



CITY COUNCIL/ELECTRICAL
ADVISORY COMMITTEE

May 9, 2012 – 6:00 p.m.

Regular Meeting

CITY COUNCIL

Leo Evans, Mayor
Brady Nelson, Mayor Pro-tem
Patricia Baribeau, Council Member
Ronald Beauchamp, Council Member
Walter Baker, Council Member

ADMINISTRATION

James V. O'Toole, City Manager
Robert S. Richards, CMC, City Clerk
Ralph B.K. Peterson, City Attorney
Mike Furmanski, Electrical Superintendent
Michael Dewar, City Controller
Thomas Butz, Power System Engineering

ELECTRICAL ADVISORY COMMITTEE

Tim Wilson, Chairperson
Ann Bissell, Vice Chairperson
Larry Arkens, Committee Member
Glendon Brown, Committee Member
Donald Racicot, Committee Member
John Anthony, Committee Member
Vacant Seat
Vacant Seat

Escanaba City Council Chambers: 410 Ludington Street - Escanaba, MI 49829

Regular Meeting Agenda
Wednesday, May 9, 2012

CALL TO ORDER
ROLL CALL
APPROVAL/ADJUSTMENTS TO THE AGENDA
CONFLICT OF INTEREST DECLARATION

NEW BUSINESS

- 1. Update - Electric Department –Distribution Operations**
Explanation: Electrical Superintendent Mike Furmanski will discuss current departmental activities and operations.
- 2. Update– Operation and Maintenance of Power Plant – Pro Energy Services, Inc.**
Explanation: Pro Energy Services, Inc will update the City Council, Electrical Advisory Committee and Citizens of Escanaba on the status of the operation and maintenance of the power plant.
- 3. Discussion – Environmental Update**
Explanation: Administration will provide an update on the Due Care plan being developed by Geosyntec for the plant site.
- 4. Discussion– Plant Sale Update.**
Explanation: Administration will provide an update on the plant sale negotiations with Escanaba Green Energy.

Agenda -May 9, 2012.

5. Discussion – Electric Rate Study.

Explanation: Administration and Power System Engineering will present the results of the Cost of Service Study and the recommended rates.

6. Discussion – Plant Salvage/Scrap value and Demolition costs.

Explanation: Administration will review and discuss the recently completed salvage/scrap value and demo cost estimate report completed by Golder Associates.

GENERAL PUBLIC COMMENT

COMMISSION/STAFF COMMENT AND ANNOUNCEMENTS

ADJOURNMENT

The City of Escanaba will provide all necessary, reasonable aids and services, such as signers for the hearing impaired and audiotapes of printed materials being considered at the meeting to individuals with disabilities at the meeting/hearing upon five days notice to the City of Escanaba. Individuals with disabilities requiring auxiliary aids or services should contact the City of Escanaba by writing or calling City Hall at (906) 786-9402.

Respectfully Submitted,

James V. O'Toole
City Manager

City (Utility)	Example customer classification and usage					
	Residential		Commercial		Large Power	
	300 kWh/mo	800 kWh/mo	4000 kWh/mo	40,000 kWh & 85 kW	60,000kWh & 112 kW	200,000 kWh & 463 kW
Marquette Marquette BLP	\$31.72	\$75.41	\$403.76	\$3,445.85	\$5,025.40	\$16,609.40
Manistique Cloverland REA	\$31.98	\$79.62	\$440.48	\$4,338.20	\$6,385.00	\$20,078.30
Menominee WPS	\$34.46	\$76.90	\$379.00	\$3,603.80	\$4,240.44	\$14,648.36
Escanaba Proposed Rates	\$35.32	\$80.89	\$347.98	\$3,415.95	\$4,442.58	\$15,434.12
Escanaba City of Escanaba	\$36.98	\$88.85	\$434.96	\$4,089.32	\$5,385.51	\$17,936.64
Sturgeon Bay WPPI	\$38.80	\$91.80	\$432.00	\$4,248.00	\$4,832.00	\$17,167.00
Gladstone WPPI	\$44.03	\$104.08	\$494.80	\$4,013.00	\$5,581.50	\$19,191.00
Iron Mountain WE Energies	\$48.91	\$114.63	\$561.15	\$4,131.24	\$5,867.76	\$21,024.84
Ishpeming UPPCO	\$66.05	\$157.80	\$755.20	\$5,625.40	\$8,222.60	\$24,440.60

TOU rates

- 1 - 16 hours of on-peak, 8 hours of off-peak. Calc uses 2/3 of usage on-peak, 1/3 of usage off-peak.
- 2 - Assumes 100% of usage is on-peak.
- 3 - 12 hours on-peak, 12 hours off-peak. Calc uses 50% on-peak, 50% off-peak.

NOTE: some of these rates are approximate due to power cost adjustment factors. When called, some utilities said it goes + and -, but averages out to 0. Others said it has been positive for well over a year. In these cases, we used the power cost adjustment given to us by the utility.

