, or for any other reason.

Thank you for the opportunity to address this DEIS and the future EIS and it is our hope that our concerns receive the attention they deserve and your response is not one that postpones these serious issues to the future.

Yours For A Cleaner Earth

Sincerely,



Leslie Davis
President

LD/wo

ALDEN E. LIND, Ph.D.
4130 McCulloch Street
Duluth, MN 55804
(218) 525-2692

March 4, 1986

RECEIVED
MAR - 5 1986

Mr. Craig Affeldt
MPCA
Office of Planning and Review
1935 W. County Rd. B-2
Roseville, MN 55113

MINN. POLLUTION
CONTROL AGENCY

Dear Craig:

On the whole I find the EIS for the proposed Lake Superior Paper Co. reasonable but there are some deficiencies which ought to be rectified.

30

First, the discussion of water quality impacts of mill effluents delivered to the Western Lake Superior Sanitary District is inadequate. I have spoken to you, to the regional office of the MPCA, to personnel at the WLSSD, to people at UMD and the EPA's ERL-Duluth laboratory, specifically about the possible dioxin problem. There have been two meetings involving personnel from most of these institutions on that specific topic. It is acknowledged by the paper industry research group, National Council of the Paper Industry for Air and Stream Improvement, Inc., through its representative at the last such meeting, Reed Minor, that it certainly appears that the paper industry has a dioxin problem. Yet, there is no discussion of the matter in the EIS. The agency should require that an addendum addressing that matter be included in the EIS. I have recommended to Lake Superior Paper that they volunteer such an addition and request an adequate sampling and analysis program to determine current, and pre-Lake Superior Paper, levels of dioxin in sludges, sediments, and fish in the St. Louis River and the bay.

31

But, my concerns go somewhat further than dioxin. Lake Superior Paper will not be the first super-calendared paper mill in the world. I think it reasonable to request that the EIS report on thorough chemical analysis of the effluents from other such mills. A number of chemicals are identified in the EIS as part of the process, e.g., ferric chloride, defoamer, slimicide, felt cleaning chemicals, but their fate is not discussed.

I have no current reason to believe that any of these will prove a barrier to the proposal but the purpose of an EIS is to state the case to that effect. This document does not do that.

While not as critical, to my mind, as the water quality impacts

Craig Affeldt
March 4, 1986
Page two

32

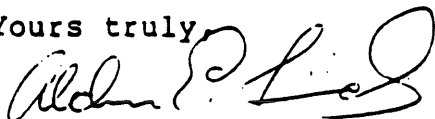
the discussion of air quality impacts ought to be strengthened as well. While the proportion of sludge in the fuel mix at Hibbard is quite small, about 4% I believe, that sludge will contain some amount of kraft pulp residue, hence possibly dioxin or its constituents. Will the combustion process possibly create dioxin or might it, indeed, destroy it? What of other chemicals in that fuel stream? Again, I would think the literature or environmental analyses undertaken at other sites with similar processes would be helpful.

33

Yet a third area of concern involves noise, specifically the problem of a stream of trucks hauling logs to the plant. Some provision ought to be made for a marshalling yard to avoid the noise problem associated with diesels idling in residential areas while drivers await the opening of the gates. I would think that parking could be provided between Central Avenue and the old bridge and the city induced to adopt and enforce a noise control ordinance. I think the mitigation needs to be discussed in considerably more detail than is done.

As indicated above, these are not likely to be disabling concerns. It is also true that the association of dioxin with paper making is quite recent, that we are all still learning about it, that we know altogether too little about the acute and chronic effects of dioxin. We do know that by conventional criteria it is an incredibly toxic material. But, that, though it be true, is not an adequate defense. We know enough to indicate the need for a vigorous program of research and monitoring. Where it is not possible to provide persuasive data it ought to be expected that proposers will develop and offer their responsible and reasonable participation in research and monitoring efforts in the future. We have many examples of companies, e.g., the recent case of W.R. Grace in Massachusetts, which seek to dissemble and obfuscate to their own long-term disadvantage. Where there is doubt about impacts it is better for all to acknowledge it and to set about acquiring the knowledge which will make possible timely response should it be necessary. It is my hope that Lake Superior Paper will be that sort of responsible firm. At the moment I have no reason to believe it will not.

Yours truly,



Alden E. Lind, Ph.D.

cc: Robert Lindholm



United States Department of the Interior

FISH AND WILDLIFE SERVICE
ST. PAUL FIELD OFFICE, (ES)
50 Park Square Court
400 Sibley Street
St. Paul, Minnesota 55101

March 4, 1986

IN REPLY REFER TO

MINN. POLLUTION
CONTROL AGENCY

Mr. Craig N. Affeldt
EIS Project Manager
Office of Planning and Review
Minnesota Pollution Control Agency
1935 West County Road B2
Roseville, Minnesota 55113-2785

Dear Mr. Affeldt:

This responds to your request for comments concerning the Draft Environmental Impact Statement (DEIS) for the Lake Superior Papermill Project in St. Louis County, Minnesota. While previous documents on this project have been circulated for agency review, comments from the U.S. Fish and Wildlife Service (FWS) were not solicited. Therefore, the following comments provide our initial review of the subject document.

General Comments

As a general overview, the DEIS addresses many topics of concern to the FWS. However, some topics are discussed in a cursory manner while other subjects, i.e., wetland/floodplain Executive Orders, Endangered Species Act of 1973, have been omitted from review. The discussion below references these oversites and we are hopeful these concerns will be addressed in the Final Environmental Impact Statement (FEIS).

Specific Comments

34

Page 1-4, Section 1.3 - Alternative project sites should be analyzed which locate the proposed plant outside the floodplain limits of the St. Louis River. The DEIS should address compliance with Executive Order 11988, concerning Floodplain Management.

Page 2-4, Table 2.2-1 - Concerning the Corps of Engineer (COE) Section 404 permit required for this project, the Fish and Wildlife Service will not oppose issuance provided wetland compensation is included as a special condition of the permit.

Page 3-13, section 3.4.2 - This section describes the need to modify and relocate existing sewers by constructing new sewers and pumping facilities. We encourage the routing of these facilities away from the St. Louis River and wetland areas.

35

Page 3-18, Section 3.5.8 - In this section it is stated that ash generated by the power plant, will be trucked offsite for disposal. What is the location of the proposed disposal site and procedures to be followed concerning disposal?

36

Page 3-20, Section 3.5.13 - The FWS discourages construction of a "new" causeway from the Hibbard Station to the mainland. The filling of shallow water habitats of the St. Louis River is an activity that both the Minnesota Department of Natural Resources and the Fish and Wildlife Service have opposed. Rehabilitation of the existing causeway provides an alternative capable of satisfying anticipated needs and required access.

37

Page 4.2-1, Section 4.2.1 - This section should address compliance with Executive Order 11988. The lead federal agency must determine there is no practicable alternative to support floodplain development.

38

Page 4.8-1, Section 4.8.1 - A field review of the project site suggests additional wetland acreage exists beyond those identified in Table 4.8-1 or Figure 4.8-1. An accurate wetland acreage should be presented in subsequent documents and wetland boundaries delineated on cover type maps. A majority of the wetlands within the project area are classified as palustrine emergent, scrub-shrub or forested wetlands (formerly Types 2, 3, and 6). These wetlands fall within Resource Category 3 of the FWS Mitigation Policy and have a mitigation planning goal of no net loss of habitat value.

Page 4.8-3, Section 4.8.1.2 - Presently, there are four federally listed threatened or endangered species that occur within St. Louis County. These species include:

39

<u>Species</u>	<u>Scientific Name</u>	<u>Classification</u>	<u>Habitat</u>
Bald eagle	<u>Haliaeetus leucocephalus</u>	Threatened	Forested
Peregrine Falcon	<u>Falco peregrinus</u>	Endangered	Cliffs/ Rock outcrops
Piping plover	<u>Charadrius melodus</u>	Endangered	Beaches
Gray wolf	<u>Canis lupus</u>	Threatened	Forested

39

It is the responsibility of the lead federal agency to determine whether their activities "may affect" listed species. Therefore, we recommend a discussion of this topic be presented in subsequent documents. Enclosed is a discussion of major responsibilities required of federal agencies relative to the Endangered Species Act of 1973, as amended. Please refer to this information to insure compliance with the Act.

40

Page 5.1-15, Section 5.1.5 - While it is anticipated that emission limitation standards for air quality will be met, resultant pollutants from this facility will contribute to air quality degradation. The cumulative effects emissions from this facility will have on regional air quality should be discussed. Will anticipated emissions contribute to acid rain problems within this or adjacent regions?

