AN ALLETE COMPANY

May 9, 2024

Mr. Joseph Graham
Wisconsin Department of Natural Resources
810W. Maple Street
Spooner, WI 54801

RE: Request for Information of Tax ID parcels 04-804-00801-00, 04-804-0079-00, 04-804-00863-00, 04-804-00876-00, 04-804-00903-01, and 04-804-00993-00 in Superior, Wisconsin.

Dear Mr.Graham:

The Wisconsin Department of Natural Resources (WDNR) sent a request for information (RFI) letter to Superior Water Light & Power (SWL&P) on February 16, 2024. The RFI was inquiring on information for potential contributors of impacts in the sediment of the Tower Avenue Slip. The RFI asked for information pertaining to the former use and operation of the Winslow electric power station and some additional parcel uses near the Tower Avenue Slip.

SWL&P performed an internal document review for information on the referenced parcels and is providing the attached response and documentation to the RFI questions. The response includes the readily available information that could be discovered in the limited time available.

If you have any question, please contact me at 715-395-6225 or rsandstrom@swlp.com.

Sincerely,

Robert Sandstrom
President – Superior Water, Light and Power Co.

AN ALLETE COMPANY

Request for Information- Response

1. Identify the current owner and operator of the Site. State the dates during which the current owner and operator owned, operated, leased, or occupied any portion of the Site and provide copies of all documents evidencing such ownership, operation, lease, or occupation, including but not limited to purchase and sale agreements, deeds, leases, etc.

   Superior Water Light and Power (SWL&P) performed internal file reviews for information at the former Winslow Power Plant (parcels 04-804-00801-00, 04-804,0079-00, 04-804-00863-00. 04-804-00876-00,) and two parcels 04-804-00993-00 and 04-804-00903-01 (Sites) located in Superior, Wisconsin, near the Tower Avenue Slip.

   SWL&P formerly owned and operated the Winslow steam electric station (station) that was located at 211 Hughitt Avenue, Superior Wisconsin. The station operated from 1893 to 1981, at which time it was idled on standby status until November 1, 1992, when it was officially retired. The facility decommissioning and demolition work commenced in 1993. The property was sold to RRS, Inc. (Mr. Richard Smith.) on December 19, 1996.

   SWL&P has had no involvement with the operation of the former station parcels since they were sold to RRS, Inc. The Douglas County Land Explorer website shows the property as currently being owned by Heimbach Leasing, Inc.

   SWL&P owns the parcel 04-804-00993-00 and it currently has a distribution powerline and BNSF railroad tracks located on it. SWL&P internal records on this parcel did not have any additional information on uses or ownership of this parcel.

   SWL&P owns the parcel 04-804-00903-01 and it is located between properties owned by REED Property, Inc. SWL&P is not using the parcel for any operations. SWL&P record review, show utility permits for this parcel starting in 1941. A 1951 Winslow Station figure shows circulating water intake and discharge lines crossing this parcel. Records prior to SWL&P ownership were not readily available as part of the record review SWL&P was able to complete before providing this response. SWL&P will provide any relevant information that it identifies related to these parcels after the date of this response.

2. Identify any persons who in addition to the owner/operator exercises actual control over the Site or who holds significant authority to control activities at the Site.

It is SWL&P's understanding that Heimbach Leasing, Inc. is the current owner/operator of the former Winslow parcels at the Site. They would have authority and control of current activities of the station Site. SWL&P has no authority or control over these parcels.

SWL&P currently maintains control over the parcels 04-804-00993-00 and 04-804-00903-01. Other than the distribution powerline, SWL&P does not have any current operations on these parcels. The railroad tracks located on parcel 04-804-00993-00 is operated by BNSF. REED Properties, Inc. appears to be using parcel 04-804-00903-01 for storage and parking.

No additional information responsive to this request was identified as part of the record review SWL&P was able to complete before providing this response. SWL&P will provide any relevant information that it identifies related to this request, if any, after the date of this response.

3. Identify any legal or equitable interest that you now have, or previously had, in the Site and describe the nature of any such interest, including when, how, and from whom such interest was obtained as well as when, how, and to whom such interest was conveyed. Provide documentation evidencing the acquisition or conveyance of any identified interest.

RRS, Inc. purchased the former station site in 1996 (see purchase agreement). The sale to RRS, Inc. included the conveyance of all buildings and improvements, a 12,500 KW turbine generator, a 12,650 KW steam turbine generator, and corresponding water tube boilers and auxiliary equipment (see purchase agreement). Buyer RRS, Inc, was provided with a copy of the 1994 Phase I Demolition Environmental and Waste Management Report (1994 Phase I). SWL&P record review showed there was a Phase I Environmental Site Assessment (ESA) prepared by TPT in 1996 for the former station properties, but there are no available copies in SWL&'Ps records.

SWL&P records did not have any easement records other than utility easements for the other two parcels.

No additional information responsive to this request was identified as part of the record review SWL&P was able to complete before providing this response. SWL&P will provide any relevant information that it identifies related to this request, if any, after the date of this response.

4. Identify all hazardous substance discharges that have occurred at or from the Site and other actual or potential environmental pollution that has been found at the Site, including any hazardous substance discharge into, or environmental

pollution found in, a subsurface disposal system or floor drain inside or under any building at the Site. Provide all documentation including reports and data related to hazardous substance discharges and actual or potential environmental pollution of soil, sediment, water (ground or surface) or air quality at or around the Site.

File reviews have indicated there was an oil release (Spill), that was discovered in 2005, impacting the Hughitt slip. Investigations into the oil release demonstrated it originating from the former station Site.. SWL&P was not the owner/operator of the Site at that time and was not identified as the responsible party for the release. Records reviewed indicate that SWL&P was contacted by the City of Superior in 2008 about this release. The City of Superior identified that the oil discharging into the St. Louis Bay was coming from the facility owned and operated by Mr. Stephen Heimach at the former station Site. WDNR sent a Notice of Violation and Request for Response letter to Mr. Heibmach on December 20, 2007. This incident has a BRRTS #04-16-544485 and is identified as closed in the database. In July 2008, SWL&P personnel along with personnel from the City of Superior did an investigation at the Site with Mr. Heimbach. According to the investigation, the area of the fuel oil release was in the former Unit #2 condenser pit. It was described that the fuel oil came out of a heating oil tank being used by Mr. Heimbach and due to rainwater entering the pit caused it to reach the Hughitt slip when the pit would fill up with rainwater. Sludge and used oil were pumped from the pit and stored in 55-gallon drums according to the investigation summary. No additional records were on file at SWL&P regarding the cleanup or any follow-up investigations.

SWL&P's file review did not find any additional hazardous substances discharges at the Site. The SWL&P 1994 Phase I report has information regarding potential substances that were inventoried for the proposed demolition and decommissioning of the Winslow station. The report identified asbestos containing materials, mercury containing devices, oil filled equipment (non-PCB and PCB contaminated), petroleum tanks, lead paint, lead cable, and lead analytical results in surface soils (upper 6 inches) of the Winslow substation, and herbicide soil analytical sampling. The information from the 1994 Phase I was reviewed with several agencies, including the WDNR, City of Superior, USACE, and WLSSD, prior to decommissioning and demolition work.

SWL&P checked the WDNR BRRTS, RR, and BOTW databases for potential spills or releases at the Winslow station and the other two parcels. Other than the above-mentioned BRRTS #04-16-544485 Spill, nothing was listed for these locations on the WDNR databases.

The only records of spill events that SWL&P was able to identify in its records related to the BRRTS #04-16-544485 oil discharges at the former Site mentioned above.

No additional information responsive to this request was identified as part of the record review SWL&P was able to complete before providing this response. SWL&P will provide any relevant information that it identifies related to this request, if any, after the date of this response.

5. If you are the current owner and/or current operator of the Site, did you acquire or operate the Site or any portion of the Site after the discharge of any hazardous substance on or at the Site? Did you know or have reason to know of any discharge of any hazardous substance on or at the Site before acquiring or operating the Site? Describe all environmental investigations of the Site you undertook before acquiring or operating the Site and provide all documentation of investigations performed.

SWL&P has not operated the Winslow station since the early 1980s and sold the parcels where the station was located in late 1996. Uses of the property prior to the power plant (1893) are unknown. It is likely that prior to 1893, the parcels were undeveloped or railroad.

SWL&P does not have any records of discharges of hazardous substances on the other parcels or know of any historic hazardous substances discharges prior to purchasing the parcels based on internal file reviews.

No additional information responsive to this request was identified as part of the record review SWL&P was able to complete before providing this response. SWL&P will provide any relevant information that it identifies related to this request, if any, after the date of this response.

6. Identify all prior owners of the Site. For each prior owner, further identify:

   a. The dates of ownership,
   SWL&P has owned the property at the Winslow power plant from at least 1893 until it sold the property in 1996. The date of ownership of the other two parcels is unknown but parcel #04-804-00903-01 was owned by SWL&P since at least 1941.

   b. All evidence showing that each identified owner controlled the Site;
   SWL&P controlled the Site at the station from 1893 through December 19, 1996. SWL&P did not control the station parcels after they were sold.

c. All evidence of any hazardous substance discharge or environmental pollution (including coal) at or from the Site and/or its solid waste units during the period that each identified owner owned the Site.
The station was built in 1893 with a single coal-fired boiler (Unit 1). A second boiler was added in 1941 (Unit 2) and Unit 3 was added in 1952. All three units were originally coal-fired boilers and in the 1960s were converted to be supplemented with natural gas. In 1972, Units 2 and 3 were converted to #6 fuel oil. Unit 1 was no longer used and at some point in time was removed. An inventory of hazardous substances and oil was completed in the 1994 Phase I and is attached for reference. No readily available information indicated hazardous substance discharges from this station during operation. Historical drawing show a coal ash tower that is connected to a rail line. This suggest the coal ash was railed off-site for disposal.

SWL&Ps internal records did not have information on parcel 04-804-00993-00. The distribution line property has only been used by SWL&P for power transmission. Since no records show other uses for SWL&P, it is unlikely SWL&P stored or used chemicals or petroleum product on this parcel. The BNSF operates railroad tracks on this parcel. SWL&P did not have any readily available records relating to chemical or petroleum uses or releases from the railroad operation. The WDNR RR database identifies the westerly adjoining property as a closed ERP site (BRRTS NO. 02-16-000336).

SWL&P does not store or use hazardous substances or petroleum products on parcel 04-804-000903-01. Historic uses of this parcel by SWL&P were for utility uses (natural gas, power, and circulating water intake and discharge).

No additional information responsive to this request was identified as part of the record review SWL&P was able to complete before providing this response. SWL&P will provide any relevant information that it identifies related to this request, if any, after the date of this response.

7. Identify all prior operators of the Site, including lessors. For each prior operator, further identify: *Unknown.*

a. The dates of operation,
Unknown

b. The nature of prior operations at the Site,
Unknown

c. All evidence that each identified operator controlled the Site; and
N/A

d. All evidence of any hazardous substance discharge or environmental pollution (including coal) at or from the Site and/or its solid waste units during the period that each identified operator operated the Site.

The only discharge identified in records is the Spill described above. Records for the plant closure including the 1994 Phase I report are included.

No additional information responsive to this request was identified as part of the record review SWL&P was able to complete before providing this response. SWL&P will provide any relevant information that it identifies related to this request, if any, after the date of this response.

8. Describe the nature of your activities, business, or operations at the Site with respect to generating, transporting, storing, treating, or disposing hazardous substances or solid or hazardous waste (including coal) at the Site.

The former station would have had coal on the Site. Coal ash was generated until the early 1970s and removed from the site via rail. After the 1970s conversion to fuel oil, there was a very minimal amount of waste generated and review of records indicate small amounts of used oil was the primary waste generated (1994 Phase I).

The other two parcels did not have any internal records of hazardous substance used or stored on the properties.

No additional information responsive to this request was identified as part of the record review SWL&P was able to complete before providing this response. SWL&P will provide any relevant information that it identifies related to this request, if any, after the date of this response.

9. If any hazardous substances or solid or hazardous waste (including coal) was ever generated, transported, stored, treated, or disposed of at the Site, identify and provide all documentation which relates to: (a) the type, quantity, chemical composition, characteristics and physical state (e.g., solid, liquid) of hazardous substances or solid or hazardous waste generated, transported, stored, treated or disposed of at the Site and the dates that such activities occurred; (b) the identity of all persons who generated, transported, treated, stored, or disposed of such substances or waste at the Site; and (3) the identity of all subsidiary or parent corporations of identified persons.

The amount and type of coal used by the station is not readily available.. Based on some historic records, the coal ash was hauled away by railcar. The coal and coal ash are solids. A 1-million, gallon steel above-ground storage tank (AST) was constructed for the #6 fuel oil storage. There were also smaller ASTs for

turbine oil (500 and 1000 gallon, respectively) and #2 fuel oil (2,300 gallons) that were part of the former Winslow station Site. The oils were removed, and tanks were cleaned for the decommissioning of the plant. The 1-million-gallon tank is still located at the property but was drained and cleaned prior to the transfer of the parcels to RRS. A list of the waste shipments for the decommissioning of the plant are listed in response to request 12.

No additional information responsive to this request was identified as part of the record review SWL&P was able to complete before providing this response. SWL&P will provide any relevant information that it identifies related to this request, if any, after the date of this response.

10. Describe with specificity all occurrences where a Site owner, operator, or person in control over the Site was determined by a federal, state, or local authority to have violated any environmental law or where any environmental violation or deficiency was discovered at the Site, including any violation or deficiency that resulted in the issuance of a citation or the commencement of any enforcement or legal action. Identify the federal, state, and local authorities involved in each identified occurrence. Provide all documentation related to each identified occurrence.

Review of readily available records did not indicate any violations recorded against the station parcels or the other two parcels during SWL&P's ownership.

No additional information responsive to this request was identified as part of the record review SWL&P was able to complete before providing this response. SWL&P will provide any relevant information that it identifies related to this request, if any, after the date of this response.

11. Provide a list of all local, state, and federal environmental permits ever granted for the Site or any part thereof (e.g., Resource Conservation and Recovery Act (RCRA) permits, National Pollutant
Discharge Elimination System (NPDES) permits, etc.).

The station had a water intake and discharge pipes used for circulating cooling water. Requirements for a NPDES permits would have started around the time of the plant conversion in 1972. The cooling water intake and discharge structures were capped as part of the decommissioning. Readily available internal record review did not find records of a NPDES permit.

No additional information responsive to this request was identified as part of the record review SWL&P was able to complete before providing this response.

SWL&P will provide any relevant information that it identifies related to this request, if any, after the date of this response.

12. Did the Site ever file a Hazardous Waste Activity Notification under the Resource Conservation and Recovery Act (RCRA)? If so, provide documentation of such notification.

Documentation of a notification, under RCRA was not readily available. Records do indicate that various agencies were involved during the decommissioning process.

Historic records for the Winslow station show that a waste inventory and removal occurred from 1993 through 1997. Here is a summary of those activities:

- *The #6 fuel oil tank was emptied, cleaned and closed in 1993/1994.*
- *The turbine oil tanks and turbine oil reservoir were emptied by the fall of 1993.*
- *The #2 fuel oil tank was emptied in the fall of 1993.*
- *Re-usable boiler water treatment chemicals and other re-usable products were given away for re-use in 1993.*
- *A shipment of 2,352 pounds of waste was sent off-site on June 3, 1994.*
- *Remaining useable products were sent off-site for re-use by the end of 1996.*
- *A waste shipment of 1,283 pounds was sent off-site on February 1, 1997.*
- *All electrical equipment on-site was drained of its oils and oil and equipment were shipped off-site by July 1997. All absorbent pads generated in the process were removed from the site by late summer 1997.*
- *All turbine cooling water pipes were capped for permanent closure at the Hughitt and Tower Avenue Bay Slips during the second half of 1997.*
- *All remaining site environmental issues such as lead, asbestos, residual oils in equipment/piping, etc. were fully identified, characterized and reported on in the 1994 SWL&P Phase I report.*

No additional information responsive to this request was identified as part of the record review SWL&P was able to complete before providing this response. SWL&P will provide any relevant information that it identifies related to this request, if any, after the date of this response.

13. Did the Site ever have "interim status" under the Resource Conservation or Recovery Act (RCRA)? If so, and the Site does not currently have interim status, describe the circumstances under which the Site lost interim status.

No information responsive to this request was identified as part of the record review SWL&P was able to complete before providing this response. SWL&P will

provide any relevant information that it identifies related to this request, if any, after the date of this response.

14. Provide the following information about the Site, if applicable:

a. Property boundaries, including a written legal description,

b. Location of underground utilities (telephone, electrical, sewer, water main, etc.), c. Surface structures (e.g., buildings, tanks, etc.),

d. Groundwater wells, including drilling logs,

e. Storm water drainage systems, and sanitary sewer systems, past and present, including septic tank(s), subsurface disposal field(s), and other underground structures; and where, when and how such systems are emptied,

f. All additions, demolitions or changes of any kind on, under or about the Site, its physical structures or to the property itself (e.g., prior removal or excavation of contaminated soil or sediment); and any planned additions, demolitions or other changes to the site,

g. Geology and hydrogeology at and around the Site,

h. Maps and drawings of the Site depicting the property boundaries and property features identified above; and

i. Photographs of the Site, past and present, including aerial photographs.

1950s figures of the Winslow station are attached. No additional information responsive to this request was identified as part of the record review SWL&P was able to complete before providing this response. SWL&P will provide any relevant information that it identifies related to this request, if any, after the date of this response.

15. Describe the conditions of any physical plant facility at the Site during the years each operator operated at the Site, including the status of equipment (operating or dormant), general condition of the facility (e.g., leaking pipes, corroded drain or new piping installed), quality of maintenance (e.g., equipment in disrepair or inspected monthly), adherence to procedures (improper handling of chemicals, incomplete/absent policies, quality of supervision), and management of the plant.

As stated above the station was idled in the early 1980s and was decommissioned from 1993 to 1997. The cooling water intake and discharge structures were capped as part of the decommissioning. Since the parcels on which the station

was located are no longer in operation or owned by SWL&P, it is unknown what the current owner's facility conditions are.

No additional information responsive to this request was identified as part of the record review SWL&P was able to complete before providing this response. SWL&P will provide any relevant information that it identifies related to this request, if any, after the date of this response.

16. Are you or your consultants planning to perform any investigations of the soil, sediment, water (ground or surface), geology, hydrology or air quality on or about the Site? Provide all documentation concerning any investigation you have conducted or plan to conduct at or around the Site.

Limited soil sampling was performed in the 1990s as part of the decommissioning of the station. SWL&P does not plan to do additional investigation or testing. No historic records of testing on the other two parcels were discovered in readily available internal file review.

No additional information responsive to this request was identified as part of the record review SWL&P was able to complete before providing this response. SWL&P will provide any relevant information that it identifies related to this request, if any, after the date of this response.

17. Describe all potential pathways for migration of contamination, including airborne deposition, drainage improvements, utility corridors, sediments, bedrock and permeable material or soil along which dust/particulate, vapors, and free product may flow as well as potential pathways contaminated water may flow.

The BRRTS #04-16-544485 Spill at the former Winslow station Site, demonstrated that there was a potential pathway to the Hughitt Slip. The soils in the area are likely the native Miller Creek Clay formation. This clay can act as an impermeable material restricting migration of contaminants. No spills or releases have been identified from the Winslow station operation or on the other two parcels.

INDEX

Figure 1: SWL&P Pacel Locations 04-804-00903-01, 04-804-00801-00, 04-804-0079-00, 04-804-00863-00, and 04-804-00876-00

Figure 2: SWL&P Pacel Location 04-804-00993-00

N

NORTH FIRST STREET

NORTH SECOND STREET

15" SEWER

Farmers Union Elev

Hyd.

10" sewer

TOWER AVENUE

OGDEN AVENUE

JOHN HUGHITT SLIP

TOWER BAY SLIP

Dock Wall

Site of concrete dock wall

See Enasco dwg. E-109001 S.W.L.&P.Co. dwg. E-441

10'x10' ditch structure with stop logs

20' setment

54" Disch. line

8" sewer

Hyd

See Detail A

New intake structure

36" line abandoned

42" Conc. pipe See Dwg E-440

42" intake

36" Recirculating

3" sewer

150'

15'

1000000 GAL. #6 FUEL OIL TANK

WAREHOUSE BUILDING NO.3

Existing 36" disch. line used for recirculation

(warehouse) BUILDING NO.1

grass

#2 FUEL OIL TANK

stack

No. 3 Addition

exist 42" intake

84.5

Exist. S.E. Station

45H SILO

600'-1½"

L. S. T. & T. R. V.

6" WATER MAIN

4" GAS MAIN

151 152 153 154 155 156 157 158 159

32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

DETAIL A

30" class "B" C.I. ell

30" cir. spigot end sluice gate order E 1816 Chapman Valve Mfg Co.

See dwg. E-57450 for details of gates and stands

18" C.I. B.&S.

18" C.I. Pipe

36" C.I. ELL

36" x 24" x 36"

B & B 36" R.C. Pipe

42" Intake

36" Recirculating

4'-3½"

17'-1½"

7'-11"

7'-10"

4'-6"

REFERENCE

OLD INTAKE STRUCTURE	E - 57452
NEW INTAKE STRUCTURE	E - 109002
DISCHARGE STRUCTURE	E - 109001
STATION SITE PLAN	E - 443
DETAILS OF REINFORCED CONC. PIPE	E - 440
LAYOUT OF RAILROAD TRACKAGE	E - 442
PLOT PLAN - 1941 - NO. 2 EXTENSION	E - 57110

DRAWN BY	R. Lum & S. Ure				
TRACED					
CHECKED	S. Ure	3/30/67			
CORRECT	S. Ure	4/8/67			

REV. NO.	DATE	REVISION DESCRIPTION	BY	APPROVED
1	12-18-96	GENERAL BACKGROUND UPDATE FOR DEMO.	DJK	

WINSLOW S.E. STATION
1952 12650 KW EXTENSION

GENERAL PLAN OF SITE & VICINITY

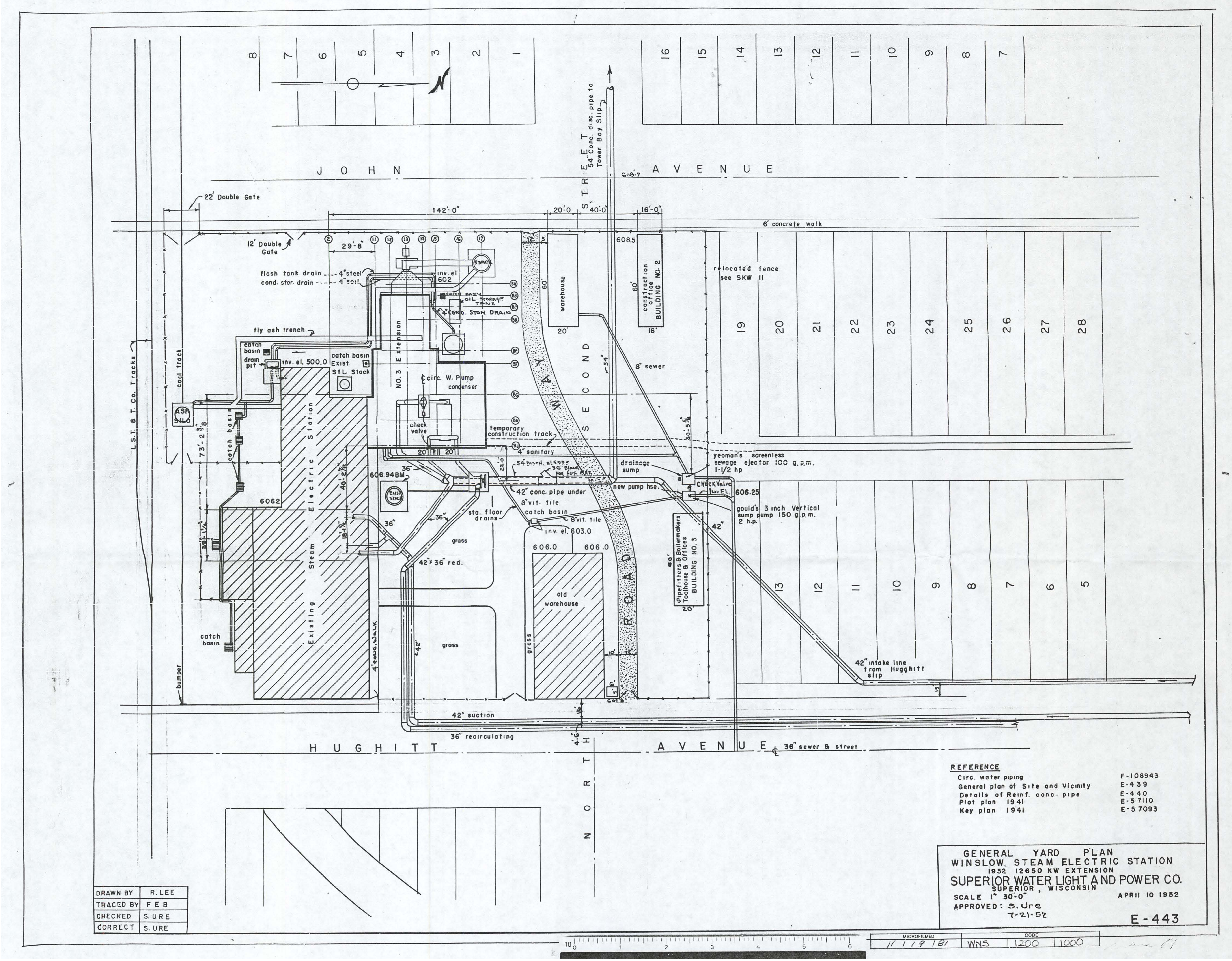
SUPERIOR WATER LIGHT AND POWER CO.
SUPERIOR WISCONSIN

SCALE 1" = 50'-0

APPROVED: H. Carpenter
by: S. Ure

E-439

MICROFILMED		CODE	
7/2/98	WNS	1200	1000


JOHN AVENUE
HUGHITT AVENUE
NORTH SECOND STREET
ROAD WAY
54" Conc. disc. pipe to Tower Bay Slip
22' Double Gate
12' Double Gate
142'-0"
20'-0
40'-0
16'-0"
6' concrete walk
6085
relocated fence see SKW II
flash tank drain 4" steel
cond. stor. drain 4" soil
inv. el. 602
STACK
CATCH BASIN
OIL STORAGE TANK
4" COND. STOR DRAIN
warehouse
construction office BUILDING NO. 2
fly ash trench
catch basin
drain pit
inv. el. 500.0
catch basin
Exist. Stl. Stack
NO. 3 Extension
circ. W. Pump
condenser
8" sewer
L.S.T. & T. Co. Tracks
coal track
ASH SILO
check valve
temporary construction track
4" sanitary
yeoman's screenless sewage ejector 100 g.p.m. 1-1/2 hp
drainage sump
new pump hse.
CHECK Valve
606.25
gould's 3 inch Vertical sump pump 150 g.p.m. 2 h.p.
606.94 BM
42" conc. pipe under
8" vit. tile
catch basin
sta. floor drains
inv. el. 603.0
Existing Steam Electric Station
6062
42" x 36" red.
grass
606.0
606.0
old warehouse
Pipefitters & Boilermakers Toolhouse & Offices BUILDING NO. 3
4' conc. walk
catch basin
bumper
42" intake line from Hugghitt slip
42" suction
36" recirculating
36" sewer & street

REFERENCE

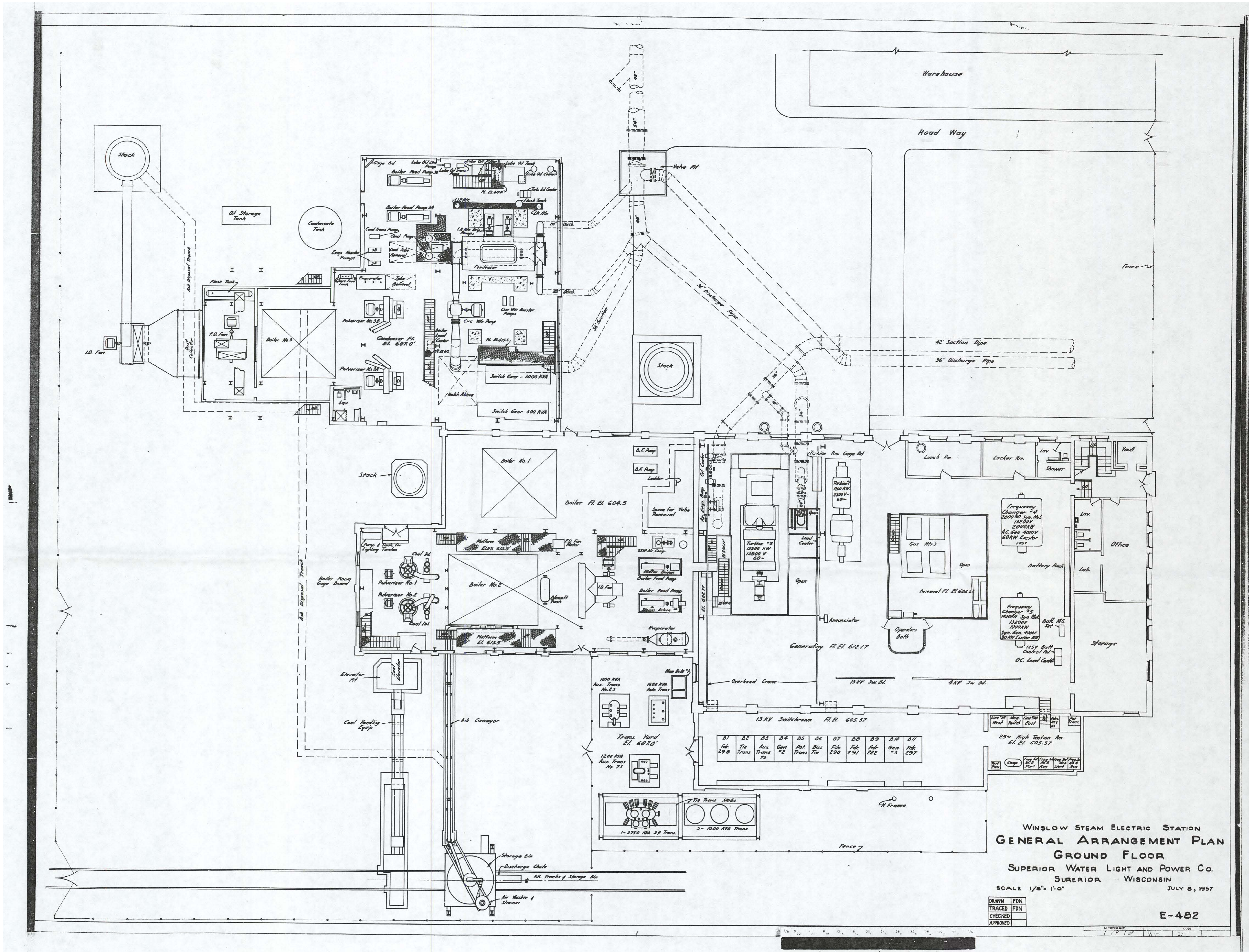
Circ. water piping	F-108943
General plan of Site and Vicinity	E-439
Details of Reinf. conc. pipe	E-440
Plot plan 1941	E-57110
Key plan 1941	E-57093