NB # 5

City (Utility)	Example customer classification and usage										
	Residential			Commercial			Large Power				
	Meter charge		\$/kWh	Meter charge		\$/kWh	Meter charge		\$/kW		\$/kWh
Marquette Marquette BLP	\$5.50	First 1000 kwh Over 1000 kwh	\$0.07440 \$0.07000	\$13.80	1st 3,500 kwh. over 3,500 kwh	\$0.08800 \$0.06000	\$0.00	200kw or less over 200 kw	\$1,560.00 \$7.80	All	\$0.06499
Menominee WPS	\$9.00	All	\$0.08487	\$22.00	All	\$0.08925	\$115.00	All	\$8.72	On-peak (16hrs) Off-peak (8hrs)	\$0.06197 \$0.03350
Escanaba City of Escanaba	\$3.19	1st 400 kwh Over 400 kwh	\$0.11264 \$0.10151	\$3.19	1st 500 kwh next 1500 kwh Over 2000 kwh	\$0.13629 \$0.10707 \$0.10151	\$0.00	All, subject to Load Factor Adjustment	\$10.71	1st 50,000 kwh next 150,000 kwh over 200,000	\$0.08621 \$0.08219 \$0.07817
Sturgeon Bay WPPI	\$7.00	All	\$0.10600	\$8.00	All	\$0.10600	\$100.00	All	\$9.00	On-peak (12hrs) Off-peak (12hrs)	\$0.08600 \$0.04300
Manistique Cloverland REA	\$3.40	All	\$0.09311	\$7.40	All	\$0.10611	\$600.00	All	\$4.90	1st 300kwh/kw next 200kwh/kw over 500kwh/kw	\$0.08511 \$0.08111 \$0.07911
Gladstone WPPI	\$8.00	All	\$0.12010	\$8.00	All	\$0.12170	\$75.50	All	\$8.50	All	\$0.07590
Escanaba Proposed Rates	\$7.98	All	\$0.09110	\$7.98 \$15.95	All	\$0.08500	\$60.10	All	\$8.54	All	\$0.05710
Iron Mountain WE Energies	\$9.47	All	\$0.13145	\$14.79	All	\$0.13659	\$83.84	All	\$18.53	On-peak (12hrs) Off-peak (12hrs)	\$0.06898 \$0.05465
Ishpeming UPPCO	\$11.00	All	\$0.18350	\$15.00	All	\$0.18505	\$250.00	All	\$15.50	On-peak (16hrs) Off-peak (8hrs)	\$0.09630 \$0.06261

NB #6



April 30, 2012

123-88785

Mr. Mike Furmanski
Electrical Supervisor
City of Escanaba
1711 Sheridan Road
Escanaba, Michigan 49829

**RE: DEMOLITION – DIRECTIONAL BUDGETARY ESTIMATING
CITY OF ESCANABA MUNICIPAL POWER STATION
ESCANABA, MI**

Mr. Furmanski:

Golder Associates Inc. (Golder) has prepared a directional estimate information package for decommissioning and demolishing the City of Escanaba Municipal Power Generating Station, located in Escanaba, Michigan. The purpose for the directional budgetary estimating is to assist the City of Escanaba with future decision-making regarding potential divestment of the generating station.

Demolition Scenario Evaluated and Scope Assumptions

Based on discussions with the City of Escanaba, Golder evaluated one demolition scenario with several options. A detailed description of the demolition scenario, conceptual work scope, and options is provided as **Exhibit 1**. A description of the various assumptions used to facilitate the budgetary estimate is included as **Exhibit 2**. A drawing of the site layout is presented on Figure 1.

Scope and quantity assumptions were developed based on the following:

- discussions with the City of Escanaba;
- site drawings provided by Station personnel;
- information on certain regulated materials, as supplied by the Station (Attachment 1);
- information on major equipment as supplied by the Station (Attachment 2);
- our observations of the Station based on a cursory walkover on April 4, 2012; and
- our professional experience regarding waste streams and management of waste streams related to typical decommissioning and demolition projects (sampling and analysis of building materials related to Station structures is not available at this time).

Directional Estimate

Golder prepared an estimating worksheet that included line items for major work elements of the base work scope and optional work elements. This worksheet, along with the work scope descriptions and assumptions (Exhibits 1 and 2) and station drawings, were provided to Brandenburg Industrial Services Company (Brandenburg), who also walked the Station with Golder on April 4th. Brandenburg issued an estimate (using the estimating worksheet) based on the information package provided to them, their professional judgment, and data from past fossil-fuel generating station demolition projects. The Brandenburg estimate was then checked and validated by Golder based on our experience and data from past decommissioning projects.

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Exhibit 3 provides a summary of the directional estimates for ease of reference, along with the detailed estimating worksheet for backup purposes.

Please note that Brandenburg utilized current (April 2012) market conditions to base their scrap credit estimate. The value of the scrap metal credit will vary as future market conditions dictate. A breakdown of Brandenburg's metallic scrap quantity assumptions can be provided under separate cover if requested. Further, Brandenburg indicated that the estimates provided are neither overly conservative nor underestimated.

The equipment inventory list (Attachment 2) was also provided to Bierlein Companies, Inc. (Bierlein) to assess the value of major equipment if it were sold for re-use in commerce. Bierlein maintains an extensive network of contacts to facilitate sale of manufacturing and power plant assets. Based on the assessment conducted by Bierlein, the value of the major equipment that could be sold for re-use is in the range of \$20,000 to \$30,000. However, it is their opinion that these assets would provide a higher value return if disposed as metallic scrap rather than as operating equipment for re-use due to the age of the equipment, the cost to extract and transport the equipment, currently available equipment from other sources, and current market demand. Additionally, if the major equipment were to be sold for reuse, it would reduce the tonnage of metallic scrap available for recycling anywhere from 30 to 120 tons which would reduce the value of the scrap credit by approximately \$18,000 to \$75,000 (based on the April 2012 metallic scrap market).

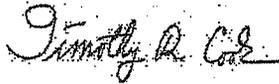
In Summary

The directional, budgetary estimate of the cost to decommission and demolish the City of Escanaba municipal generating station is **\$605,781** (Exhibit 3). The budgetary estimate is presented as a **net cost** and is tied to the value of metallic scrap in April 2012. Fluctuations in the metallic scrap market between now and when the project were to be implemented would affect the net cost of the project, either positively or negatively. Additionally, an allowance of approximately \$170,000 (Exhibit 3) should be considered for inclusion in the overall project estimate to account for environmental engineering and construction management services prior to and during implementation of the project.

If you have any questions or are in need of additional information, please contact the undersigned at (248) 295-0135.

Sincerely,

GOLDER ASSOCIATES INC.



Timothy R. Cook, C.P.G.
Senior Project Manager/Geologist

cc: Andy Lewis, Golder
Gary Daniels, Golder

Exhibits:

- Exhibit 1 – Conceptual Scope Summary for Decommissioning Scenarios
- Exhibit 2 – Quantity Assumptions
- Exhibit 3 – Directional Estimate Summary and Backup
- Attachment 1 – Asbestos Report
- Attachment 2 – Equipment Inventory
- Figure 1 – Site Layout

Exhibit 1

CONCEPTUAL SCOPE SUMMARY OF DECOMMISSIONING SCENARIO

**Directional Estimating Purposes
Escanaba Municipal Station, MI**

Revision 3 - 4/20/12

This document is intended to provide a general description of the scope of work for the decommissioning scenario to be considered at the above-referenced site. Please see pages below for general descriptions and environmental / other assumptions.