41

Page 5.2-1, Section 5.2.1.1 - As described at an agency meeting in Duluth on February 18, 1986, three stormwater discharge points are proposed for this project. One ditch flows from the site to the southwest (SW) discharging into Keene Creek, another to the southeast (SE) into wetlands at Grassy point and the third into a temporary sedimentation basin (palustrine emergent wetland) on the northeast (NE) corner of the project area. Ultimately, all stormwater from this site will enter the St. Louis River. While this approach appears feasible, we recommend that the two southern ditches (SW, SE) discharge first into a sedimentation basin located on the subject property, then discharging into Keene Creek and wetlands at Grassy Point. Sedimentation basins should be designed so as to permit stormwater retention and having the capability of backing-up stormwaters in cases where hazardous materials enter the system. A skimming device may also be required to remove oil, grease, hydraulic fluids and floatable solids, i.e., bark/wood chips.. Concerning the NE sedimentation basin, we recommend that stormwater from this basin be discharged into the palustrine emergent wetlands immediately to the east of the subject basin which would then flow into the St. Louis River. This basin should have similar capabilities for holding stormwater as described above. Potential wetland enhancement features maybe designed into this wetland basin.

Page 5.2-7, Section 5.2.3.1 - We encourage the use of erosion control features to reduce erosion and protect water quality. In addition to those mitigation features proposed, we recommend the installation of stormwater retention basins on all discharge ditches. Vegetated buffer areas adjacent to Keene Creek and the St. Louis River, are strongly recommended. These buffer strips should be at least 30 feet wide and contiguous to the aforementioned water bodies.

42

Page 5.8-1, Section 5.8.1 - As described elsewhere in the DEIS, possible abandonment of the Hibbard peninsula by ring-billed gulls has been a concern of natural resource agencies for a number of years. Consequently, construction of several piers and decking for the new Arrowhead Bridge in the vicinity of the peninsula was expressly prohibited during the nesting and pre-fledging period. We remain concerned that nearby construction during the above critical period could cause gull displacement into nesting areas now used by common terns and piping plovers.

43

Page 5.8-2, Section 5.8.3 - As proposed, this project would require the filling of approximately 11 acres of palustrine emergent, scrub-shrub and forested wetlands. While Executive Order 11990 (Wetland Protection) has not been discussed in the DEIS, the lead federal agency responsible for funding this project must determine there is no practicable alternative to the proposed action and that wetland loss due to the proposed action has been minimized. Should this determination occur, the FWS will request wetland compensation to off-set the loss of wetland acreage resulting from this action. The amount of wetland compensation requested will be determined through utilization of the habitat evaluation procedures developed by the FWS. This analysis will quantify the habitat units destroyed by the proposed fill activities and will identify the wetland compensation figure (habitat unit value) to be requested by the FWS. The habitat evaluation analysis should be conducted prior to issuance of the FEIS and include biologists from the MNDNR, MP&L, COE, and FWS. These data, as well as a wetland compensation package agreed to by the cooperating agencies should be included in the FEIS.

44

Page 5.8-3, Section 5.8.4.1 - As compared to 1975 data, a 98% decrease of entrained fish eggs and larvae is anticipated for the proposed action. While this figure appears impressive, a net loss of over 230,000 walleye and 6 million perch eggs or larvae per year will occur. These losses are significant and should be further mitigated to reduce this take. Various options discussed in Section 5.3.6, should be implemented to reduce entrainment particularly during the months of May, June, and July.

45

In addition to the above, we recommend that a three-year monitoring study be conducted to document impingement/entrainment losses to various fishery resources. This study should be coordinated with both the MNDNR and FWS.

Page 5.8-3, Section 5.8.4.2 - Neither this paragraph nor the earlier referenced discussion (Section 5.2) provide support for the statement

45

indicating no impacts to aquatic communities in Keene Creek or St. Louis Bay. Specific measures to deal with settleable and floatable solids as well as oil and grease should be described in detail in the FEIS.

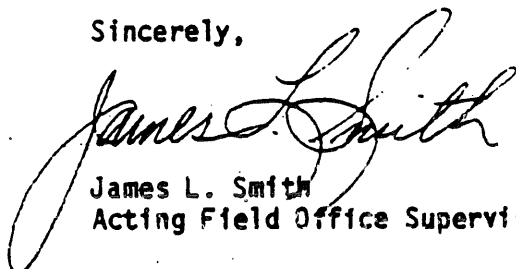
Summary

While the DEIS provides a wealth of information concerning this project, numerous topics of federal concern have not been addressed. These points should be discussed and agreed upon prior to issuance of the FEIS.

These comments have been prepared under the authority of and in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and are consistent with the intent of the National Environmental Policy Act of 1969. This project was also examined for its conformance with the Fish and Wildlife Service's Mitigation Policy and Executive Orders 11988 and 11990.

Should you have any questions concerning the information contained herein, please contact Mr. Jim Leach or my staff at your convenience.

Sincerely,



James L. Smith
Acting Field Office Supervisor

cc: MN DNR, St. Paul/Cloquet
US COE, St. Paul
US EPA, Chicago
Economic Development Admin. (John Gibson)

March 10 1986

David A. Sebok, Director
Department of Planning and Development
City Hall, Room 410
Duluth, Minnesota 55802



D-CDB-F89025-MN

RECEIVED
MAR 19 1986

Dear Mr. Sebok:

MINN. POLLUTION
CONTROL AGENCY

According to our responsibilities under the National Environmental Policy Act and Section 309 of the Clean Air Act, we have reviewed the Draft Environmental Impact Statement (EIS) for the Duluth Paper Mill Project, in Duluth, Minnesota. The Lake Superior Paper Company has proposed construction and operation of a paper mill designed to produce 234,900 tons per year of lightweight supercalendared paper. The paper mill will be located on 92 acres, in western Duluth, on the shore of St. Louis Bay. The Duluth Paper Mill Project is receiving funding from the Economic Development Administration of the Department of Commerce, and the Community Development Block Grant program of the Department of Housing and Urban Development.

In the preferred alternative, two boilers of the nearby Hibbard Steam and Electric Station will be modified to burn a wood/coal/sludge mixture, thereby utilizing waste products from the paper mill. The Hibbard Station will be used to produce process steam for the paper mill. The Draft EIS also discusses an alternative in which an additional two units of the Hibbard plant would burn fuel oil to produce additional steam and electricity. The paper mill will use 171,000 cords of spruce and balsam per year, to be harvested from northeastern Minnesota and northwestern Wisconsin. The Hibbard station will consume 60,000 cords of birch per year from Minnesota.

Our concerns related to this project are in the areas of hazardous and toxic waste, air quality, wetlands, and other issues. Detailed comments are enclosed. Hazardous and toxic waste is of particular interest because the Draft EIS did not provide identification of all contaminants or a remediation schedule for the site. Our air quality concerns are predominantly related to consistency with prevention of significant deterioration regulations. These statutes have not been adequately addressed in the Draft EIS. We are concerned that wetland impacts have not been adequately addressed. We are also concerned about erosion and sedimentation controls and mitigation of timber harvesting impacts. All of these issues should be addressed prior to the release of Federal funds.

-2-

We have given this project an "EC-2" rating. The "EC" indicates that we have environmental concerns regarding the impacts of the Duluth Paper Mill that must be resolved before proceeding with this project. The "2" notes that the Draft EIS did not contain sufficient information for a complete review of this project's environmental impact. If you have questions about these comments, please contact Tom Nowicki, at 312-886-4244. We are willing to meet with you to discuss these comments.

Sincerely yours,

William D. Franz, Chief
Environmental Review Branch
Planning and Management Division

Enclosures

cc: J. Leech
J. Gibson
H. Blus

5ERB:TN:3/6/86:3/7/86:LJ:3/10/86

Concerns of the U. S. Environmental Protection Agency, Region V

Regarding the Duluth Paper Mill Project

Project Description

The Lake Superior Paper Company has proposed the construction and operation of a paper mill that will produce 234,900 tons per year of lightweight supercalendered paper. In the preferred alternative, two units of the nearby Hibbard Steam and Electric Station, which has been idle since 1981, will be modified to burn a wood, coal, and sludge mixture to produce steam and electricity for the paper mill. In an alternative labeled as "Fully Permitted", two additional units of the Hibbard Station will be used to burn fuel oil to generate steam and electricity for sale. The project is located on 92 acres, on the shore of St. Louis Bay, in western Duluth. The project site is primarily underutilized or abandoned industrial land, but some residential property is also involved. The estimated cost of the project is 274 million dollars.