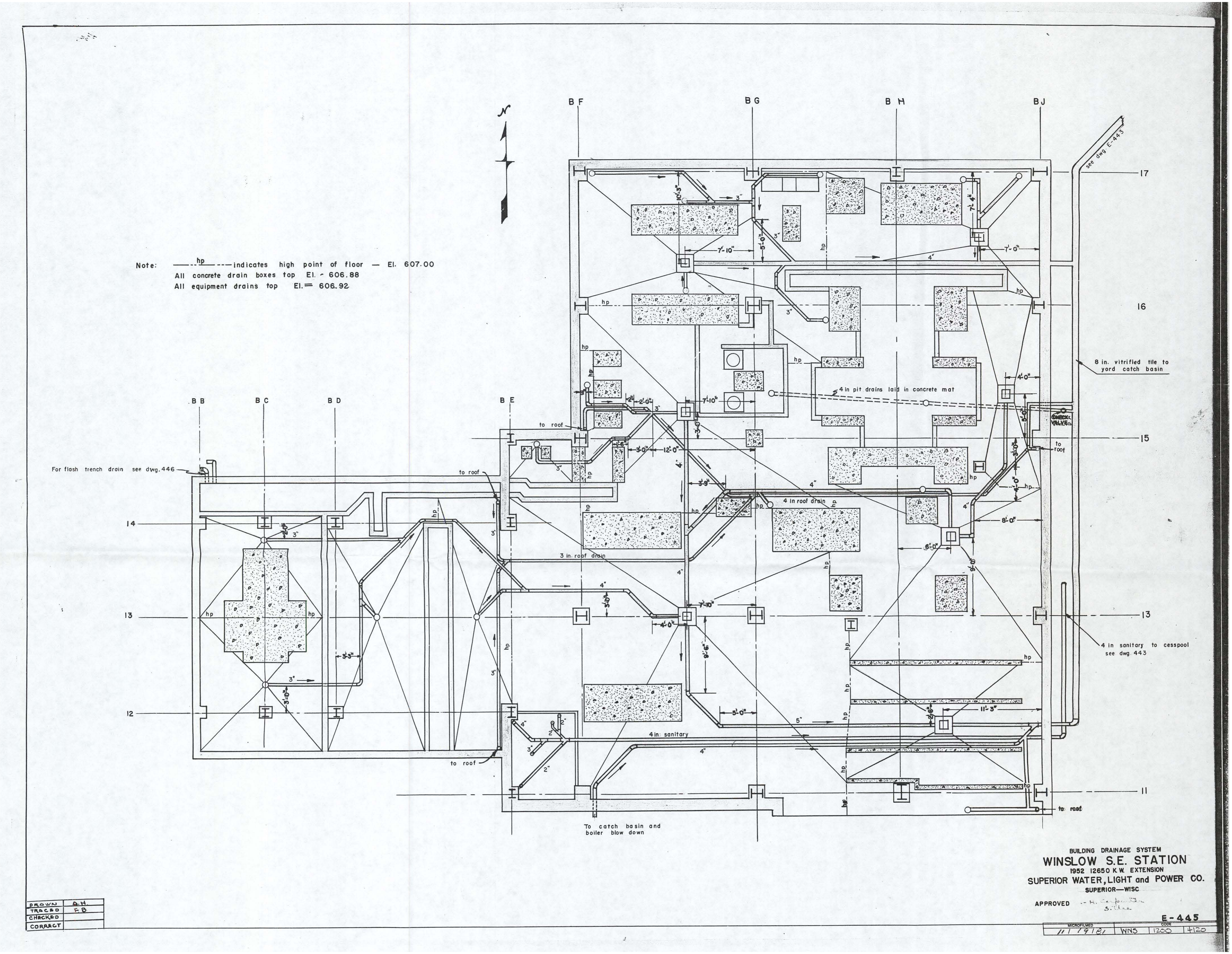
GENERAL YARD PLAN
WINSLOW STEAM ELECTRIC STATION
1952 12650 KW EXTENSION
SUPERIOR WATER LIGHT AND POWER CO.
SUPERIOR, WISCONSIN
SCALE 1" 30'-0"
APRIL 10 1952
APPROVED: S. Ure 7-21-52

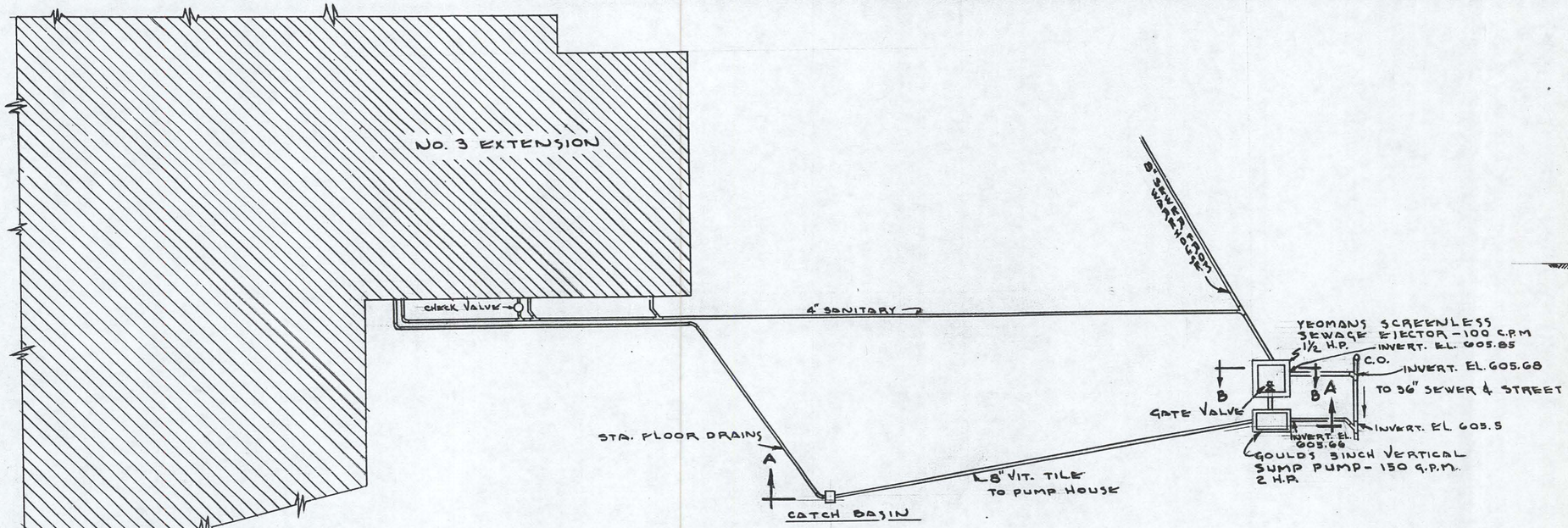
E-443

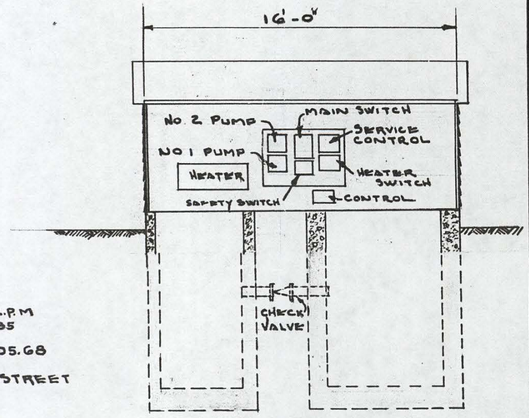
DRAWN BY	R. LEE
TRACED BY	F E B
CHECKED	S. URE
CORRECT	S. URE

MICROFILMED 11/19/81 WNS CODE 1200 1000

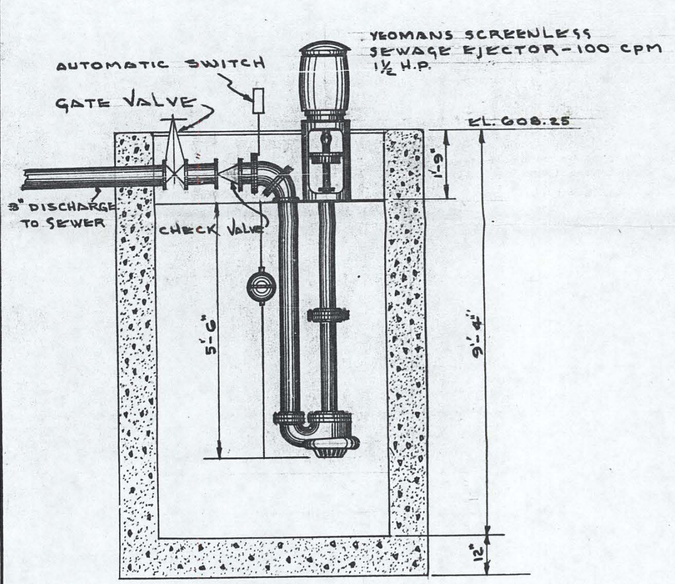

Warehouse
Road Way
Fence
Stack
Oil Storage Tank
Condensate Tank
Valve Pit
Ash Disposal Trench
I.D. Fan
Dust Collector
Flash Tank
F.D. Fan
Boiler No.3
Pulverizer No.3B
Pulverizer No.3A
Condenser Fl. El. 607.0'
Boiler Feed Pump 3A
Condenser
Circ. Wtr. Pump
Switch Gear - 1000 KVA
Switch Gear 300 KVA
Hatch Above
42" Suction Pipe
36" Discharge Pipe
36" Suction
36" Discharge Pipe
Boiler No.1
Boiler Fl. El. 604.5
Space for Tube Removal
Boiler Room Gage Board
Pulverizer No.1
Pulverizer No.2
Coal Inl.
Boiler No.2
I.D. Fan
Boiler Feed Pump
Evaporator
Elevator Pit
Coal Elevator
Coal Handling Equip.
Ash Conveyor
Turbine #2 12500 KW 13800 V 60~
Load Center
Open
Gas Htr's
Basement Fl. El. 605.57
Operators Booth
Annunciator
Generating Fl. El. 612.17
Overhead Crane
13 KV Sw. Bd.
4 KV Sw. Bd.
Lunch Rm.
Locker Rm.
Lav.
Shower
Vault
Office
Lab.
Storage
Battery Rack
Frequency Changer #4
Frequency Changer #5
13 KV Switchroom Fl. El. 605.57
25~ High Tension Rm. El. El. 605.57
Trans. Yard El. 607.0'
1200 KVA Aux. Trans. No.25
1500 KVA Auto Trans.
1200 KVA Aux. Trans. No.75
1-3750 KVA 3Ø Trans.
3-1000 KVA Trans.
Tie Trans. Slabs
H Frame
Storage Bin
Discharge Chute
R.R. Tracks & Storage Bin
Air Washer & Strainer
WINSLOW STEAM ELECTRIC STATION
GENERAL ARRANGEMENT PLAN
GROUND FLOOR
SUPERIOR WATER LIGHT AND POWER CO.
SURERIOR — WISCONSIN
SCALE 1/8" = 1'-0"
JULY 8, 1957
DRAWN FDN
TRACED FDN
CHECKED
APPROVED
E-482
MICROFILMED
CODE


Note: ---hp--- indicates high point of floor — El. 607.00
All concrete drain boxes top El. - 606.88
All equipment drains top El. = 606.92
BF
BG
BH
BJ
BB
BC
BD
BE
17
16
15
14
13
12
11
see dwg E-443
8 in. vitrified tile to yard catch basin
4 in pit drains laid in concrete mat
CHECK VALVE
to roof
For flash trench drain see dwg. 446
4 in roof drain
3 in. roof drain
4 in sanitary to cesspool see dwg. 443
4 in. sanitary
To catch basin and boiler blow down
to roof
BUILDING DRAINAGE SYSTEM
WINSLOW S.E. STATION
1952 12650 K.W. EXTENSION
SUPERIOR WATER, LIGHT and POWER CO.
SUPERIOR—WISC
APPROVED
E-445
DRAWN A.H.
TRACED F.B.
CHECKED
CORRECT
MICROFILMED 11 19 81 WNS 1200 4120

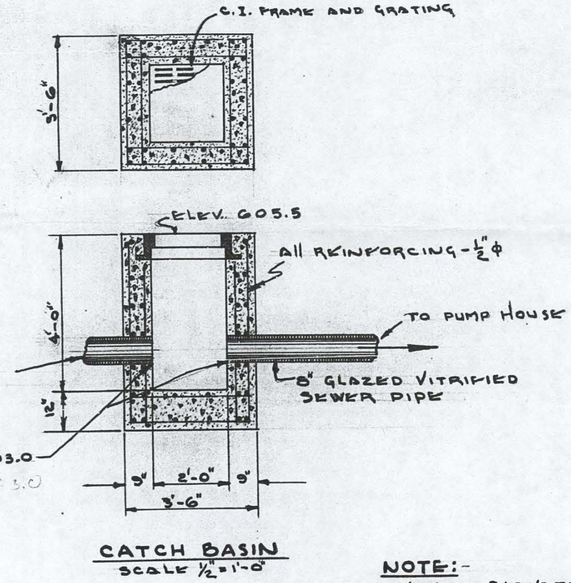




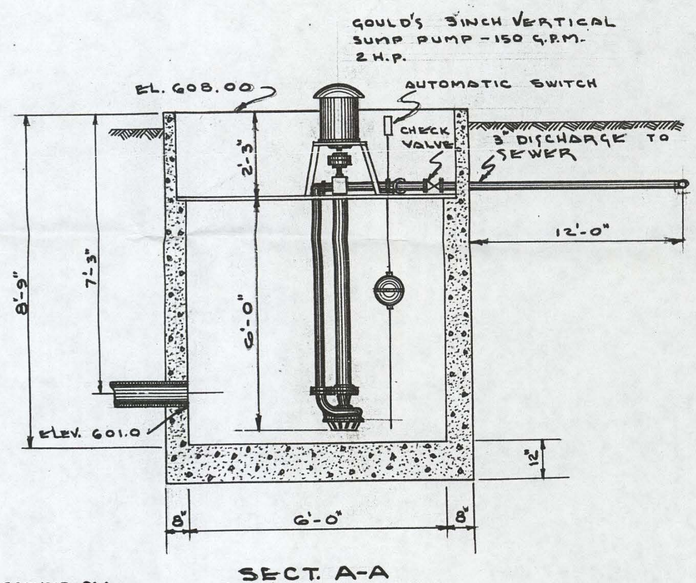
PUMP HOUSE
SCALE ¼" = 1'-0"



SECT. B-B
6' x 6' PUMP SUMP



CATCH BASIN
SCALE ½" = 1'-0"



SECT. A-A
4' x 6' PUMP SUMP

NOTE:-
INVERT ELEVATION OF 36" SEWER ON HUGHITT AVE. AT FRONT OF ENTRANCE OF 3" LINE FROM PUMP SUMP IS 603.33 ± .17

~ REFERENCE: ~
439 - GENERAL PLAN OF SITE & VICINITY
443 - STATION SITE PLAN
445 - BUILDING DRAINAGE SYSTEM

DRAWN BY	R.E.B.
TRACED	
CHECKED	S. Ure 6-3-52
CORRECT	S. Ure 6-3-52

PUMP SUMP & CONNECTIONS
WINSLOW STEAM ELECTRIC STATION
1952 - 12,650 KW EXTENSION
SUPERIOR WATER LIGHT AND POWER CO.
SUPERIOR, WISCONSIN
SCALE:
APPROVED: H. Carpenter
By: S. Ure

E-447

MICROFILMED		CODE	
11 119 181	WN3	1200	4120

WSBomlich

WINSLOW STEAM ELECTRIC STATION

Owned and Managed
by

SUPERIOR WATER, LIGHT
AND
POWER COMPANY

DEMOLITION PROJECT
PHASE I:

ENVIRONMENTAL
AND
WASTE MANAGEMENT ASSESSMENTS

by:
William J. Fraundorf

September 1994

editors:
Daniel J. Croke
Dale R. Kreager
Ronald E. Gullicks

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Abstract

The Winslow Steam Electric Station (Winslow) is owned and managed by Superior Water, Light and Power Company (SWL&P). Winslow provided 25 MW of electric power to the community of Superior, WI through the early 1980s. From there Winslow was placed on stand-by status as a part of the Mid-continent Area Power Pool and remained as such until 1 November 1992 when Winslow was officially deactivated.

Having examined all other options, management personnel at SWL&P have now come to the conclusion that Winslow may need to be demolished. This paper presents the results of Phase I studies in regards to the potential demolition of Winslow. The paper's author and editors are employees of Minnesota Power (MP). Additional personnel of MP and SWL&P are referenced throughout this paper.

Phase I of the Winslow demolition project was an 11 week time period during which basic and preliminary environmental and waste management assessments were conducted. Phase I information will be used to formulate all remaining portions of the demolition planning process.

Highlights of the information acquired during Phase I include:

- **Asbestos**
  Eighty (80) samples of suspect materials were obtained and analyzed. Asbestos was detected in thirty-nine (39) of these samples. Most asbestos will have to be removed from the facility prior to demolition. A predemolition asbestos management plan should be constructed which identifies the specific regulatory requirements for the proper management of each type of asbestos or asbestos containing material present. "Management" includes, but is not necessarily limited to, the removal, handling, containerizing, labeling, transporting and disposal of asbestos or asbestos containing materials.

- **Oil-Filled Electrical Equipment**
  An inventory of all oil-filled electrical equipment was conducted. All oil-filled electrical equipment must be removed from the facility prior to demolition. All oil-filled electrical equipment and contaminated soils or concrete must be properly managed. "Managed" is defined as the undertaking of any and all actions that are necessary to conform to the intent of all applicable laws and regulations. Management recommendations are contained within this report. If an alternative plan of management is selected, then such plan should be formally proposed in writing.

- **Lead**
  Lead is present at Winslow in a variety of forms. For a full understanding of the scope of concerns the text should be referenced. Briefly, lead coated/sheathed electrical cables will need to be recycled. Lead dust emissions from demolition activities will need to be controlled.

Lead exposure during demolition or salvage activities involving lead based paints will need to be guarded against. Lead paint contaminated building debris will need to be properly landfilled. Lead contaminated substation soils may require remediation. All appropriate regulations must be adhered to. Contractors should be required to provide a written plan which addresses all aspects of lead or lead contaminated material management.

- **Waste Oils**
  All waste oils and most oil contaminated sorbent materials are banned from Wisconsin landfills and in addition may *not* be burned without energy recovery. Waste oils will be encountered at Winslow as equipment and the various components of the facility's piping is removed. Waste oils must be properly managed. "Managed" includes, but is not necessarily limited to, those actions which are necessary to capture and recycle (generally burn for energy recovery) waste oils and oil contaminated sorbents. It further includes any and all actions that are needed to prevent the discharge of waste oils to the environment. Contractors should demonstrate an understanding of all relevant laws and regulations and furthermore should have experience in spill prevention, response and remediation. Contractors should be required to maintain an adequate supply of spill response materials and equipment on site.

- **Turbine Cooling Water Pipes**
  Concrete pipes run underground between Winslow and the Saint Louis Bay. These pipes served to circulate bay water through the facility for the purpose of turbine cooling/operations. These turbine cooling water pipes may be left in place. On-site engineering and operations actions will need to be undertaken to cap the ends of these pipes. The result will be pipes which are abandoned in place and which pose no foreseen safety threat or other nuisance condition. Maps indicating the locations of such abandoned pipes will need to be supplied to the City of Superior along with notification of formal abandonment.

- **Piling Management**
  Hundreds of concrete or wood piles were set below ground as supports for the various foundation components of Winslow. Consultations with the WDNR to date have revolved around whether or not these pilings may be abandoned in place. The WDNR has stated that these pilings may be left in place. Further discussion with the WDNR would be necessary should the converse ever become the case (should any contractor propose to remove such pilings for salvage value). Under no circumstance should a contractor be allowed to remove any piling prior to WDNR consent.

The report should be read in its entirety for additional details relating to the above items or other issues of concern.

INTRODUCTION

The Winslow Steam Electric Station (Winslow) is owned and managed by Superior Water, Light and Power Company (SWL&P). Winslow provided 25 MW of electric power to the community of Superior, WI through the early 1980s. From there Winslow was placed on stand-by status as a part of the Mid-continent Area Power Pool and remained as such until 1 November 1992 when Winslow was officially deactivated.

Having examined all other options, management personnel at SWL&P have now come to the conclusion that Winslow may need to be demolished. This paper presents the results of Phase I studies in regards to the potential demolition of Winslow. The paper's author and editors are employees of Minnesota Power (MP). Additional personnel of MP and SWL&P are referenced throughout this paper.

Phase I of the Winslow demolition project was an 11 week time period during which basic and preliminary environmental and waste management assessments were conducted. Phase I information will be used to formulate all remaining portions of the demolition planning process.

BACKGROUND

On 14 June 1994 Ed Santori held an initial meeting to discuss the potential demolition of Winslow. The meeting was held at Winslow and included a brief tour of the facility. Those in attendance were Ed Santori, Ron Evans, Chris Anderson, Dan Croke, Ron Gullicks and myself.

During the course of the 14 June meeting, I circulated a preliminary listing of potential environmental concerns regarding such demolition. These concerns were discussed by the group. We concluded that further environmental and waste management information would need to be gathered. Such additional information was to be in hand by 1 September 1994. This time period (14 June-1 September 1994) has since become known as the Initial Environmental/Waste Management Assessment period, or Phase 1 of

the demolition planning process. I was directed to coordinate the information gathering process for Phase 1.

On 29 June 1994 I circulated a paper entitled "Winslow Initial Waste Inventory: Items and Associated Costs". This paper outlined the environmental and waste management considerations that would require additional study during this "initial assessment period" (14 June-1 September). The costs that would be incurred by SWL&P Co. for such work were also estimated and a jobbing order was subsequently established.

On 28 July 1994 I circulated a paper entitled "Winslow Initial Waste Inventory: PROGRESS UPDATE #1". This paper contained summaries of Phase 1 work completed during the month of July. Subjects addressed within it were:

a) An inventory of, and management summary for oil-filled electrical equipment. **b**) Substation soil sampling for lead, herbicides and polychlorinated biphenyls (PCBs). **c**) Notes from a walk-through inventory with Ron Evans. **d**) The sampling scheme for the analyses of wall or surface paints. **e**) Consultations with the Wisconsin Department of Natural Resources (WDNR) regarding certain aspects of the potential demolition.

In addition to the above, a paper discussing the initial asbestos inventory of 2 August was produced and circulated (3 August 1994: see below under **Asbestos**).

RESULTS

The present paper follows the subject format of the paper entitled "Winslow Initial Waste Inventory: Items and Associated Costs" (circulated on 29 June). Additional items are discussed as is necessary. Some reference to, and duplication of, information which has already been presented in "PROGRESS UPDATE #1" will be inevitable as this paper is intended as a summary document for the total inventory period.

• **Asbestos** (see also page 17: WDNR Tour of 8 Sept.)

On 2 August 1994 Ron Evans, Ron Gullicks and myself conducted a preliminary asbestos inventory of Winslow. We identified suspect asbestos containing materials (ACM) and began to formulate a scheme for the formal sampling of such suspect materials. A summary of the days' activities was circulated on 3 August.

Ron Gullicks solicited bids from certified asbestos inspectors during the first and second weeks of August. As part of that process, I provided Dale McDonald of the Institute for Environmental Assessment (IEA) with a tour of Winslow on 10 August 1994.

The IEA was selected as the contractor to do the formal inspection and sampling of suspect asbestos containing materials at Winslow. The IEA was to work under the supervision of a certified industrial hygienist (Norbert J. Norman), who would also approve the final report that IEA was to prepare. Mr. Norman and personnel of the IEA (Dale McDonald, Elizabeth Zwak) were provided with a tour of Winslow on 16 August. Ron Gullicks and I were present. Sampling criteria and the sampling scheme were further defined during this tour.

The formal sampling of suspect asbestos containing materials occurred on 17, 18 and 19 August 1994. Elizabeth Zwak of the IEA was the certified asbestos inspector on site. Ron Gullicks was present on the 17th to provide technical guidance for the initiation of the formal sampling. In addition, Ron had an employee of Lakehead Constructors on site to cut access ports into the top and side panels of both #2 and #3 boilers for the purpose of sample acquisition. I accompanied Elizabeth during the entire course of the sampling. A total of 80 samples were taken and subsequently analyzed.

The final draft of the IEA report for Winslow became available on 9 September. Asbestos was detected in 39 of the 80 samples analyzed. A copy of the IEA final report is attached as is a copy of the raw laboratory data (see **Appendix A**) produced by Braun Intertec (the firm subcontracted by IEA to do the lab work).

Two samples (#27 and #44) of boiler refractory were found to contain asbestos in quantities very close to the regulatory threshold of 1%. These two samples are presently being re-analyzed using a more sophisticated technique in the hopes that they may be classified as non-asbestos containing. Such classification would save substantially on disposal costs. The reassessment technique to be used in such cases is mandated by the EPA. Results from the retesting of these two samples were received just prior to the printing of this report. Asbestos was not detected in sample #27. Sample #44 is ACM. The asbestos-containing material profile, prepared by the IEA and, attached in **Appendix** A has been updated to reflect this new information.

With this information in hand, the next step will be to review all applicable regulations and to subsequently prepare bid specifications for the removal of asbestos from Winslow.

To facilitate the regulatory review process, Phyliss Holmbeck: WDNR Air Management Engineer was provided with a tour of Winslow on 8 September 1994. Other personnel on hand included Dale McDonald and Elizabeth Zwak of the IEA, Ron Evans, Ron Gullicks, Dennis Niemi and myself. Questions relating to the management of specific asbestos containing materials were fielded. Notes from the tour are detailed in the last section of this paper beginning on page 17. Phyliss also provided regulatory summaries and other related information to all present.

Other regulations (in addition to Air Quality) which pertain to the removal and/or disposal of asbestos have been promulgated by the WDNR Bureau of Solid Waste (asbestos disposal), the Department of Health and Social Services (training and certification programs), the federal Occupational Safety and Health Administration (OSHA: work-site standards and worker protection), the federal Department Of Transportation (DOT: asbestos labeling and transportation) and the Environmental Protection Agency (EPA: environmental protection as detailed in the National Emission Standards for Hazardous Air Pollutants).

• Oil-Filled Electrical Equipment

An inventory of the oil-filled electrical equipment at Winslow was conducted on 6 July 1994 by Gene Beatty and myself. Ron Clark of SWL&P directed us through the facility.

The purpose of the inventory was to identify the numbers, types and capacities of oil-filled electrical equipment present so that appropriate plans and arrangements could be made to manage it upon its removal from service.

Following the inventory, Gene Beatty prepared a summary of our findings and also proposed methods by which to manage each type of oil-filled electrical equipment once it is removed from service. Some variation in the numbers of the smaller types of oil-filled electrical equipment may be encountered as removal progresses. A copy of Gene's write-up is attached (see **Appendix B**) and is intended to serve as a "how to do it" manual once equipment removal commences.

As each piece of oil-filled electrical equipment is removed from service and from the facility, its specific location will need to be identified. The results obtained for PCB analyses of equipment oils may then subsequently be correlated to the presence of any oil stained concrete or soils which may remain. These data will serve as guidelines for the types of concrete or soil cleanup actions that may be needed. Generally, concrete cleanups involve the physical removal of any accumulated dirts or sludges, the wiping of the concrete with penetone to draw the PCBs out and then the testing of the concrete to verify that the post-cleanup concentrations of PCBs are below the regulatory limits.

The soils in the outdoor substation were sampled for the presence of PCBs on 12 July 1994. Sample site selection was done by Gene Beatty and myself. The size, shape and PCB history (units all tested as non-PCB in the mid-1980s) of the substation were the criteria used to determine the number of sample sites which were considered to be representative. Eight sample sites were selected within the confines of the substation with one sample being obtained from each site. Sampling was done by Gene. Sample site locations

were staked and were also measured to reference points. A map of the sample site locations is included in **Appendix B**.

The soil samples were sent to Analytical Associates Inc (AAI) of Sacramento, CA where they were analyzed for PCB concentration. Lab results from AAI were available on 22 July 1994 and are attached as part of **Appendix B** for your reference. Seven of the eight samples came back with PCB concentrations below the detection limit of 1 part per million (ppm). The eighth sample (#W6) came back at 1 ppm. These results have been preliminarily discussed with Steve LaValley: WDNR Solid and Hazardous Waste Specialist. No cleanup action is anticipated based upon these data.

As an aside, it should be noted that lighting ballasts also contain oils or tars and therefore may not be disposed of in Wisconsin landfills. Ballasts removed from Winslow should be managed through MP's existing ballast management program.

• Glass Line Fuses

Gene Beatty and I inspected for the presence of glass line fuses while conducting the oil-filled electrical equipment inventory and found none. If any are discovered over time and if they are removed from service, then they will need to be managed as hazardous waste.

• Mercury

Most of the mercury at Winslow was held within flow meters. The mercury in these meters was drained and containerized by Ron Evans. Rollins CHEMPAK transported the mercury to Bethlehem Apparatus in PA where it will be recycled.

Most of the remaining mercury at Winslow is in the form of sealed electrical devices such as thermostats and switches and in the form of monitoring devices such as thermometers and barometers. Ron Evans and I went through Winslow on 15 July 1994 and estimated

that the sum total of all such equipment would likely be contained within one 30 gallon drum. This equipment is presently being removed by SWL&P's electric meter department and will subsequently be manifested to MP's 15th Avenue West facility for storage.

In addition to the above, most of the lighting at Winslow contains mercury. Lights should be reused when possible. Unusable lights will need to be properly managed and could be transported to the storage building located at the Underhill Service Center. MP picks up these spent lamps once every three months and transports them to Recyclights in Minneapolis for recycling.