DECOMMISSIONING SCENARIOS

Scenario A – Demolition to Slab Level

The objective of this scenario is to fully demolish all site buildings and structures to slab-on-grade level. Gravel roads, paved roads and parking lots will remain as is. The disturbed portion (if any) of the site will be backfilled, graded to prevent accumulations of storm water and seeded. The site shall have proper storm water management and will pose no safety or environmental hazards. See attached reference drawing **Scenario A Work Areas**. Elements of this scenario include:

- Environmental decommissioning of all buildings and structures by abating regulated materials, including asbestos. Removal and disposal of all equipment oils, process fluid residuals and loose chemicals, that would be considered wastes and which were not removed during post-operational decommissioning.
- Demolition to slab of the main station, stacks and all other site buildings and structures. Pits, basements, tunnels, and other underground structures will be backfilled to grade with imported material. Leading edges along slabs will have backfill sloped against the slab to eliminate fall hazards.
- All power feeds and distribution lines, and site utilities to be disconnected at the property boundary.
- The switchyard / substation to be removed.
- Underground utilities are abandoned in-place by cutting and capping. Sanitary sewers and ash discharge piping to be flushed of residuals prior to abandonment.
- Water intake building to be demolished to slab level and intake pipeline to be bulk-headed and backfilled. Water discharge structure to remain, discharge pipeline to be bulk-headed and backfilled.
- Maintain existing perimeter security fence system.
- Option: remove all slabs, foundation elements and infrastructures to a depth of 4 feet below grade to facilitate redevelopment of the site. Includes backfill and grading to promote storm water drainage.

Scope details and rationale for this scenario is provided in the following table.

SCOPE ASSUMPTIONS

Scenario A – Demolition to Slab Level

Scope Description	Rationale
<p>Abate Regulated Building Materials: Includes typical building materials in the station structures that are regulated waste and must be removed and properly disposed prior to, or during, demolition. Includes:</p> <ul style="list-style-type: none"> • Oils and other fluids in equipment (drain equipment) and tanks • Loose chemical containers and process chemicals remaining in bulk containers • Asbestos containing materials • PCBs • High Intensity lighting • Fluorescent lighting and ballasts (PCB containing) • Mercury containing devices • Batteries in bulk and fixtures • CFCs (Freon) • Fire extinguishers • Smoke detectors • Computer components 	<p>Waste Compliance: Waste laws require special handling of specific materials and waste streams. If not removed prior to demolition, demolition debris will require handling and disposal as special waste, hazardous waste, and/or TSCA waste, thereby causing disposal costs to escalate and potentially creating unlawful disposal actions.</p> <p>Further, would create public safety issues related to air emissions and releases of contaminants to the environment.</p>
<p>Remove Process Wastes (including equipment related): Includes process-related materials and other waste streams in the station structures that must be removed and properly disposed prior to demolition. Includes:</p> <ul style="list-style-type: none"> • Residual coal • Residual ash • Refractory 	<p>Waste Compliance: Waste laws require special handling of specific materials and waste streams. If not removed prior to demolition, demolition debris will require handling and disposal as special waste, hazardous waste, and/or TSCA waste, thereby causing disposal costs to escalate and potentially creating unlawful disposal actions.</p> <p>Further, would create public safety issues related to air emissions and releases of contaminants to the environment.</p>
<p>Electrical Equipment in station structures:</p> <ul style="list-style-type: none"> • Drain dielectric oils from transformers and larger equipment • Remove electrical cabling 	<p>Waste Compliance: Waste laws require special handling of specific materials and waste streams. If not removed prior to demolition, demolition debris will require handling and disposal as special waste, and/or TSCA waste, thereby causing disposal costs to escalate and potentially creating unlawful disposal actions.</p>
<p>Cleaning of Surfaces: Clean slabs, pits, sumps, equipment, and other horizontal surfaces in the remaining station structures to remove residual accumulations of oil, grime, dirt, ash, etc. prior to demolition.</p>	<p>Best Practice / Safety: Presence of accumulations results in safety issues during demolition; contaminated debris and higher disposal costs. Also fugitive dust emissions are reduced when loose dirt, dust, ash, and grime is removed prior to demolition.</p>

Scope/Description	Rationale
Sewer Cleaning: Clean (jet) underground sewer network to remain in place to remove sediments and sludge.	Best Practice: Sewer systems are cleaned and documented to eliminate potential for sewer residuals to contaminate off-site downstream systems and/or outfalls.
Aboveground Piping: Drain and purge aboveground piping systems to render systems inert. <i>Note: plant will drain bulk fluids upon station closure.</i>	Best Practice / Safety: Piping needs to be free of fluids and flammable materials prior to demolition.
Utility Cut and Cap: Disconnect and cap utilities at property boundaries or other logical location(s).	Required for demolition (safety, permitting)
Demolish Station Structures to Slab: Demolish all station structures to slab level. See attached Figure 1 (<i>Work Areas, Scenario A</i>). Demolish all other exterior features not related to buildings: poles, curbing, posts, shacks, non-perimeter fencing, miscellaneous debris piles, and other items that stick up from ground level. All equipment, columns, walls, dividers, and other items in pits and basements to be removed. Cut all "protuberances" flush with slab. No remaining structures are to protrude above the ground surface.	Eliminate most liabilities and reduce holding costs
Water Intake / Discharge Pipelines and Structures: Decommission the pipelines by filling with flowable fill and installing durable, permanent bulkhead at each end. Intake building will be demolished to slab and pits filled to slab level. Concrete discharge structure will remain in-place.	Eliminates subsurface conduit and potential for collapse and subsidence in the future. Public Safety: eliminate attractive nuisance. Permitting: Under this scenario, existing permit will be modified or cancelled by Owner.
Restoration - Backfill Exterior Pits and Underground Structures: Fill all pits, sumps, vaults, bunkers and underground conveyor galleries present on the grounds external to main station structure. At slab drop-offs, place fill at 1:2 slope along edges to mitigate fall hazards. Restoration - Vegetate Disturbed Areas: Disturbed areas (unpaved) to be seeded to promote vegetation growth. Top soil not needed if imported fill is appropriate for growth.	Public Safety: Open pits, underground structures and leading edges are potential fall hazards on an unoccupied property, even with fencing rails present. Compliance: OSHA requirements may also apply, even on an unoccupied property. Storm water management requirements and site stabilization.