Toxic and Hazardous Waste

Our primary concern regarding the Duluth Paper Mill Project is related to contaminated soil and groundwater. As noted on page 5.7-8, the Minnesota Pollution Control Agency (MPCA) has developed a Hazard Ranking System Score of 11 for the Duluth Paper Mill site. The MPCA has proposed this site for Minnesota's Permanent List of Priorities. The Draft EIS indicated that preliminary tests have found the groundwater to be contaminated with volatile organic hydrocarbons. Soils have lead concentrations above Resource Conservation and Recovery Act limits. Several underground storage tanks with unknown former uses are also located at the site.

The Draft EIS responded to these problems on page 5.7-8:

46

"A remediation investigation and feasibility Study(RI/FS) will be performed on the site by the Lake Superior Paper Company after the scrap has been removed...Quality assurance and health and safety plans will be prepared as part of this effort. Extensive surface and groundwater, soil, and sediment samples will be taken and analyzed....

The results of the RI/FS will include an analysis of potential remedial actions to determine the environmental, technical, and economic feasibility of each option. Feasible alternatives will undergo detailed evaluation to provide the information necessary to undertake the final design and implementation of remedial action, [and] the development and implementation of these plans will be subject to approval by the MPCA."

Page 5.7-8 also indicated that on December 26, 1985, a remedial action plan for groundwater contamination was submitted to the MPCA. The plan includes groundwater monitoring and a purge well to extract water for conveyance to the Western Lake Superior Sanitary District treatment plant.

- 46 While the plans noted above are significant and noteworthy efforts, Federal funds should not be released until all of the contaminants at the site have been identified, and a cleanup schedule and disposal plan have been developed. The cleanup plan should be consistent with the National Contingency Plan. The Final EIS for the Duluth Paper Mill Project should identify all of the contaminants at the site, the extent of contamination, consistency with the National Contingency Plan, the cleanup schedule, and the disposal sites.

Air Quality

- 47 Our major concerns are related to the analysis of new source review requirements and Prevention of Significant Deterioration (PSD) regulations. First of all, these regulations require collection of continuous air quality data over a period of at least one year prior to application for a PSD permit. While not required, the collection of meteorological data is also recommended. The Draft EIS did not include these data. The Final EIS must ensure that this air quality information has been collected. Furthermore, PSD regulations require application of best available control technology (BACT) for each pollutant emitted in significant amounts. Although page 5.1-8 noted that alternative control technologies have been evaluated, this evaluation was not included in the Draft EIS. The Final EIS must demonstrate that the selected control technology is consistent with the BACT regulations.

- 48 We have several concerns regarding the air quality modeling. A basis for emission rates should be provided, and where operating or fuel quality restrictions are assumed, the corresponding applicable permits and permit conditions should be identified. The short term and long term emission offsets from the Hibbard station should be justified. The Final EIS should also justify the assumed background levels of pollutants, and discuss why no other sources were included in the air quality modeling. Please note that when determining consistency with the National Ambient Air Quality Standards, the impact from other sources must reflect their maximum allowable emissions. Lastly, the Final EIS should justify the meteorological data used in the modeling. The data used in the modeling has not been identified. Also, the modeling relied, inappropriately, on a composite five-year, STAR data base. Each year should have been modeled separately.

49 Because this project is located in a secondary nonattainment region for total suspended particulates (TSP), we are especially concerned about the impacts of particulate emissions from the Duluth Paper Mill Project. Redesignation of this region to attainment is not planned. The closest monitor to this site measured primary violations in 1985. New source review is applicable if the project will increase emissions of TSP by more than 25 tons per year. Creditable TSP emission offsets and maximum allowable TSP emissions from this project should be identified in order to establish the applicability of non-attainment new source review for TSP. The TSP analysis in the Draft EIS relied upon an unusually low background value for TSP. Additionally, fugitive emissions should be included in the modeling.

50 One last area of concern is that the Draft EIS did not contain any analysis of the emissions from the paper mill. Only emissions from the Hibbard Station were discussed. The Draft EIS indicated that no modeling was done because "...there will be no major sources of regulated pollutants at the mill..." A complete inventory of emission sources and maximum quantities of emissions must be provided.

Wetlands

51 The Final EIS should demonstrate that this project is consistent with Executive Orders 11990 and 11988, which pertain to wetland and floodplain impacts. All of the wetlands must be adequately inventoried, and alternative designs to avoid or minimize wetland impact should be discussed. The Final EIS should discuss the wetland mitigation that has been incorporated into the project and document the coordination that has occurred with interested State and Federal resource agencies. The need of a Section 404 Permit should also be discussed.

Other Concerns

52 We also have concerns regarding the implementation of mitigation measures for sedimentation and erosion controls and timber harvesting. The mitigation discussed in Section 5.6.3, for sedimentation and erosion control, should be included in the project, along with the mitigation suggested in Section 5.10.3 related to timber harvesting. Section 5.6.3 discusses erosion control measures such as diversion ditches, sedimentation basins, and fabric and hay bale barriers. The timber harvesting mitigation measures discussed in 5.10.3 included the identification of areas that are sensitive because of wildlife or soil characteristics, minimizing the amount of land used for logging roads and skid trails, and avoiding cuts near wetlands. Revegetation plans for the areas affected by timber harvesting should also be discussed. All participants in this project must recognize the importance of these mitigative project elements, and should be required to operate according to these procedures.

Because the alternative identified as "Fully Permitted" would result in the discharge of heated cooling water from the Hibbard Station, as well as greater amounts of air emissions, we concur with your conclusion that the proposed alternative is the environmentally preferred mode of operation of the Hibbard Station.

3.3.2 Responses to Comment Letters

1. Analysis provided in Section 5.5 of the DEIS indicates that police officer control will provide orderly traffic flow and will protect employee safety at the Central Avenue and Raleigh Street intersection.
2. The application for the Prevention of Significant Deterioration (PSD) permit for the Hibbard Station has been submitted to the MPCA for review and a copy has been provided to the Forest Service. That document provides answers to the detailed modeling issues raised. The permit for the Hibbard Station retrofit will be subject to public notice. The Forest Service will be included in that public notice procedure.

With respect to impacts in Class I areas, the PSD application addresses visibility impacts in the Rainbow Lakes Wilderness Area. Rainbow Lakes B is the nearest Class I area and the conclusion of the analysis for it is that there will be no significant impact. Therefore, the Boundary Waters Canoe Area (BWCA) was not considered for analysis since it is farther away than Rainbow Lakes. Soils and vegetation impacts were also discussed in the PSD application and were also considered to be insignificant.

3. As part of the review of the PSD application, the MPCA will address the issue of ozone (and associated VOC emissions).
4. It is MPCA's understanding that the Hibbard retrofit is exempt from federal New Source Performance Standards (NSPS) due to the fuel change exemption provisions in those regulations. Refer to 40 CFR Part 60.40a, (c), and (d).

Clarification of the meaning of modeled concentrations is contained in the PSD application.

5. See FEIS Sections 2.3.1, and 2.7.2.
6. See FEIS Section 2.1.2.

7. The proposed location for onsite disposal of contaminated soil will be near Central Avenue, away from St. Louis Bay and the wood storage areas. Final disposal methods will be determined after testing in accordance with MPCA regulations.
8. See FEIS Section 2.7.1.
9. This change is appropriate in light of the fact that an additional 20,000 cords of birch will be used. Further, the increased use of birch could lead to approximately 10 percent of this species being cut in Wisconsin (Prosek, 1986).
10. The value in the footnote and the third sentence of Section 4.10.2.1, page 4.10-1, should read 25 percent.
11. Figures presented were based on the latest data publicly available (i.e., the 1977 county recommended harvest data and the 1983 pulpwood production figures).
12. Suggested changes to this paragraph with respect to adding a third sentence and altering the fourth sentence are appropriate. All information needed to calculate the 164,300 cord figure are currently presented in the paragraph.
13. This change is appropriate.
14. Data in this table were developed by the Minnesota Division of Forestry (R. Pajala) and reported in the DEIS.
15. These numbers have been revised in the FEIS, Section 2.8.1.
16. Mitigation measures are discussed in DEIS Section 5.10.3. These include a discussion relating to setbacks. Information presented in this comment points out that setbacks are currently required by statute or

Division of Forestry requirements. The DEIS only suggested that these were desirable and that they would soon be required within shore impact zones.