• Lead

The proper management of lead and lead wastes is an issue of emerging importance in Wisconsin and is one of three highly critical management issues regarding Winslow as well. The other two issues which are major players at Winslow are asbestos and oil-filled electrical equipment.

a) lead coated/sheathed electrical cables

A copy of SWL&P's fixed capital records as they pertain to the historical purchase and installation of lead coated/sheathed electrical cable (*lead cable*) was obtained from Bill Norman on 27 July 1994. The information pertaining to Winslow was pulled from the records and summarized in a four page paper directed to Ron Gullicks, dated 2 September 1994 (see **Appendix C**). The primary goal of the paper was to provide a volume estimate for the lead cable that may reasonably be expected to be encountered during the demolition of Winslow.

From the capital records in hand, most of the lead cable appears to be in or associated with those portions of Winslow which were constructed prior to the Unit #3 addition.

As per conversations I have had with Steve LaValley: WDNR Solid and Hazardous Waste Specialist regarding lead cables the following points are summarized:

i) All lead cable removed from Winslow should be recycled. Lead cable that is not recycled would have to be managed as a hazardous waste.

ii) Lead cable that runs underground beyond the confines of the excavation associated with the demolition activities will not have to be removed. Steve asked that the locations of such underground cable be mapped and that these maps be provided to the WDNR so they have such information as may be needed for future reference.

iii) the **inadvertent** (i.e. accidental) landfilling of lead cable during the course of the demolition activities would not be viewed as an enforcement matter.

Potential recycling vendors for lead cable will need to be audited prior to vendor selection.

b) lead in paints

The paint sampling scheme was designed so that all apparent color scenarios throughout the facility were represented. Variables that were considered were surface color, room continuity and facility age.

Representative samples were collected on 19, 20 and 21 July 1994. Samples were sent to Northeast Technical Services (NTS) in Virginia, MN for analysis. Results were received from NTS on 3 and 15 August 1994. I tabularized the results, arranging them by both their sample number and secondly by their lead content. Both lists and the lab results are attached as **Appendix D** for your reference.

Interpretation of the lead in paint results is not clear-cut. Generally, exterior masonry structures (outer building walls, smoke stacks) appear to contain relatively low concentrations of lead. On the other extreme it is apparent that the paints on most steel throughout the facility contain relatively high concentrations of lead. As it is, most of the results lie between these two extremes, and in addition exhibit little consistency when comparisons are made between alike colors from different portions of the facility.

Vendors and others involved with the demolition process should be made aware of these lead in paint data so their work may be performed in accordance with all applicable federal OSHA regulations for worker exposure.

For the sake of the record I will also note the following: contractors performing renovation or abatement activities which involve lead based paints in structures where reoccupation is intended, need to be certified to do so by the State Department of Health and Social Services. Contractors performing demolition activities which involve lead based paints in structures where reoccupation is not intended do not need to be certified to do so by the Department of Health and Social Services (Vicki Drake: Douglas County Health Department, 30 June and 25 August 1994).

Regarding the landfilling of demolition debris, the WDNR allows for "clean fill" to be left and buried on the demolition site. My preliminary discussions with Steve LaValley indicate that the lead concentrations on some of the facility's materials exceed what the WDNR would classify as "clean". Additional discussions with Steve will be necessary to further define "clean" as it specifically applies to the Winslow lead in paint results. Materials that fail to meet the definition of "clean" could be taken to a demolition landfill or could be left on site if permitted to do so by WDNR permit. Regarding the on-site deposition of clean fill, Paul King: City of Superior Department of Public Works has requested a drawing of proposed final site elevations as soon as such drawing is available.

Thus far I have touched on worker exposure concerns and landfill restrictions. A 3rd area of concern regarding lead in paint involves the lead contaminated dust emissions which may result from the demolition process. During her tour of Winslow on 8 September 1994, Phyliss Holmbeck: WDNR Air Management Engineer noted that water should be applied as is needed during the course of demolition so that there are no visible emissions (assumed to contain lead dust).

The WI Admin. Code (NR 427.03) states that "no person may cause, allow or permit lead or lead compounds to be emitted to the ambient air in amounts greater than the department may establish by permit condition under s. 144.393 (5) or 144.394, Stats., by rule or by special order". As directed above by this WI Admin. Code, a pre-demolition permit should be obtained from the WDNR which states

that such wetting technique would adequately satisfy all WDNR concerns regarding potential lead dust emissions.

c) lead in substation soils

Conversations with Len Hansmeyer indicated that substation soils are commonly suspect for lead contamination as a result of former paint sandblasting activities. Accordingly, the soils in the outdoor substation area at Winslow were sampled on 12 July 1994. One surficial sample (surface to 6 inch depth) was taken from each of the eight sample site locations as discussed under the Oil-Filled Electrical Equipment heading above.

The eight soil samples were sent to NTS for analysis. Results were reported on 27 July 1994 and are enclosed as **Appendix E** for your reference. These data will need to be discussed with Steve LaValley to determine if the WDNR will require any remedial action. Any required actions would also need to satisfy the relevant portions of the WDNR's new environmental cleanup code, known as the "Investigation and Remediation of Environmental Contamination" (NR 700-736 WI Admin. Code).

d) substation soils continued: herbicides

The conversations that I had with Len Hansmeyer further indicated that substation soils are also commonly suspect for herbicide residuals. Accordingly, the soils in the outdoor substation at Winslow were sampled (also on 12 July 1994) and analyzed for a broad spectrum of herbicides. One composite soil sample was obtained. This composite soil sample contained equal amounts of soil from each of the eight sample site locations discussed above.

The composite sample was sent to NTS who subcontracted the analyses to Minnesota Valley Testing Laboratories, Inc. The sample was analyzed for the herbicides listed in the Minnesota Department of Agriculture (MDA) List I and List II. The results are enclosed as **Appendix F** for you reference. MDA List I and II reference a total of 29 herbicides. No detection was possible for 28 of the 29 herbicides. One herbicide, Metolachlor (Dual) was detected at a (average) level of 0.14 mg/kg. I will consult with Steve LaValley regarding this result.

• Waste Oils

All waste oils and most oil soaked sorbents are banned from Wisconsin landfills and in addition may not be burned without energy recovery. Furthermore, oil releases to the environment (land, water) need to be reported and cleaned up or formally remediated. It is therefore important that contractors or others involved with demolition activities at Winslow manage all wastes oils that are encountered in an appropriate manner.

a) number 6 fuel oil tank

During the period of time that the initial environmental/waste management assessments of Winslow were being conducted, another related issue regarding the #6 fuel oil tank was brought to my attention by Dale Kreager.

Under Section 112 of the Clean Water Act a plan referred to as a "Facility Response Plan" (FRP) was required to be submitted by 30 August 1994 for all facilities with potential oil storage capacities in excess of one million gallons. FRP requirements are complex and to prepare one would require a significant amount of time and resources.

For a facility storage tank's capacity to be discounted in the calculation of total oil storage capacity such particular tank would have to be listed as "permanently closed". Classifying the #6 fuel oil storage tank at Winslow as permanently closed would therefore exempt SWL&P from undertaking the preparation of a FRP.

In light of the above, actions were taken to permanently close the #6 fuel oil tank at Winslow prior to 30 August 1994. Blanks were inserted in both the oil outflow and oil return lines adjacent to the tank. The tank had been properly cleaned (Sept. 1993) and its interior was again tested for explosive vapors and none were detected. All valves were locked and tagged out and the tank was signed as being permanently closed. A letter certifying the same was

sent to the EPA's Region V office with an accompanying certification by engineer Ron Gullicks. MP independently undertook the same process for the above ground storage tank at Hibbard.

In addition to avoiding the preparation of a FRP, the formal closure of the #6 fuel oil tank at this time will also facilitate its subsequent removal in the future.

b) number 2 fuel oil tank

Ron Evans informed me that the #2 fuel oil tank was drained last fall. As is required for *all* tanks, any subsequent removal will need to be done by a State of Wisconsin certified tank remover working under the supervision of an approved inspector (Superior Fire Department). The inspector's fees would be kept to a minimum if all tanks on a given site were removed under the same notification.

c) oils in misc. piping and equipment

This discussion does not include oils which are in or were taken from oil-filled electrical equipment.

As equipment and piping is removed from Winslow free flowing oils will be encountered. *As discussed above, these oils will need to be properly managed.* Free flowing oils that can be containerized should be recycled by burning them for energy recovery (as is typically the case with used motor oil). Oils which can not be containerized will need to be picked up with sorbents. The sorbents should be sent off site to be burned for energy recovery. The Western Lake Superior Sanitary District (WLSSD) is permitted to burn oil contaminated sorbents. A summary of a recent phone call that I made regarding their program as well as other program information is attached as **Appendix G.**

• Misc. Oils, Greases and Tars

I have collected the needed product information on all containers of oils, greases and tars remaining at Winslow. Unusable containers of oils (excluding electrical equipment oils) may be sent off-site under the federal used oil regulations (40 CFR 279) to be burned for energy recovery.

The respective manufacturers of the grease and tar products will be contacted and Material Safety Data Sheets or other information which reflects the products constituents will be obtained. Based on these analyses products which can be used, will be. Unusable products will be sent off-site as wastes.

• Antifreeze

This discussion references the glycol based air preheater system for boiler #3. Prior to this inventory period, glycol for the #3 air preheater system at Winslow remained in two locations. One was a 55 gallon drum of apparently undiluted virgin product. The product in this drum was originally determined to be glycol following tests by Craig Anderson in 1990. The other was the diluted glycol contained within the air preheating system itself. All glycol removed from Winslow will be used on the coal conveyer belts at Boswell during the winter months.

The 55 gallon drum of undiluted virgin product was sent to Mark Mills at Boswell around 10 July 1994. The glycol that remained in the Unit #3 air preheater system was drained under the supervision of Ron Evans in early August. The product was screened with a mesh that was finer than the hole in the injector nozzle that Mark Mills had provided. Tests of the product indicated that its freezing point was between -10 to -20 degrees F. Three drums, or 165 gallons of glycol was recovered from the system. These drums were transported to Boswell by MP personnel, arriving there on 16 August 1994.

• Turbine Cooling Water Intake and Return Pipes

Concrete pipes run underground between Winslow and the Saint Louis Bay. These pipes circulated bay water through Winslow as part of the turbine cooling/operations process.

One of the first questions that surfaced following the decision by SWL&P to proceed with demolition planning involved these pipes and the requirements that may exist regarding their retirement.

I have had conversations with Steve LaValley, Amy Mizia and Chuck Olson of the WDNR and with Mike Denton and Paul King of the City of Superior, Department of Public Works regarding this issue.

The WDNR stated that no environmental requirements applied. The WDNR went on to specifically state that the pipes could remain in place and that the procedures that would need to be undertaken to retire them would be those which good engineering judgement would deem to be necessary to perform the work safely and those procedures which would also leave the affected areas in a safe and nuisance-free condition.

The City of Superior, Department of Public Works concurred with the above WDNR recommendation and in addition requested: a) a formal notification following the retirement of said pipes so the City may enter such information into their records and, b) a map showing the location of the retired pipes so that such information will be available as others may happen to unearth or otherwise need to work with or remove them.

Amy Mizia further suggested that I contact the Army Corps of Engineers to see if any concerns exist regarding the capping of such pipes at their confluence with the Saint Louis Bay. I contacted Tim Peterson of the Army Corps of Engineers (1-218-327-2554) at his Grand Rapids office on 23 September 1994. Tim stated that he would need specifics regarding the proposed pipe capping process to determine whether or not an Army Corps permit would be required.

Ron Gullicks and I are in process of gathering the needed structural drawings and doing the necessary site inspections so that we may submit a letter to Mr. Peterson which outlines our proposed approach. From my initial review of some of the drawings, it is apparent that there are more than (the assumed) two pipes which need to be capped. It appears that each major turbine addition to Winslow (i.e. Turbines numbers 1, 2 and 3) had originally been constructed with its own intake and outlet piping.

• Piling Management

Numerous conversations were undertaken with the WDNR regarding the management of the pilings which support all of the major structures at Winslow. The WDNR has stated that there are no requirements to remove such pilings and that such pilings may be left in place.

In my review of structural drawings for Winslow, I have come to realize that there are literally hundreds of pilings (25 to 30 feet in length) under the various structures. The large number of pilings that are present presents a new potential scenario where a contractor may actually wish to remove them for reuse. Consultation with the WDNR would have to precede any removal activity.

• Inventory Work With Ron Evans

Ron Evans and I met at Winslow to discuss a number of waste management and product reuse issues on 15 July 1994. A summary of my notes from the day was distributed as part of "Progress Update #1" and is enclosed here again as **Appendix H** for your reference.

• WDNR/City of Superior Tours of Winslow

The WDNR/City of Superior were invited to tour Winslow on 30 August 1994. The tour was presented as an open forum for the discussion of any environmental or administrative issue that arose or may arise from the proposed demolition of the facility.

Personnel in attendance were Steve LaValley (WDNR solid and hazardous waste), Amy Mizia (WDNR surface water), Chuck Olson (WDNR subsurface water) and Paul King (City of Superior Department of Public Works). Phyliss Holmbeck (WDNR air management) was unable to attend. Company personnel present were Ed Santori, Ron Evans Ron Gullicks and myself. Ron Evans led the group through the facility. The following comments/questions arose during the course of the tour:

1a) Paul King asked for engineering plans for the proposed final grade of the facility following demolition (context: on-site demolition fill). Plans will be forwarded to him following their completion at a future date. Paul noted that the final site elevation may not redirect surface waters so as to in effect damage any adjacent property. **b)** Paul also asked that the City be formally notified after the turbine cooling water pipes are retired. Maps showing the locations of the retired pipes will need to be provided to the City.

2a) Amy Mizia suggested that I contact Tim Peterson of the Army Corps of Engineers regarding the possibly of needing a Corps permit for the capping of the turbine cooling water pipes at their confluence with the Saint Louis Bay. I have contacted Tim and am working with Ron Gullicks to prepare the planning information that Tim requested. **b)** Amy also noted that Tim should be consulted if we wish to place demolition fill in the wetland vegetation located to the north of the facility's north fence. She was informed that our intents for on-site filling revolved around the building site itself.

3a) Steve LaValley and Paul King stated that their understanding of the WLSSD sorbent burning program was that all types of sorbents (rags, pads, booms and combustible granular) could be accommodated. I called the WLSSD and verified the same. A summary of the conversation that I had with the WLSSD is attached

as part of **Appendix G. b)** Paul King also noted that the City of Superior accepts asbestos at its solid waste landfill. Arrangements should be made in advance. The City charges $50.00/cubic yard.

4) Ron Gullicks asked for verification regarding WDNR policy that all painted building debris may be taken to a DNR approved demolition landfill. Steve LaValley verified that such policy was in effect.

5) Ron Gullicks asked for verification that the timber pilings on-site could be left as they are on-site. Steve LaValley and Amy/Chuck verified that such practice was acceptable.

6) I will need to discuss the lead in paint results with Steve LaValley to determine exactly which building debris are considered to be clean enough to leave on-site as demolition fill.

7) Steve LaValley stated that the lead coated/sheathed cable that is removed as part of the demolition process will need to properly recycled. He also noted that the lead coated/sheathed cable which exists underground beyond the scope of the demolition excavation activity can remain in place. Steve asked that a map of all lead coated/sheathed cable that is left to remain underground be provided to the WDNR.

8) Following the tour, Ed Santori, Ron Evans, Ron Gullicks and I discussed the upcoming report writing and bid specification process.

A second tour of Winslow was held on 8 September 1994 so that Phyliss Holmbeck: WDNR Air Management Engineer could see the facility. Phyliss's area of responsibility includes oversight for asbestos remediation activities.

The proper management of asbestos is the most significant aspect of the demolition concerns for Winslow. The 8 September tour was an opportunity to initiate a working relationship with Phyliss as well as to ask site/material specific questions. Personnel present in addition to Phyliss were Ron Evans, Ron Gullicks, Dennis Niemi, myself and Dale McDonald and Elizabeth Zwak (of IEA). Following is a summary of the tour:

1) Phyliss provided handouts to all present. Information on regulations, certification requirements, project notification and

information regarding the various agencies that regulate asbestos was included.

2a) Phyliss noted that Category I non-friable asbestos containing materials (ACM) such as floor tile and roofing could remain in place during demolition, but that such materials should be kept wet during the demolition process so that there are no visible emissions. b) When asked about lead contaminated dust emissions during demolition, Phyliss responded that general demolition debris should also be kept wet so that visible emissions are not produced during the demolition process. A permit may need to be acquired as per the WI Admin. Code (NR 427.03).

3) Any Category II non-friable ACM that could become friable as a result of the demolition process would have to be removed prior to demolition. Examples would include the corrugated transite building panels and boiler refractory that has been found to be ACM. Again, materials need to be kept wet during the removal process. In addition, specific transportation requirements would also apply to any Category II non-friable that becomes friable as a result of removal.

4) Phyllis suggested that a basic response plan be constructed prior to the initiation of asbestos removal which addresses the means by which emergency situations would be handled. Planning should include consideration of fire and power outages as they would affect the removal process.

To further facilitate the asbestos remediation process, I would like to suggest that a detailed remediation plan also be constructed. Such a plan should be a prerequisite to any asbestos removal activity. The plan would address, among other things, the certification, removal, handling, containerizing, labeling, transportation and disposal requirements that apply to each specific type of ACM that is present at Winslow.

- **Summary Statement**

The information presented in this paper is currently being incorporated into the bid specifications package that Ron Gullicks is developing. My ongoing consultations with WDNR personnel will allow Ron to further define the bid specifications over time as well.

ASBESTOS-CONTAINING MATERIAL PROFILE

FOR

WINSLOW STEAM ELECTRIC STATION
North 2nd Street and Hughitt Avenue
Superior, Wisconsin 54880

August 22, 1994

PREPARED FOR:

Minnesota Power

PREPARED BY:

Institute for Environmental Assessment
1341 Sundby Road
Duluth, Minnesota 55811

TABLE OF CONTENTS

I. INTRODUCTION

As requested, the Institute for Environmental Assessment conducted an inspection of the Winslow Steam Electric Station on August 17,18, and 19, 1994. The inspection was conducted with the assistance of Ron Gullicks and Bill Fraundorf of Minnesota Power.

The inspection was performed by Elizabeth Zwak, an Environmental Protection Agency (EPA) certified asbestos inspector and State of Wisconsin licensed inspector, license number II-00762.

During the inspection, samples of suspect asbestos-containing materials were collected to determine the presence of asbestos. The identification of asbestos-containing materials will be essential to facilitate the design and specification work for the intended demolition of the Winslow Steam Electric Station.

Also noted during the inspection were suspect asbestos-containing materials usually assumed to contain asbestos. These materials are labeled "suspect material, assumed".

II. BUILDING SUMMARY

A. Survey Components

* Inspection of materials throughout the building to identify material which may contain asbestos.
* Sampling of suspect materials.
* Labeling of sample locations.
* Appropriate laboratory analyses.
* Profile of locations and amounts of all confirmed asbestos-containing materials.
* Friability and classification listing.

Survey considerations did not include inaccessible materials such as; building materials hidden behind walls (or otherwise enclosed), thermal system gaskets, fire retardant cloth materials (blankets, aprons, gloves, curtains, etc.), or underground asbestos cement pipe.

B. Inspection Profile

All samples were analyzed by polarized light microscopy (PLM), the EPA approved analytical method for bulk analysis. The following pages list materials sampled and results for the Winslow Steam Electric Station.

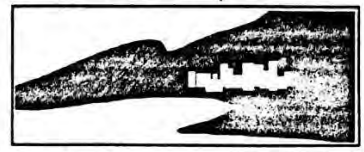
All interior and exterior thermal insulation is assumed to contain asbestos unless listed differently in this report.

WINSLOW STATION

III. SAMPLE IDENTIFICATION AND RESULTS

LOCATION	MATERIAL	ESTIMATED FOOTAGE*	ANALYSIS	SAMPLE NO.:	FRIABILITY & CLASSIFICATION
OFFICE AREA					
Office Area 1st Floor	Sheetrock Walls	500 sq ft	None Detected	3246/0102-1B	N/A
Office Area 1st Floor	Plaster	800 sq ft	None Detected	3246/0102-2B	N/A
Laboratory & Entry	Floor Material-Tan	500 sq ft	None Detected	3246/0102-3B	N/A
Storage Area 2nd Floor	Ceiling Board	700 sq ft	None Detected	3246/0102-4B	N/A
Stairway	Vinyl Asbestos Floor Tile Brown Black Mastic	50 sq ft	15% Chrysotile 5% Chrysotile	3246/0102-5B	Category I/Non-Friable
Stairway	Vinyl Asbestos Floor Tile Black	25 sq ft	20% Chrysotile	3246/0102-6B	Category I/Non-Friable
Storage Area 2nd Floor	Plaster Walls	1000 sq ft	None Detected	3246/0102-7B	N/A
LOCKER ROOM					
Locker Room	Floor Material Light Brown	225 sq ft	None Detected	3246/0102-8B	N/A
Locker Room	Ceiling Board	225 sq ft	None Detected	3246/0102-9B	N/A
Locker Room	Aircell Pipe Insulation	12 lin ft	50% Chrysotile	3246/0102-10B	Friable
Lunch Room	Ceiling Tile 9" X 9"	160 sq ft	None Detected	3246/0102-11B	N/A
Lunch Room	Wall Board	450 sq ft	None Detected	3246/0102-12B	N/A
25 CYCLE AREA					
Auxiliary Boiler	Pipe Joints on Fiberglass Runs		None Detected	3246/0102-13B	N/A
25 Cycle Area Above Lunch Room	Transite Exhaust Pipe	300 sq ft	25% Chrysotile 5% Amosite	3246/0102-14B	Category II/Non-Friable
Lower Level 25 Cycle Area	Transite Panels	60 sq ft	25% Chrysotile	3246/0102-16B	Category II/Non-Friable
Lower Level 25 Cycle Area	Transformer Door Panels	100 sq ft	50% Chrysotile	3246/0102-46B	Category II/Non-Friable
Lower Level 4 KV Area	Transite Panels	240 sq ft	30% Chrysotile	3246/0102-17B	Category II/Non-Friable
4 KV Lower Level Indoor Substation	Electrical Transite Panel	30 sq ft	Assumed	————	Category II/Non-Friable

* *All footages listed are rough estimates and need to be verified.*

INSTITUTE

for ENVIRONMENTAL ASSESSMENT

September 28, 1994

Mr. Ron Gullicks
Mr. Bill Fraundorf
Minnesota Power
30 West Superior Street
Duluth, MN 55802

Dear Ron and Bill:

Enclosed please find revised pages #2 and #3 of the Winslow report. The pages were revised to reflect the point count analysis performed on samples 27B and 44B.

Point count analysis for samples indicated the following:

Sample 27B - No asbestos detected
Sample 44B - 7.3% Chrysotile

Please discard pages 2 and 3 in your copies of the Winslow report with the revised pages.

Copies of the revisions have been sent to Phyliss Holmbeck and Norbert Norman.

Should you have any questions regarding this information, don't hesitate to contact our office.

Sincerely,

Elizabeth Zwak
Project Manager

EZ:saf935

Duluth Office
1341 Sundby Road, Duluth, Minnesota 55811 (218) 722-3405 1 (800) 233-9513 FAX (218) 727-8060 A Minnesota Corporation

LOCATION	MATERIAL	ESTIMATED FOOTAGE*	ANALYSIS	SAMPLE NO.:	FRIABILITY & CLASSIFICATION
4 KV Station Service Transformer Bank Lower Level	Transite Panels	50 sq ft	Assumed	----------	Category II/Non-Friable
25 Cycle Area Main Floor	Vinyl Asbestos Floor Tile Black/Green	125 sq ft	None Detected	3246/0102-18B	N/A
25 Cycle Area Main Floor by Auxiliary Boiler	Electrical Transite Panel	25 sq ft	Assumed	----------	Category II/Non-Friable
25 Cycle Area Main Floor	Electrical Transite Panel Board/Brown	100 sq ft	35% Chrysotile	3246/0102-45B	Category II/Non-Friable
TURBINE AREA #2					
Below Turbine #2	High Pressure Steam Line (Yellow) Preform Pipe Insulation	275 lin ft	10% Chrysotile 30% Amosite	3246/0102-19B	Friable
Turbine #2 Area	Low Pressure Steam Line (Orange) Preform Pipe Insulation	250 lin ft	25% Chrysotile 2% Amosite	3246/0102-20B	Friable
Turbine #2	Mudded Turbine Insulation	100 lin ft	10% Chrysotile 2% Amosite	3246/0102/21B	Friable
Wall North of Turbine #2	Aircell Pipe Insulation	400 lin ft	50% Chrysotile	3246/0102-15B	Friable
BOILER #2 AREA					
Boiler #2 Area	Green Boiler Feedwater Line Preform Pipe Insulation	600 lin ft	25% Chrysotile 25% Amosite	3246/0102-22B	Friable
Boiler #2 Area	Breaching Insulation	2000 sq ft	25% Chrysotile 25% Amosite	3246/0102-23B	Friable
Deaeration Tank	Tank Insulation	1000 sq ft	33% Chrysotile 7% Amosite	3246/0102-24B	Friable
Boiler #2-Top	Surface Mortar-Layer 1	See Prints	>1-3% Chrysotile <1% Amosite[1]	3246/0102-25B	Friable
Boiler #2-Top	Boiler Insulation-Layer 2	See Prints	10% Chrysotile	3246/0102-26B	Friable
Boiler #2-Top	Layer 3 2 1/4" Red Brick	See Prints	None Detected[2]	3246/0102-27B	N/A
Boiler #2-Top	Layer 4 Insulation Layer	See Prints	5% Chrysotile	3246/0102-28B	Friable
Boiler #2-Top	Layer 5 Filler Insulation Between Pipes	See Prints	5% Chrysotile	3246/0102-29B	Friable
Boiler #2-Top	Layer 6 Yellow Inner Brick	See Prints	None Detected	3246/0102-30B	N/A

* *All footages listed are rough estimates and need to be verified.*
2-Point Count Analysis

LOCATION	MATERIAL	ESTIMATED FOOTAGE*	ANALYSIS	SAMPLE NO.:	FRIABILITY & CLASSIFICATION
Upper Steam Drum	Drum/Tank Insulation	800 sq ft	35% Chrysotile 10% Amosite	3246/0102-32B	Friable
Boiler #2 Side Wall	Boiler Insulation-Layer 1 Rock Wool	See Prints	None Detected	3246/0102-33B	N/A
Boiler #2 Side Wall	Layer 2 Yellow 4 1/2" Brick	See Prints	None Detected	3246/0102-34B	N/A
Boiler #2 Side Wall	Layer 3 High Temperature Cement	See Prints	None Detected	3246/0102-35B	N/A
Boiler #2 Side Wall	Layer 4 T-Tile	See Prints	None Detected	3246-0102-36B	N/A
Coal Bin #2	Gunite Lining	3000 sq ft	None Detected	3246/0102-31B	N/A
Welding Shop Area	Sheetrock Ceiling	225 sq ft	None Detected	3246/0102-37B	N/A
BOILER #3 AREA					
Boiler #3-Top	High Temperature Block Insulation	See Prints	2% Amosite	3246/0102-38B	Friable
Unit #3 Building	Transite Siding (corrugated)	2500 sq ft	40% Chrysotile	3246/0102-39B	Category II/Non-Friable
	Black Mastic	2 sq ft	3% Chrysotile	----------	
Boiler #3-Top	Asbestos Blanket	75 sq ft	45% Chrysotile	3246/0102-40B	Friable
Steam Drum Area	Preform Pipe Insulation	10 lin ft	None Detected	3246/0102-41B	N/A
Boiler #3 Side Wall	Layer 1 2" Mineral Wool		None Detected	3246/0102-42B	N/A
Boiler #3 Side Wall	Layer 2 High Temperature Block Insulation	See Prints	5% Amosite	3246/0102-43B	Friable
Boiler #3 Side Wall	Layer 3 3/4" Plastic Refractory	See Prints	7.3% Chrysotile$_2$	3246/0102-44B	N/A
Boiler #3 Area	Ash Port Insulation	8000 sq ft	None Detected	3246/0102-47B	N/A
Boiler #3 Area	Green Boiler Feed Water Line Perform Pipe Insulation	800 lin ft	10% Chrysotile 10% Amosite	3246/0102-48B	Friable
Boiler #3 Area	High Pressure Steam (Yellow) Preform Pipe Insulation	300 lin ft	15% Chrysotile 10% Amosite	3246/0102-49B	Friable
Boiler #3 Area	Low Pressure Steam (Orange) Preform Pipe Insulation	275 lin ft	10% Chrysotile 10% Amosite	3246/0102-50B	Friable
Control Room	Vinyl Asbestos Floor Tile 9 X 9 Green	200 sq ft	10% Chrysotile	3246/0102-51B	Category I/Non-Friable
Control Room	Plaster Wall and Ceilings	800 sq ft	None Detected	3246/0102-52B	N/A

** All footages listed are rough estimates and need to be verified.*

2-Point Count Analysis

LOCATION	MATERIAL	ESTIMATED FOOTAGE*	ANALYSIS	SAMPLE NO.:	FRIABILITY & CLASSIFICATION
Turbine #3	Mudded Belly Insulation	100 lin ft	10% Chrysotile <1% Crocidolite[1]	3246/0102-53B	Friable
Turbine #3	Steam Chest Insulation	150 sq ft	35% Chrysotile	3246/0102-54B	Friable
Deaeration Tank	Tank Insulation	1200 sq ft	10% Chrysotile 7% Amosite 3% Crocidolite	3246/0102-55B	Friable
Coal Bin #3	Gunite Lining	4000 sq ft	None Detected	3246/0102-56B	N/A
Boiler #3 F.D. Fan Room Combustion Intake	Soft Mudded Plaster Around Styrofoam	20 sq ft	Assumed	----------	Friable
ROOFING					
Unit #3-Roof	Roof Flashing	500 lin ft	<1% Chrysotile[1]	3246/0102-57B	N/A
Unit #3-Roof	Roof Material	5500 sq ft	20% Chrysotile	3246/0102-58B	Category I/Non-Friable
Boiler #2-Roof	Roof Flashing	700 lin ft	None Detected	3246/0102-59B	N/A
Boiler #2-Roof	Roof Material	8000 sq ft	None Detected	3246/0102-60B	N/A
Turbine #2-Roof	Roof Material	9000 sq ft	None Detected	3246/0102-61B	N/A
Turbine #2-Roof	Roof Flashing	800 lin ft	15% Chrysotile	3246/0102-62B	Category I/Non-Friable
Office Area Roof	Roof Material	1500 sq ft	None Detected	3246/0102-63B	N/A
MISCELLANEOUS OUTDOOR STRUCTURES					
Ash Tower	Transite Panels (corrugated)	200 sq ft	25% Chrysotile	3246/0102-64B	Category II/Non-Friable
Ash Tower	Tile	600 sq ft	None Detected	3246/0102-65B	N/A
Ash Tower (Ext.)	Pipe Insulation	200 lin ft	Assumed	----------	Friable
#6 Fuel Oil Tank Containment Area	Pipe Insulation (out flow pipe)	12 lin ft	None Detected	3246/0102-66B	N/A
#6 Fuel Oil Tank Containment Area	Preform Pipe Insulation	40 lin ft	10% Chrysotile	3246/0102-67B	Friable
#6 Fuel Oil Tank Pump House	Wall Board	400 sq ft	None Detected	3246/0102-73B	N/A
Outbuilding A	Refractory (Stored) Walsh XX 12,12,2,SL4	60 sq ft	None Detected	3246/0102-68B	N/A
Outbuilding A	Refractory (Stored) AR Green 2,12,15	100 sq ft	None Detected	3246/0102-69B	N/A

** All footages listed are rough estimates and need to be verified.*

1-Material layers with results listed as <1% asbestos are not considered regulated asbestos-containing material.