Scenario A Assumptions and Options

Foundations:

- **Base:** Demolition to slab-on-grade level; assume foundations (footings, piles, pile caps) of main station and outbuildings / structures remain below grade.

- Option A1: Slab and below-grade level foundation elements and infrastructures shall be removed to a depth of 4 feet below grade.

General Debris:

- Base: Assume all debris is disposed at a licensed landfill. No recycling of materials, other than metallics, will be allowed.
- Option A2: Assume selected concrete and brick can be recycled off-site in commerce.
- Option A3: Assume selected concrete and brick will be used to fill sub-grade pits, basements on-site.
- Option A5: Assume that concrete debris is impacted by PCBs at concentrations > 50 parts per million.

Refractory:

- Base: Assume that the refractory brick in the boilers and furnaces is non-hazardous, non-ACM and considered a C&D waste similar to the general debris. Gunitite stack lining is RCRA hazardous for arsenic.
- Option A4: Assume that the refractory brick is RCRA hazardous for chromium and/or cadmium and must be disposed as a characteristically hazardous waste (see environmental assumptions for quantities).

General Work Elements:

- Base: Existing transmission lines and towers downstream from the site substation will remain.
- Option A6: Underground water intake, discharge, and recirculating lines are excavated, broken in-place, and backfilled with granular material.
- Base: All metallic scrap (i.e. equipment and structural components) is recycled through a steel mill.
- Option B1: Sell suitable major equipment items for re-use in commerce; remainder of equipment is recycled as scrap along with the structural building components.
- Option C1: Demolish and dispose the small brick building and tank located northeast of the main power plant building.
- Option D1: Demolish and dispose the four small Butler-type buildings located northwest of the main power plant building.

GENERAL ASSUMPTIONS

The following general assumptions are made:

- Typical general conditions and terms & conditions for a contractor should be assumed, such as submittal requirements, safety, utility usage, noise/dust/vibration monitoring, permit acquisition, office trailers, utility usage, storm water management, etc.
- All wastes shall be disposed at a licensed waste disposal or recycling facility. Note: Delta County is subject to waste flow control provisions. **No recycling, resale, or onsite reuse of building materials is assumed unless otherwise described herein; this does not apply to metallics or saleable equipment.**
- Contractor to be prime to the Owner (City of Escanaba).

Exhibit 2

**QUANTITY ASSUMPTIONS
ESCANABA MUNICIPAL STATION, MI**

Quantities below are estimates based on information provided by the City of Escanaba, Golder's cursory station walkover on April 4, 2012 and professional experience.

Quantity and Environmental Assumptions	
1. Asbestos (info provided by station)	Approx. 7,000 linear feet pipe insulation; approx. 9,000 sq ft vessel insulation; approx. 40 fittings per 2005 ACM Survey by Pearson Asbestos Abatement, Inc. See Attachment 1.
2. Lighting Systems	Typical for building of this size and use.
3. Other Common Reg. Items (mercury devices, emergency light batteries, smoke detectors, fire extinguishers, computer devices)	Typical for power generating station building of this size and use.
4. CFC-containing equipment	Typical for power generating station building of this size and use.
5. Batteries (lead-acid)	Typical for power generating station building of this size and use.
6. Radioactive Devices	None present (per plant personnel).
7. Residuals in Bulk Fluid Storage Tanks and drum areas (petroleum)	See Attachment 2 for a listing of major equipment and bulk fluid storage tanks. <i>Note: Assume the tanks will be drained by the station; only residual amounts of fluids to remain.</i>
8. Portable and miscellaneous containers (petroleum and non-petroleum)	<i>None</i> ; assume station will remove portable containers.
9. Equipment Oil (non-electrical)	See Attachment 2 for a list of major equipment (non-electrical) containing oil to be drained and disposed. Total: 1,000 gallons; assume non-PCB containing.
10. Electrical Equipment	See Attachment 2 for a list of oil-containing electrical equipment; note that transformers are filled with non-PCB (PCBs <50 ppm) mineral oil. Assume a total of 5,000 gallons of dielectric oil are non-PCBs and non-hazardous for volatile organic compounds.
11. Floor cleaning (oily accumulations)	Assume a total area of 1,000 SF of floor cleaning (power wash) to remove residual oily buildup (non-PCB); assume all wash water is disposed off-site.
12. Interior surfaces cleaning	Horizontal surfaces will be cleaned to remove accumulations of dust, dirt, ash, oily grime; examples: major equipment, upper floors, interior rooms (roofing), structural members, etc. Assume vacuuming or wash-down methods.
13. Sewer cleaning	Assume 500 LF of ash discharge piping and 300 LF of sanitary sewer to be cleaned. Assume 5 CY of sediments collected for off-site disposal.
14. Refractory Brick	Assume estimated total of 140 cubic yards of refractory from boilers. <i>Base:</i> Assume that the refractory brick is non-hazardous and considered a C&D waste. <i>Option A4:</i> Assume that the refractory brick is RCRA hazardous for chromium and/or cadmium. Stacks: assume that gunnite lining is disposed as RCRA hazardous for arsenic.