17. An analysis of the project's aesthetic and socioeconomic impacts on the recreational values of the St. Louis Bay area was beyond the scope of the EIS.
18. The modeling performed in this case uses a worst case screening methodology throughout. Therefore, a demonstration of compliance is considered to be on a worst case basis and a contingency plan is not considered to be necessary.
19. The papermill will have a significant impact on sludge production at WLSSD (an added 20 percent). The incineration system is currently involved in the permit application and issuance process at the MPCA Division of Air Quality. That permitting process will address air quality requirements for the incinerator system as a whole - inclusive of the proposed additional loading from the papermill.
20. Ambient lead measurements have not been taken in the project area. Concerns about airborne lead have been addressed in the response action plan submitted by the project proposers. The use of watering or the application of dust suppressants have been identified by the proposers for dust control should the need arise.
21. Units 1 and 2 are not planned for use by the papermill. However, the proposers wish to include all four boilers in the permit at this time. Therefore, Units 1 and 2 were included in the analysis. See DEIS Section 3.6.2 for a discussion of the fully-permitted alternative.
22. See FEIS Section 2.2.1.
23. See FEIS Section 2.2.1.

24. Surplus birch available in the Northwest Forest Survey Unit was discussed in Section 4.10.2.2 of the DEIS, however, the amount of birch to be used is now estimated to be 80,000 cords, as opposed to 60,000 as stated in the DEIS. Additionally, it is now estimated that birch may come from 75 to 100 miles of the proposed plant and that 10 percent will be harvested in Wisconsin. See Section 2.8 of the FEIS for changes to the DEIS resulting from this new information.
25. This change is appropriate.
26. The use of refuse derived fuel (RDF) will not be permitted at this time. If the proposers wish to utilize RDF in the future, permit modification would be required. That modification would require additional air quality/trace metal analyses.
27. The paper manufactured at the plant will be fully recyclable.
28. Papermill facilities will use state of the art, energy efficient equipment.
29. Petroleum coke is not being considered as a fueling option.
30. See FEIS Section 2.3.3.
31. Water treatment chemical additives typical of papermill uses have been addressed in previous papermill EIS's. In addition, four papermills in Minnesota have routinely submitted information on uses of water treatment additives for MPCA review and approval through their NPDES permits. These chemicals are typically absorbed, degraded or diluted to levels that render them nontoxic. EPA effluent guidelines chose to regulate three additives, none of which will be used at the plant (see Section 5.2.1.5). It is not evident that specific additives have as yet been chosen. Additives are also changed on a frequent basis. Since the process water from the proposed mill is to be treated at

WLSSD, their personnel have the authority to ask for and review uses of water treatment additives through the pretreatment program.

32. See FEIS Section 2.3.3.
33. See FEIS Sections 2.5.1 and 2.5.2.
34. See FEIS Section 2.3.2.
35. See FEIS Section 2.6.1.
36. See FEIS Section 2.1.2.
37. See FEIS Section 2.3.2.
38. See FEIS Sections, 2.3.1, and 2.7.2.
39. See FEIS Section 2.7.1.
40. See FEIS Sections 2.2.1 and 2.2.3.
41. See FEIS Sections, 2.3.1, and 2.7.2.
42. See FEIS Section 2.7.1.
43. See FEIS Sections, 2.3.1, and 2.7.2.
44. See FEIS Section 2.7.3.
45. See FEIS Sections 2.1.3 and 2.3.1.
46. The cleanup plan is substantially consistent with the National Contingency Plan. The final remedial investigation, feasibility study, and response action plan will contain the information requested by the EPA. Also see FEIS Section 2.6.3.

47. One year of monitoring is required only if impacts exceed certain 'de minimis' values. The Hibbard Station retrofit appears to have impacts less than those values. The PSD application includes a BACT analysis to be addressed in the permitting process.
48. The MPCA is delegated responsibility for PSD permit application review and issuance, with EPA oversight. The PSD application includes the required information. EPA will review the permit and application prior to issuance.

It is agreed that the use of 5-year composite meteorological data was inappropriate. That situation was corrected in additional modeling done for this FEIS.

49. Hibbard Station is currently not a major stationary source and the modification is not a major modification, by definition. Therefore, new source review for TSP is not applicable.
50. The MPCA is reviewing details on the potential emission sources at the papermill. It appears that the mill itself is exempt from permitting requirements.
51. See FEIS Section 2.7.2
52. Since the specific areas from which balsam, fir, spruce, aspen, and white birch will be harvested are unknown, this response addresses only the general methods of regeneration applicable to each species. Specific treatments would vary depending on site conditions and the season of the year. Regeneration practices presented below are from the U.S. Forest Service (1984a and 1984b). The State of Minnesota generally follows U. S. Forest Service practices (Harper, 1986).

Natural regeneration is generally recommended for balsam fir. Site preparation usually involves light mechanical disturbance. Spruce regeneration most often involves mechanical preparation and seeding or planting; however, black spruce may be reforested using natural

regeneration following site disturbance by fire. White spruce regeneration may also involve the aerial application of herbicides to control competition. Natural reproduction of aspen, often following light mechanical disturbance, is the preferred method for replacing cut aspen stands. For white birch, both natural regeneration following mechanical disturbance or fire, or seeding or planting following mechanical disturbance, are used to replace cut stands.

As noted above, the regeneration treatments used for a particular site are specific to that site. This helps to decrease potential adverse impacts and increases the success of regeneration efforts. Practices followed by the State of Minnesota are set forth in a forest development manual, which is currently undergoing revision (Harper, 1986). Examples of regeneration practices used on state lands include not using machine planting in the northeastern part of the state, following more stringent drift guidelines with respect to aerial spraying than required by EPA guidelines, and requiring that all cutover areas be reforested. This reforestation usually takes place within one or two years of harvesting. The proposed land and resource management plans for the Chippewa and Superior National Forests set forth a number of guidelines related to regeneration of forest stands within their boundaries (USFS, 1984a and USFS, 1984b).

REFERENCES

REFERENCES

Environmental Research & Technology, Inc., 1986a. Addendum to Air Quality Impacts, P-D864-200-2, prepared for LSPI, Concord, MA.

Environmental Research & Technology, Inc., 1986b. Letter report on short range acid deposition to J. Koerner, NUS Corp., March 10.

Environmental Research & Technology, Inc., 1986c. Letter report on trace metal emissions to J. Koerner, NUS Corp., March 5.

ERT, see Environmental Research & Technology Inc.

Evans, D., 1986. Telephone conversation between Evans, independent local raptor expert from Duluth, Minnesota, and J. Schinner, NUS Corp. about peregrine falcons and bald eagles within the Duluth area, March 12.

Harper, J., 1986. Telephone conversation between Harper, Minnesota Division of Forestry and J. Schinner, NUS Corp. about forest regeneration, March 27.

Heim, J., 1986. Telephone conversation between Heim, Duluth Fire Department and K. Eckerstrom, NUS Corp. about hazardous chemical management, March 12.

Lindholm, R., 1986a. Letter from Lindholm, Minnesota Power to J. Koerner, NUS Corp. about changes in Table 3.6-1, March 5.

Lindholm, R., 1986b. Telephone conversation between Lindholm, Minnesota Power, and K. Eckerstrom, NUS Corp. about boiler heat inputs, March 11.

Minnesota Department of Natural Resources, 1984. Minnesota Official List of Endangered, Threatened, and Special Concern Plant and Animals, St. Paul, MN.

Minnesota Pollution Control Agency, 1985. Personal communication, D. Bordson, December 17.

MPCA, see Minnesota Pollution Control Agency

Nieman, B.L., 1982. The 1980 Data Set for Further Evaluation of Regional Air Quality/And Deposition Simulation Models, U.S. EPA, Washington, D.C.

Pfannmüller, L., 1985. Telephone conversation between Pfannmüller, Minnesota Division of Wildlife, and J. Schinner, NUS Corp. about colonial nesting birds, December 10.

Pfannmüller, L., 1986. Telephone conversation between Pfannmüller, Minnesota Division of Wildlife, and J. Schinner, NUS Corp. about endangered species within the Duluth area, March 12.

Pleim, J. and Heinold, D., 1986. Development and Application of a Climatological Acid Deposition Model for Medium Range Impact Assessment from Individual Sources.

Powers, J. 1985. Letter from Powers, Arrowhead Regional Development Commission to C. Affeldt, Minnesota Pollution Control Agency, about scoping EAW, July 29.

Prosek, C. 1985. Telephone conversation between Prosek, Minnesota Division of Forestry, and J. Schinner, NUS Corp. about timber use, November 20.

Prosek, C. 1986. Telephone conversation between Prosek, Minnesota Division of Forestry, and J. Schinner, NUS Corp. about sources of birch, March 11.

Smith, J.C., 1986. Letter from Smith, U.S. Fish and Wildlife Service, to C. Affeldt, Minnesota Pollution Control Agency, commenting on DEIS, St. Paul, MN, March 4.