LOCATION	MATERIAL	ESTIMATED FOOTAGE*	ANALYSIS	SAMPLE NO:	FRIABILITY &CLASSIFICTION
Outbuilding A	Refractory (Stored) PSC 2464 B	50 sq ft	None Detected	3246/0102-70B	N/A
Outbuilding A	Tar Paper Lining Walls	800 sq ft	None Detected	3246/0102-71B	N/A
Outbuilding A	Tar Floor Material *Note: Homogeneous to tar floor material in outbuilding C*	400 sq ft	<1% Chrysotile[1]	----------	N/A
Outbuilding A	Transite Pipe (Stored)	20 lin ft	Assumed	----------	Category II/Non-Friable
Outbuilding A	Porous Black Block (Stored) With Suspect ACM	10 sq ft	Assumed	----------	Friable
Outbuilding A	Gasket Material (Stored)	10 lin ft	Assumed	----------	Category I/Non-Friable
Outbuilding A	Preform Pipe (Stored) Insulation and Debris	100 lin ft	Assumed	----------	Friable
Outbuilding B #3 Lift Station	Sheetrock Walls and Ceilings	200 sq ft	None Detected	3246/0102-72B	N/A
Outbuilding C	Tar Floor Material *Note: Homogeneous to tar floor material in outbuilding A*	400 sq ft	<1% Chrysotile[1]	3246/0102-74B	N/A
Outbuilding C West Attic	Transite Panels (Stored)	60 sq ft	Assumed	----------	Category II/Non-Friable
Outbuilding C Inside East Entry	Preform Pipe Insulation Debris On Floor	4 lin ft	Assumed	----------	Friable
Outbuilding C	Sheetrock Ceiling	400 sq ft	None Detected	3246/0102-75B	N/A
Outbuilding C	Wall Board	550 sq ft	None Detected	3246/0102-76B	N/A
Stack #3	Mortar	1800 sq ft	None Detected	3246/0102-77B	N/A
Stack #3	Brick	2500 sq ft	None Detected	3246/0102-78B	N/A
Stack #2	Mortar	1200 sq ft	None Detected	3246/0102-79B	N/A
Stack #2	Brick	2000 sq ft	None Detected	3246/0102-80B	N/A

All footages listed are rough estimates and need to be verified.

1-Material layers with results listed as <1% asbestos are not considered regulated asbestos-containing material.

WINSLOW STATION

SUSPECT MATERIALS ASSUMED TO CONTAIN ASBESTOS

LOCATION	MATERIAL
25 Cycle Control Area - Main Floor by Auxiliary Boiler	Transite Electrical Board
4 KV Indoor Substation-Middle Level	Transite Electrical Board
Station Service Transformer Bank #1 & #2-Middle Level	Transite Panels
Boiler #3-Combustion Air Intake Area	Soft Mudded Plaster around Styrofoam
Outbuilding A	Transite Pipe (Stored)
Outbuilding A	Porous Black Block Covered with Suspect Asbestos-Containing Material (Stored)
Outbuilding A	Gasket Material (Stored)
Outbuilding A	Preform Pipe Insulation and Debris
Outbuilding C - West Attic Area	Transite Panels (Stored)
Outbuilding C - Inside East Entry	Preform Pipe Insulation Debris on Floor
Throughout Facility	Metal Jacketed Fire Doors
Ash Tower (Ext.)	Pipe Insulation

NOTE: These items are labeled "Suspect Material Assumed ".

V. RECOMMENDATIONS

During the inspection process several phone conversations were conducted with Steve LaValley and Phyliss Holmbeck of the Wisconsin Department of Natural Resources.

The Institute makes the following recommendations, based on conversations with the DNR and our past experience with demolition projects:

1. Demolition of the facility with floor tile and roofing materials left in place. These materials should be sprayed with water prior to demolition to control visible-emissions.

2. Removal of asbestos-containing thermal insulation be conducted under full enclosure procedures due to the friable conditions and the high asbestos content of the material prior to demolition.

3. All metal encased fire doors be removed prior to demolition.

4. Exterior transite panels should be sprayed with water prior to removal. Removal procedures should be utilized to minimize the breakage of the panels. All transite panels should be wrapped and labeled as asbestos-containing waste and disposed of at an approved landfill. Notify landfill prior to disposal.

VI. CERTIFIED INDUSTRIAL HYGENIST APPROVAL

This profile was prepared for Minnesota Power, by the Institute for Environmental Assessment, under the direction of Norbert Norman, C.I.H.

Date: 9-9-94

Certified Industrial Hygenist: Norbert J. Norman

A.B.I.H. Number: CP 3631

C.I.H. Seal:

INSTITUTE
for ENVIRONMENTAL ASSESSMENT

September 13, 1994

Mr. Ron Gullicks
Mr. Bill Fraundorf
Minnesota Power
30 West Superior Street
Duluth, MN 55802

Dear Ron and Bill:

Enclosed please find the original laboratory report and two copies for the bulk samples collected from the Winslow Steam Electric Station. Please include these with the asbestos-containing material profile submitted to you earlier.

Please also note the results are listed by layer in the laboratory report. In the asbestos-containing material profile, the results are listed compositely, not by layer.

Should you have any questions regarding this information, please contact our office anytime.

Sincerely,

Elizabeth Zwak
Project Manager

EZ:sf921
encl.

Duluth Office
1341 Sundby Road, Duluth, Minnesota 55811 (218) 722-3405 1 (800) 233-9513 FAX (218) 727-8060 *A Minnesota Corporation*

Bulk Sample Analysis by PLM

For Minnesota Power--Winslow Station

IEA Project #3246/0102

The IEA laboratory received eighty (80) bulk material samples for asbestos analysis by polarized light microscopy.

The samples were received by IEA on August 22, 1994, and were sent to Braun Intertec on August 22, 1994, for analysis. IEA received verbal results from Braun Intertec on August 26, 1994. Elizabeth Zwak of IEA received results from IEA on August 26, 1994. Please refer to the report from Braun Intertec which is attached.

Please feel free to contact the Institute's laboratory if you have any questions regarding the following report.

(LH:wb 090694)

BRAUN[SM]
INTERTEC

Braun Intertec Corporation
6875 Washington Avenue South
P.O. Box 39108
Minneapolis, Minnesota 55439-0108
612-941-5600 Fax: 942-4844

Engineers and Scientists Serving the Built and Natural Environments

August 30, 1994

Project No. CWLX-94-0426
Log-In No. M5840

Ms. Lee Harbour
Institute for Environmental Assessment
641 East Main Street
Anoka, MN 55303

Dear Ms. Harbour:

Re: PLM Analysis of Bulk Samples from the WS Building

The microscopy department of Braun Intertec Corporation (Braun Intertec) has analyzed 80 bulk material samples for asbestos fiber content as requested. The samples were received August 22, 1994, and preliminary analytical results were faxed to you on August 25, 1994. The objective of this analysis was to determine the presence of asbestos using polarized light microscopy (PLM) and to visually estimate the percent by area of asbestos and non-asbestos fibrous components. This report presents the results of our analysis.

Results

PLM analysis resulted in the detection of asbestos in 39 of the 80 samples analyzed.

All samples are examined for homogeneity. If a sample contains more than one layer, each layer is analyzed individually. Total fibrous content is calculated for joint compound/ wallboard systems by combining layer results according to their percentages of the total sample.

Methodology

Bulk asbestos analysis is conducted in accordance with the Environmental Protection Agency's (EPA) methods 40 CFR, Part 763, Ch. 1, subpart F, appendix A (7-1-87 edition) and EPA/600/R-93/116. All analyses are in compliance with the quality control procedures specified by the methods. Detailed quality control information is available upon request.

Remarks

Braun Intertec is accredited by the National Institute of Standards and Technology's (NIST) National Voluntary Laboratory Accreditation Program (NVLAP) for selected test methods for bulk asbestos identification under accreditation number 1234. This report in no way constitutes or implies product certification, approval or endorsement by NVLAP or any other agency of the U.S. Government. This test report relates only to the items submitted for analysis.

If a sample layer contains less than 10 percent asbestos, it is not quantified by the point count method unless requested by the client. In advance of demolition or renovation, point counting is required by the Environmental Protection Agency's (EPA) National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 61, 11-20-90, for friable bulk material samples containing less than 10 percent asbestos as estimated by a method other than point counting.

None-detected floor tile results obtained by PLM analysis may contain thin asbestos fibers below the limits of resolution of the polarized light microscope. The EPA Method EPA/600/R-93/116 recommends the use of transmission electron microscopy to confirm the absence of asbestos.

Samples are retained at our laboratory for 60 days and will be disposed of unless otherwise instructed by the client.

This report is issued under the terms of our General Conditions (8/93). It cannot be copied, except in its entirety, without prior written permission from Braun Intertec. If you have any questions or need further assistance, please call Steve Felton at (612) 942-4912.

Sincerely,

Michael Olsen
for

Steven D. Felton
Senior Microscopist

Beth D. Regan
Microscopy Supervisor

NVLAP

Attachment:
Table I

sdf/bdr:njl/m5840.aug94

[redacted]

BRAUN INTERTEC

Table I. Bulk Asbestos Analytical Results

Project No. CWLX-94-0426/Log-in No. M5840
Client: Institute for Environmental Assessment
Location: WS Building
Date of Analysis: August 23, 24 and 25, 1994

Microscopy Log-in No.	Client Sample No.	Client Description	Macroscopic Description	No. of Layers and Layer Designation	Percent of Total Sample	Non-Fibrous Components*	Other Fibrous Non-Asbestos Content[1] Total or Layer %		Asbestos Content[2] Total or Layer %	
M5840-1	1B	Sheet rock - office areas	Sheetrock	3	100	1,2,4,17	Cellulose	10	N.D.[3]	
			White micaceous with white paint	(A)	<1[4]	1,2,4,17	N.D.		N.D.	
			Brown fibrous paper	(B)	5	--	Cellulose	100	N.D.	
			White fibrous chalky	(C)	>94[5]	1,4	Cellulose	5	N.D.	
M5840-2	2B	Plaster - office area, original building	Gray fibrous granular with tan paint	1	100	1,4,17	Cellulose	2	N.D.	
M5840-3	3B	Floor material (tan) - lab area	Linoleum	2	100	--	--		--	
			White/brown vinyl	(A)	95	1,5,12	N.D.		N.D.	
			Yellow adhesive	(B)	5	9	Cellulose	25	N.D.	
M5840-4	4B	Ceiling board - 2nd floor storage	Brown fibrous ceiling tile with gray paint	1	100	4,17	Cellulose	95	N.D.	
M5840-5	5B	VAT brown - stairway	Floor tile with mastic	2	100	--	--		--	
			Maroon fibrous floor tile	(A)	98	1,4,12	N.D.		Chrysotile	15
			Black tarry mastic	(B)	2	10	N.D.		Chrysotile	5
M5840-6	6B	VAT black - stairway	Black fibrous floor tile	1	100	1,4,12	N.D.		Chrysotile	20
M5840-7	7B	Wall plaster - 2nd floor	Plaster	2	100	--	--		--	
			Tan granular with gray paint	(A)	5	1,4,17	Wollastonite	<1	N.D.	
			Gray fibrous granular cementitious	(B)	95	1,4	Cellulose Hair	5 <1	N.D.	

Microscopy Log-in No.	Client Sample No.	Client Description	Macroscopic Description	No. of Layers and Layer Designation	Percent of Total Sample	Non-Fibrous Components*	Other Fibrous Non-Asbestos Content[1] Total or Layer %	Asbestos Content[2] Total or Layer %
M5840-8	8B	Floor material - locker room, light brown	Tan/white vinyl linoleum	1	100	1,4,5,12	N.D.	N.D.
M5840-9	9B	Ceiling board - locker room	Brown fibrous ceiling tile with white paint	1	100	4,17	Cellulose 95	N.D.
M5840-10	10B	Air cell pipe insulation - locker room	Insulation	2	100	--	--	--
			Tan fabric with tan paint	(A)	5	17	Cellulose 90	N.D.
			Gray fibrous	(B)	95	4	Cellulose 40	Chrysotile 50
M5840-11	11B	9" x 9" ceiling tile - lunch room	Tan fibrous ceiling tile with white paint	1	100	4,17	Cellulose 95	N.D.
M5840-12	12B	Wall board - lunch room	Gray fibrous with white paint	1	100	4,17	Cellulose 90	N.D.
M5840-13	13B	Aux boiler pipe joint on fiberglass	Insulation	2	100	--	--	--
			Tan fabric with white paint	(A)	20	17	Cellulose 90	N.D.
			Tan fibrous micaceous	(B)	80	1,2,4	Glass fibers 40 Cellulose 25	N.D.
M5840-14	14B	Transite exhaust pipe above lunch room	Gray fibrous transite with green paint	1	100	1,4,17	N.D.	Chrysotile 25 Amosite 5
M5840-15	15B	Air cell pipe insulation by turbine #2	Gray fibrous with green paint	1	100	1,4,17	Cellulose 40	Chrysotile 50
M5840-16	16B	Transite panels 25 cycle lower level	Gray fibrous transite with red paint	1	100	1,4,17	N.D.	Chrysotile 25
M5840-17	17B	Transite panels 4KV lower level area	Gray fibrous transite with pale yellow paint	1	100	1,4,17	N.D.	Chrysotile 30
M5840-18	18B	VAT 9" x 9" black/green, 25 cycle - main floor	Floor tile with adhesive	2	100	--	--	--
			Black floor tile	(A)	95	1,4,12	N.D.	N.D.
			Yellow adhesive	(B)	5	1,9	N.D.	N.D.
M5840-19	19B	High pressure steam pipe from below #2 turbine	White fibrous powdery	1	100	1,4	N.D.	Chrysotile 10 Amosite 30

Microscopy Log-in No.	Client Sample No.	Client Description	Macroscopic Description	No. of Layers and Layer Designation	Percent of Total Sample	Non-Fibrous Components*	Other Fibrous Non-Asbestos Content[1] Total or Layer %	Asbestos Content[2] Total or Layer %
M5840-20	20B	Low pressure steam pipe (preform) to #2 turbine	Tan fibrous powdery	1	100	1,4,6	Glass fibers 5	Chrysotile 25 Amosite 2
M5840-21	21B	Turbine #2 insulation - mudded	Insulation	2	100	--	--	--
			Tan fibrous powdery	(A)	50	1,4,6	Glass fibers 2	Chrysotile 20 Amosite 4
			Gray fibrous micaceous	(B)	50	1,2,4	Glass fibers 20 Cellulose 15	N.D.
M5840-22	22B	Green water line #2 boiler area	Insulation	2	100	--	--	--
			Tan fabric with green paint	(A)	5	17	Cellulose 90	N.D.
			White fibrous powdery	(B)	95	1,4	N.D.	Chrysotile 25 Amosite 25
M5840-23	23B	Boiler #2 breaching - exhaust	Insulation	2	100	--	--	--
			Black fibrous tarry with silver paint	(A)	1	11,17	N.D.	Chrysotile 50
			White fibrous powdery	(B)	99	4	N.D.	Chrysotile 25 Amosite 25
M5840-24	24B	Dearation tank - #2 boiler area	Insulation	3	100	--	--	--
			Tan fabric with green paint	(A)	5	17	Cellulose 90	N.D.
			Gray fibrous	(B)	50	1,4	N.D.	Chrysotile 40
			White fibrous powdery	(C)	45	1,4	N.D.	Chrysotile 25 Amosite 15
M5840-25	25B	Boiler #2, layer 1 - top surface mortar	Cement	2	100	--	--	--
			White fibrous powdery	(A)	<1	1,4	Glass fibers 20	Chrysotile 30 Amosite <1
			Gray granular cementitious	(B)	>99	1,4,5	N.D.	N.D
M5840-26	26B	Boiler #2, layer 2 top, insulation	Gray fibrous granular	1	100	1,4	Glass fibers 30	Chrysotile 10

Microscopy Log-in No.	Client Sample No.	Client Description	Macroscopic Description	No. of Layers and Layer Designation	Percent of Total Sample	Non-Fibrous Components*	Other Fibrous Non-Asbestos Content[1] Total or Layer %		Asbestos Content[2] Total or Layer %	
M5840-27	27B	Boiler #2, layer 3 top, 2 1/4 red brick	Tan granular brick	1	100	1,4,5	Glass fibers	1	Chrysotile	<1
M5840-28	28B	Boiler #2, layer 4 top, insulation	Gray fibrous	1	100	1	Glass fibers	80	Chrysotile	5
M5840-29	29B	Boiler #2, layer 5 top, filler pipes	Gray fibrous	1	100	1	Glass fibers	85	Chrysotile	5
M5840-30	30B	Boiler #2, layer 6 top, yellow inner brick	Tan fibrous granular cementitious	1	100	1,4,5	Glass fibers	10	N.D.	
M5840-31	31B	Coal bin #2, Gurite lining	Gray granular cementitious	1	100	1,4,5	N.D.		N.D.	
M5840-32	32B	Upper steam drum insulation	Insulation	3	100	--	--		--	
			Tan fabric with white paint	(A)	5	17	Cellulose	90	N.D.	
			Gray fibrous	(B)	35	1,4	N.D.		Chrysotile	50
			White fibrous powdery	(C)	60	1,4	N.D.		Chrysotile Amosite	25 15
M5840-33	33B	Boiler #2, layer 1 side, rockwool	Yellow fibrous	1	100	--	Glass fibers	100	N.D.	
M5840-34	34B	Boiler #2, layer 2 side, yellow 4 1/2" brick	Tan granular cementitious	1	100	1,4,5	N.D.		N.D	
M5840-35	35B	Boiler #2, layer 3 side, high temperature cement	Tan fibrous powdery	1	100	1,4	Glass fibers Wollastonite	30 15	N.D.	
M5840-36	36B	Boiler #2, layer 4 side, t-tile	Tan granular cementitious	1	100	1,4,5	N.D.		N.D.	
M5840-37	37B	Sheetrock ceiling - welding area	Sheetrock	2	100	1,4,17	Cellulose	14	N.D.	
			Brown fibrous paper with green paint	(A)	10	17	Cellulose	90	N.D.	
			White fibrous chalky	(B)	90	1,4	Cellulose	5	N.D.	
M5840-38	38B	Boiler #3, layer 1 top, high temperature block insulation	Brown fibrous	1	100	1,18	Glass fibers	70	Amosite	2

Microscopy Log-in No.	Client Sample No.	Client Description	Macroscopic Description	No. of Layers and Layer Designation	Percent of Total Sample	Non-Fibrous Components*	Other Fibrous Non-Asbestos Content[1] Total or Layer %	Asbestos Content[2] Total or Layer %
M5840-39	39B	Boiler #3, upper corrugated transite siding	Transite	2	100	--	--	--
			Gray fibrous transite	(A)	95	1,4	N.D.	Chrysotile 40
			Black mastic	(B)	5	1,10	N.D.	Chrysotile 3
M5840-40	40B	Boiler #3/blanket	Gray fibrous	1	100	1,4	Cellulose 10	Chrysotile 45
M5840-41	41B	Boiler #3/insulation	Insulation	3	100	--	--	--
			Tan fibrous mesh	(A)	20	--	Cellulose 100	N.D.
			Tan fibrous micaceous	(B)	40	1,2,4	Cellulose 15 Glass fibers 3 Talc <1	N.D.
			White fibrous powdery	(C)	40	4	Synthetic 10 Glass fibers 2	N.D.
M5840-42	42B	Boiler #3/wool	Gray fibrous	1	100	4	Glass fibers 90 Cellulose <1	N.D.
M5840-43	43B	Boiler #3/insulation	Gray fibrous	1	100	1	Glass fibers 80 Cellulose <1	Amosite 5
M5840-44	44B	Boiler #3/plastic	Gray granular micaceous	1	100	1,2,4	Talc <1 Glass fibers <1	Chrysotile <1
M5840-45	45B	Transite (suspect)	Brown fibrous	1	100	1,4	N.D.	Chrysotile 35
M5840-46	46B	Door panels	Gray fibrous with brown paint	1	100	1,4,17	Cellulose 10	Chrysotile 50
M5840-47	47B	Boiler #3/insulation	Gray fibrous	1	100	4,18	Glass fibers 90 Cellulose <1	N.D.
M5840-48	48B	Water pipe	Insulation	3	100	--	--	--
			Tan fibrous mesh	(A)	10	--	Cellulose 100	N.D.
			Tan paper	(B)	10	4	Cellulose 95	N.D.
			White fibrous powdery	(C)	80	4	N.D.	Chrysotile 15 Amosite 15
M5840-49	49B	Steam/boiler #3	White fibrous powdery	1	100	4	N.D.	Chrysotile 15 Amosite 10

Microscopy Log-in No.	Client Sample No.	Client Description	Macroscopic Description	No. of Layers and Layer Designation	Percent of Total Sample	Non-Fibrous Components*	Other Fibrous Non-Asbestos Content[1] Total or Layer %		Asbestos Content[2] Total or Layer %	
M5840-50	50B	Insulation/boiler #3	Insulation	3	100	--	--		--	
			Tan fibrous mesh with orange paint	(A)	20	17	Cellulose	95	N.D.	
			Tan paper	(B)	10	4	Cellulose	95	N.D.	
			White fibrous powdery	(C)	70	4	N.D.		Chrysotile Amosite	15 15
M5840-51	51B	VAT 9" x 9" green	Floor tile with mastic	2	100	--	--		--	
			Green granular floor tile	(A)	99	1,4,12	Talc	2	Chrysotile	10
			Black tarry mastic	(B)	1	1,10	Cellulose	2	N.D.	
M5840-52	52B	Wall plaster/Boiler #3	White granular	1	100	1,4,17	Cellulose	2	N.D.	
M5840-53	53B	Turbine #3/insulation	Insulation	2	100	--	--		--	
			Tan fibrous	(A)	50	1,4	Glass fibers Cellulose	90 5	Chrysotile	<1
			White fibrous powdery	(B)	50	4	Cellulose	<1	Chrysotile Crocidolite	20 3
M5840-54	54B	Turbine #3/lining	Insulation	2	100	--	--		--	
			Gray fibrous granular	(A)	40	1,4	N.D.		Chrysotile	30
			Tan fibrous	(B)	60	4	Cellulose	30	Chrysotile	35
M5840-55	55B	Boiler #3/tank	Insulation	3	100	--	--		--	
			Tan fibrous mesh with green paint	(A)	15	17	Cellulose	90	N.D.	
			Tan fibrous	(B)	35	1,2,4	Glass fibers	60	Chrysotile	10
			White fibrous powdery	(C)	50	4	N.D.		Amosite Chrysotile Crocidolite	15 10 5
M5840-56	56B	Bin #3/lining	Brown granular	1	100	1,4	Cellulose	<1	N.D.	

Microscopy Log-in No.	Client Sample No.	Client Description	Macroscopic Description	No. of Layers and Layer Designation	Percent of Total Sample	Non-Fibrous Components*	Other Fibrous Non-Asbestos Content[1] Total or Layer %	Asbestos Content[2] Total or Layer %
M5840-57	57B	Roof flashing/#3 east	Roofing material	3	100	--	--	--
			White rubber	(A)	10	1,15	N.D.	N.D.
			Yellow foam	(B)	50	13	N.D.	N.D
			Black fibrous tarry	(C)	40	1,11	Cellulose 25 Glass fibers <1	Chrysotile <1
M5840-58	58B	Roof material #2/roof	Roofing material	2	100	--	--	--
			Yellow foam	(A)	10	13	N.D.	N.D.
			Black fibrous tarry	(B)	90	1,11	Cellulose 20 Glass fibers <1	Chrysotile 20
M5840-59	59B	Roof flashing/#2	Roofing material	3	100	--	--	--
			White/gray rubber	(A)	5	1,15	N.D.	N.D.
			Yellow foam	(B)	15	13	N.D.	N.D.
			Black fibrous tarry	(C)	80	1,11	Cellulose 50	N.D.
M5840-60	60B	Material/#2	Roofing material	2	100	--	--	--
			Yellow foam	(A)	5	13	N.D.	N.D.
			Black fibrous tarry	(B)	95	1,11	Cellulose 50	N.D.
M5840-61	61B	Material/#2	Roofing material	3	100	--	--	--
			Yellow foam	(A)	2	13	N.D.	N.D.
			Brown fibrous	(B)	2	--	Cellulose 100	N.D.
			Black fibrous tarry	(C)	96	1,11	Cellulose 50	N.D.
M5840-62	62B	Flashing/#2	Roofing material	3	100	--	--	--
			Yellow foam with rubber surface	(A)	2	13,15	N.D.	N.D.
			Black fibrous tarry	(B)	60	1,11	Cellulose 5	Chrysotile 25
			Black fibrous tarry	(C)	38	1,11	Cellulose 50	N.D.
M5840-63	63B	Roof/original	Roofing material	2	100	--	--	--
			Yellow foam	(A)	5	13	N.D.	N.D
			Black fibrous tarry	(B)	95	1,11	Cellulose 50	N.D.

Microscopy Log-in No.	Client Sample No.	Client Description	Macroscopic Description	No. of Layers and Layer Designation	Percent of Total Sample	Non-Fibrous Components*	Other Fibrous Non-Asbestos Content[1] Total or Layer %	Asbestos Content[2] Total or Layer %
M5840-64	64B	Tower/panels	Gray fibrous transite	1	100	1,4	N.D.	Chrysotile 25
M5840-65	65B	Tower/tile	Tan granular cementitious	1	100	1,4,5	Cellulose <1	N.D.
M5840-66	66B	Insulation/fuel tank #6	White fibrous powdery	1	100	1,4	Synthetic 10 Glass fibers 2	N.D.
M5840-67	67B	Insulation/fuel tank #6	Insulation	3	100	--	--	--
			Black fibrous tarry	(A)	20	11	Glass fibers 10	Chrysotile 50
			Tan fibrous micaceous	(B)	30	2,4	Cellulose 20 Fibrous talc <1	N.D.
			White fibrous powdery	(C)	60	4	Synthetic 5 Glass fibers 5	N.D.
M5840-68	68B	Out building A	Tan granular cementitious	1	100	1,4,5	Cellulose <1	N.D.
M5840-69	69B	Out building A	Tan granular cementitious	1	100	1,4,5	N.D.	N.D.
M5840-70	70B	Out building A	Tan granular cementitious	1	100	1,4,5	Cellulose <1 Glass fibers <1	N.D.
M5840-71	71B	Tar paper/out building A	Black fibrous tar paper	1	100	11	Cellulose 70	N.D.
M5840-72	72B	Sheetrock/out building B	Sheetrock	2	100	1,4,17	Cellulose 14	N.D.
			Gray/brown fibrous paper with white paint	(A)	10	17	Cellulose 90	N.D.
			White fibrous chalky	(B)	90	1,4	Cellulose 5	N.D.
M5840-73	73B	Wallboard/#6	Wallboard	2	100	--	--	--
			Black fibrous tarry	(A)	10	11	Cellulose 80	N.D.
			Brown fibrous	(B)	90	4	Cellulose 90	N.D.
M5840-74	74B	Floor material/out building C	Black fibrous tarry	1	100	1,11	Cellulose 70	Chrysotile <1[4]

Microscopy Log-in No.	Client Sample No.	Client Description	Macroscopic Description	No. of Layers and Layer Designation	Percent of Total Sample	Non-Fibrous Components*	Other Fibrous Non-Asbestos Content[1] Total or Layer %		Asbestos Content[2] Total or Layer %
M5840-75	75B	Sheetrock/out building C	Sheetrock	2	100	1,4	Cellulose	26	N.D.
			Brown fibrous paper	(A)	25	4	Cellulose	90	N.D.
			White fibrous chalky	(B)	75	1,4	Cellulose	5	N.D.
M5840-76	76B	Wallboard/out building C	Brown fibrous	1	100	4	Cellulose	95	N.D.
M5840-77	77B	Mortar/#3	Gray granular cementitious	1	100	1,4,5	N.D.		N.D.
M5840-78	78B	Brick/#3	Brown granular cementitious	1	100	1,4,5	Cellulose	<1	N.D.
M5840-79	79B	Motor/#2	Gray granular cementitious	1	100	1,4,5	Cellulose	<1	N.D.
M5840-80	80B	Brick/#2	Tan granular cementitious	1	100	1,4	Glass fibers	<1	N.D.

Note: Shaded areas indicate results from layer analysis.

1. Non-asbestos content is indicated as an approximate percent by area.
2. Asbestos content is indicated as an approximate percent by area.
3. N.D. = None Detected.
4. < = Less Than.
5. > = Greater Than.
6. Chrysotile appears to be surface contimination.

All quality control checks were within acceptable limits.

Reviewed by: _____

*Key to Non-Fibrous Components

1 = Rock fragments	10 = Mastic
2 = Mica/vermiculite	11 = Tar
3 = Gypsum	12 = Vinyl
4 = Binders	13 = Foam
5 = Opaques	14 = Foam rubber
6 = Diatoms	15 = Rubber
7 = Perlite	16 = Foil
8 = Putty	17 = Paint
9 = Adhesive	18 = Metal

njl/m5840a.aug94

National Institute of Standards and Technology

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ISO/IEC GUIDE 25

Scope of Accreditation

DEPARTMENT OF COMMERCE • UNITED STATES OF AMERICA •

BULK ASBESTOS FIBER ANALYSIS **NVLAP LAB CODE 1234**

Braun Intertec Corporation
6875 Washington Avenue South
P.O. Box 39108
Minneapolis, MN 55439-0108
Beth Regan Phone: 612-942-4823

NVLAP Code	*Designation*
18/A01	40 Code of Federal Regulations Chapter I (1-1-87 edition) Part 763, Subpart F, Appendix A or the current U. S. Environmental Protection Agency method for the analysis of asbestos in building materials by polarized light microscopy.