Exhibit 2

QUANTITY ASSUMPTIONS
 ESCANABA MUNICIPAL STATION, MI

15. Bulk coal (remaining)	Assume previously removed by Station personnel. Assume 10 cubic yards of residual bulk coal remaining in hoppers and other vessels. Coal may be in different sizes and forms.
16. Ash (remaining)	Assume previously removed by Station personnel. Assume 20 cubic yards of residual ash remaining in precipitators, ash sewer discharge line, other vessels and on surfaces to be disposed as non-hazardous waste.
17. Cabling	Assume all power cable insulating materials are <50 ppm PCBs and contain asbestos (per plant personnel).
18. Underground Utilities	Slab penetrations for underground utilities are capped in demolished buildings and structures. Assume underground piping runs will not be removed; just capped and abandoned in-place. Underground electrical cable within duct banks will be pulled and recycled as scrap metal.
19. Demolition debris	<p><i>Base:</i> Assume <u>all</u> debris is disposed at a licensed landfill. No recycling of materials, other than metallics, will be allowed. Assume all non-concrete building materials (paint, epoxy, joint material, caulking, mastic, etc.) do <u>not</u> contain PCBs.</p> <p><i>Options A2 & A3:</i> Assume 820 cu. yds. selected concrete and brick can be: (A2) recycled off-site, and (A3) crushed onsite and used as general fill for sub-grade pits or basements.</p>
20. Backfill	<p><i>Base:</i> Assume 250 cu. yds. granular fill for sub-grade pits and basements; 300 cu. yds. flowable fill for water intake, water discharge and recirculating lines.</p> <p><i>Option A6:</i> Assume 300 cu. yds. of granular fill for water intake, discharge, and recirculating lines.</p>
21. Grading and Seeding	<p><i>Base:</i> Assume 2,500 sq. ft. of disturbed area to be graded and seeded.</p> <p><i>Option A6:</i> Assume additional 8,000 sq. ft. of disturbed area to be graded and seeded.</p>

EXHIBIT 3 - DIRECTIONAL ESTIMATE SUMMARY

City of Escanaba Station - Decommissioning and Demolition

4/20/2012

Base Task	Scenario A: Demolition To Slab Level
Mobilization / Demob / General Conditions	\$60,000
Environmental Abatement / Cleaning Program	\$835,323
Demolition Work	\$1,354,158
Utility Disconnect, Cut and Cap	\$18,032
Demolition Debris Transportation & Disposal	\$103,000
Restoration (Backfill, Seeding, Drainage)	\$91,408
Subtotal:	\$2,461,921
Metallic Scrap Credit	(\$1,856,140)
TOTAL:	\$605,781

Const Mgt / Engineering / Env Mgt (7% of cost, excl. scrap):	\$172,334
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Options / Variations	Contract Add or (Deduct)
Remove Slabs and Foundations	\$141,100
Concrete Demo Debris: Recycle Off-site or Reuse On-site	(\$10,200)
Boiler Refractory is RCRA Hazardous	\$38,670
Concrete Demo Debris (excluding slab on-grade) Contains PCBs > 50 PPM	\$15,460
Water Intake/Discharge/Recirculation Lines: excavate and backfill - vs- flowable fill	\$83,635
Demolish Brick Building NE of Main Plant	\$1,860
Demolish Butler Buildings NW of Main Plant	\$8,600

Site: City of Escanaba Station, MI
 Project: Directional Estimating - Decommissioning Scenarios

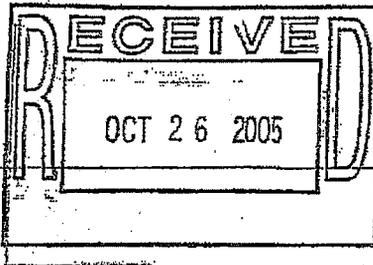
Item	Description	SCENARIO A - Demolition to Slab	
BASE SCOPE OF WORK			
1	GENERAL CONDITIONS AND MOBILIZATION		
1.1	Mobilization/demobilization		\$38,000
1.2	General conditions		\$22,000
	TOTAL - ITEM 1.0:		\$60,000
2	ENVIRONMENTAL DECOMMISSIONING (includes T&D)		
2.1	Abate regulated materials / process wastes / equipment fluids		\$17,600
2.2	Asbestos abatement		\$703,311
2.3	Removal of process waste residuals		\$54,629
2.4	Cleaning of surfaces		\$37,539
2.5	Cleaning of underground sewer/piping (incl. fluid, seeds)		\$22,244
	TOTAL - ITEM 2.0 (BASE SCOPE)		\$835,323
3	DEMOLITION and UTILITIES		
3.1	Utilities: Cut and cap		\$18,032
3.2	Demolition of station structures to slab level (note: include cost for stack with 3.3)		\$1,219,654
3.3	Demolition of stacks		\$113,266
3.4	Demolition of switch yard		\$17,038
3.5	Demolition of Combustion Turbine Units		\$4,200
3.6	Scrap a) General scrap credit (demolition work) (enter negative value)	Quantity (net tons) 2,999	(\$1,856,140)
3.7	Transport & Disposal of Demo Debris a) Base on general debris disposal (landfill)	Quantity (net tons) 5,557	\$103,000
	TOTAL - ITEM 3.0 (BASE SCOPE)		(\$380,850)
4	RESTORATION		
4.1	Backfill a) pits and underground structures b) water intake, discharge, and recirculation pipes		\$14,374
			\$45,223
4.2	Grade and seed disturbed areas a) pits and underground structures		\$37,811
	TOTAL - ITEM 4.0 (BASE SCOPE)		\$97,408
	TOTAL:		\$605,781

ALTERNATE SCOPE OF WORK

A	Option A1: Remove slabs, foundations, and infrastructures to 4-feet below grade a) Scrap credit (enter negative value)		ADD	\$171,275
				(\$30,175)
	Option A2: Concrete/brick debris recycled off-site in commerce	Quantity (net tons) 820	DEDUCT	\$10,200
	Option A3: Concrete / brick debris re-used on-site to fill pits, basements	820	DEDUCT	\$10,200
	Option A4: Refractory IS RCRA Hazardous	140	ADD	\$38,670
	Option A5: Concrete Impacted with PCBs > 50 ppm	60	ADD	\$15,460
	Option A6: Excavate and backfill water intake, discharge, recirculating lines		ADD	\$83,635
B	Option B1: Sell Major Equipment for re-use in commerce a) Adjustment to general scrap credit (3.6 a)		DEDUCT	\$0
				\$0
C	Option C1: Demolish and dispose brick building and tank (N. of main plant)		ADD	\$1,860
D	Option D1: Demolish and dispose 4 Butler-type buildings (NW of main plant)		ADD	\$8,600