U.S. Fish and Wildlife Service, 1971. Wetlands of the United States, U.S. Dept. of the Interior, Circular 39, Washington, D.C.

U.S. Fish and Wildlife Service, 1985. Endangered and Threatened Wildlife and Plants; Determination of Endangered and Threatened Statue for the Piping Plower; Final Rule, Federal Register, Vol. 50 (238): 50725-50734.

U.S. Fish and Wildlife Service, 1986. Endangered and Threatened Wildlife and Plants, U.S. Dept. of the Interior, Washington, D.C.

U.S. Forest Service, 1984a. Proposed Land and Resource Management Plan, Chippewa National Forest (Draft), Eastern Region, Milwaukee, WI.

U.S. Forest Service, 1984b. Proposed Land and Resource Management Plan, Superior National Forest (Draft), Eastern Region, Milwaukee, WI.

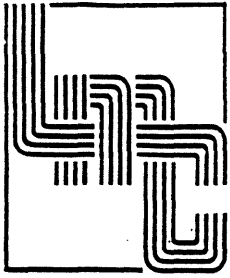
U.S. Geological Survey, 1983a. Duluth Heights Quadrangle Map, 1954, Rev. 1983, Scale 1:24,000, U.S. Department of the Interior, Washington, D.C.

U.S. Geological Survey, 1983b. West Duluth, Minn.-Wis. Quadrangle Map, 1954, Rev. 1983, Scale 1:24,000, U.S. Department of the Interior, Washington, D.C.

USGS, See U.S. Geological Survey

Wisconsin Department of Natural Resources, no date. Endangered and Threatened Species List. Bureau of Endangered Resources, Madison, WI.

APPENDIX A



league of minnesota cities

300 hanover building, 480 cedar st., saint paul, minn. 55101

information

for municipal officials

400b
January, 1981

MINNESOTA MODEL NOISE
CONTROL ORDINANCES

INTRODUCTION

The following two ordinances, one an abridged version of the other, have been prepared by the League staff as an undertaking of the League's Noise Project with the helpful assistance of Orville Peterson, former Executive Director and Chief Counsel for the League, and Al Perez, Chief of the Noise Section, Minnesota Pollution Control Agency. In preparing them, substantial use has been made of the noise control ordinances adopted by the cities of Bloomington and St. Louis Park as well as model noise control ordinances prepared by the National Institute of Municipal Law Officers and the U.S. Environmental Protection Agency. The long-form ordinance is patterned particularly after the Bloomington ordinance which has been the basis for that city's highly successful noise control program - a program which has received national recognition.

The longer ordinance contemplates an enforcement program that makes use of trained personnel and scientific measurement of sound. It also includes a list of nuisance-type unnecessary or excessive noises, recognizing that it is not practical to employ sound measurement techniques to control all noise sources. The briefer ordinance omits any provisions for technical measurement, designates excessive or unusual noise as a nuisance, and relies on available city personnel with no special expertise in the field. Cities not using sound measurement devices, particularly larger cities with more varied sources of objectionable noise, may wish to expand the model ordinance list when adopting the scheme of the briefer ordinance.

The Minnesota Pollution Control Agency in 1974 adopted standards of acceptable sound levels for receivers of sound within areas grouped according to land activities by a noise classification system described in the standards. These standards are by law maximum standards; local governments may not set stricter standards in terms of sound pressure levels allowed to occur in the outdoor atmosphere. (M.S. 116.07, Subd. 2.) Local governments may, however, set noise emission regulations with respect to stationary sources that are more stringent than those set by the PCA. (M.S. 116.07, Subd. 4.) Provisions for such standards are included in the longer model ordinance. These provisions contemplate measuring noise scientifically by means of sound level meters, now available in the size of pocket transistor radios and at

a cost within the means of any city that might wish to adopt its own noise control program. It is not necessary to include state standards on receivers in local ordinances since these are in effect in the absence of a noise ordinance specifying a different set of decibel levels. Because the state standards do not set minimum limiting levels that local governments must meet, any city may include in its ordinance its own standards different from those of the state.

The PCA has also adopted noise limits for motor vehicles. By statute, it is unlawful to operate, sell, offer for sale, or modify a motor vehicle which will violate these limits. (M.S. 169.693.) The model ordinances merely repeat the substance of the statute as a matter of information.

Any city council considering adoption of an ordinance similar to the models may find that restrictions on various kinds of noises are included in several existing ordinances. Care should be taken to insure that adoption of a comprehensive noise control ordinance without repealing these scattered provisions does not result in overlapping and inconsistent provisions. If existing provisions are retained as being more appropriate in their present context, it may be wise to include these provisions along with the new ordinance in a complete informational compilation of the city's noise control provisions.

The model ordinance uses a simple numbering system consisting of sections and subdivisions. Cities with ordinance codes will wish to renumber the ordinance and its parts to make it an appropriately numbered part of the ordinance code in its proper place. If there is an existing code, some of its general provisions may permit dropping or modifying certain formal parts of the model ordinance, such as provisions on penalty, severability, and effective date.

Help on the development of local noise control programs, equipment loans, and technical assistance is available from the Noise Control Section of the Minnesota Pollution Control Agency through Al Perez, Noise Control Chief, 1935 West County Road B2, Roseville, MN, 55113, and the League of Minnesota Cities through its Noise Project Director, Kathleen Callahan.

MODEL ORDINANCES

I. Long-Form Noise Control Ordinance

(Includes provisions for measurement of noise by acoustical instrumentation)

AN ORDINANCE RELATING TO NOISE, PROVIDING FOR THE ELIMINATION AND PREVENTION OF PROHIBITED NOISE, AND IMPOSING PENALTIES FOR VIOLATION

The City Council of _____ Ordains:

Comment: This is the enacting clause prescribed in statutory cities. A home rule city should adapt it to conform to requirements of its charter.

Section 1. Definitions. Subdivision 1. General.

Words and phrases defined in this section have, when used in this ordinance, the meanings given below. Any other word or phrase used in this ordinance, and defined in regulations of the Minnesota Pollution Control Agency Noise Pollution Control Section, NPC-1 and NPC-4, has the meaning given in those regulations.

Subd. 2. Air circulation device means a mechanism designed and used for the controlled flow of air used in ventilation, cooling, or conditioning, including, but not limited to, central and window air conditioning units.

Subd. 3. L10 means the sound level, expressed in decibels (dBA) which is exceeded 10 percent of the time for a one-hour period, as measured by a sound level meter having characteristics as specified in the latest standards, S1.4, of the American National Standards Institute and using test procedures approved by the (noise control officer).

Comment: This will adopt the latest ANSI standards in effect of the time of adoption of the ordinance. If later modifications by ANSI are desired they will need to be adopted by amendment to this ordinance.

Subd. 4. L50 means the sound level similarly expressed and measured which is exceeded 50 percent of the time for a one-hour period.

Subd. 5. Person means an individual, firm, partnership, corporation, trustee, association, the state and its agencies and subdivisions, or any body of persons whether incorporated or not. With respect to acts prohibited or required herein, "person" shall include employees and licensees.

Comment: This section largely relies on definitions found in state noise control regulations supplemented by ordinance definitions of three terms. The terms "L10" and "L50" as used in Section 4, which sets receiving land use noise standards, need definition if Section 4 is to be understood even in a general way by persons affected by the ordinance. Some ordinances contain numerous other definitions.

Terminology used throughout the ordinance should conform to definitions included in this section. Definitions need not be included for terms given their dictionary meaning or so easily understood that ordinance definition is superfluous.

Section 2. Noises Prohibited. Subdivision 1.

General prohibition. No person shall make or cause to be made any distinctly and loudly audible noise that unreasonably annoys, disturbs, injures, or endangers the comfort, repose, health, peace, safety, or welfare of any persons or precludes their enjoyment of property or affects their property's value. This general prohibition is not limited by the specific restrictions of the following subdivisions.

Subd. 2. Motor vehicles. No person shall operate a motor vehicle in the city in violation of the motor vehicle noise limits of the Minnesota Pollution Control Agency.

Comment: Even in the absence of this provision, it is unlawful to operate a motor vehicle in violation of these regulations adopted in 1975 (updated in 1977) as NPC-4. (M.S. 169.693.) The provision is included only to inform the public that there are noise regulations of this type applicable within the city as well as those of other kinds set out in the ordinance. A city adopting this provision may wish to provide a copy of the regulations in the city clerk's office for reference, but this is not legally necessary. Since the term "motor vehicle" is defined in NPC-4 which includes the substance of Subd. 2, it is not necessary to define the term in the ordinance.

Subd. 3. Horns, audible signaling devices, etc. No person shall sound any signaling device on any vehicle except as a warning of danger. (M.S. 169.68.)