July 1, 1995

Effective date

For the National Institute of Standards and Technology

United States Department of Commerce
National Institute of Standards and Technology

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Certificate of Accreditation

DEPARTMENT OF COMMERCE ★ UNITED STATES OF AMERICA ★

BRAUN INTERTEC CORPORATION
MINNEAPOLIS, MN

is recognized under the National Voluntary Laboratory Accreditation Program for satisfactory compliance with criteria established in Title 15, Part 285 Code of Federal Regulations. This criteria encompasses the requirements of ISO/IEC Guide 25 and the relevant requirements of ISO 9002 (ANSI/ASQC Q92-1987) as suppliers of calibration or test results. Accreditation is awarded for specific services, listed on the Scope of Accreditation for:

BULK ASBESTOS FIBER ANALYSIS

July 1, 1995
Effective until

For the National Institute of Standards and Technology

NVLAP LAB CODE: 1234

1 OF 1

INSTITUTE for ENVIRONMENTAL ASSESSMENT

641 East Main Street
Anoka, Minnesota 55303
(612) 427-7870 • 1-800-233-0513

CHAIN OF CUSTODY

CLIENT MINN POWER
ADDRESS 30 W SUPERIOR ST
Duluth, MN 55802
PHONE # 218-722-5642
FAX #

PROJECT # 3246-0102
BUILDING NAME WINSLOW STATION
PROJECT BULK SAMPLES
CONTACT DALE McDONALD / BITSY ZUAIC
OTHER INFORMATION

60 # OF SAMPLES RECEIVED
60 # OF SAMPLES AT $ 22.00
OF SAMPLES AT $
OF SAMPLES AT $
TOTAL # FOR $

VERBAL RESULTS TO DALE McDONALD / BITSY ZUAIC PAGER OR PHONE # 218 722 3405 BY DATE 8/25/94 TIME 1:00 pm
VERBAL RESULTS RELAYED TO BY DATE TIME

ANALYSIS LOCATION:
☐ ON SITE ☐ LAB ☐ REGIONAL OFFICE ☐ OTHER

SAMPLE #	COMMENTS/ LOCATION/ EXPLANATION	AREA OR VOLUME	MATRIX: AIR	BULK	DUST	OTHER	ANALYSIS REQUESTED: PCM	TEM	OTHER	FILTER TYPE: MCE	PC	0.8µm	0.45µm
1B	SHEETROCK - OFFICE AREAS			X					PLM				
2B	PLASTER - OFFICE AREA ORIGINAL			X					PLM				
3B	FLOOR MATERIAL (TAN) - LAB - AREA			X					PLM				
4B	CLG BOARD 2ND FL STOR.			X					PLM				
5B	VAT BROWN STAIRWAY			X					PLM				
6B	VAT BLACK STAIRWAY			X					PLM				
7B	WALL PLASTER 2ND FLOOR			X					PLM				
8B	FLOOR MAT. LOCKER ROOM LIGHT BROWN			X					PLM				
9B	CEILING BOARD - LOCKER ROOM			X					PLM				
10B	AIR CELL PIPE INSUL - LOCKER RM			X					PLM				
11B	9X9 CEILING TILE LUNCH RM			X					PLM				
12B	WALL BOARD - LUNCH RM			X					PLM				
13B	AUX BOILER PIPE INSULATION FIBERGLASS			X					PLM				

SAMPLED BY:	DATE: 4/7/94	TIME:	DELIVERED BY:	DATE:	TIME:	RECEIVED BY LAB:	DATE:	TIME:	ENTERED BY:	DATE:
RECEIVED BY:	DATE:	TIME:	DELIVERED BY:	DATE:	TIME:	ANALYSIS BY:	DATE:	TIME:	DELIVERED BY:	DATE:

INSTITUTE for ENVIRONMENTAL ASSESSMENT

641 East Main Street
Anoka, Minnesota 55303
(612) 427-7870 • 1-800-233-9513

CHAIN OF CUSTODY

COC STD 2 of 7

CLIENT MN POWER
ADDRESS
PHONE #
FAX #

PROJECT # 3246-0102
BUILDING NAME WINSLOW STATION
PROJECT
CONTACT
OTHER INFORMATION

___ # OF SAMPLES RECEIVED
___ # OF SAMPLES AT $ 22
___ # OF SAMPLES AT $
___ # OF SAMPLES AT $
___ TOTAL # FOR $

VERBAL RESULTS TO ____ PAGER OR PHONE # ____ BY DATE ____ TIME ____
VERBAL RESULTS RELAYED TO ____ BY ____ DATE ____ TIME ____

ANALYSIS LOCATION: ☐ ON SITE ☐ LAB ☐ REGIONAL OFFICE ☐ OTHER

SAMPLE #	COMMENTS/ LOCATION/ EXPLANATION	AREA OR VOLUME	MATRIX: AIR	MATRIX: BULK	MATRIX: DUST	MATRIX: OTHER	ANALYSIS: PCM	ANALYSIS:	ANALYSIS: TEM	ANALYSIS: OTHER	FILTER: MCE	FILTER: PC	FILTER: OTHER	FILTER: 0.45 µm
14B	TRANSITE EXHAUST PIPE ABV LUNCH Rm			X						PLM				
15B	AIRCELL PIPE INSUL By turbine #2			X						PLM				
16B	TRANSITE PANELS 25 CYCLE Lower level VAULT			X						PLM				
17B	TRANSITE PANELS 4KV Lower level area			X						PLM				
18B	VAT 9X9 BLK/GRN - 25 cycle area - MAIN FLOOR			X						PLM				
19B	HIGH PRESSURE STEAM PRE-FORM Pipe Elbows #2 turbine			X						PLM				
20B	LOW PRESSURE STEAM PRE-FORM pipe to #2 turbine			X						PLM				
21B	TURBINE #2 INSUL. - MUDDED			X						PLM				
22B	GRN H2O LINE #2 BOILER AREA PREFORM			X						PLM				
23B	BOILER #2 BREECHING - EXHAUST			X						PLM				
24B	DEAERATION TANK - #2 BOILER AREA			X						PLM				
25B	BOILER # 2 - LAYER 1 - TOP Surface MORTAR			X						PLM				
26B	BOILER #2 - LAYER 2 TOP - INSULATION			X						PLM				

SAMPLED BY: [signature]	DATE 8/17/94	TIME	DELIVERED BY:	DATE	TIME	RECEIVED BY LAB	DATE	TIME	DELIVERED BY	DATE
RECEIVED BY:	DATE	TIME	DELIVERED BY:	DATE	TIME	ANALYSIS BY	DATE	TIME	DELIVERED BY	DATE

SWL&P Winslow RFI 000060

INSTITUTE for ENVIRONMENTAL ASSESSMENT

641 East Main Street
Anoka, Minnesota 55303
(612) 427-7870 • 1-800-233-9513

CHAIN OF CUSTODY

CLIENT MN POLLUTION CONTROL AGENCY
ADDRESS
PHONE #
FAX #

PROJECT # 3246-0102
BUILDING NAME WINSLOW STATION
PROJECT
CONTACT
OTHER INFORMATION

____ # OF SAMPLES RECEIVED
____ # OF SAMPLES AT $ 22
____ # OF SAMPLES AT $
____ # OF SAMPLES AT $
____ TOTAL # FOR $

VERBAL RESULTS TO ____ PAGER OR PHONE # ____ BY DATE ____ TIME
VERBAL RESULTS RELAYED TO ____ BY ____ DATE ____ TIME

ANALYSIS LOCATION: ☐ ON SITE ☐ LAB ☐ REGIONAL OFFICE ☐ OTHER

SAMPLE #	COMMENTS/ LOCATION/ EXPLANATION	AREA OR VOLUME	MATRIX: AIR	BULK	DUST	OTHER	ANALYSIS REQUESTED: PCB		TEM	OTHER	FILTER TYPE: MCE	PC	0.8um	0.45um
27B	BOILER #2 LAYER 3 top - 2 1/4" RED BRICK			X						PLM				
28B	BOILER #2 LAYER 4 top - INSULATION			X						PLM				
29B	BOILER #2 LAYER 5 top - FILLER BRICK PIECES			X						PLM				
30B	BOILER #2 LAYER 6 top - YELLOW INSERT BRICK			X						PLM				
31B	COAL BIN #2 GUNITE LINING			X						PLM				
32B	UPPER STEAM DRUM INSUL.			X						PLM				
33B	BOILER #2 LAYER 1 SIDE - ROCK WOOL			X						PLM				
34B	BOILER #2 LAYER 2 SIDE - YELLOW 1 1/2" BRICK			X						PLM				
35B	BOILER #2 LAYER 3 SIDE - HIGH TEMP CEMENT			X						PLM				
36B	BOILER #2 LAYER 4 SIDE - T-TILE			X						PLM				
37B	SHEETROCK CLG - WELDING GAP			X						PLM				
38B	BOILER #3 LAYER 1 to 2 - HIGH TEMP BRICK INSUL			X						PLM				
39B	BOILER #3 UPPER CORRUGATED TRANSITION SLOPE			X						PLM				

SAMPLED BY:	DATE	TIME	DELIVERED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME	RELINQUISHED BY:	DATE
	8/11/14									
RECEIVED BY:	DATE	TIME	DELIVERED BY:	DATE	TIME	ANALYSIS BY:	DATE	TIME	DELIVERED BY:	DATE

INSTITUTE for ENVIRONMENTAL ASSESSMENT

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Anoka, Minnesota 55303
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(CONT'D) 1 of 7

CHAIN OF CUSTODY

CLIENT MN POWER

ADDRESS ______

PHONE # ______

FAX # ______

PROJECT # 3246-0102

BUILDING NAME WINSLOW STATION

PROJECT ______

CONTACT ______

OTHER INFORMATION ______

___ # OF SAMPLES RECEIVED

___ # OF SAMPLES AT $ ___

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___ # OF SAMPLES AT $ ___

___ TOTAL # FOR $ ___

VERBAL RESULTS TO ______ PAGER OR PHONE # ______ BY DATE ______ TIME ______

VERBAL RESULTS RELAYED TO ______ BY ______ DATE ______ TIME ______

ANALYSIS LOCATION: ☐ ON SITE ☐ LAB ☐ REGIONAL OFFICE ☐ OTHER

SAMPLE #	COMMENTS/ LOCATION/ EXPLANATION	AREA OR VOLUME	MATRIX: BULK	ANALYSIS REQUESTED: OTHER
40B	BOILER #3 ROOF ASBESTOS BLANKET		X	PLM
41B	BOILER #3 STEAM DRUM PREFORM PIPE INSUL.		X	PLM
42B	BOILER #3 LAYER 1 SIDE - 2" MINERAL WOOL		X	PLM
43B	BOILER #3 LAYER 2 SIDE - HIGH TEMP BLOCK INSUL		X	PLM
44B	BOILER #3 LAYER 3 SIDE - 3/4" PLASTIC REFRACTORY		X	PLM
45B	SUSPECT TRANSITE ELEC BOARD PANELS (BROWN)		X	PLM
46B	Door panels 3 cycle lower level Equip Area		X	PLM
47B	BOILER #3 ASH PORT INSULATION		X	PLM
48B	GRN H_2O PREFORM PIPE, BOILER #3 AREA		X	PLM
49B	HIGH PRESSURE STEAM PIPE INSUL. BOILER #3	AREA	X	PLM
50B	LOW PRESSURE STEAM PIPE INSUL. BOILER #3 AREA		X	PLM
51B	CONTROL ROOM VAT 9x9 GREEN BOILER #3		X	PLM
52B	PLASTER W/ MUSIC CLG CONTROL RM - BOILER #3			

SAMPLED BY:	DATE	TIME	DELIVERED BY:	DATE	TIME	RECEIVED BY LAB	DATE	TIME	FILTERED BY:	DATE
[illegible]	8/17/84		[illegible]	[illegible]	1 pm	[illegible]	[illegible]	[illegible]	[illegible]	
RECEIVED BY:	DATE	TIME	DELIVERED BY:	DATE	TIME	ANALYSIS BY	DATE	TIME	DELIVERED BY:	DATE

CHAIN OF CUSTODY

INSTITUTE for ENVIRONMENTAL ASSESSMENT
641 East Main Street
Anoka, Minnesota 55303
(612) 427-4440 • 1 800-233-9513

CLIENT MN Power
ADDRESS
PHONE #
FAX #
PROJECT # 3246-0102
BUILDING NAME: WINSLOW STATION
PROJECT
CONTACT
OTHER INFORMATION

_____ # OF SAMPLES RECEIVED _____
_____ # OF SAMPLES AT $ _____
_____ # OF SAMPLES AT $ _____
_____ # OF SAMPLES AT $ _____
_____ TOTAL # FOR $ _____

VERBAL RESULTS TO _____ PAGER OR PHONE # _____ BY DATE _____ TIME _____
VERBAL RESULTS RELAYED TO _____ BY _____ DATE _____ TIME _____

ANALYSIS LOCATION: ☐ ON SITE ☐ LAB ☐ REGIONAL OFFICE ☐ OTHER

SAMPLE #	COMMENTS/ EXPLANATION LOCATION/EQUIPMENT	AREA OR VOLUME	MATRIX: AIR	BULK	SOIL	OTHER	ANALYSIS REQUESTED: TCM	PLM	TEM	OTHER	FILTER TYPE: MCE	PC	0.45UM	0.25UM
53B	TURBINE #3 BELLY INSULATION			X				+		PLM				
54B	TURBINE #3 STEAM CHEST LINING (DOOR)			X						PLM				
55B	DEAERATION TANK - BOILER #3 AREA			X						PLM				
56B	COAL BIN #3 - GUNITE LINING			X						PLM				
57B	ROOF FLASHING - BOILER #3 EAST ROOF			X						PLM				
58B	ROOF MATERIAL - BOILER #3 EAST ROOF			X						PLM				
59B	ROOF FLASHING - BOILER #2 ROOF			X						PLM				
60B	ROOF MATERIAL - BOILER #2 ROOF			X						PLM				
61B	ROOF MATERIAL - TURBINE #2			X						PLM				
62B	ROOF FLASHING - TURBINE #2			X						PLM				
63B	ROOF - ORIGINAL BUILDING			X						PLM				
64B	ASH TOWER - TRANSITE PANELS			X						PLM				
65B	ASH TOWER - TILE			X						PLM				

*If the analytical results from samples on this Chain of Custody form are to be used for purposes of [illegible] (at additional expense) initially found to have between <1% and 10% asbestos? YES NO

SAMPLED BY:	DATE:	TIME:	DELIVERED BY:	DATE:	TIME:	RECEIVED FOR LAB BY:	DATE:	TIME:	ENTERED BY:	DATE:
RECEIVED BY:	DATE:	TIME:	DELIVERED BY:	DATE:	TIME:	ANALYSIS BY:	DATE:	TIME:	RELINQUISHED BY:	DATE:

CHAIN OF CUSTODY

INSTITUTE for ENVIRONMENTAL ASSESSMENT
641 East Main Street
Anoka, Minnesota 55303
(612) 427-4440 • 1-800-233-9513

CLIENT KLN POLER PROJECT # 3246-0102
ADDRESS _____ BUILDING NAME WINSLOW STATION
_____ PROJECT _____
PHONE # _____ CONTACT _____
FAX # _____ OTHER INFORMATION _____

_____ # OF SAMPLES RECEIVED _____
_____ # OF SAMPLES AT $ _____
_____ # OF SAMPLES AT $ _____
_____ # OF SAMPLES AT $ _____
_____ TOTAL # FOR $ _____

VERBAL RESULTS TO _____ PAGER OR PHONE # _____ BY DATE _____ TIME _____
VERBAL RESULTS RELAYED TO _____ BY _____ DATE _____ TIME _____

ANALYSIS LOCATION: ☐ ON SITE ☐ LAB ☐ REGIONAL OFFICE ☐ OTHER

SAMPLE #	COMMENTS/ EXPLANATION LOCATION/EQUIPMENT	AREA OR VOLUME	MATRIX: AIR	BULK	DUST	OTHER	ANALYSIS REQUESTED: PCM	PLM*	TEM	OTHER	FILTER TYPE: MCE	PC	0.8μm	0.45μm
66B	PIPE INSULATION - OUTFLOW PIPE #6	FUEL OIL TANK 2		Y				X		PLM				
67B	PREFORM PIPE INSUL. - #6 FUEL OIL	TANK		Y						PLM				
68B	REFRACTORY WASH XX 12,12,2 SLY	OUTBUILDING A		Y						PLM				
69B	REFRACTORY ARGREEN 2 12,15	OUTBUILDING A		X						PLM				
70B	REFRACTORY DSC. 2464 B	OUTBUILDING A		Y						PLM				
71B	TAR PAPER ON WALLS -	OUTBUILDING A		X						PLM				
72B	SHEETROCK WALLS + CEILINGS	OUTBUILDING B		Y						PLM				
73B	WALLBOARD #6 FUEL OIL TANK -	CONTROL RM		Y						PLM				
74B	TAR FLOOR MATERIAL -	OUTBUILDING C		X						PLM				
75B	SHEETROCK CEILING -	OUTBUILDING C		Y						PLM				
76B	WALL BOARD -	OUTBUILDING C		X						PLM				
77B	MORTAR - STACK # 3			Y						PLM				
78B	BRICK - STACK # 3			X						PLM				

*If the analytical results from samples on this Chain of Custody form are to be used for purposes of [illegible] (at additional expense) initially found to have between 1% and 10% asbestos? YES NO

SAMPLED BY	DATE	TIME	DELIVERED BY	DATE	TIME	RECEIVED BY	DATE	TIME	ENTERED BY	DATE
[signature]	12/18/94		U.P.S.	12/19/94	1pm					
RECEIVED BY:	DATE	TIME	DELIVERED BY	DATE	TIME	ANALYSIS BY	DATE	TIME	DELIVERED BY	DATE

INSTITUTE for ENVIRONMENTAL ASSESSMENT

641 East Main Street
Anoka, Minnesota 55303
(612) 427-4440 • 1-800-233-9513

CHAIN OF CUSTODY

©INSTITUTE FOR ENVIRONMENTAL ASSESSMENT, 1993

CLIENT MN POWER
ADDRESS
PHONE #
FAX #

PROJECT # 3246-0102
BUILDING NAME WINSLOW STATION
PROJECT
CONTACT
OTHER INFORMATION

____ # OF SAMPLES RECEIVED ____
____ # OF SAMPLES AT $ ____
____ # OF SAMPLES AT $ ____
____ # OF SAMPLES AT $ ____
____ TOTAL # FOR $ ____

VERBAL RESULTS TO ____ PAGER OR PHONE # ____ BY DATE ____ TIME ____
VERBAL RESULTS RELAYED TO ____ BY ____ DATE ____ TIME ____

ANALYSIS LOCATION: ☐ ON SITE ☐ LAB ☐ REGIONAL OFFICE ☐ OTHER

SAMPLE #	COMMENTS/ EXPLANATION LOCATION/EQUIPMENT	AREA OR VOLUME	MATRIX: AIR	BULK	DUST	OTHER	ANALYSIS REQUESTED: PCM	PLM*	TEM	OTHER	FILTER TYPE: MCE	PC	0.8µm	0.45µm
MB	MORTAR-STACK #2			X				X		PLM				
BOB	BRICK - STACK #2			X				X		"				

*If the analytical results from samples on this Chain of Custody form are to be used for purposes of [illegible] (at additional expense) initially found to have between <1% and 10% asbestos? YES NO Signature

RELINQUISHED BY	DATE	TIME	DELIVERED BY	DATE	TIME	RECEIVED BY LAB	DATE	TIME	ENTERED BY	DATE
RECEIVED BY	DATE	TIME	DELIVERED BY	DATE	TIME	ANALYSIS BY	DATE	TIME	DELIVERED BY	DATE

July 6, 1994

Winslow Station - Disposal of Oil-filled Equipment

25 Cycle Equipment Room: 8 - Oil Circuit Breakers (3 tanks each breaker)
3- Transformers
2 - Potential Transformers
2 - Current Transformers
8 - Oil Switches
2 - Tar Filled Equipment (pot heads)

OCB's:

1. Sample oil in OCB's to determine PCB concentration; take a composite sample of each set of tanks per OCB.

2. After receiving analysis;
   a) label any equipment that is greater than 49 ppm PCB's;
   b) drain oil from OCB's into drums according to PCB concentration;
   c) Use tags to indicate which equipment has been drained into each drum.

3. Ship drained OCB's and oil in drums to 15th for disposal.

Transformers:

1. Remove smaller transformer and ship to 15th for PCB analysis and disposal.

2. Oil in the two larger transformers should be sampled to determine PCB concentration. These units would exceed the floor loading requirements for 15th and will have to be disposed of through Winslow.

3. After receiving analysis, drain oil from transformers into drums according to PCB concentration and ship to 15th for disposal.

4. Assuming the equipment is less than 500 ppm PCB's, have them moved to the sub yard where they can be loaded for direct shipment to Bickford, Inc. in New Lisbon, WI.

Potential & Current Transformers and Oil Switches

1. Remove PT's, CT's, & OSW's and ship them to 15th for PCB analysis and disposal.

Tar Filled Equipment

1. Ship tar filled equipment to 15th. Equipment will be assumed to contain PCB's greater than 49 ppm and will be drummed for incineration.

4,000 kv Equipment Room: 10 - Oil Circuit Breakers (6 tanks each breaker)
6 - Potential Transformers
3 - Spare Potential Transformers

OCB's:

1. Sample oil in OCB's to determine PCB concentration; take a composite sample of each set of tanks per OCB.

2. After receiving analysis:
   a) Label any equipment that is greater than 49 ppm PCB's;
   b) drain oil from OCB's into drums according to PCB concentration;
   c) use tags to indicate which equipment has been drained into each drum.

3. Ship drained OCB's and oil in drums to 15th for disposal.

Potential Transformers

1. Remove potential transformers and ship to 15th for PCB analysis and disposal.

Service for Building: 11- Oil Circuit Breakers
9 - Station Service Transformers
4 - Oil Switches

OCB's

1. Sample oil in OCB's to determine PCB concentration; take a composite sample of each set of tanks per OCB.

2. After receiving analysis:
   a) Label any equipment that is greater than 49 ppm PCB's;
   b) drain oil from OCB's into drums according to PCB concentration;
   c) use tags to indicate which equipment has been drained into each drum.

3. Ship drained OCB's and oil in drums to 15th for disposal.

Station Service Transformers

1. Remove transformers and ship to 15th for PCB analysis and disposal.

Oil Switches

1. Remove OSW's and ship to 15th for PCB analysis and disposal.

Service for Units: 11 - Oil circuit Breakers (1 tank each breaker)
6 - Regulators
4 - Tar Filled Equipment (pot heads)

OCB's

1. Sample oil in OCB's to determine PCB concentration.

2. After receiving analysis;
   a) label any equipment that is greater than 49 ppm PCB's;
   b) drain oil from OCB's into drums according to PCB concentration;
   c) use tags to indicate which equipment has been drained into each drum.

3. Ship drained OCB's and oil in drums to 15th for disposal.

Regulators

1. Remove regulators and ship to 15th for disposal.

Tar Filled Equipment

1. Ship tar filled equipment to 15th. Equipment will be assumed to contain PCB's greater than 49 ppm and will be drummed for incineration.

Sub Yard: 5 - Transformers
5 - Tar Filled Equipment (potheads)

Transformers

1. AC	3750 kva	3330816	18,300 lbs drnd.	914 gals	30 ppm	10/21/86
2. AC	3750 kva	2651111	33,210 lbs drnd	1,090 gals	28 ppm	10/21/86
3. WG	1200 kva	K9E1002	14,900 lbs drnd	840 gals	<20 ppm	10/21/86
4. ML	1200 kva	694574	11,590 lbs drnd	693 gals	<20 ppm	10/21/86
5. WH	1500 kva	659446	12,000 lbs drnd	949 gals	<20 ppm	10/21/86
	Total		90,000 lbs	4,486 gals		

1. Re-sample oil in transformers to verify that equipment is non-PCB.

2. Have oil placed in bulk tanker for shipment to Quadrant Co. in Perham, MN for incineration.

3. Arrange to have drained transformers shipped to Bickford, Inc. in New Lisbon, WI for scrap salvage. Will require having crane on-site to load equipment.

Sub Yard (cont):

Tar Filled Equipment

1. Ship tar filled equipment to 15th. Equipment will be assumed to contain PCB's greater than 49 ppm and will be drummed for incineration.

Summary:

Total equipment:
- 17 - Transformers
- 40 - Oil Circuit Breakers
- 11 - Potential Transformers
- 2 - Current Transformers
- 12 - Oil Switches
- 11 - Tar Filled Equipment (pot heads)

Equipment that needs to be sampled prior to removal:

- 7 - Transformers
- 40 - Oil Circuit breakers

Only equipment in the 25 cycle room is de-energized as of this date.

Process for removal:

1. Sample equipment:
   a) 40 OCB's
   b) 2 larger transformers in 25 cycle room
   c) 5 transformers in sub yard

2. Drain oil from OCB's into drums.

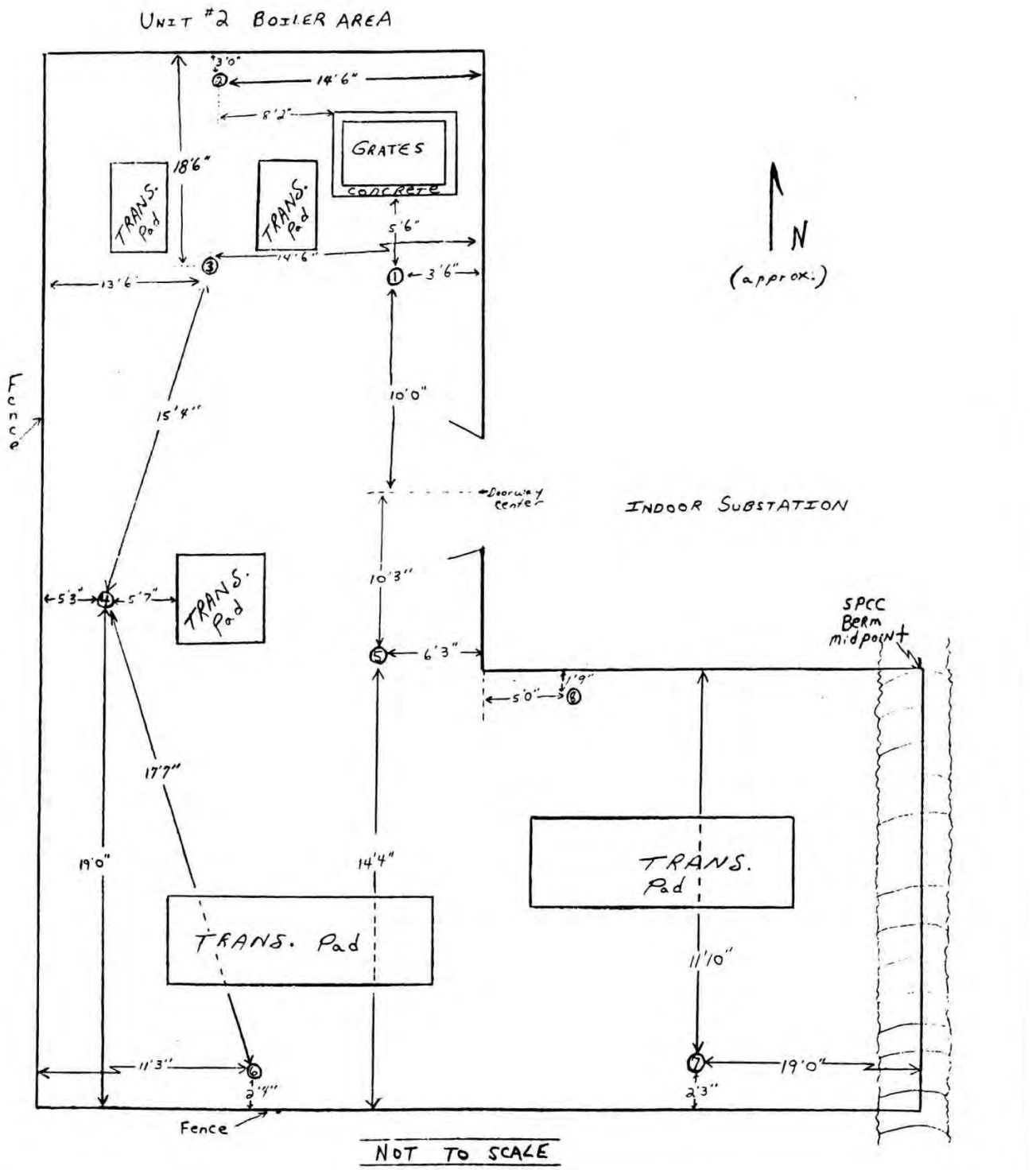
3. Drain oil from two larger transformers (25 cycle room) into drums and move equipment to sub yard.

4. Ship following to 15th:
   - 10 - smaller transformers
   - 40 - OCB's, drained
   - 11 - Potential Transformers
   - 2 - Current Transformers
   - 12 - Oil Switches
   - 11 - Tar Filled Equipment
   - ? - Drums containing oil

5. Pump oil from 5 transformers in sub yard and arrange to have the oil shipped off-site.

6. Arrange to have the 7 transformers staged in sub yard shipped for scrap salvage.

Figure 1. Winslow Outdoor Substation Showing the Eight Sample site locations for the Lead and PCB Soil Analyses. July 1994. Fraundorf.