NOTES

Attachment 1



Upper Peninsula Power Co.
Escanaba Generating Station
2000 Power Plant Road
Escanaba, MI 49829

Physical Assessment
Of
Asbestos Containing Building Materials

January 2005

Inspected By:

Pearson Asbestos Abatement, Inc
2715 Danforth Road
Escanaba, MI 49829

Licensed Inspectors:
Dennis Pearson #A322
Gary Christensen #A13908

An inspection of the asbestos containing building materials throughout the building was carried out pursuant to AHERA 29CFR763, to determine if there are any ACMs (asbestos containing building materials).

The inspector looks at other suspect materials. If it is unknown whether the material contains asbestos, bulk samples are taken and sent to an accredited lab for analysis.

The basic protocol for sampling is as follows:

- TSI (pipe & tank insulation) 3 samples
- Surfacing materials (plaster) <1,000 SF 3 samples
- Surfacing materials 1,000-5,000 SF 5 samples
- Surfacing materials > 5,000 SF 7 samples
- Miscellaneous materials (ceiling tile, floor tile, etc.)
at the judgment of the inspector.

These inspections are considered non-destructive which means there can be hidden or unknown asbestos containing materials in or behind walls and ceilings, and under flooring, or on other surfaces that could not be sampled at the time of the inspections, such as caulking, roofing, plaster, joint compound, sprayed-on walls or ceilings, chalkboards, lab table tops, and mastic. These materials should be presumed asbestos until sampled.

Abbreviation Key

Bldg. = Building

Item

B boiler
BI block insulation
C cloth/covering
F fitting insulation*
MI mud insulation
PI pipe insulation
T tar
TK tank

*F Fittings - includes elbows, tees, valves, etc. with a mud type ACM insulation on them

Lin F/LF Lineal Feet

Sq F/SF Square Feet

NOTE: Measurements & fitting counts are approximates.

% DMGD The rough amount of damage or exposed areas of ACM material with the jacket missing, as a percent of the total in that room or area

ACM Asbestos Containing Material

ACBM Asbestos Containing Building Material

ASB Material with $\geq 1\%$ asbestos content that has been confirmed visually or by lab tests on samples

NON Material with no asbestos ($< 1\%$) that has been confirmed visually or by lab tests on samples

PACM Presumed Asbestos Containing Material

Physical Assessment of ACBM by Functional Space

Escanaba Generating Plant January, 2005

AREA	ITEM	NON or ASB	# FIT.	LIN FT	SQ FT	% DMGD	Remarks	Sample #s
Operating/Ground Floor								
North Bldg with coal conveyor belt	PI	PACM		139			Pipe insulation	
Small Storage Rm-cleaning supplies	PI	PACM		14			Pipe insulation	
Lunch Room	PI	PACM		17			Pipe insulation	
Lunch Room	F	PACM	12				Elbows	
Maintenance Shop-NW corner Bldg	PI	PACM		177			Pipe insulation	
Northwest Section	PI	PACM		685			Pipe insulation	
E/W center aisle North side	TK	PACM			306		3 vertical heaters #1,#2,#4 (102 SF each)	
Northwest Section	TK	PACM			14		Drip tank	
North Condenser Tank	F	ASB	1				Large elbow	EGP-53
North Condenser Tank	T	ASB		5	104		Green painted tar-on each end, not in middle	EGP-49
North Condenser Tank	T	ASB					Pipe insulated with tar also	
South Condenser Tank	F	PACM	1				Large elbow	
South Condenser Tank	T	PACM			104		Tar and/or mud W & E ends	
South Condenser Tank	T	PACM		5			Pipe insulated with tar also.	
North Line - main #1 steam line	PI	PACM		100			Pipe insulation - 16" diameter	
Northeast Area	PI	PACM		240			Horizontal pipes	
Southwest Area	PI	PACM		779			Pipe insulation	
South side of E/W center aisle	TK	PACM			306		3 vertical heaters	
South Line Main #2 steam line	PI	PACM		100			Pipe insulation 16" diameter	
Southeast Section	PI	PACM		125			Pipe insulation	
E/W center aisle above valve	PI	ASB		428			3-4" pipe with gray cloth runs N/S	EGP-50
No.2 Extra Steam Line runs E/W	PI	ASB		25			8-10" pipe with gray cloth - pipe continues	EGP-51
Line with red paint stripe	PI	ASB		25			4" pipe N of E/W aisle - pipe continues	EGP-52
Throughout Operating Floor	PI	PACM		166			Vertical misc. piping - footage approximate	
Throughout Operating Floor	PI	PACM		1098			Horizontal misc. piping - footage approximate	
Throughout Operating Floor	PI	PACM		314			Mixed misc. piping - footage approximate	

PEARSON ASBESTOS ABATEMENT
 2715 Danforth Rd., P.O. Box 1292
 Escanaba, MI 49829

BULK SAMPLING REPORT

Name: UPPCO
Address: P.O. Box 584
 Escanaba, MI 49829

Facility Name: Escanaba Generating Plant
Address: 2000 Power Plant Road North
 Escanaba, MI 49829

Contact Person: Jim Melchiori

Contact Person:

Title:
 05-011

Title:
Phone: 906-786-2321

FAX: 906-786-9480

Project #

Phone:

Date(s) of inspection/sampling: 1/17,18/05

Date of Report: 3/9/05

Inspector/Sampler: Gary Christensen #A13908

SAMPLE #	LOCATION & DESCRIPTION	RESULTS
	6th Floor	
EGP-23	Mud Insulation - gray - from valve body, 20" from grate floor, NE corner, next to 8 pieces of conduit	20%Chrysotile, 20%Amosite
EGP-24	Insulation - gray - horizontal pipe above bypass valve large cluster, mid north wall 5' high	55%Chrysotile, 4.5%Amosite
EGP-25	Mud - gray - south tank below right of pressure gauge, 2' up from grate floor	65% Chrysotile
EGP-26	Insulation - gray - 5' vertical pipe, 5' to left of tank, 4' off grate floor	25%Chrysotile, 10%Amosite
EGP-27	Insulation - gray - vertical line goes through floor, middle of north cluster under valves	25%Chrysotile, 30%Amosite
EGP-28	Insulation - gray - vertical line south wall goes through floor under cluster of valves	45%Chrysotile, 4.7%Amosite
	5th Floor	
EGP-29	Insulation - gray - SE corner of room, 4" pipe goes 8' vertical, 3' horizontal, through floors	45%Chrysotile, 4.1%Amosite
EGP-30	Insulation - gray - pipe 8' high, 6-8' south of south tank, 2' south of new aluminum jacketing	25% Amosite
EGP-31	Insulation - gray - horizontal pipe runs along south tank, from elbow near east end & to left of hanger	75% Chrysotile
EGP-32	Insulation - gray - east end of south tank	65% Chrysotile
EGP-33	Insulation - gray - east end of north tank	75% Chrysotile
EGP-34	Insulation - gray - elbow 5' off floor to north of north tank	20%Chrysotile, 25%Amosite

PEARSON ASBESTOS ABATEMENT BULK SAMPLING REPORT

Facility Name: Escanaba Generating Plant

SAMPLE #	LOCATION & DESCRIPTION	RESULTS
	4th Floor	
EGP-35	Insulation - white - 5" horizontal pipe, half way from Exit on east wall to SE corner, 3' from floor	None Detected
EGP-37	Insulation - white - horizontal pipe, 6' right of Exit door, 6' high manifold area from break in jacketing	None Detected
EGP-38	Mud - white - valve 2' to the left of above sample	None Detected
EGP-39	Insulation - white - vertical pipe 4' left of Exit door 4' from east wall, from bare spot in jacketing	None Detected
EGP-40	Mud - white - from south boiler, NE corner, north side, 3' from floor	15% Chrysotile
EGP-41	Mud - white - from north boiler, SE corner, east side, 3' from floor	10% Chrysotile
	3rd Floor	
EGP-42-1	Wrap - silver/tan - vertical line, goes through floor to right of 480 electrical boxes	None Detected
EGP-42-2	Yellow insulation layer on above sample	None Detected
EGP-43	Insulation - gray - vertical pipe 5' off floor above an elbow, goes into boiler (Economizer)	15% Chrysotile, 15% Amosite
EGP-44	Insulation - gray - vertical pipe goes into boiler, SE corner of boiler, 7' from corner to the left	15% Chrysotile, 15% Amosite
EGP-45	Insulation - white - vertical heater line NE corner of building, 4' off floor, farthest east pipe	25% Chrysotile, pc3.8 Amosite
EGP-46	Insulation - white - same as above, but pipe to left of above, 4' off floor	25% Chrysotile, pc5.6 Amosite
	2nd Floor	
EGP-47-1	Insulation - off white - NE area, east side of large funnel hopper, 6' high near repair	None Detected
EGP-47-2	Dark gray insulation layer on above sample	10% Chrysotile
EGP-48	Insulation - white block - SE corner of boiler, 5' north of south wall, 5" behind & right of sample tag	None Detected



CERTIFICATE OF ANALYSIS

Client: Pearson Asbestos Abatement Inc
2715 Danforth Rd. PO Box 1292
Escanaba MI 49829

Report Date: 1/27/2005
Project: Escanaba Generating Plant
Project No.: 05-011

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 2160556 Description / Location: Off-White Insulation
Client No.: EGP-23

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
20	Chrysotile	25	Cellulose	25
20	Amosite	10	Fibrous Glass	

Lab No.: 2160557 Description / Location: Off-White Insulation
Client No.: EGP-24

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
53	Chrysotile	None Detected	None Detected	PC-40.5
PC-43	Amosite			

Lab No.: 2160558 Description / Location: Off-White Insulation
Client No.: EGP-25

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
65	Chrysotile	15	Cellulose	20

Lab No.: 2160559 Description / Location: Off-White Insulation
Client No.: EGP-26

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
10	Amosite	20	Cellulose	45
25	Chrysotile			

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: A. Grohmann

Approved By: 

Frank E. Ehrenfeld, III
Laboratory Director

Date: 1/27/2005



CERTIFICATE OF ANALYSIS

Client: Pearson Asbestos Abatement, Inc.
2715 Danforth Rd. PO Box 1292
Escanaba MI 49829

Report Date: 1/27/2005
Project: Escanaba Generating Plant
Project No.: 05-011

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 2160560 **Description / Location:** Off-White Insulation
Client No.: EGP-27

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
25	Chrysotile	None Detected	None Detected	45
30	Amosite			

Lab No.: 2160561 **Description / Location:** Off-White Insulation
Client No.: EGP-28

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
45	Chrysotile	20	Cellulose	PC 103
PC 47	Amosite			

Lab No.: 2160562 **Description / Location:** Off-White Insulation
Client No.: EGP-29

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
45	Chrysotile	20	Cellulose	PC 103
PC 41	Amosite			

Lab No.: 2160563 **Description / Location:** White Insulation
Client No.: EGP-30

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
25	Amosite	30	Cellulose	45

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Analysis Performed By: A. Grohmann

Date: 1/27/2005



CERTIFICATE OF ANALYSIS

Client: Pearson Asbestos Abatement Inc
2715 Danforth Rd. PO Box 1292
Escanaba MI 49829

Report Date: 1/27/2005
Project: Escanaba Generating Plant
Project No.: 05-011

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 2160564 Description / Location: White Insulation
Client No.: EGP-31

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
75	Chrysotile	10	Cellulose	15

Lab No.: 2160565 Description / Location: Off-White Insulation
Client No.: EGP-32

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
65	Chrysotile	15	Cellulose	20

Lab No.: 2160566 Description / Location: Off-White Insulation
Client No.: EGP-33

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
75	Chrysotile	10	Cellulose	15

Lab No.: 2160567 Description / Location: White Insulation
Client No.: EGP-34

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
20	Chrysotile	15	Cellulose	40
25	Amosite			

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Analysis Performed By: A. Grohmann

Date: 1/27/2005

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2715 Danforth Rd. PO Box 1292
Escanaba MI 49829

Report Date: 1/27/2005
Project: Escanaba Generating Plant
Project No.: 05-011

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 2160568 Description / Location: White Insulation
Client No.: EGP-35

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	45	Cellulose	55

Lab No.: 2160569 Description / Location: Sample Not Analyzed
Client No.: EGP-36

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
Sample Not Analyzed		Sample Not Analyzed		

Note: Insufficient sample provided.