Comment: In order to further restrict the use of certain of these devices, "danger" can be more fully defined, formal permits for the use of these devices can be required, or operational curfews can be established by the city. Furthermore, the city may wish to extend this provision to stationary sources which would include noon whistles, church bells, etc.

Subd. 4. Exhaust. No person shall discharge the exhaust, or permit the discharge of the exhaust of any steam engine, stationary internal combustion engine, motor boat, motor vehicle, or snowmobile except through a muffler or other device that effectively prevents loud or explosive noises therefrom and complies with all applicable state laws and regulations.

Comment: Motor vehicle mufflers are prescribed by M.S. 169.69. Water craft mufflers are prescribed by M.S. 316.17. Snowmobile mufflers are required under M.S. 84.871 and Department of Natural Resources regulation, 6 MCAR 1.0057, Clause (e). If snowmobile operation within the city is prohibited, the city may wish to omit the reference to snowmobiles in this subdivision.

Subd. 5. Defective vehicles or loads. No person shall use any vehicle so out of repair or so loaded as to create loud and unnecessary grating, grinding, rattling, or other noise.

Subd. 6. Loading, unloading, unpacking. No person shall create loud and excessive noise in loading, unloading, or unpacking any vehicle.

Subd. 7. Radios, phonographs, paging systems, etc. No person shall use or operate or permit the

use or operation of any radio receiving set, musical instrument, phonograph, paging system, machine, or other device for the production or reproduction of sound in a distinctly and loudly audible manner as to disturb the peace, quiet, and comfort of any person nearby. Operation of any such set, instrument, phonograph, machine, or other device between the hours of 10:00 p.m. and 7:00 a.m. in such a manner as to be plainly audible at the property line of the structure or building in which it is located, in the hallway or apartment adjacent, or at a distance of 50 feet if the source is located outside a structure or building shall be prima facie evidence of a violation of this section.

Subd. 8. Participation in noisy parties or gatherings. No person shall participate in any party or other gathering of people giving rise to noise, disturbing the peace, quiet, or repose of another person. When a police officer determines that a gathering is creating such a noise disturbance, the officer may order all persons present, other than the owner or tenant of the premises where the disturbance is occurring, to disperse immediately. No person shall refuse to leave after being ordered by a police officer to do so. Every owner or tenant of such premises who has knowledge of the disturbance shall make every reasonable effort to see that the disturbance is stopped.

Subd. 9. Loudspeakers, amplifiers for advertising, etc. No person shall operate or permit the use or operation of any loudspeaker, sound amplifier, or other device for the production or reproduction of sound on a street or other public place for the purpose of commercial advertising or attracting the attention of the public to any commercial establishment or vehicle.

Comment: Some cities may wish to allow such devices under city permit. If this approach is used, provisions for a permit should be substituted and standards for use of the device under permit included.

Subd. 10. Animals. No person shall keep any animal that disturbs the comfort or repose of persons in the vicinity by its frequent or continued noise.

Subd. 11. Schools, churches, hospitals, etc. No person shall create any excessive noise on a street, alley, or public grounds adjacent to any school, institution of learning, church, or hospital when the noise unreasonably interferes with the working of the institution or disturbs or unduly annoys its occupants or residents and when conspicuous signs indicate the presence of such institution.

Comment: The list of institutions may be altered to meet local needs. Some ordinances, for example, add courts, nursing homes, and homes for the elderly to the list.

Section 2 is intended to prohibit various noise nuisances not controlled or not easily controlled through Section 4, sound level standards, or that may be controlled easier in this fashion. It includes noise nuisances commonly proscribed by ordinances. Others may be added to take account of local nuisance situations. Among other noise nuisances sometimes found in noise control ordinances are (1) noise pollution from building, repairing, or testing motor vehicles or other internal combustion engines; (2) use of model vehicles or model airplanes during certain hours or in certain places; (3) use of explosives, firearms (see M.S. 116.07, Subd. 2a), or similar devices causing a noise disturbance beyond property lines (sometimes permitted under certain conditions with a special variance); (4) unmuffled operation of blower or power fans; (5) noise from idling diesel engines.

Some provisions either included or omitted in the model section may already appear in city ordinances dealing with nuisances, and some directed at noise by people (e.g., loud parties) may be treated in ordinances on disorderly conduct or breaches of the peace.

Section 3. Hourly Restriction on Certain Operations. Subdivision 1. **Recreational vehicles.** No person shall, between the hours of 10:00 p.m. and 7:00 a.m., drive or operate any minibike, snowmobile, or other recreational vehicle not licensed for travel on public highways.

Comment: If other ordinances regulate or prohibit the use of snowmobiles or other non-highway recreational vehicles within the city, this provision should be modified accordingly. It should be noted that M.S. 84.90 regulates the operation of snowmobiles and other recreational vehicles in the absence of a city ordinance.

Subd. 2. Domestic power equipment. No person shall operate a power lawn mower, power hedge clipper, chain saw, mulcher, garden tiller, edger, drill, or other similar domestic power maintenance

equipment except between the hours of 7:00 a.m. and 10:00 p.m. on any weekday or between the hours of 9:00 a.m. and 9:00 p.m. on any weekend or holiday. Snow removal equipment is exempt from this provision.

Subd. 3. Refuse hauling. No person shall collect or remove garbage or refuse in any residential district except between the hours of 7:00 a.m. and 10:00 p.m. on any weekday or between the hours of 9:00 a.m. and 9:00 p.m. on any weekend or holiday.

Subd. 4. Construction activities. No person shall engage in or permit construction activities involving the use of any kind of electric, diesel, or gas-powered machine or other power equipment except between the hours of 7:00 a.m. and 10:00 p.m. on any weekday or between the hours of 9:00 a.m. and 9:00 p.m. on any weekend or holiday.

Section 4. Receiving Land Use Standards. Subdivision 1. **Maximum noise levels by receiving land use districts.** No person shall operate or cause or permit to be operated any source of noise in such a manner as to create a noise level exceeding the limit set in Table I for the receiving land use category specified when measured at or within the property line of the receiving land use.

Table I. Sound Levels by Receiving Land Use Districts

Land Use Districts	Day (7:00 a.m. - 10:00 p.m.)		Night (10:00 p.m. - 7:00 a.m.)	
	L10	L50	L10	L50
Residential	65	60	55	50
Commercial	70	65	70	65
Industrial	80	75	80	75

The limits of the most restrictive district shall apply at the boundaries between different land use categories. The determination of land use shall be by its zoned designation.

Comment: These state standards dealing with sound levels at the point of reception establish a set of criteria which cities can utilize as is or change to reflect their own community values. The ordinance section above imposes requirements at or within the property line of the receiving land use unit categorized by zoning use districts. It seems desirable to use the major districts established in the city's zoning ordinance as the districts referred to in this section although state law actually applies to the receiving land use unit according to its current use. As in the state standards, the table used in the ordinance prescribes a somewhat more restrictive L50 standard than L10 standard. In each category of uses the L50 standard is 5 dBA less than the L10 standard.

If a city omits this section because it does not wish to involve itself in sound level measurement (though this section may be easier to enforce than ordinance standards that leave more room for interpretation in their application), it should also omit or adapt other portions of the ordinance related to this section on receiving land use standards. Such cities may prefer patterning their ordinance after the short form ordinance, which omits technical standards.

Subd. 2. Exemptions. The levels prescribed in Subdivision 1 do not apply to noise originating on public streets and alleys but such noise shall be subject to other applicable sections of this ordinance.

Section 5. Air Circulation Devices. No person shall permanently install or place any air circulation device, except a window air conditioning unit, in any outdoor location until the (noise control officer) determines that the device in that location will comply with the noise level standards prescribed in Section 4 and issues a permit for the installation. The noise produced by any window unit and by any existing air circulation device shall be attenuated by means deemed appropriate by the (noise control officer), including, but not limited to, relocation of such device, if the noise results in or contributes to a violation of Section 4.

Section 6. Exception for Emergency Work.

Noise created exclusively in the performance of emergency work to preserve the public health, safety, or welfare, or in the performance of emergency work necessary to restore a public service or eliminate a public hazard shall be exempt from the provisions of this ordinance for a period not to exceed 24 hours after the work is commenced. Persons responsible for such work shall inform the (noise control officer) of the need to initiate such work or, if the work is commenced during non-business hours of the city, at the beginning of business hours of the first business day thereafter. Any person responsible for such emergency work shall take all reasonable actions to minimize the amount of noise.

Section 7. Powers and Duties of (Noise Control Officer). Subdivision 1. Administering officer. The noise control program established by this ordinance shall be administered by the (noise control officer), who shall be appointed by the (appointing authority).