ANALYTICAL ASSOCIATES, INC.
4011 Power Inn Road • Suite G • Sacramento • CA 95826 • (916) 451-5034

PCB CONTENT
USEPA METHOD 8080

MINNESOTA POWER

30 WEST SUPERIOR STREET
DULUTH, MN 55802

ATTN: VALERIE PATTERSON

22 JUL 94

REPORT No.: 50605

94-01071-W-AC

SAMPLE IDENTIFICATION	LABORATORY NUMBER	RESULTS	UNITS	AROCLOR	DETECTION LIMITS
W1	266824	<1	ppm	ND	1 ppm
W2	266825	<1	ppm	ND	1 ppm
W3	266826	<1	ppm	ND	1 ppm
W4	266827	<1	ppm	ND	1 ppm
W5	266828	<1	ppm	ND	1 ppm
W6	266829	1.0	ppm	1260	1 ppm
W7	266830	<1	ppm	ND	1 ppm
W8	266831	<1	ppm	ND	1 ppm

California State Certified Laboratory

APPROVED BY: Jane Dixon

Consulting Chemists

minnesota power
intra company correspondence

2 September 1994

To: Ron Gullicks

Fr: Bill Fraundorf BF

Re: Lead Coated/Sheathed Electrical Cable at Winslow

Below is a summary of information obtained from the fixed capital records of SWL&P regarding lead coated/sheathed cable installed at the Winslow Steam Electric Station. I can not say that the data presented actually represents the existing conditions. It might be safer to assume that the data represents the minimum amount of lead coated/sheathed cable that can reasonably be expected to be encountered at the Winslow facility. All lead coated/sheathed electrical cable removed during the course of the demolition of the facility will need to be recycled. Potential vendors will require audit reviews prior to vendor selection.

Cable/Conductor Size (and year of Installation)	Footage	Location
350 MCM PI Cable (1961)	560	Manhole "B" to Riser Poles 26S-56 and 26T-56. Feeders 1,2,3,4.
350 MCM (1962) 3/c (1962)	120	From pothead outside bldg. to pothead on riser pole 26 W-56
19/22AWG (41-42) 12/c #9.	400	Power and Control Wiring
19/22 AWG (41-42) 9/c #9.	687	Power and Control Wiring

19/22 AWG (41-42) 7/c #9.	3020	Power and Control Wiring
19/22 AWG (41-42) 5/c #9.	2500	Power and Control Wiring
19/22 AWG (41-42) 3/c #9.	500	Power and Control Wiring
2/0 AWG (41-42) 3/c	229	Sta. Aux. Motor leads & Sw. gear control feeds.
2 AWG (41-42) 3/c	268	Sta. Aux. Motor leads & Sw. gear control feeds.
4 AWG (41-42) 3/c	476	Sta. Aux. Motor leads
8 AWG (41-42) 3/c	1414	Sta. Aux. Motor leads & Sw. gear control feeds.
2 AWG (41-42) 2/c	887	Sta. Aux. Motor leads & Sw. gear control feeds.
6 AWG (41-42) 2/c	941	Sta. Aux. Motor leads & Sw. gear control feeds.
500,000 CM 3/c (41-42)	280	For 220 V. load center feeds.
250,000 CM 3/c (41-42)	312	Sta. Serv. Trans. Secondaries.
250,000 CM 1/c (41-42)	541	Control Battery Connections.
2/0 AWG 3/c (41-42)	358	2300 Aux. Motors.
4 AWG 3/c (41-42)	449	2300 Aux. Motors.
500,000 CM 3/c (41-42)	60	For Aux. Trans. Secondary.
800,000 CM 1/c (41-42)	175	For Gen. Main leads.

250,000 CM 1/c (41-42)	228	For Aux. & Tie Trans. Primaries.
19/22 AWG 9/c (41-42)	113	Spare Cable.
19/22 AWG 7/c (41-42)	780	Spare Cable.
2/0 AWG 3/c (41-42)	471	Spare Cable for Sta. Aux Motor leads & Sw. gear Control feeds.
3 AWG 3/c (41-42)	132	Spare Cable for Sta. Aux. Motor leads & Sw. gear Control feeds.
4 AWG 3/c (41-42)	112	Spare Cable for Sta. Aux. Motor leads.
2 AWG 2/c (41-42)	613	Spare Cable for Sta. Aux. Motor leads & Sw. gear Control feeds.
6 AWG 2/c (41-42)	559	Spare Cable for Sta. Aux. Motor leads & Sw. gear Control feeds.
500,000 CM (41-42)	220	Spare Cable for 220 V. Load 3/c Center Feeds.
250,000 CM 3/c (41-42)	288	Spare Cable for Sta. Serv. Trans. Secondaries.
250,000 CM 1/c (41-42)	959	Spare Cable for Control Battery Connections.
2/0 AWG 3/c (41-42)	342	Spare Cable for 2300 Aux. Motors.
4 AWG 3/c (41-42)	251	Spare Cable for 2300 Aux. Motors.
500,000 CM (41-42)	90	Spare Cable for Aux. Trans. 3/c Secondary
250,000 CM 1/c (41-42)	372	Spare Cable for Aux. & Tie Trans. Primaries.

8 AWG 3/c (41-42)	86	Spare Cable for Sta. Aux. Motor leads & Sw. gear Control feeds.
3/0 AWG 3/c (1922)	140	Cable from Winslow Station to Manhole #601 (for "Spencer Kellog")
350 MCM 3/c (1942)	?	Cable went from Winslow to alley south of North 3rd Street. Total length listed at 2505 feet.
350 MCM 1/c (1941)	712	Winslow Station to 13 KV Pole Line. Circuits 290 and 291.
350 MCM 1/c (1941)	213	Winslow Station to 13 KV Pole Line. Circuit 222.

Note: the records also imply that the "wiping sleeve" portion of 9 potheads installed in 1941 are also composed of or otherwise contain lead.

11 August 1994

To: File

Fr: Bill Fraundorf

Re: Winslow Initial Waste Inventory Lead in Paint Results

Attached is an updated version of my 22 July 1994 letter entitled "Winslow Environmental Inventory Work: Lead in Paint Analyses". A copy of the 22 July 1994 letter was provided to all involved as part of "Progress Update #1", dated 28 July 1994.

As noted in my letter of 22 July, the paint sampling scheme was designed to represent all major color scenarios throughout the facility. Surface color and the age of any particular portion of the facility were taken into consideration. Forty major color scenarios were identified and one sample of each was taken.

The report attached is an update of my 22 July letter in that it includes the results of the lead in paint analyses for the Winslow Steam Electric Facility. This information will be provided to all contractors working with materials from the Winslow facility and will also serve to document the nature of the lead content of wastes which are landfilled.

22 July 1994

To: File

Fr: Bill Fraundorf

Re: Winslow Environmental Inventory Work: Lead in Paint Analyses

Representative samples of all major paint colors were collected from the Winslow Steam Electric facility on 19, 20 and 21 July 1994. Each sample will be analyzed for lead content by Northeast Technical Services of Virginia. Samples were mailed on 22 July 1994. Results are pending.

This information was judged to be essential for purposes of defining/limiting future liabilities regarding landfill closures or cleanups. Generator liabilities may be further minimized by having the information necessary to inform salvage contractors of the lead content of paints on items that they are working, such as structural steel. Information pertaining to the sampling and analyses of paint samples from Winslow are tabularized as follows.

Sample No. and Date	Sample Color	*Sampling Locality	Results (mg/kg lead)
# 1a 7/19/94	Light brown	Unit #2 Ceiling	3,688
# 2a 7/19/94	Light green	25 Cycle Area Walls	4,118
# 3a 7/19/94	Dark green	25 Cycle Area Walls	1,892
# 4a 7/19/94	Med. Gray	Lunchroom Level General Floor Area	7,122

Sample No. and Date	Sample Color	*Sampling Locality	Results (mg/kg lead)
# 5a 7/19/94	Light green	*** Unit #2 Area Structural Steel	29,487
# 6a 7/19/94	Dark green	*** Unit #2 Area Structural Steel	170,732
# 7a 7/19/94	Med. brown	Men's Locker Area	145,216
# 8b 7/19/94	Off-white	Women's Washroom and Office Area	7,778
# 9b 7/19/94	White	Main Entry Stairway	1,523
# 10c 7/19/94	Red	Fire Extinguisher *** Backing	85,276
# 12c 7/20/94	White	Unit #2 Area Walls	1,081
# 13c 7/20/94	Med. gray	Unit #2 Area Walls	1,185
# 14c 7/20/94	Dark green	Unit #2 Area Walls	6,361
# 16d 7/20/94	Off-white	Unit #2 Area Walls	13,925
# 18d 7/20/94	Light green	Unit #2 Area Machinery	17,878
# 19d 7/20/94	Beige	Unit #2 Area Machinery	23,888
# 20d 7/20/94	Purple	Unit #2 Turbine Oil System	5,515

Sample No. and Date	Sample Color	*Sampling Locality	Results (mg/kg lead)
# 21e 7/20/94	Aluminum	Unit #2 Area Machinery	757
# 22e 7/20/94	Orange	Unit #2 Area Pipe Insulation	32,452
# 23e 7/20/94	Yellow	Unit #2 Area Pipe Insulation	50
# 24e 7/20/94	Med. green	Unit #2 Area Pipe Insulation	11,037
# 25e 7/20/94	Dark Blue	Unit #2 Area Piping and Tanks	14,665
# 27e 7/20/94	Black	Unit #2 Turbine (Black elsewhere appears to be the same)	5,321
Samples Noted Below as Group "f" are all from Outdoor Locations			
# 28f 7/20/94	Dark gray	Unit #3 Outdoor Steel and Machinery	6,167
# 29f 7/20/94	Med. gray	Unit #2 Outdoor Coal System	51,263
# 30f 7/20/94	Aluminum	Unit #3 Outdoor Ash Drop System	986
# 31f 7/21/94	Off-white	Unit #2 Building (exterior walls) and Smoke Stack	629
# 33f 7/21/94	Blue-gray	#6 Fuel Oil Pipe (outdoor portion)	472
# 34f 7/20/94	White	Wood Outbuildings (three total)	18,984

Sample No. and Date	Sample Color	*Sampling Locality	Results (mg/kg lead)
# 35f 7/20/94	Beige	#6 Fuel Oil Tank	270
# 36f 7/21/94	Off-White	Unit #3 Building (exterior walls)	17
# 37f 7/20/94	White	Unit #3 Smoke Stack	561
# 38g 7/21/94	Light blue	Unit #3 Piping and Tanks	5,935
# 39g 7/21/94	Light green	Unit #3 Turbine (green on lower level piping and tank appears to be the same).	7,282
# 40g 7/21/94	Med. gray	Unit #3 Machinery and Pipe Insulation	5,598
# 41g 7/21/94	White	Unit #3 Walls and **Structural Steel	283
# 42g 7/21/94	Off-white	Unit #3 Ceiling and ***Structural Steel	172,056
# 43g 7/21/94	Dark green	Unit #3 Walls	17,107
# 44g 7/21/94	Yellow	Unit #3 Washroom	2,288
# 45g 7/21/94	Light green	Unit #3 Control Room Upper Walls/Ceiling	1,154

TOTAL SAMPLES: 40

FOOTNOTES:

* The specific location that each paint sample was taken from was identified with a broad-tipped black magic marker. Most samples were taken from a single location. Samples taken from more than one location (composites) have been identified as such. For instance, if a sample was a composite from three locations, then the marking at those three locations would have included the following: " 1/3 (or) 2/3 (or) 3/3 ". A composite from five locations would read " 1/5 (or) 2/5 (or) 3/5 (or) 4/5 (or) 5/5 ".

** Sample was taken from the wall paint and does not reflect the orange undercoat that is present on most structural steel, steel grating, etc. throughout the facility.

*** Samples were taken from structural steel members. Results reflect the orange undercoat that is present on most steel throughout the facility.

The paint sampling scheme was designed so that all apparent color scenarios throughout the facility were represented. A small portion of each sample was retained and is on file at my office. By cross-referencing the information available, the approximate lead content could be estimated for the paint on most any material removed from the Winslow Steam Electric Facility.

11 August 1994

To: File

Fr: Bill Fraundorf

Re:

Winslow Lead in Paint Analyses
(Arranged By Increasing Level of Lead)

lead (mg/kg)	sample number	sample color	sample description
17	36f	Off-white	Unit #3 Bldg. Exterior Walls
50	23e	Yellow	Unit #2 Area Pipe Insulation
270	35f	Beige	#6 Fuel Oil Tank (one million gallon tank)
283	41g	White	Unit #3 Interior Walls
472	33f	Blue-gray	#6Fuel Oil Pipe (outdoor portion)
561	37f	White	Unit #3 Smoke Stack
629	31f	Off-white	Unit #2 Exterior Walls and Smoke Stack
757	21e	Aluminum	Unit #2 Area Machinery
986	30f	Aluminum	Unit #3 Outdoor Ash Drop System
1,081	12c	White	Unit #2 Area Interior Walls

lead (mg/kg)	sample number	sample color	sample description
1,154	45g	Light green	Unit #3 Control Room Upper Walls and Ceiling
1,185	13c	Med. gray	Unit #2 Area Interior Walls
1,523	9b	White	Main Entry Stairway
1,892	3a	Dark green	25 Cycle Area Interior Walls
2,288	44g	Yellow	Unit #3 Washroom
3,688	1a	Light brown	Unit #2 Ceiling
4,118	2a	Light green	25 Cycle Area Interior Walls
5,321	27e	Black	#2 Turbine (black elsewhere appears to be the same)
5,515	20d	Purple	Unit #2 Turbine Oil System
5,598	40g	Med. gray	Unit #3 Machinery and Pipe Insulation
5,935	38g	Light blue	Unit #3 Piping and Tanks
6,167	28f	Dark gray	Unit #3 Outdoor Steel and Machinery
6,361	14c	Dark green	Unit #2 Area Interior Walls
7,122	4a	Med. Gray	Lunchroom Level General Floor Area
7,282	39g	Light green	Unit #3 Turbine (green on lower level piping and tank appears to be the same)
7,778	8b	Off-white	Women's Washroom and Office Area

lead (mg/kg)	sample number	sample color	sample description
11,037	24e	Med. green	Unit #2 Area Pipe Insulation
13,925	16d	Off-white	Unit #2 Area Interior Walls
14,665	25e	Dark blue	Unit #2 Area Piping and Tanks
17,107	43g	Dark green	Unit #3 Area Interior Walls
17,878	18d	Light green	Unit #2 Area Machinery
18,984	34f	White	Wood Outbuildings
23,888	19d	Beige	Unit #2 Area Machinery
29,487	5a	Light green	Unit #2 Area Structural Steel
32,452	22e	Orange	Unit #2 Area Pipe Insulation
51,263	29f	Med. gray	Unit #2 Outdoor Coal System
85,276	10c	Red	Fire Extinguisher Backing (on structural steel)
145,216	7a	Med. brown	Men's Locker Area
170,732	6a	Dark green	Unit #2 Area Structural Steel
172,056 (orange undercoat obvious)	42g	Off-white	Unit #3 Area Structural Steel (ceiling is same off-white color)

Northeast Technical Services, Inc.

315 CHESTNUT STREET • P.O. BOX 1142 • VIRGINIA, MINNESOTA 55792 • (218) 741-4290 • FAX (218) 741-4291

To: MP-Bill Fraundorf

MN Environmental Lab No: #027-137-157

Date Collected: 07/19/94
Date Received: 07/25/94
Date Reported: 08/15/94

LAB NO	DESCRIPTION	Lead
94- 7908	Paint: W-1a	3688 mg/Kg
94- 7909	Paint: W-2a	4118 mg/Kg
94- 7910	Paint: W-3a	1892 mg/Kg
94- 7911	Paint: W-4a	7122 mg/Kg
94- 7912	Paint: W-5a	29487 mg/Kg
94- 7913	Paint: W-6a	170732 mg/Kg
94- 7914	Paint: W-7a	145216 mg/Kg
94- 7915	Paint: W-8b	7778 mg/Kg
94- 7916	Paint: W-9b	1523 mg/Kg
94- 7917	Paint: W-10c	85276 mg/Kg

Report approved by:
JOHN H. SEURER
ANALYTICAL SERVICES

Analyses were performed by methods approved by the U.S. Environmental Protection Agency and the Minnesota Department of Health.

Northeast Technical Services, Inc. makes no warranty except that the analysis has been made upon the samples received in accordance with generally accepted testing laboratory principles and practices. The results of the analysis may not be characteristic of the whole from which the sample was taken. This warranty is in lieu of all other warranties, either expressed or implied.

Northeast Technical Services, Inc.

315 CHESTNUT STREET • P.O. BOX 1142 • VIRGINIA, MINNESOTA 55792 • (218) 741-4290 • FAX (218) 741-4291

To: MP-Bill Fraundorf

MN Environmental Lab No:
#027-137-157

Date Collected: 07/20/94
Date Received: 07/25/94
Date Reported: 08/03/94

LAB NO	DESCRIPTION	Lead
94- 7918	Paint: W-12c	1081 mg/Kg
94- 7919	Paint: W-13c	1185 mg/Kg
94- 7920	Paint: W-14c	6361 mg/Kg
94- 7921	Paint: W-16d	13925 mg/Kg
94- 7922	Paint: W-18d	17878 mg/Kg
94- 7923	Paint: W-19d	23888 mg/Kg
94- 7924	Paint: W-20d	5515 mg/Kg
94- 7925	Paint: W-21e	757 mg/Kg
94- 7926	Paint: W-22e	32452 mg/Kg
94- 7927	Paint: W-23e	50 mg/Kg
94- 7928	Paint: W-24e	11037 mg/Kg
94- 7929	Paint: W-25e	14665 mg/Kg
94- 7930	Paint: W-27e	5321 mg/Kg
94- 7931	Paint: W-28f	6167 mg/Kg
94- 7932	Paint: W-29f	51263 mg/Kg
94- 7933	Paint: W-30f	986 mg/Kg
94- 7934	Paint: W-31f	629 mg/Kg
94- 7935	Paint: W-33f	472 mg/Kg
94- 7936	Paint: W-34f	18984 mg/Kg
94- 7937	Paint: W-35f	270 mg/Kg
94- 7938	Paint: W-36f	17 mg/Kg

Report approved by:
JOHN H. SEURER
ANALYTICAL SERVICES

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Northeast Technical Services, Inc.

315 CHESTNUT STREET • P.O. BOX 1142 • VIRGINIA, MINNESOTA 55792 • (218) 741-4290 • FAX (218) 741-4291

To: MP-Bill Fraundorf

MN Environmental Lab No:
=027-137-157

Date Collected: 07/20/94
Date Received: 07/25/94
Date Reported: 08/03/94

LAB NO	DESCRIPTION	Lead
94- 7939	Paint: W-37f	561 mg/Kg
94- 7940	Paint: W-38g	5935 mg/Kg
94- 7941	Paint: W-39g	7282 mg/Kg
94- 7942	Paint: W-40g	5596 mg/Kg
94- 7943	Paint: W-41g	283 mg/Kg
94- 7944	Paint: W-42g	172056 mg/Kg
94- 7945	Paint: W-43g	17107 mg/Kg
94- 7946	Paint: W-44g	2288 mg/Kg
94- 7947	Paint: W-45g	1154 mg/Kg

Report approved by:
JOHN H. SEURER
ANALYTICAL SERVICES

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Northeast Technical Services, Inc.

315 CHESTNUT STREET • P.O. BOX 1142
VIRGINIA, MINNESOTA 55792 • 218/741-4290

CHAIN OF CUSTODY RECORD

Client Name, Address, Phone: Bill Fraundorf, MN Power, 30 W. Superior St.

Samplers:

Samples Shipped/Received By: ___ Air ☒ In Person ___ Fed. Ex. ___ Other

Project #/Department #:

Verbal Results To: Bill Fraundorf 218-722-2641 x3817

Report To: SAME

Copy of Report To:

Samples Returned To:

Samples Retained By: LAB (Unless Hazardous) then return

Log #	Log-In #	Sample #	Sample Description	Collection Date	Collection Time	Sample Matrix Liq.	Sample Matrix Sol.	Type Grab	Type Comp	Field Filtered Yes	Field Filtered No	Type/# of Containers VOC	GENERAL	METALS	NUTRIENTS	BTEX		Analysis/Remarks
08	W-1a	W-1a	Paint	7/18/94	1400			X			X							Analyze Paint for LEAD
09	W-2a	W-2a						X			X							
10	W-3a	W-3a						X			X							
11	W-4a	W-4a						X			X							
12	W-5a	W-5a						X			X							
13	W-6a	W-6a						X			X							
14	W-7a	W-7a						X			X							
15	W-8b	W-8b	↓	↓	↓			X			X							↓
16	W-9b	W-9b						X			X							

Relinquished By:	Date	Time	Received By:	Relinquished By:	Date	Time	Received By:
Bill Fraundorf	7/25/94		T. Boynton				
T. Boynton	7-26-94	8:00					

Relinquished By:	Date	Time	Received For Laboratory By:	Date	Time	Comments
			V. Zelepukin	7/25/94	0800	

White Copy - Client Canary Copy - Laboratory

[redacted]

Northeast Technical Services, Inc.

315 CHESTNUT STREET • P.O. BOX 1142
VIRGINIA, MINNESOTA 55792 • 218/741-4290

CHAIN OF CUSTODY RECORD

Client Name, Address, Phone: Bill Fraundorf, MN Power, 30 W. Superior St

Samplers:

Samples Shipped/Received By: ___ Air X In Person ___ Fed. Ex. ___ Other

Project #/Department #:

Verbal Results To: Bill Fraundorf 218-722-2641 x3817

Report To: SAME

Copy of Report To:

Type/# of Containers: VOC | GENERAL | METALS | NUTRIENTS | BTEX

Samples Returned To:

Samples Retained By: LAB (Return if Hazardous)

LAB #	Log-In #	Sample #	Sample Description	Collection Date	Collection Time	Sample Matrix Liq.	Sample Matrix Sol.	Type Grab	Type Comp	Field Filtered Yes	Field Filtered No	VOC	GENERAL	METALS	NUTRIENTS	BTEX		Analysis/Remarks
17	W-10c	W-10c	Paint	7/19/94	1400			X			X							Analyze paint for LEAD
18	W-12c	W-12c	↓	7/20/94	↓			X			X							↓
19	W-13c	W-13c	↓	↓	↓			X			X							↓
20	W-14c	W-14c	↓	↓	↓			X			X							↓
21	W-16d	W-16d	↓	↓	↓			X			X							↓
22	W-18d	W-18d	↓	↓	↓			X			X							↓
23	W-19d	W-19d	↓	↓	↓			X			X							↓
24	W-20d	W-20d	↓	↓	↓			X			X							↓
25	W-21e	W-21e						X			X	(* Sample May Contain Asbestos)						

Relinquished By:	Date	Time	Received By:	Relinquished By:	Date	Time	Received By:
Bill Fraundorf	22 Jul		Ben 7 Haynh				
Relinquished By:	Date	Time	Received By:	Relinquished By:	Date	Time	Received By:
Ben 7 Haynh	7-25	8:00					

Relinquished By:	Date	Time	Received For Laboratory By:	Date	Time	Comments
			J. Zelenmikar	7/25/94	0800	

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* For your information - safety in handling -

SWL&P Winslow RFI 000089

Northeast Technical Services, Inc.

315 CHESTNUT STREET • P.O. BOX 1142
VIRGINIA, MINNESOTA 55792 • 218/741-4290

CHAIN OF CUSTODY RECORD

Client Name, Address, Phone: Bill Fraundorf, Mr Power, 30 W. Superior St

Samplers:

Samples Shipped/Received By: ___ Air X In Person ___ Fed. Ex. ___ Other

Project #/Department #:

Verbal Results To: Bill Fraundorf 218-722-2641 x3817

Report To: SAME

Copy of Report To:

Samples Returned To:

Samples Retained By: LAB (Return if Hazardous)

LOG #	Log-In #	Sample #	Sample Description	Collection Date	Collection Time	Sample Matrix Liq.	Sample Matrix Sol.	Type Grab	Type Comp	Field Filtered Yes	Field Filtered No	Type/# of Containers VOC	GENERAL	METALS	NUTRIENTS	BTEX		Analysis/Remarks
26	W-26e	W-26e	Paint	7/20/94	1400			X			X	(*) (Many Containers)						Analyze paint for LEAD
27	W-23e	W-23e	↓	↓	↓			X			X	(*) (Many Containers)						↓
28	W-24e	W-24e						X			X	(*) (Many Containers)						
29	W-25e	W-25e						X			X							
30	W-27e	W-27e						X			X							
31	W-28f	W-28f						X			X							
32	W-29f	W-29f		↓				X			X							
33	W-30f	W-30f	↓		↓			X			X							↓
34	W-31f	W-31f		7/21/94				X			X							

Relinquished By:	Date	Time	Received By:	Relinquished By:	Date	Time	Received By:
[illegible]	22 July		[illegible]				
[illegible]	7-25	8:00					
Relinquished By:	Date	Time	Received For Laboratory By:	Date	Time	Comments	
			J. Zelenyuka	7/25/94	0800		

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* For your information, for safety in handling.

PAGE 4/5 pms

Northeast Technical Services, Inc.

315 CHESTNUT STREET • P.O. BOX 1142
VIRGINIA, MINNESOTA 55792 • 218/741-4290

CHAIN OF CUSTODY RECORD

Client Name, Address, Phone: Bill Fraundorf, Mr Power, 30 W. Superior St

Samplers:

Samples Shipped/Received By: ___ Air X In Person ___ Fed. Ex. ___ Other

Project #/Department #

Verbal Results To: Bill Fraundorf 218-722-2641 X3817

Report To:

Copy of Report To;

Type/# of Containers: VOC | GENERAL | METALS | NUTRIENTS | BTEX

Samples Returned To:

Samples Retained By: LAB (Return if Hazardous)

LOG #	Log-In #	Sample #	Sample Description	Collection Date	Collection Time	Sample Matrix Liq.	Sample Matrix Sol.	Type Grab	Type Comp	Field Filtered Yes	Field Filtered No	Analysis/Remarks
35	W-33f	W-33f	Paint	7/21/94	1400			X			X	Analyze paint for LEAD
36	W-34f	W-34f		7/20/94				X			X	
37	W-35f	W-35f		7/20/94				X			X	
38	W-36f	W-36f		7/21/94				X			X	
39	W-37f	W-37f		7/20/94				X			X	
40	W-38g	W-38g		7/21/94				X			X	
41	W-39g	W-39g		7/21/94				X			X	
42	W-40g	W-40g		7/21/94				X			X	
43	W-41g	W-41g		7/21/94				X			X	

Relinquished By:	Date	Time	Received By:	Relinquished By:	Date	Time	Received By:
Bill Fraundorf	22 July		Ben T. Hayden				
Ben T. Hayden	7-25	8:00					

Relinquished By:	Date	Time	Received For Laboratory By:	Date	Time	Comments
			D. Zelenska	7/25/94	0800	

White Copy - Client

Canary Copy - Laboratory

Northeast Technical Services, Inc.

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VIRGINIA, MINNESOTA 55792 • 218/741-4290

PAGE 5/5 RMS

CHAIN OF CUSTODY RECORD

Client Name, Address, Phone: Bill Fraundorf, Mn Power, 30 W. Superior St

Samplers:

Samples Shipped/Received By: ___ Air ___ In Person ___ Fed. Ex. ___ Other

Project #/Department #

Verbal Results To: Bill Fraundorf 218-722-2641 x3817

Report To: SAME

Copy of Report To:

Samples Returned To:

Samples Retained By: LAB (Return if Hazardous)

TB LOG #	Log-In #	Sample #	Sample Description	Collection Date	Collection Time	Sample Matrix Liq.	Sample Matrix Sol.	Type Grab	Type Comp	Field Filtered Yes	Field Filtered No	Type/# of Containers VOC	GENERAL	METALS	NUTRIENTS	BTEX		Analysis/Remarks
944	W-42g	W-42g	Paint	7/21/94	1400			X			X							Analyze paint for LEAD
945	W-43g	W-43g	↓	↓	↓			X			X							↓
946	W-44g	W-44g	↓	↓	↓			X			X							↓
947	W-45g	W-45g	↓	↓	↓			X			X							↓
			There are a total of 4 samples.															Please analyze each one for LEAD. Thanks, Bill Fraundorf 7/22/94

Relinquished By:	Date	Time	Received By:	Relinquished By:	Date	Time	Received By:
Bill Fraundorf	7/22/94		Ben Hayden				
Ben Hayden	7-25	8:00					
Relinquished By:	Date	Time	Received For Laboratory By:	Date	Time	Comments	
			L. Zlagnikar	7/25/94	0800		

White Copy - Client Canary Copy - Laboratory

Northeast Technical Services, Inc.

315 CHESTNUT STREET • P.O. BOX 1142 • VIRGINIA, MINNESOTA 55792 • (218) 741-4290 • FAX (218) 741-4291

To: MN Power-% Fraundorf

MN Environmental Lab No:
#027-137-157

Date Collected: 07/12/94
Date Received: 07/14/94
Date Reported: 07/27/94

LAB NO	DESCRIPTION	Lead
94- 7139	W-1: Substation Soil	364 mg/Kg
94- 7140	W-2: Substation Soil	216 mg/Kg
94- 7141	W-3: Substation Soil	2388 mg/Kg
94- 7142	W-4: Substation Soil	60 mg/Kg
94- 7143	W-5: Substation Soil	261 mg/Kg
94- 7144	W-6: Substation Soil	163 mg/Kg
94- 7145	W-7: Substation Soil	195 mg/Kg
94- 7146	W-8: Substation Soil	196 mg/Kg

Average is 480.4 ppm
(Below 500 ppm NR 700 - re: Mike 20 Sept 94)
Ef. personal notation

Report approved by:
JOHN H. SEURER
ANALYTICAL SERVICES

Analyses were performed by methods approved by the U.S. Environmental Protection Agency and the Minnesota Department of Health.

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Northeast Technical Services, Inc.