Comment: In most cities the noise control duties are assigned to an existing officer or department. In that case the language should be altered by substituting the name of the official or department and omitting the clause about the appointment. Instead of substituting the name of that official or department throughout the ordinance, the subdivision may be modified to read, "The

noise control program established by this ordinance shall be administered by the noise control officer. Until otherwise provided by ordinance, the _____ shall serve as the noise control officer."

If the council provides for a separate position of noise control officer, the appointing authority referred to in this subdivision is the general appointing authority established by law or charter, such as the manager in a council - manager city, the mayor in a strong mayor - council city, or the council in most statutory and some charter cities. If a new position is established and the city has a formal merit system, an additional provision placing the position in the classified service may be required if new positions are not automatically in that class in the absence of appropriate action to the contrary.

Subd. 2. Testing procedures. The (noise control officer) shall adopt guidelines establishing the test procedures and instrumentation to be used in enforcing the provisions of Section 4 imposing noise standards. A copy of such guidelines shall be kept on file in the office of the (noise control officer) and shall be available to the public for reference during office hours.

Subd. 3. Studies, etc. The (noise control officer) shall conduct such research, monitoring, and other studies related to sound as are necessary or useful in enforcing this ordinance and reducing noise in the city. He/she shall make such investigations and inspections in accordance with law as required in applying ordinance requirements.

Subd. 4. Noise impact statements. The (noise control officer) may require any person applying

to the city for a change in zoning classification or a permit or license for any structure, operation, process, installation, or alteration, or project that may be considered a potential noise source to submit a noise impact statement on a form prescribed by the officer. He/she shall evaluate each such statement and make appropriate recommendations to the council or other agency or officer authorized to take the action or approve the license or permit applied for.

Subd. 5. **Other powers and duties.** The (noise control officer) shall exercise such other powers and perform such other duties as are reasonable and necessary to enforce this ordinance.

Section 8. Variances. Subdivision 1. **Authority.** The (noise control officer) shall have authority, consistent with this section, to grant variances from the requirements of any section of this ordinance.

Subd. 2. **Application.** Any person seeking a variance shall file an application with the (noise control officer) on a form prescribed by the officer. The application shall state the dates during which the variance is proposed, the location of the noise source and times of operation, the nature of the noise source, reasons why the variance is sought, steps taken to minimize the noise level, and such other information as is required by the

(noise control officer). If the application is for a variance for more than three days, the (noise control officer) shall give mailed notice of the requested variance to all property owners within 500 feet of the noise source. Any person claiming to be adversely affected by the variance applied for may, within 20 days of mailing of the notice, file a statement with the (noise control officer) in support of his/her claim.

Subd. 3. **Action on application.** If the (noise control officer) finds that sufficient controversy exists regarding the proposed variance, he/she may hold a public hearing on the proposal at which all persons affected shall be given an opportunity to be heard. He/she shall also hold such a hearing upon request of the applicant or any person claiming to be adversely affected by the variance applied for. Within 30 days of receipt of the application, the officer shall approve or deny the application. It may be approved only if the officer finds that full compliance with the requirements of the ordinance would constitute an unreasonable hardship on the applicant, on other persons, or on the community. In determining whether to grant or deny the application, the officer shall balance the hardship to the applicant against the adverse impact on the health, safety, and welfare of the persons affected, the adverse impact

on property affected, and any other adverse effects of granting the variance. The variance may be granted subject to conditions, including a time limit, which shall be clearly stated.

Comment: Most comprehensive ordinances contain provisions for varying the sound source requirements of the ordinance to prevent undue hardship. This special dispensation from the requirements is granted variously by procedures for exceptions, variances, or temporary (or sometimes permanent) permits.

Sometimes such special treatment is limited to the provision of special time limits for bringing existing noise sources into compliance when the ordinance first goes into effect, and sometimes it is confined to specified ordinance restrictions. The model follows a practice similar to that used in zoning ordinances for variances. Provisions in the local zoning ordinances may provide a pattern that the council may wish to follow instead, tying it in to the noise control ordinance to the extent it is found feasible. If there is some officer other than the (noise control officer), who might better perform the task of administering the variance provisions, such as the city manager, administrator, environmental commission, planning commission, or a special ad hoc board, such an officer or board may be substituted in this section.

Subd. 4. Appeals. Either the applicant or any party aggrieved may, within 20 days of the decision on the variance application, appeal to the city council for a review of the decision. The appeal shall be filed in writing with the city clerk. The appeal shall be heard as soon as practicable and within 20 days of the filing of the appeal, and the applicant and any person who has filed a statement on the application for a variance with

the (noise control officer) shall be given at least 10 days mailed notice of the time when and place where the appeal will be considered by the council. The council may affirm, modify, or overrule the action of the (noise control officer) on the basis of the criteria set out in Subdivision 3.

Comment: Ordinances that include provisions for taking care of hardship cases usually provide for appeals from administrative rulings on the application for an exception from ordinance requirements. Typically this appeal is to the city council, but some cities provide for appeals to a higher administrative officer or agency either before or in lieu of appeal to the council.

Section 9. Enforcement. Subdivision 1. Notice of certain violations. When the (noise control officer) determines that a noise exceeds the maximum sound level permitted under Section 4, he or she shall give written notice of the violation to the owner or occupant of the premises where the noise originates and order such person to correct or remove each specified violation within such reasonable time as is prescribed in the notice. The failure to remove or correct any such violation within the time so prescribed constitutes a violation of this ordinance.

Comment: Until the determination by the officer that there is a violation of the sound level requirements of Section 4, the person responsible may not know that a violation exists, particularly when the ordinance first goes into effect. This section is included, therefore, to assure the person responsible of an opportunity to correct

the condition before any prosecution is attempted under the penalty provision of Subdivision 3 or before other means of abatement are resorted to. Some ordinances confine notice provisions of this kind to situations existing when the ordinance goes into effect. Some also set maximum time limits for compliance, in some cases fixing longer limits for more costly corrective installations.

Subd. 2. Civil remedies. This ordinance may be enforced by injunction, action for abatement, or other appropriate civil remedy.

Comment: Although it may not be possible to affect the jurisdiction and procedure of the courts by ordinance provision in most cities, the provision at least calls attention to available civil remedies.

Subd. 3. Criminal penalties. Any violation of this ordinance involving the operation of a motor vehicle is a petty misdemeanor and, upon conviction, the violator shall be punished by a fine of not to exceed \$100, plus the costs of prosecution. Every person who violates any other provision of this ordinance is guilty of a misdemeanor and shall, upon conviction, be subject to a fine of not more than \$500 or imprisonment for a term of not to exceed 90 days, or both, plus, in either case, the costs of prosecution. Each act of violation and each day a violation occurs or continues constitutes a separate offense.

Comment: The penalty provided for misdemeanors is the maximum allowed by law. The provision for adding the costs of prosecution is based on the statutory city code. (M.S. 412.231.) Violations of noise limits on motor vehicle operation and for driving

with an inadequate muffler, like most violations of the traffic code, are petty misdemeanors under the state law. (M.S. 169.89, Subd. 1.) The law also provides that local ordinances may not fix a different penalty. (M.S. 169.03, Subd. 9.) The ordinance may make all or specified violations petty misdemeanors, if preferred. In that case the violator is subject only to the maximum \$100 fine on conviction with no possibility of a jail sentence. In prosecutions under a petty misdemeanor provision, there is no right to a trial by jury and appeals are permitted only on questions of law.

In a city with an ordinance code containing a general penalty provision, the penalty section of this ordinance may be abridged.

Section 10. Severability. If any provision of this ordinance or the application of any provision to a particular situation is held to be invalid by a court of competent jurisdiction, the remaining portions of the ordinance and the application of the ordinance to any other situation shall not be invalidated.

Comment: While there is some doubt that a severability provision alters what a court would do otherwise in construing ordinances, it is common to include it in ordinances containing such varied provisions as this one. For example, the PCA regulation establishing noise standards contains such a provision.

Section 11. Effective Date. This ordinance becomes effective _____,

19____.

Comment: In statutory cities ordinances become effective upon passage and publication unless a later date is fixed in the ordinance. In many home rule charter cities,

non-emergency ordinances do not become effective until 30 days after passage and publication unless the ordinance fixes a

later date. This section is not legally necessary unless a later effective date is chosen than the date prescribed by law or charter.

Passed this _____ day of _____, 19_____

Mayor

Attest:

City Clerk

Published in _____ on _____, 19_____

KC/rmm
1/9/81

MODEL ORDINANCES

II. Short-Form Noise Control Ordinance

The City Council of _____ ordains:

Section 1. Noises Prohibited. Subdivision 1.