315 CHESTNUT STREET • P.O. BOX 1142
VIRGINIA, MINNESOTA 55792 • 218/741-4290

722-2611 x 3517

CHAIN OF CUSTODY RECORD

Client Name, Address, Phone: Minnesota Power Information 30 W. Superior St Duluth 55802 x3517

Verbal Results To: Bill Fraundorf 722-2611 x 3517

Report To: As Above

Copy of Report To:

Samplers:

Samples Shipped/Received By: ___ Air X In Person ___ Fed. Ex. ___ Other

Project #/Department #: Winslow Substation Ambient

Type/# of Containers: VOC | GENERAL | METALS | NUTRIENTS | BTEX

Samples Returned To: Bill Fraundorf if samples exceeds the reg. limits

Samples Retained By:

	Log-In #	Sample #	Sample Description	Collection Date	Collection Time	Sample Matrix Liq.	Sample Matrix Sol.	Type Grab	Type Comp	Field Filtered Yes	Field Filtered No	Analysis/Remarks
37	WA	WA	Substation Soil	13 July	0900		X		X		X	Analyze for herbicides per Method 8141
38	WB	WB	Substation Soil	13 July	0700		X		X		X	Analyze for herbicides per Method 8150
9	W-1	W-1	↓	↓	↓		X	X			X	Analyze for Lead
10	W-2	W-2	↓	↓	↓		X	X			X	↓
11	W-3	W-3	↓	↓	↓		X	X			X	↓
12	W-4	W-4	↓	↓	↓		X	X			X	↓
13	W-5	W-5	↓	↓	↓		X	X			X	↓
14	W-6	W-6	↓	↓	↓		X	X			X	↓
15	W-7	W-7	↓	↓	↓		X	X			X	↓
16	W-8	W-8					X	X			X	

Relinquished By:	Date	Time	Received By:	Relinquished By:	Date	Time	Received By:
Bill Fraundorf	13 July	1400	Ben T. Blackburn				
Ben T. Blackburn	7-14-94	1:12	[illegible]				

Relinquished By:	Date	Time	Received For Laboratory By:	Date	Time	Comments
[illegible]	7-14-94	1:25	[illegible]	7/14/94	1330	

White Copy - Client   Canary Copy - Laboratory

MVTL LABORATORIES, Inc.
P.O. BOX 249, 1126 N. FRONT STREET
NEW ULM, MN 56073-0249
PHONE (507) 354-8517 WATS (800) 782-3557 FAX (507) 359-2890

WE ARE AN EQUAL OPPORTUNITY EMPLOYER

Report Date: 5 Aug 1994

Lab Number: 94-S2343
Work Order #: 21-1278
Account #: 022015

RENEE STONE
NORTHEAST TECHNICAL SERVICES
PO BOX 1142
VIRGINIA MN 55792-1142

Date Received: 18 Jul 1994
Date Sampled: 12 Jul 1994

Method 3550
Method 8080, Modified

Date Extracted: 25 Jul 1994
Date Analyzed: 25 Jul 1994

Sample Description: 94-7137 WA SUBSTATION SOIL

MDA LIST I	Result	Units	MDL
Atrazine (Aatrex)	BDL	mg/Kg	0.05
Chlorpyrifos (Lorsban)	BDL	mg/Kg	0.05
Ethalfluralin (Sonolan)	BDL	mg/Kg	0.05
Methyl Parathion (Pencapp-M)	BDL	mg/Kg	0.05
Metribuzin (Sencor, Lexone)	BDL	mg/Kg	0.05
Propachlor (Ramrod)	BDL	mg/Kg	0.05
Simazine (Princep)	BDL	mg/Kg	0.05
Tri-Allate (Far-Go)	BDL	mg/Kg	0.05
Alachlor (Lasso)	BDL	mg/Kg	0.05
Cyanazine (Bladex)	BDL	mg/Kg	0.05
Di-Methoate (Cygon)	BDL	mg/Kg	0.05
Metolachlor (Dual)	0.14	mg/Kg	0.05
Pendimethalin (Prowl)	BDL	mg/Kg	0.05
Propazine (Milogard)	BDL	mg/Kg	0.05
Terbufos (Counter)	BDL	mg/Kg	0.05
Trifluralin (Treflan)	BDL	mg/Kg	0.05
Phorate (Thimet)	BDL	mg/Kg	0.05
Fonofos (Dyphonate)	BDL	mg/Kg	0.05
Prometon (Pramitol)	BDL	mg/Kg	0.05
Linuron (Lorox)	BDL	mg/Kg	0.05
Butylate (Sutan)	BDL	mg/Kg	0.03
EPTC (Eradicane)	BDL	mg/Kg	0.03

BDL = Below Detection Limits
MDL = Method Detection Limits

All data for this report has been approved by MVTL Laboratory Management.

MVTL LABORATORIES, Inc.
P.O. BOX 249, 1126 N. FRONT STREET
NEW ULM, MN 56073-0249
PHONE (507) 354-8517 WATS (800) 782-3557 FAX (507) 359-2890

WE ARE AN EQUAL OPPORTUNITY EMPLOYER

Report Date: 2 Aug 1994

Lab Number: 94-S2335
Work Order #: 21-1278
Account #: 022015

RENEE STONE
NORTHEAST TECHNICAL SERVICES
PO BOX 1142
VIRGINIA MN 55792-1142

Date Received: 15 Jul 1994
Date Sampled: 12 Jul 1994

Method 8150
Method 8080, Modified

Date Extracted: 20 Jul 1994
Date Analyzed: 22 Jul 1994

Sample Description: 94-7138 WB SUBSTATION SOIL

MDA LIST II	Result	Units	MDL
2,4-D	BDL	mg/Kg	0.01
2,4-DB	BDL	mg/Kg	0.01
Dicamba	BDL	mg/Kg	0.01
Picloram	BDL	mg/Kg	0.01
2,4,5-T	BDL	mg/Kg	0.01
2,4,5-TP	BDL	mg/Kg	0.01
Triclopyr	BDL	mg/Kg	0.01

BDL = Below Detection Limits
MDL = Method Detection Limits

All data for this report has been approved by MVTL Laboratory Management.

Northeast Technical Services, Inc.

315 CHESTNUT STREET • P.O. BOX 1142
VIRGINIA, MINNESOTA 55792 • 218/741-4290

722-2641 x 3517

CHAIN OF CUSTODY RECORD

Client Name, Address, Phone: Minnesota Power [illegible] 30 W. Superior St. Duluth 55802 x3517

Verbal Results To: [illegible] 722-2641 x 3517

Report To: As Above

Copy of Report To:

Samplers:

Samples Shipped/Received By: ___ Air X In Person ___ Fed. Ex. ___ Other

Project #/Department #: Winslow Substation [illegible]

Type/# of Containers: VOC | GENERAL | METALS | NUTRIENTS | BTEX

Samples Returned To: Bill Fraundorf, if samples exceeds the reg. limits

Samples Retained By:

	Log-In #	Sample #	Sample Description	Collection Date	Collection Time	Sample Matrix Liq.	Sample Matrix Sol.	Type Grab	Type Comp	Field Filtered Yes	Field Filtered No	Analysis/Remarks
37	WA	WA	Substation Soil	12 July	0900		X		X		X	Analyze for herbicides per Method 8141
38	WB	WB	Substation Soil	12 July	0700		X		X		X	Analyze for herbicides per Method 8150
39	W-1	W-1	↓	↓	↓		X	X			X	Analyze for Lead
40	W-2	W-2					X	X			X	↓
41	W-3	W-3					X	X			X	
42	W-4	W-4					X	X			X	
43	W-5	W-5					X	X			X	
44	W-6	W-6					X	X			X	
45	W-7	W-7					X	X			X	
46	W-8	W-8					X	X			X	

Relinquished By:	Date	Time	Received By:	Relinquished By:	Date	Time	Received By:
[illegible signature]	13 July 94	1100	[illegible signature]				
[illegible signature]	7-14-94	1:12	[illegible signature]				

Relinquished By:	Date	Time	Received For Laboratory By:	Date	Time	Comments
[illegible signature]	7-14-94	1:25	[illegible signature]	7/14/94	1330	

White Copy - Client **Canary Copy - Laboratory**

minnesota power
intra company correspondence

23 September 1994

To: Waste Management Team Members, Dennis Niemi, Ron Gullicks, Mark Mills

Fr: Bill Fraundorf BF/ll

Re: Oil Contaminated Sorbent Material Disposal

At present, the majority of MP's non-regulated oil contaminated sorbent wastes are being landfilled at USPCI's industrial waste facility in Rosemount. In recognizing that landfilling is not the preferred disposal alternative, the Waste Management Team has been researching other options that would allow for these wastes to be burned for energy recovery.

As you are aware, the WLSSD has been permitted by the MPCA to burn oil contaminated sorbents. The WLSSD contact person for this program is Mike Guite (722-3336 extension 239).

Various members of our Waste Management Team have previously spoken with Mike regarding this program. I contacted him on 23 September 1994 to follow up with some specific questions.

My immediate interest in pusuing the burning of oil contaminated sorbents for energy recovery revolves around the fact that a great deal of such waste will be generated during the demolition of the Winslow Steam Electric facility. Such waste may not be landfilled in Wisconsin, nor may it be burned without energy recovery. The WLSSD program may actually serve as a long term outlet for other oil contaminated wastes that are generated at SWL&P. I would like to

suggest that our Team continues to evaluate this WLSSD program for MP's oil contaminated wastes as well.

The questions that I asked Mike Guite and the answers and other information I received are presented below for your reference. Mike is also sending me additional materials by mail. I will circulate these upon receiving them.

Question #1: Will the WLSSD accept oil contaminated sorbents from Wisconsin, specifically from Superior Water Light and Power Company?

Answer #1: Yes.

Question #2: What types of oil contaminated sorbent material will you accept?

Answer #2: Rags, sorbent pads, floor dry type sorbents, oil booms. Regarding the floor dry type sorbents, only combustible sorbents are acceptable (i.e. granular clay floor dry is not acceptable, nor would be any other inorganic type of floor dry material).

Sorbent materials may not contain any free oils. Sorbents that can physically be wrung out, should be prior to bringing them to the WLSSD. Sorbents may not contain hazardous or other regulated wastes. I *assume* that this includes hazardous wastes that are hazardous solely due to ignitability.

Question #3: Are there size restrictions placed upon any of the materials that you will accept?

Answer #3: Rags, sorbent pads and booms are laid on a concrete slab upon delivery to the WLSSD. From the slab they are put through a shredder. Rags and sorbent pads can be handled by the shredder. To allow the shredder to properly handle sorbent booms, the booms will need to be pre-cut to maximum lengths of **2 (two) feet.** Cutting is to be done by the generator prior to bringing the booms to the WLSSD.

Granular types of floor dry material are put directly into the auger system upon delivery and because of this the maximum diameter of such materials must be less than **2 (two) inches.**

Question #4: What is the procedure for the delivery of oil contaminated wastes to the WLSSD?

Answer #4: Rags, sorbent pads and booms sections may be brought in at any time during normal business hours and placed on the slab by the shredder. Again, sorbents may not be oversaturated (i.e. they don't want oil running onto their slab, etc.). Tracking forms are not required for rags, sorbent pads and boom sections.

Granular types of floor dry **must be** delivered in 55 gallon drums. Delivery is to be prearranged and tracking papers are to be used. The drums are dumped immediately upon arrival and are weighed before and after dumping to determine their net weight. Again, free flowing oils (in the bottom of the drums) are not acceptable. The generator is asked to do the dumping and is encouraged to bring a hand dolly to make the job easier. A WLSSD employee supervises the process.

Question #5: What does this service cost?

Answer #5: Rags, sorbent pads and boom sections are charged the standard industrial solid waste rate of $70.00 per ton.

Granular types of floor dry are assessed $50.00 for each 55 gallon drum.

If you should require any further information please contact Mike Guite or myself. Again, I will circulate the materials that Mike is sending to me once I receive them.

c:
Ron Evans
Dennis Battuello
Sue Buxton

Minnesota Pollution Control Agency

January 12, 1994

Mr. Kurt Soderberg
Western Lake Superior Sanitary District
2626 Courtland Street
Duluth, Minnesota 55809-1894

RE: Request to Incinerate Oil Contaminated Materials

Dear Mr. Soderberg:

Air Quality Division (AQD) staff has reviewed the Solid Waste Management Plan dated June 1990 and the Industrial Solid Waste Management Plan (ISWMP dated October 1993 for the Western Lake Superior Sanitary District (WLSSD). Your request, submitted to the AQD on December 29, 1993, to burn oil contaminated media has been reviewed and is hereby approved as an amendment to your ISWMP. The amount, type, and source of each charge to the incinerator must be recorded and all proper procedures, documentation and waste acceptability requirements are to be met as outlined in the plan.

In order to accommodate this request in a timely manner during the transition period, the AQD will not require a permit or a permit amendment at this time. However, a comprehensive ISWMP must be submitted as a supplement to your application for a total facility air emission permit which is due January 15, 1995. Both the permit and the plan will be public noticed as required by the new rules.

Please note that further testing may be required on materials currently being incinerated in order to make your air emission permit application complete. Incomplete applications or plans will not be accepted.

520 Lafayette Rd. N.; St. Paul, MN 55155-4194; (612) 296-6300 (voice); (612) 282-5332 (TTY)
Regional Offices: Duluth • Brainerd • Detroit Lakes • Marshall • Rochester

If you have any questions, please feel free to contact Bernadette Halverson of my staff at (612)296-7317.

Sincerely,

Don Smith, P.E.
Supervisor, Permit Unit II
Permit Section
Air Quality Division

DAS:awp

cc: John Hutchings, GWSW
Glenn Skuta, HW
AQD File No. 1232

pg 1/3

Policy for Floor Type: DRY Granular Material is ONLY

Handling and Incineration of Oil Sorbent Material

In addition to the absorbent pads and cloths the WLSSD will accept sorbents which include peat moss, sawdust, wood chips, corn cobs, and other similar grandular materials. The material that we are defining here is the granular material alone. Only combustible material used for energy recovery will be considered for incineration. Granular clay sorbent material is not acceptable for incineration. Sorbent material used to clean up used oil drops and spills or spills of non hazardous wastes will be incinerated.

The WLSSD will not accept oil sorbent material contaminated with a characteristic or listed waste. A waste is a characteristic waste if it exhibits one of the following characteristics:

1) Ignitable
2) Oxidizer
3) Corrosive
4) Reactive
5) Lethal

Usually petroleum-based products have a flash point below 140 degrees Fahrenheit making them a hazardous waste for ignitability. A waste is a listed waste if it is listed under Minn. Rules 7045.0135 subpart 2-5. Some of the commonly used (F-listed) wastes include methylene chloride, 1,1,1-trichloroethane, trichloroethylene, zylene, acetone, toluene, benzene and methethylketone.

It is the responsibility of the generator/hauler and/or vendor to know what type of waste was absorbed when using oil sorbent material. Each load will be accompanied with a signed manifest form from the generator certifying that the oil sorbent material does not contain any hazardous waste along with the transporters signature.

The oil sorbent material, if accepted, will be incinerated. The following procedures apply upon acceptance.

1) Each load is to be accompanied with a signed manifest form.

2) All the oil will be contained in the oil sorbent material. (No free liquid)

3) The oil sorbent material is not to be larger than 2 inches in diameter, with no foreign materials. The material must be compatible with existing fuel systems.

pg 2/3

2-

4) The generator, or its agent, will call to set a time for the disposal.

5) WLSSD will not provide labor for handling any of the material.

6) The generator, or its agent, shall not place the material in the ATLAS BIN unless a District employee is present.

7) The generator will be responsible for the cost of disposal.

8) The WLSSD can discontinue this program at any time.

9) At present, there will be no storage of this material on site. It will be discharged directly into the Atlas Bin upon delivery.

↑ For "Floor - Dry" type granular materials ONLY. ↑

(continued from pg. 1)

Pg 3/3

re. "Floor-Dry" type granular materials only.

Procedures for Building 10 in Handling Oil Sorbent Material

The WLSSD will be incinerating non-hazardous sorbent material. Clay sorbent material will not be accepted. Reggie Amell (Supervisor of Incineration and Solid Waste) or Gary Fredricks (Lead Operator of Incineration) will accept or reject the material. The following procedures will apply once accepted:

1) The supplier will call to set up a time for disposal.

2) All the oil will be contained in the oil sorbent material.

3) The oil sorbent material is not to be larger than 2 inches in diameter, with no foreign materials. The material must be compatible with existing fuel systems.

4) WLSSD will not provide labor for handling any of the material.

5) The supplier of the oil sorbent materials shall not enter the ATLAS BIN until a District employee is there with a radio.

A trip cord will be made available at the door into the silo for immediate stoppage of the sweeps.

MANIFEST FORM

For Generation and Transportation of Oil Sorbent Material for incineration at Western Lake Superior Sanitary District

NOTICE: You must contact WLSSD (218)722-3336)prior to delivery of any sorbent material to WLSSD for incineration.

CERTIFICATION

I am familiar with the WLSSD policy in handling and incineration of oil sorbent material as stated in WLSSD's Industrial Solid Waste Management Plan. I certify that the oil sorbent material described in this Manifest Form is not contaminated with a characteristic waste or listed waste and therefore is not considered a hazardous waste. I understand that the WLSSD can reject the waste once delivered if specifications are not met.

Waste Generator _____

Address _____

_____

Signature(print) _____ Title: _____

Signature: _____

TYPE OF MATERIAL	TYPE OF CONTAINER	# OF CONTAINERS	LBS

Transporter _____
Address _____

Signature of Driver _____ Date _____

Disposal Facility: Western Lake Superior Sanitary District
2626 Courtland Street
Duluth, Minnesota 55806

Signature of Acceptance for Incineration _____

_____ Date _____

minnesota power
intra company correspondence

27 July 1994

To: File

Fr: Bill Fraundorf

Re: Winslow Pre-Demo. Inventory Work With Ron Evans

Ron Evans and myself met at Winslow on 15 July 1994 to discuss and investigate a variety of items related to waste management and product reuse. These and other concerns are presently being addressed due to the planned demolition of the Winslow Steam Electric Facility.

A summary of my notes from the day is presented below. This summary includes references to subsequent conversations with Ed Santori, Bill Norman, Gene Beatty and Mark Mills.

Glycol In Unit #3's Combustion Air Pre-Heater System

Ron and I studied blueprints and the mechanical structure of Unit #3's glycol based air pre-heater system to determine if glycol remained in the system and if it did, then how to drain it from the system prior to the demolition of Winslow.

Glycol was found in the system and apparently fills the piping and associated structure for a vertical height of about 20 feet. Ron will have the system drained in early August. In talking with Gene Beatty about the need for drums, he noted that nine 55 gallon and four 30 gallon poly drums would be available for our use. Conversations with Mark Mills has confirmed that Boswell can make use of the glycol on their coal conveyor belt system during the winter months. Mark indicated that the glycol needed to be clean so that particulates would not plug the spray injectors. Mark will determine what the proper filter size is and we will discuss prior to

the draining of the system. Gene Beatty asked that the drums be tracked and returned to him following use. Mode of transport to Boswell is yet undetermined: any offers?

Mercury Sealed In Misc. Equipment

Ron and I walked the facility to estimate the total volume of mercury containing equipment (thermometers, switches etc.) that is present. We concluded the all such equipment would most probably fit into one 30 gallon drum. Ron will arrange for the removal of the non-electrical equipment (i.e.: thermometers) and noted that personnel from electric meter will be needed for the removal of the electrical equipment which contains mercury. The work would be most effectively done if all mercury containing equipment could be removed at the same time.

As an aside, the mercury containing lighting as well as any ballasts present will also need to be removed prior to demolition. This and other items were discussed in my write-up entitled "Winslow Initial Waste Inventory: Items and Associated Costs".

Lead Coated Electrical Cable

Ron and I walked the facility to assess the locations and volumes of lead coated electrical cable present. The lead coated cable does not appear to be widely distributed throughout the facility. Concentrations of lead coated cable were observed in the outdoor substation and also is apparently present in the old 25-Cycle area and in the adjacent Unit Service area.

I spoke with Bill Norman and he basically verified that the lead coated cable was present in the areas described above. He offered to check with Dennis Battuello to see if any volume information is present in any records Dennis may have. Bill did note that a good deal of the lead coated cable that is present at Winslow is not visible.

I received information from Bill Norman on 27 July 1994 regarding the volume of lead coated cable in Winslow and am presently reviewing it.

Oils in Indoor System Piping

Ron and I discussed the management of oils remaining in loops or low runs of various piping systems located throughout Winslow. Such residual oils need to be properly managed either before, or as a part of the demolition of Winslow. From our discussion we concluded that the most practical way to manage such oils was via the use of sorbents at the time the piping is removed. *It is essential that floor drains be adequately protected so that oils do not enter them (and subsequently the Saint Louis Bay) during the pipe removal process.*

Demineralizer Tanks

We discussed the demineralizer tanks and the resins contained in them. There is apparently about 1/2 cubic yard of resin in each of the two tanks. I believe that such resins are generally considered as non-hazardous, but will research further to verify. I will also identify an outlet for the resin waste.

Number 6 Fuel Oil In System Piping

Ron and I discussed the #6 fuel oil system piping. That portion of the piping that is underground undoubtedly contains fuel oil as may other portions of the above ground piping. Removal of the pipe during cool or cold weather may be one way to contain the #6 fuel oil during the pipe handling operations. The recovered oil could be sent off-site as an unregulated product to be used for fuel blending.

In addition, the space between the outer pipe and the inner pipes it contains is thought to be filled with asbestos and will need to be managed accordingly. As is always the case, contractors should be evaluated closely prior to the awarding of bids.

Empty "Saddle" Behind Unit #3

I asked Ron about the empty tank saddle behind Unit #3. Ron said that the tank which until presently, contained #2 fuel oil used to be located on the saddle during which time it was used to store #1 fuel oil.

Asbestos

Ron and I discussed the asbestos inventory work that Ron Gullicks and I have planned for the first week of August. Ron Evans expressed concerns that it may not be practical to claim that any area within Winslow is free of asbestos. Ron Gullicks and I had planned to designate such areas if possible, and to do so for the reason of saving money on contractor cleanup costs. A subsequent conversation that I had with Ed Santori raised the same concern that Ron Evans raised. I will confer with Ron Gullicks regarding this concern.

Used Oil In Drum By #2 Boiler

I asked Ron if he had any knowledge as to the specific contents of the oil that is in the yellow 55 gallon drum adjacent to boiler #2. Ron did not. Because all or part of the oil may have come from electrical equipment, it will need to be tested for PCBs. The oil may also need to be tested for total halogens due to the fact that it was stored adjacent to a drum of 1,1,1 trichloroethane and because the drum is equipped with a lid that provides a parts working/draining surface.

Misc. Oil Products

Misc. oils, greases, and tars remaining at Winslow will be reused where possible. Products which will not be used can be sent off-site for fuel-blending. Bill will inventory and investigate outlets for these products.

Possible WDNR Tour of Winslow

As per conversations that I have had with Dan Croke, Ron Evans and Ed Santori, personnel of the Wisconsin Department of Natural Resources will be invited to participate in a walk-through of Winslow. The purpose of the walk-through would be to address any pre-demolition concern(s) that the Department may have. This approach should minimize the unknowns, and subsequently the time delays, once demolition is scheduled to commence.

COMMERCIAL REAL ESTATE PURCHASE AGREEMENT

SALE OF WINSLOW ELECTRIC STATION

BY

SUPERIOR WATER, LIGHT AND POWER COMPANY,

SELLER

TO

RRS, INC., A MINNESOTA CORPORATION,

BUYER

Drafted by
Minnesota Power & Light Company
on behalf of
Superior Water, Light and Power Company
30 West Superior Street
Duluth, MN 55802

PURCHASE AGREEMENT

This Agreement is made as of December 19, 1996, between Superior Water, Light and Power Company, a Wisconsin corporation ("Seller") and RRS, Inc., a Minnesota corporation ("Buyer"). In consideration of this Agreement, Seller and Buyer agree as follows:

1. Sale of Property. Seller agrees to sell to Buyer, and Buyer agrees to buy from Seller, the following property (collectively "Property").

   (a) Real Property. The real property located in the City of Superior, Douglas County, Wisconsin, described on the attached Exhibit A ("Land"), together with (1) all buildings and improvements constructed or located on the Land ("Buildings") and (2) all easements and rights benefiting or appurtenant to the land (collectively the "Real Property").

   (b) Personal Property. All the personal property situated on or about the Real Property owned by Seller, including without limitation that described on the inventory attached to this Agreement as Exhibit B ("Personal Property").

   (c) Contracts. Seller's interests in service and maintenance contracts, equipment leases and other contracts regarding the Real Property and the Personal Property described in the attached Exhibit C ("Contracts").

   (d) Permits. Seller's interest in the permits and licenses described on attached Exhibit D ("Permits").

   (e) Warranties. Seller's interest in all warranties and guarantees given to, assigned to or benefiting Seller or the Real Property or the Personal Property regarding the acquisition, construction, design, use, operation, management or maintenance of the Real Property and the Personal Property ("Warranties").

   (f) Plans. All originals and copies of the as-built blueprints, plans and specifications regarding the Real Property and the Personal Property, if any ("Plan").

   (g) Records. All records of Seller regarding the Real Property and the Personal Property, including all records regarding real estate taxes and

assessments, insurance, maintenance, repairs, capital improvements and services, but excluding tax returns and such other records as are normally viewed as confidential, provided that such other records are not necessary, in Buyer's' reasonable judgment, to the continued operation, management and leasing of the Real Property and the Personal Property ("Records").

2. Purchase Price and Manner of Payment. The total purchase price ("Purchase Price") to be paid by Buyer to Seller for the Property shall be $1,000.00 and shall be allocated amongst the separate elements of the property (Land, Buildings, Personal Property and Equipment) in equal amounts. The Purchase Price shall be paid to the Seller in registered funds on the Closing Date.

3. Contingencies. The obligations of Buyer under this Agreement are contingent upon each of the following:

   (a) Representations and Warranties. Representations and Warranties of Seller contained in this Agreement must be true on the Closing Date and Seller shall have delivered to Buyer on the Closing Date a certificate dated the Closing Date, signed by an authorized representative of Seller, certifying that such Representations and Warranties are true as of the Closing Date (the "Bring Down Certificate").

   (b) Title. Title shall have been found acceptable, or been made acceptable, in accordance with the requirements and terms of Section 6 below.

   (c) Performance of Seller's Obligations. Seller shall have performed all of the obligations required to be performed by Seller under this Agreement, as and when required by this Agreement. Included within the obligations of Seller under this Agreement, shall be the following:

      (i) Seller shall allow Buyer, and Buyer's agents, access to the Real Property at all reasonable times for the purpose of Buyer's investigation and testing of the same. Buyer shall pay all costs and expenses of such investigation and testing and shall hold Seller and the Real Property harmless from all costs and liabilities relating to the Buyer's activities. Buyer shall further repair and restore any damage to the Real Property caused by or incurred during Buyer's testing and return the Real Property and/or Personal Property to substantially the same condition as existed prior to such entry.

(ii) Seller shall, at its own cost and expense, cause the Property to be surveyed by a registered land surveyor properly licensed to practice in the state where the Real Property is located and reasonably acceptable to Buyer. The survey shall locate all wells which are on the Real Property. The survey shall be prepared in accordance with the requirements of minimum standard detail requirements for ALTA/ACSM Lands Title Surveys (Class A Urban (1988)) and shall be delivered to Buyer on or before January 31, 1997, weather permitting, or as soon thereafter as practicable.

(iii) Seller shall, without charge to Buyer, cooperate in Buyer's attempts to obtain all governmental approvals necessary in Buyer's judgment in order to make that use of the Property which Buyer intends. If necessary, Seller shall execute, along with Buyer, such rezoning applications, plats, environmental worksheets and other documents as may be required by governmental bodies to accomplish the foregoing.

(d) Testing. Buyer shall have determined, on or before the Closing Date, that it is satisfied with the results of and matters disclosed by the Phase I Environmental and Waste Management Assessment previously delivered by Seller for Buyer's review.

(e) Document Review. Buyer shall have determined, on or before the Closing Date, that it is satisfied with its review and analysis of Contracts, Permits, Warranties, Plans, Records and Permitted Encumbrances.

(f) Government Approvals. Buyer agrees that all final government approvals necessary in order to make use of the Property as Buyer intends shall be the sole responsibility of Buyer and shall be pursued and secured at Buyer's sole cost and expense.

(g) Road and Utilities. Buyer shall have determined, on or before the Closing Date, that the Property is serviced by all necessary utilities in order to support Buyer's proposed use and that any further improvements are solely the responsibility of Buyer.

4. Closing. The closing of the purchase and sale contemplated by this Agreement (the "Closing Date") shall occur on Thursday, December 19, 1996, at 10:00 a.m. local time at the offices of Superior Water, Light and Power, 1230 Tower Avenue, Superior, Wisconsin, or at such other place as may be agreed

to. Seller agrees to deliver possession of Property to Buyer on the Closing Date.

5. Closing Documents. The following documents shall be delivered at the Closing:

(a) Seller's Closing Documents. On the Closing Date, Seller shall execute and/or deliver to Buyer the following ("Seller's Closing Documents"):

(1) Deed. A warranty deed, in a form reasonably satisfactory to Buyer, conveying the Real Property to Buyer, free and clear of all encumbrances, except the permitted encumbrances hereinafter defined.

(2) Bill of Sale. A warranty bill of sale, in a form reasonably satisfactory to Buyer, conveying Personal Property to Buyer, free and clear of all encumbrances.

(3) Assignment of Contracts. An Assignment of Contracts, in form reasonably satisfactory to Buyer, conveying with warranties, the contracts to Buyer, free and clear of all encumbrances, together with the consent of all parties having a right to consent to such assignment.

(4) Assignment of Permits. An Assignment of Permits, in form reasonably satisfactory to Buyer, conveying the Permits to Buyer, free and clear of all encumbrances, together with the consent of all parties having a right to consent to such assignment.

(5) Assignment of Warranties. An Assignment of Warranties, in form reasonably satisfactory to Buyer, conveying with warranties, the Warranties to Buyer, free and clear of all encumbrances, together with the consent of all parties having a right to consent to such assignment.

(6) Title Policy. The Title Policy, or a suitably marked up commitment for title insurance initiated by a reputable title company, in a form acceptable to Buyer.

(7) Bring Down Certificate.

(8) Opinion of Seller's Counsel. An opinion of Seller's counsel, dated as of the Closing Date, in form reasonably satisfactory to Buyer,

that Seller has been duly incorporated and is in good standing under the laws of the State of Wisconsin; that Seller is duly qualified to transact business in the State of Wisconsin; that Seller has the requisite corporate power and authority to enter into and perform this Agreement and Seller's Closing Documents signed by it; that such documents have been authorized by all necessary corporate action on the part of Seller and have been duly executed and delivered; that the execution, delivery and performance by Seller of such documents does not conflict with or result in a violation of Seller's Articles of Incorporation or Bylaws, or any judgment, order or decree of any court or arbiter to which Seller is a party; that such documents are valid and binding obligations of Seller, enforceable in accordance with their terms.

(9) Seller's Affidavit. An Affidavit of Title by Seller indicating that on the Closing Date there are no outstanding, unsatisfied judgments, tax liens or bankruptcies involving Seller or the Real Property; that there has been no skill, labor or material furnished to the Real Property for which payment has not been made or for which mechanics' liens could be filed; and that there are no other unrecorded interests in the Real Property, together with whatever standard owner's affidavit and/or indemnity which may be required to issue an owner's policy of title insurance with the standard exceptions waived.

(10) Original Documents. Original copies of all leases, contracts, permits, warranties, plans and records.