General prohibition. No person shall make or cause to be made any distinctly and loudly audible noise that unreasonably annoys, disturbs, injures, or endangers the comfort, repose, health, peace, safety, or welfare of any person or precludes their enjoyment of property or affects their property's value. This general prohibition is not limited by the specific restriction of the following subdivisions.

Subd. 2. Horns, audible signaling devices, etc.

No person shall sound any audible signaling device on any vehicle except as a warning of danger. (M.S. 169.68.)

Comment: In order to further restrict the use of these certain devices, danger can be more fully defined, formal permits for the use of these devices can be required, or operational curfews can be established by the city. Furthermore, the cities may wish to extend this provision to stationary sources which would include noon whistles, church bells, etc.

Subd. 3. Exhaust. No person shall discharge the exhaust or permit the discharge of the exhaust of any steam engine, stationary internal combustion engine, motor boat, motor vehicle, or snowmobile except through a muffler or other device that effectively prevents loud or explosive noises therefrom and complies with all applicable state laws and regulations.

Comment: Motor vehicle mufflers are prescribed by M.S. 169.69. Water craft mufflers are prescribed by M.S. 361.17. Snowmobile mufflers are required under M.S. 84.871 and Department of Natural Resources regulation, 6 MCAR 1.0057, Clause (e). If snowmobile operation within the city is prohibited, the city may wish to omit the reference to snowmobiles in this subdivision.

Subd. 4. Defective vehicles or loads. No person shall use any vehicle so out of repair or so loaded as to create loud and unnecessary grating, grinding, rattling, or other noise.

Subd. 5. Loading, unloading, unpacking. No person shall create loud and excessive noise in loading, unloading, or unpacking any vehicle.

Subd. 6. Radios, phonographs, paging systems, etc. No person shall use or operate or permit the use or operation of any radio receiving set, musical instrument, phonograph, paging system, machine, or other device for the production or reproduction of sound in a distinct and loudly audible manner as to disturb the peace, quiet, and comfort of any person nearby. Operation of any such set, instrument, phonograph, machine, or other device between the hours of 10:00 p.m. and 7:00 a.m. in such a manner as to be plainly audible at the property line of the structure or building in which it is located, in the hallway or apartment adjacent, or at a distance of 50 feet if the source is located outside a structure or building shall be prima facie evidence of a violation of this section.

Subd. 7. Participation in noisy parties or gatherings. No person shall participate in any party or other gathering of people giving rise to noise, disturbing the peace, quiet, or repose of another person. When a police officer determines that a gathering is creating such a noise disturbance, the officer may order all persons present, other than the owner or tenant of the premises where the disturbance is occurring, to disperse immediately. No person shall refuse to leave after being ordered by a police officer to do so. Every owner or tenant of such premises who has knowledge of the disturbance shall make every reasonable effort to see that the disturbance is stopped.

Subd. 8. Loudspeakers, amplifiers for advertising, etc. No person shall operate or permit the use or operation of any loudspeaker, sound amplifier, or other device for the production or reproduction of sound on a street or other public place for the purpose of commercial advertising or attracting the attention of the public to any commercial establishment or vehicle.

Comment: Some cities may wish to allow such devices under city permit. If this approach is used, provisions for a permit should be substituted and standards for use of the device under permit included.

Subd. 9. Animals. No person shall keep any animal that disturbs the comfort or repose of persons in the vicinity by its frequent or continued noise.

Subd. 10. Schools, churches, hospitals, etc. No person shall create any excessive noise on a street, alley, or public grounds adjacent to any school, institution of learning, church, or hospital when the noise unreasonably interferes with the working of the institution or disturbs or unduly annoys its occupants or residents and when conspicuous signs indicate the presence of such institution.

Comment: The list of institutions may be altered to meet local needs. Some ordinances, for example, add courts, nursing homes, and homes for the elderly to the list.

Section 1 is intended to prohibit various noise nuisances commonly proscribed by ordinances. Others may be added to take account of local nuisance situations. Among others sometimes found in noise control ordinances are (1) noise pollution from building, repairing, or testing motor vehicles or other internal combustion engines; (2) use of model vehicles or model airplanes during certain hours or in certain places; (3) use of explosives, firearms (see M.S. 116.07, Subd. 2a), or similar devices causing a noise disturbance beyond property lines (sometimes permitted under certain conditions with a special variance); (4) unmuffled operation of blower or power fans; (5) noise from idling diesel engines.

Some provisions either included or omitted in the model section may already appear in city ordinances dealing with nuisances, and some directed at noise by people (e.g., loud parties) may be treated in ordinances on disorderly conduct or breaches of the peace.

Section 2. Hourly Restriction on Certain Operations. Subdivision 1. Recreational vehicles. No person shall, between the hours of 10:00 p.m. and 7:00 a.m., drive or operate any minibike, snowmobile, or other recreational vehicle not licensed for travel on public highways.

Comment: If other ordinances regulate or prohibit the use of snowmobiles or other non-highway recreational vehicles within the city, this provision should be modified accordingly. It should be noted that M.S. 84.90 regulates the operation of snowmobiles and other recreational vehicles in the absence of a city ordinance.

Subd. 2. Domestic power equipment. No person shall operate a power lawn mower, power hedge clipper, chain saw, mulcher, garden tiller, edger, drill, or other similar domestic power maintenance equipment except between the hours of 7:00 a.m. and 10:00 p.m. on any weekday or between the hours of 9:00 a.m. and 9:00 p.m. on any weekend or holiday. Snow removal equipment is exempt from this provision.

Subd. 3. Refuse hauling. No person shall collect or remove garbage or refuse in any residential district except between the hours of 7:00 a.m. and 10:00 p.m. on any weekday or between the hours of 9:00 a.m. and 9:00 p.m. on any weekend or holiday.

Subd. 4. Construction activities. No person shall engage in or permit construction activities involving the use of any kind of electric, diesel, or gas-powered machine or other power equipment except between the hours of 7:00 a.m. and 10:00 p.m. on any weekday or between the hours of 9:00 a.m. and 9:00 p.m. on any weekend or holiday.

Section 3. Enforcement. Subdivision 1. **Enforcement duties.** The _____ (police department, building inspector, or other specified officer or agency) shall enforce the provisions of this ordinance. The police department or its members (substitute other specified officer or agency if listed above) may inspect private premises other than private residences and shall make all reasonable efforts to prevent violations of this ordinance.

Comment: This subdivision must be adapted to fit the administrative structure and personnel of the individual city. In many small cities the police department may be the only agency available for the purpose. In that case the subdivision is consistent with the general responsibility given the police department to enforce laws and ordinances.

Subd. 2. Civil remedies. This ordinance may be enforced by injunction, action for abatement, or other appropriate civil remedy.

Comment: Although it may not be possible to affect the jurisdiction and procedure of the courts by ordinance provision in most cities, the provision at least calls attention to available civil remedies.

Subd. 3. Noise impact statements. The council may require any person applying for a change in zoning classification or a permit or license for any structure, operation, process, installation or alteration, or project that may be considered a potential noise source to submit a noise impact statement

on a form prescribed by the council. It shall evaluate each such statement and take its evaluation into account in approving or disapproving the license or permit applied for or the zoning change requested.

Comment: If there is some other officer who may appropriately require noise impact statements, that officer may be substituted for the council in the first sentence and the second then may be altered to provide for evaluation of the statement by that officer and the making of appropriate recommendations to the council or other officer authorized to take action. Some cities, particularly smaller cities, may prefer to omit this subdivision altogether.

Subd. 4. Criminal penalties. Every person who violates any provision of this ordinance is guilty of a misdemeanor and shall, upon conviction, be subject to a fine of not more than \$500 or imprisonment for a term of not to exceed 90 days,

or both, plus, in either case, the costs of prosecution. Each act of violation and each day a violation occurs or continues constitutes a separate offense.

Comment: The penalty provided in this subdivision is the maximum allowed by law for misdemeanors. The provision for adding the costs of prosecution is based on the city code. The ordinance may make all or specified violations petty misdemeanors, if preferred. In that case, the violator is subject only to the maximum \$100 fine on conviction with no possibility of a jail sentence. In prosecutions under a petty misdemeanor provision, there is no right to a trial by jury and appeals are permitted only on question of law.

In a city with an ordinance code containing a general penalty provision, the penalty section of this ordinance may be abridged.

If the city finds that full compliance with the requirements of this ordinance constitutes an unreasonable hardship, a variance may be granted. (See Long Form Ordinance Section 8.)

KC.rmm
1/9/81