(11) FIRPTA Affidavit. A non-foreign affidavit property, properly executed and in recordable form, containing such information as required by IRC Section 1445(b)(2) and its regulations.

(12) Owner's Duplicate Certificates of Title. The owner's duplicate Certificates of Title regarding the Real Estate.

(13) Well Certificate. On or before January 31, 1997 or as soon as practicable thereafter, Seller shall deliver a certificate, signed by Seller, warranting that there are no "wells" on the Property or, if there are "wells," a Well Certificate in the form required by law.

(14) Other Documents. All other documents reasonably determined by Buyer to be necessary to transfer the Property to Buyer free and clear of all encumbrances.

(b) Buyer's Closing Documents. On the Closing Date, Buyer will execute and deliver to Seller the following (collectively "Buyer's Closing Documents"):

(1) Purchase Price. The Purchase Price, in registered funds, payable to Pioneer Abstract and Title of Superior, Wisconsin.

(2) Assumption Agreement. An assumption agreement, pursuant to which Buyer will assume all obligations of Seller under the leases, the contracts and the permits that accrue after the Closing Date.

(3) Opinion of Buyer's Counsel. An opinion of Buyer's counsel, dated as of the Closing Date, in a form reasonably satisfactory to Seller, that Buyer has been duly incorporated and is in good standing under the laws of the State of Minnesota and is recognized as a foreign corporation under the laws of the State of Wisconsin, that Buyer is duly qualified to transact business in the State of Wisconsin, that Buyer has the requisite corporate power and authority to enter into this Agreement and the Buyer's Closing Documents signed by it; that such documents have been duly authorized by all necessary corporate action on the part of Buyer and have been duly executed and delivered; that the execution, delivery and performance by Buyer of such documents does not conflict with or result in a violation of Buyer's Articles of Incorporation or Bylaws or any judgment, order or decree of any court or arbiter to which Buyer is a party; and that such documents are valid and binding obligations of Buyer, enforceable in accordance with their terms.

(4) Title Documents. Such affidavits of Purchaser, certificates of value or other documents as may be reasonably required by the title company in order to record the Seller's Closing Documents and issue the title insurance policy required by this Agreement.

(5) IRS Form. A Designation Agreement designating the "Reporting Person" for purposes of completing Internal Revenue Form 1099 and, if applicable, Internal Revenue Form 8594.

6. Prorations. Seller and Buyer agree to the following prorations in allocation of cost regarding this Agreement:

(a) Title Insurance and Closing Fee. Seller will pay all costs of the title evidence, the ALT Form B 1970 Owner's Title Policy and the fees incurred for any escrow required regarding Buyer's objections. Buyer will pay all additional premiums required for the issuance of any mortgagee's title policy required by Buyer. Seller and Buyer will each pay one-half of any reasonable and customary closing fee or charge imposed by any closing agent designated by the title company.

(b) Deed Tax. Seller shall pay all state deed tax regarding the warranty deed to be delivered by Seller under this Agreement.

(c) Sales Tax. Seller will pay all sales tax due regarding the transaction contemplated by this Agreement.

(d) Real Estate Taxes and Special Assessments. Seller will pay, on or before the Closing Date, all special assessments levied, pending or constituting a lien against the Property as of the Closing Date, including without limitation any installments of special assessments including interest payable with general real estate taxes levied in 1996. General real estate taxes and installments of special assessments payable therewith, for taxes levied in 1996 and all prior years will be paid by Seller. Seller shall pay all deferred real estate taxes or special assessments which may become payable as a result of the sale contemplated hereby. If the amount of such general real estate taxes and installments of special assessments payable therewith cannot be determined on the Closing Date, Seller will assume responsibility for such payment at the time such taxes or assessments are rightfully assessed.

(e) Recording Costs. Seller will pay the cost of recording all documents necessary to place record title in the condition warranted and requested by Seller in this Agreement. Buyer will pay the cost of recording all other documents.

(f) Other Costs. All other operating costs of the Property, will be allocated between Buyer and Seller as of the Closing Date, so that Seller pays that part of such other operating costs payable before the Closing Date and Buyer pays part of such operating costs payable from and after the Closing Date.

(g) Attorney's Fees. Each of the parties will pay its own attorneys' fees, except that a party defaulting under this Agreement or any Closing

Document will pay the reasonable attorneys' fees and court costs incurred by the non-defaulting party to enforce its rights regarding such default.

7. Title Examination. Title examination will be conducted as follows:

(a) Seller's Title Evidence. Seller shall furnish the following (collectively "Title Evidence") to Buyer.

(1) Title Insurance Commitment. A commitment ("Title Commitment") for an ALTA 1990's Owner Policy of Title Insurance insuring title to the Real Property, deleting standard exceptions and including affirmative insurance regarding zoning, contiguity, pertinent easements and such other matters as may be identified by Buyer. The Title Commitment will commit the title company to insure title to the property subject only to the permitted encumbrances. If the property is abstract property, Seller shall also deliver to Buyer an abstract of title to the Real Property certified by a current date to include all appropriate judgment and bankruptcy searches.

(2) Survey. A survey prepared by a registered land surveyor licensed to practice in the State of Wisconsin showing the Real Property and location of all buildings and easements thereon. Such survey shall be delivered to Buyer no later than January 31, 1997, unless otherwise agreed by the parties.

(3) UCC Searches. A report of UCC searches made of the Uniform Commercial Code records of the Secretary of the State of Wisconsin, made by said Secretary of State, or by search firm acceptable to Buyer, showing no UCC filings regarding any of the Property.

(b) Buyer's Objections. Within five days after receiving the last of the title evidence, Buyer will make written objections ("Objections") to the form and/or contents of the Title Evidence. Buyer's failure to make objections within such time period will constitute waiver of objections. Any matter shown in such title evidence and not objected to by Buyer shall be "a permitted encumbrance" hereunder. Seller will have 60 days after receipt of the Objections to cure the Objections, during which period the Buyer will not be permitted to in any way change or begin demolition on the Property. If the Objections are not cured

within such 60 day period, Buyer will have the option to do any of the following:

(1) Terminate this Agreement and receive a refund of the payment price.

(2) Waive the Objections and proceed with rehabilitation and demolition.

(c) Title Policy. Seller will furnish to Buyer at Closing the title policy ("Title Policy") issued by a reputable title company, or a suitably marked up commitment initiated by a reputable title company undertaking to issue such a Title Policy in the form required by the commitment as approved by Buyer.

8. Operation Prior to Closing. During the period prior to Closing, Seller shall operate and maintain the Property in the ordinary course of business in accordance with prudent, reasonable business standards, including the maintenance of adequate liability insurance and insurance against loss by fire, windstorm and other hazards, casualties and contingencies, including vandalism and malicious mischief. However, Seller shall execute no contracts, leases, or other agreements regarding the Property during this period that are not terminable on or before the Closing Date, without the written consent of Buyer, which consent may be withheld by Buyer at its sole discretion.

9. Post-Closing Activities. Following Closing, Buyer will permit Seller to complete testing of all equipment containing oil and oil receptacles on the Property. In the event testing: (i) reveals the presence of oil with a PCB content greater than 500 parts per 1 million, Seller shall be responsible for removal and disposal of the oil and any equipment containing such oil; or (ii) reveals the presence of oil with a PCB content between 50 and 499 parts per 1 million, Seller shall be responsible for removal and disposal of the oil only ; or (iii) reveals the presence of oil with a PCB content of less than 50 parts per 1 million, Buyer shall assume all responsibility for handling, removal and disposal as Buyer determines is necessary in Buyer's best judgment.

10. Representations and Warranties by Seller. Seller represents and warrants to Buyer as follows:

(a) Corporation; Authority. Seller is duly incorporated and is in good standing under the laws of the State of Wisconsin; Seller is duly qualified to transact business in the State of Wisconsin; Seller has the

requisite corporate power and authority to enter into and perform this Agreement and those Seller's Closing Documents signed by it; such documents have been duly authorized by all necessary corporate action on the part of Seller and have been duly executed and delivered; such execution, delivery and performance by Seller of such documents does not conflict with or result in a violation of Seller's Articles of Incorporation or Bylaws, or any judgment, order or decree of any court or arbiter to which Seller is a party; such documents are valid and binding obligations of Seller and are enforceable in accordance with their terms.

(b) Title to Real Property. Seller owns the Real Property, free and clear of all encumbrances except permitted encumbrances identified in Exhibit E attached hereto (the "Permitted Encumbrances").

(c) Title to Personal Property. Seller owns the Personal Property free and clear of all encumbrances.

(d) Permits. Seller has made available to Buyer a correct and complete copy of each permit and its amendments. To the best knowledge of Seller, all Permits are in full force, and Seller is not in default under the Permits. To the best knowledge of Seller, no other permits are required from any governmental entity in order to operate the Property as it is now operated.

(e) Utilities. Seller has received no notice of actual or threatened reduction or curtailment of any utility service now supplied to the Real Property.

(f) Assessments. Seller has received no notice of actual or threatened special assessments or reassessments of the Real Property.

(g) Environmental Laws. Based upon the Phase I Environmental and Waste Management Assessment and to the best knowledge of Seller, no toxic or hazardous substances or wastes, pollutants or contaminants, other than those listed in the Phase I Environmental and Waste Management Assessment, have been generated, threatened, stored, released or disposed of, or otherwise placed, deposited in or located on the Property, nor has any activity been undertaken on the Property that will cause or contribute to: (i) Property to become a treatment, storage or disposal facility within the meaning of, or otherwise bring the Property within the ambit of, the Resource Conservation and Recovery Act of 1976 ("RCRA"), 42 U.S.C. §6901 et

seq., or any similar state law or local ordinance, (ii) a release or threatened release of toxic or hazardous waste substances, pollutants or contaminants, from the Property within the meaning of, or otherwise bring the property within the ambit of CERCLA, or any similar state law or local ordinance, or (iii) the discharge of pollutants or effluents into any water source or system, the dredging or filling of any waters or the discharge into the air of any emissions, that would require a permit under the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq. or the Clean Air Act, 42 U.S.C. §7401 et seq. or any similar state law or local ordinance. Based upon the Phase I Environmental and Waste Management Assessment, to the best knowledge of Seller, there are no substances or conditions on or in the Property which may support a claim or cause of action under RICRA, CERCLA or any other federal, state or local environmental statutes, regulations, ordinances or other environmental regulatory requirements. No part of the Property is a "Wetland" as defined by law. Seller has disclosed to Buyer all environmental reports, and studies with respect to the Property which are in Seller's possession.

11. Rights of Others to Purchase Property. Seller has not entered into any other contracts for the sale of the Property nor are there any rights of first refusal or options to purchase the Property or any other rights of others that might prevent the consummation of this Agreement.

12. Seller's Defaults. Seller is not in default concerning any of its obligations or liabilities regarding the Property.

13. FIRPTA. Seller is not a "Foreign Person", "Foreign Partnership", "Foreign Trust", or "Foreign Estate" as those terms are defined in Section 1445 of the Internal Revenue Code.

14. Use of Property. The Real Property is usable for its current uses without violating any federal, state, local or other governmental building, zoning, health, safety, platting, subdivision or other law, ordinance or regulation, or any applicable private restriction, as such use is a legal conforming use.

15. Proceedings. There are no action, litigation, investigation, condemnation or proceedings of any kind pending or to the best knowledge of Seller threatened against Seller or any portion of the Property.

16. Agents and Employees. No management agents or other personnel employed in connection with the operation of the Property have the right to continue such employment after the Closing Date. There are no claims for

brokerage commission or other payments with respect to the existing Property, including leases, which will survive and remain unpaid after the Closing Date.

17. Condition.. The buildings, structures and improvements on the Property are sold in AS IS, WHERE IS condition. Seller makes no representations regarding the repair and condition of any structure, mechanical, electrical, heating, air conditioning, drainage, sewer, water and plumbing system present in the structures and improvements.

18. Storage Tanks. No above ground or underground tanks are located on or about the Property, or have been located under, in or about the Property and have been subsequently removed or filled other than as disclosed in the Phase I Environmental and Waste Management Assessment. To the extent Storage Tanks exist on or under the Real Property, Seller makes no representation or warranty in relation to such Storage Tanks.

Seller will indemnify Buyer, its successors and assigns, against and will hold Buyer, its successors and assigns, harmless from, any expenses or damages, including reasonable attorneys' fees, that Buyer incurs because of the breach of any of the above representations and warranties, whether such breach is discovered before or after Closing. Each of the representations and warranties herein contained shall survive the Closing. Wherever herein a representation is made "to the best knowledge of Seller" such representation is limited to the actual knowledge of Superior Water, Light and Power. Except as herein expressly stated, Buyer is purchasing the Property based upon its own investigation and inquiry and is not relying on any representation of Seller or other person and is agreeing to accept and purchase the Property "AS IS, WHERE IS" subject to the conditions of examination herein set forth and the express warranties herein contained. Consummation of this Agreement by Buyer with knowledge of such breach by Seller will constitute a waiver or release by Buyer of any claims due to such breach.

19. Representations and Warranties by Buyer. Buyer represents and warrants to Seller that Buyer is duly incorporated and is in good standing under the laws of the State of Minnesota, and is registered as a foreign corporation recognized to do business in the State of Wisconsin; that Buyer is duly qualified to transact business in the State of Wisconsin; that Buyer has the requisite corporate power and authority to enter into this Agreement and the Buyer's Closing Documents signed by it; such documents have been duly authorized by all necessary corporate action on the part of Buyer and have been duly executed and delivered; that the execution, delivery and performance by Buyer of such documents does not conflict with or result in

violation of Buyer's Articles of Incorporation or Bylaws or any judgment, order or decree of any court or arbiter to which Buyer is a party; such documents are valid and binding obligations of Buyer, and are enforceable in accordance with their terms. Buyer will indemnify Seller, its successors and assigns, against and will hold Seller, its successors and assigns, harmless from, any expenses or damages, including reasonable attorneys' fees, that Seller incurs because of the breach of any of the above representations and warranties, whether such breach is discovered before or after Closing. Consummation of this Agreement by Seller with knowledge of any such breach by Buyer, will not constitute a waiver or release by Seller of any claims due to such breach.

20. Name of Building. Seller agrees that it will relinquish and transfer to Buyer on the Closing Date all rights to designate the name of the building and agrees that Buyer shall have the right to continue the use of the present name.

21. Mutual Indemnification. Seller and Buyer agree to indemnify each other against, and hold each other harmless from, all liabilities (including reasonable attorneys' fees and defending against claims) arising out of the ownership, operation or maintenance of the Property for their respective periods of ownership. Such rights to indemnification will not arise to the extent that (a) the party seeking indemnification actually receives insurance proceeds or other cash payments directly attributable to the liability in question (net of cost of collection, including reasonable attorneys' fees) or (b) the claim for indemnification arises out of the act or neglect of the party seeking indemnification. If and to the extent that the indemnified party has insurance coverage, or the right to make claim against any third party for any amount to be indemnified against as set forth above, the indemnified party will, upon full performance by the indemnifying party of its indemnification obligations, assign such rights to the indemnifying party or, if such rights are not assignable, the indemnified party will diligently pursue such rights by appropriate legal action or proceeding and assign the recovery and/or right of recovery to the indemnifying party to the extent of the indemnification payment made by such party.

22. Assignment. Each party may assign its rights under this Agreement, with the prior written consent of the other party, before or after the Closing. Any such assignment will not relieve such assigning party of its obligations under this Agreement.

23. Survival. All the terms of this Agreement will survive and be enforceable after Closing.

24. Notices. Any notice required or permitted to be given by any party upon the other is given in accordance with this Agreement if it is directed to Seller by delivering it personally to an officer of Seller; or if it is directed to Buyer, by delivering it personally to an officer of Buyer; or if mailed in a sealed wrapper by United States Registered or Certified Mail, return receipt requested, postage prepaid; or if transmitted by facsimile, copy followed by mailed notice as above required; or if deposited cost paid with a nationally recognized, reputable overnight courier, properly addressed as follows:

If to Seller:
Superior Water, Light and Power Company
1230 Tower Avenue
Superior, Wisconsin 54880
Attention: President

If to Buyer:
RRS, Inc.
P. O. Box 291
Hammond, Wisconsin 54015
Attention: Richard R. Smith

Notices shall be deemed effective on the earlier of the date of receipt or the date of deposit as aforesaid; provided, however, that if notice is given by deposit, that the time for response to any notice by the other party shall commence to run one business day after any such deposit. Any party may change its address for the service of notice by giving written notice of such change to the other party, in any manner above specified, 10 days prior to the effective date of such change.

25. Captions. The paragraph headings or captions appearing in this Agreement are for convenience only, are not part of this Agreement and not to be considered in interpreting this Agreement.

26. Entire Agreement; Modification. This written Agreement constitutes the complete agreement between the parties and supersedes any prior oral or written agreements between the parties regarding the Property. There are no verbal agreements that change this Agreement and no waiver of any of its terms will be effective unless in a writing executed by the parties.

27. Binding Effect. This Agreements binds and benefits the parties and their successors and assigns.

28. Controlling Law. This Agreement has been made under the laws of the State of Wisconsin, and such laws will control its interpretation.

Seller and Buyer have executed this Agreement as of the date first written above.

SUPERIOR WATER, LIGHT AND POWER COMPANY

Susan M. Buxton

By: Susan M. Buxton

Its: Secretary

Taxpayer ID: 39-0646970

RRS, INC.

By: Richard R. Smith

Its: Pres.

Taxpayer ID: 411856019

EXHIBIT A

PROPERTY DESCRIPTION

Those parcels of land located in WEST SUPERIOR, 1ST DIVISION, in the City of Superior, Douglas County, Wisconsin described as:

Parcel I. Lot Five (5), Block Thirteen (13), and;

Parcel II. Lots One (1) through Twenty-six (26), inclusive, and Lots Thirty-one (31) and Thirty-two (32), including that part of North 2nd Street heretofore vacated adjacent thereto, all in Block 153, except that part of the above described property heretofore conveyed for Railroad right-of-way in deeds recorded in Volume Q of Deeds, pages 293, 295 and 297 and Volume 557 of Records, page 241, and;

Parcel III. Lots Seventeen (17) through Twenty-five (25), inclusive, Block 154, except that part of the above described property heretofore conveyed for Railroad right-of-way in deeds recorded in Volume Q of Deeds, pages 293, 295 and 297, Book 55 of Deeds, page 130, Book 197 of Deeds, page 511, Volume W of Deeds, page 89 and Volume 557 of Records, page 241, and;

Parcel IV. The West Eighty feet (W 80') of the North One-half (N 1/2) of Lot Twenty-five (25) and the West Eighty feet (W 80') of Lots Twenty-six (26), Twenty-seven (27), Twenty-eight (28) and Twenty-nine (29), including that part of the alley heretofore vacated adjacent thereto and recorded in Volume 29 of Agreements, page 468, all in Block 155, except that part of the above described property heretofore conveyed for Railroad right-of-way in deeds recorded in Volume Q of Deeds, pages 295 and 297, Book W of Deeds, page 89, and for Lots 26-29 also Volume 557 of Deeds, page 241, and;

Parcel V. Lots Thirty (30) and Thirty-one (31), including that part of the alley heretofore vacated adjacent thereto and recorded in Volume 29 of Agreements, page 468, all in Block 155, except that part of the above described property heretofore conveyed for Railroad right-of-way in deeds recorded in Volume Q of Deeds, pages 295 and 297, Book W of Deeds, page 89 and Volume 557 of Deeds, page 241, and;

Parcel VI. Lot Thirty-two (32) including that part of North 2nd Street heretofore vacated adjacent thereto and that part of the alley heretofore vacated adjacent thereto, all in Block 155, except that part of the above described property heretofore conveyed for Railroad right-of-way in deeds recorded in Volume Q of Deeds, pages 295 and 297, Book W of Deeds, page 89 and Volume 557 of Deeds, page 241, and;

Parcel VII. Lots One (1) through Eight (8), inclusive, and Lots Twenty-five (25) through Thirty-two (32), inclusive, including that part of North 2nd Street heretofore vacated adjacent thereto and that part of the alley heretofore vacated adjacent thereto, all in Block 156, except that part of the above described property heretofore conveyed for Railroad right-of-way in deeds recorded in Volume Q of Deeds, pages 295 and 297, Book W of Deeds, page 89 and Book 227 of Deeds, page 221, and;

Parcel VIII. All that portion of Lots Nine (9), Ten (10), Twenty-three (23) and Twenty-four (24), Block 156, lying North of the center line of the track of the former Lake Superior Terminal and Transfer Railway, except that part of the above described property heretofore conveyed for Railroad right-of-way in deeds recorded in Volume Q of

Deeds, pages 295 and 297, Book W of Deeds, page 89 and Book 227 of Deeds, page 221, and;

Parcel VIIII. Lots Eighteen (18), Nineteen (19) and Twenty (20), Block 156, except that part of the above described property heretofore conveyed for Railroad right-of-way in deeds recorded in Volume Q of Deeds, pages 295 and 297, Book W of Deeds, page 89 and Book 227 of Deeds, page 221.

EXHIBIT B

Personal Property

1 12,500 KW turbine generator

1 12,650 KW steam turbine generator

Corresponding water tube boilers and auxiliary equipment built in 1942 and 1952

All other inventory on the property at the Date of Closing, except such personal property as determined by the Buyer, within 30 days of the Closing Date, to be unnecessary or undesirable for Buyer to retain. It is specifically agreed that Buyer will notify Seller of the desire to have such personal property removed from the premises within 30 days of the Closing. Any property remaining on the premises after 30 days of the Closing shall be deemed to have been purchased by Buyer.

EXHIBIT C

Contracts

None

EXHIBIT D

Permits

None

EXHIBIT E

Permitted Encumbrances

Gas, power and telephone lines as shown on the Plat of West Superior, First Division. It is specifically agreed that the easement for power lines will be allowed to be relocated upon relocation of the 14 KV line.

8 July 1997

Mr. Tim Peterson
Project Manager
United States Army Corps Of Engineers
120 State Road
Two Harbors, MN 55616

Transferred Via Fax
Return Concurrence Requested

Re: Nationwide Permit 97-03668-NW-JAW, Work Scope Modifications

This letter addresses changes in project work scope as originally authorized under Army Corps Permit Number 97-03668-NW-JAW, issued June 13, 1997.

The requested work scope changes are as we discussed on the phone this morning and include:

1) According to WDNR request, the use of "green wood" treated timbers instead of creosote treated timbers as originally proposed. The green wood preservative to be used is Ammoniacal Copper Zinc Arsenate (ACZA). A Material Safety Data Sheet for ACZA has been obtained from the product supplier and is attached as part of this fax transmittal.

2) As noted in our original submittal of May 6, 1997, the initial job task will be the removal of the reinforced concrete box cover. The original submittal did not note that the reinforced concrete cover was to be left inside the concrete box as fill following its removal. That is the intent. Following stop-log placement, de-watering and capping of the concrete outlet pipe, compacted Wisconsin Class 2 (Minnesota Class 5) fill will be placed over the reinforced concrete debris (original box cover) to bring the final fill elevation to grade.

If you find these alterations to our nationwide permit 97-03668-NW-JAW acceptable please address your written concurrence, via fax if possible, to myself at Minnesota Power (218-723-3916). Thank you for your time.

Sincerely,

Bill Fraundorf
Environmental Compliance Specialist

c: (with attachment)
Duane Lahti WDNR-Brule
Charles Olson WDNR-Brule

6 May 1997

Mr. Steve LaValley
Wisconsin Department of Natural Resources
Solid & Hazardous Waste Specialist
1705 Tower Avenue
Superior, WI 54880

Re: **Capping of Turbine Cooling Water Pipe**

I appreciated our recent conversation regarding the process being proposed to cap a turbine cooling water pipe associated with the Winslow Steam Electric Station in Superior, WI.

The pipe to be capped served as a turbine cooling water return pipe. Water left the pipe and re-entered the Saint Louis Bay at the Tower Avenue Slip.

As requested, the engineering drawing for the pipe capping is enclosed. The proposed process involves the placement of creosoted stop-logs to seal the opening of the concrete outlet structure. Once the creosoted stop-logs are in place, the structure would be de-watered. Following de-watering, the roof slab would be demolished and the then visible opening of the 54" diameter concrete pipe would be formed-up and capped with a concrete plug. Following capping, the concrete outlet structure would be filled, to grade, with compacted Wisconsin D.O.T. Class 2 fill.

We would appreciate your review of this proposed pipe capping process as well as a written response regarding the same. Concurrence from Amy Mizia and Chuck Olson would also be appreciated. If possible, we would like to receive your response within two weeks of your receipt of this letter.

For further information, you may contact me at 722-2641, extension 3817 or engineer Ron Gullicks at extension 2977.

Sincerely,

Bill Fraundorf
Environmental Compliance Specialist

6 May 1997

Mr. Jim Weinzierl
Regulatory Specialist
United States Army Corps of Engineers
120 State Road
Two Harbors, MN 55616

Re: **Capping of Turbine Cooling Water Pipe**

I appreciated our recent conversation regarding the process being proposed to cap a turbine cooling water pipe associated with the Winslow Steam Electric Station in Superior, WI.

The pipe to be capped served as a turbine cooling water return pipe. Water left the pipe and re-entered the Saint Louis Bay at the Tower Avenue Slip.

As requested, the engineering drawing for the pipe capping is enclosed. The proposed process involves the placement of creosoted stop-logs to seal the opening of the concrete outlet structure. Once the creosoted stop-logs are in place, the structure would be de-watered. Following de-watering, the roof slab would be demolished and the then visible opening of the 54" diameter concrete pipe would be formed-up and capped with a concrete plug. Following capping, the concrete outlet structure would be filled, to grade, with compacted Wisconsin D.O.T. Class 2 fill.

We would appreciate your review of this proposed pipe capping process as well as a written response regarding the same. If possible, we would like to receive your response within two weeks of your receipt of this letter.

For further information, you may contact me at 722-2641, extension 3817 or engineer Ron Gullicks at extension 2977.

Sincerely,

Bill Fraundorf
Environmental Compliance Specialist

6 May 1997

Mr. Paul King
City of Superior
Administrative Engineer
1409 Hammond Avenue
Superior, WI 54880

Re: **Capping of Turbine Cooling Water Pipe**

I appreciated our recent conversation regarding the process being proposed to cap a turbine cooling water pipe associated with the Winslow Steam Electric Station in Superior, WI.

The pipe to be capped served as a turbine cooling water return pipe. Water left the pipe and re-entered the Saint Louis Bay at the Tower Avenue Slip.

As requested, the engineering drawing for the pipe capping is enclosed. The proposed process involves the placement of creosoted stop-logs to seal the opening of the concrete outlet structure. Once the creosoted stop-logs are in place, the structure would be de-watered. Following de-watering, the roof slab would be demolished and the then visible opening of the 54" diameter concrete pipe would be formed-up and capped with a concrete plug. Following capping, the concrete outlet structure would be filled, to grade, with compacted Wisconsin D.O.T. Class 2 fill.

Following the capping process, and as you requested, drawings will be provided to you which show the entire easement area of the turbine cooling water pipe at hand.

We would appreciate your review of this proposed pipe capping process as well as a written response regarding the same. If possible, we would like to receive your response within two weeks of your receipt of this letter.

For further information, you may contact me at 722-2641, extension 3817 or engineer Ron Gullicks at extension 2977.

Sincerely,

Bill Fraundorf
Environmental Compliance Specialist

15 September 1997

Mr. Jim Weinzierl
Regulatory Specialist **Transferred Via Facsimile**
United States Army Corps of Engineers
120 State Road
Two Harbors, MN 55616

I appreciated our conversation of last Friday during which we discussed the process being proposed to cap several turbine cooling water pipes associated with the Winslow Steam Electric Station in Superior, WI.

The pipes to be capped are all located in one of two concrete boxes which lay side-by-side on the St. Louis Bay at the Hughitt Avenue Slip (North 1st Street and Hughitt Avenue).

The process proposed to cap these pipes is similar to the process approved, by the Army Corps (Nationwide Permit 03: 97-03668-NW-JAW) and the WDNR (Correspondence 3500 NW-B1444 of 8 July 97) to cap a turbine cooling water pipe on the Tower Avenue Slip (permit request letter of 6 May 1997 and subsequent modification to use ACZA instead of creosote treated timbers).

As approved for the Tower Avenue Slip job, Ammoniacal Copper Zinc Arsenate (ACZA) treated timbers would be placed into the stop-log slot of each concrete box. The boxes would then be de-watered and the pipe openings capped (the valves of pipes so equipped would be closed. Pipes without valves would be capped with a concrete plug). The then emptied concrete boxes would be filled, to grade, with compacted Wisconsin Class 2 (MN Class 5) fill.

We would appreciate your timely consideration of this permit application so that we may initiate the project by ordering the ACZA treated-timbers (delivery time of approximately 8 weeks).

Should there be any questions regarding this permit application, please contact me at 218-722-5642, extension 3817 or project engineer Ron Gullicks at extension 2977. My fax number is 218-723-3916. My e-mail address is wfraundorf@mnpower.com

Sincerely,

Bill Fraundorf
Environmental Compliance Specialist

c:
Mr. Duane Lahti: WDNR-Brule
Mr. Paul King: Engineer-City of Superior

9 July 1997

Mr. Paul King
City of Superior
Administrative Engineer
1409 Hammond Avenue
Superior, WI 54880

Re: Capping of Turbine Cooling Water Pipe

This is a follow-up to my mailing of 6 May 1997 which proposed a process for the capping of a turbine cooling water outlet pipe associated with the Winslow facility in Superior, WI.

Since my original mailing, our proposed process has been changed as follows:

1) As requested by the WDNR, "green wood" (ammoniacal copper zinc arsenate) stop-logs will be used for the project instead of the creosoted stop-logs that were originally proposed.

2) The reinforced concrete cover of the existing concrete box will be left in the base of the existing concrete box as fill following its removal. These concrete debris will be covered with compacted Wisconsin Class 2 fill so as to bring the final fill elevation to grade.

The Army Corps of Engineers and the WDNR have both issued approvals of the project as modified herein. Copies of their final approvals are attached.

We would like written concurrence from the City of Superior indicating approval of the proposed capping project and verifying that the City has no additional permitting or approval requirements. A prompt response would be appreciated as various contractors are presently preparing bid proposals for work which is to begin soon.

We will provide the City of Superior with a drawing which shows the location of the total run of abandoned pipe following this current capping project.

Sincerely,

Bill Fraundorf
Environmental Compliance Specialist

Minnesota Power
30 West Superior Street
Duluth, MN 55802

Phone: 722-5642 extension 3817
Fax: 723-3916