Lab No.: 2160570 Description / Location: White Insulation
Client No.: EGP-37

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	10 Trace	Synthetic Fibrous Glass	90

Lab No.: 2160571 Description / Location: Off-White Ceiling Tile
Client No.: EGP-38

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	50 35	Cellulose Fibrous Glass	15

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

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Analysis Performed By: A. Grohmann

Date: 1/27/2005



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2715 Danforth Rd. PO Box 1292
Escanaba MI 49829

Report Date: 1/27/2005
Project: Escanaba Generating Plant
Project No.: 05-011

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 2160572 Description / Location: White Ceiling Tile
Client No.: EGP-39

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	50	Cellulose	15
		35	Fibrous Glass	

Lab No.: 2160573 Description / Location: Off-White Insulation
Client No.: EGP-40

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
15	Chrysotile	30	Fibrous Glass	25

Lab No.: 2160574 Description / Location: Grey Insulation
Client No.: EGP-41

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
10	Chrysotile	20	Fibrous Glass	70

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Analysis Performed By: A. Grohmann

Date: 1/27/2005



CERTIFICATE OF ANALYSIS

Client: Pearson Asbestos Abatement Inc. 2715 Danforth Rd. PO Box 1292 Escanaba MI 49829	Report Date: 1/27/2005 Project: Escanaba Generating Plant Project No.: 05-011
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BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 2160575 **Description / Location:** Silver/Tan Wrap
Client No.: EGP-42

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	45	Cellulose	50
		5	Fibrous Glass	

Lab No.: 2160575 **Description / Location:** Yellow Insulation **Layer No.:** 2
Client No.: EGP-42

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	95	Fibrous Glass	5

Lab No.: 2160576 **Description / Location:** White Insulation
Client No.: EGP-42

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
15	Chrysotile	None Detected	None Detected	70
12	Amosite			

Lab No.: 2160577 **Description / Location:** Gray Insulation
Client No.: EGP-42

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
15	Chrysotile	25	Cellulose	45
15	Amosite			

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: A. Grohmann

Date: 1/27/2005



CERTIFICATE OF ANALYSIS

Client: Pearson Asbestos Abatement Inc
2715 Danforth Rd. PO Box 1292
Escanaba MI 49829

Report Date: 1/27/2005
Project: Escanaba Generating Plant
Project No.: 05-011

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 2160578		Description / Location: White Insulation		
Client No.: EGP-45				
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
25	Chrysotile	30	Cellulose	PC 41.2
PC 3.8	Amosite			

Lab No.: 2160579		Description / Location: OB White Insulation		
Client No.: EGP-45				
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
25	Chrysotile	30	Cellulose	PC 30.4
PC 1.6	Amosite			

Lab No.: 2160580		Description / Location: OB White Insulation		
Client No.: EGP-47				
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	20	Fibrous Glass	20

Lab No.: 2160580		Description / Location: Dk. Grey Insulation		Layer No.: 2
Client No.: EGP-47				
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
10	Chrysotile	35	Fibrous Glass	55

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: A. Grohmann

Date: 1/27/2005



CERTIFICATE OF ANALYSIS

Client: Pearson Asbestos Abatement Inc
2715 Danforth Rd. PO Box 1292
Escanaba MI 49829

Report Date: 1/27/2005
Project: Escanaba Generating Plant
Project No.: 05-011

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 2160581 Description / Location: White Insulation
Client No.: EGP-48

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	20	Fibrous Glass	80

Lab No.: 2160582 Description / Location: Black Tar
Client No.: EGP-49

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
15	Chrysotile	None Detected	None Detected	85

Lab No.: 2160583 Description / Location: White Insulation
Client No.: EGP-50

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
25	Chrysotile	None Detected	None Detected	60
15	Amosite			

Lab No.: 2160584 Description / Location: White Insulation
Client No.: EGP-51

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
25	Chrysotile	None Detected	None Detected	60
15	Amosite			

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: A. Grohmann

Date: 1/27/2005

CERTIFICATE OF ANALYSIS

Client: Pearson Asbestos Abatement Inc
2715 Danforth Rd. PO Box 1292
Escanaba MI 49829

Report Date: 1/27/2005
Project: Escanaba Generating Plant
Project No.: 05-011

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 2160585 Description / Location: White Insulation
Client No.: EGP-52

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
35	Chrysotile	None Detected	None Detected	55
10	Amosite			

Lab No.: 2160586 Description / Location: Grey/Off-White Insulation
Client No.: EGP-53

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
45	Chrysotile	30	Cellulose	25

Lab No.: 2160587 Description / Location: Off-White/Black Insulation/Wrap
Client No.: EGP-54

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
10	Chrysotile	55	Cellulose	35

Lab No.: 2160588 Description / Location: White Insulation
Client No.: EGP-55

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
25	Chrysotile	None Detected	None Detected	55
10	Amosite			

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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This report shall not be reproduced except in full, without written approval of the laboratory.*

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix. Quantification at <1% by volume is possible with this method. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed.

Analysis Performed By: A. Grohmann

Date: 1/27/2005

Licensor Number
02220

Expiration Date
11/26/2005

State of Michigan

Department of Labor & Economic Growth

Pearson Asbestos Abatement

This license is issued in accordance with the requirements of Michigan Public Act 130 of 1990, as amended, and is hereby recognized as a

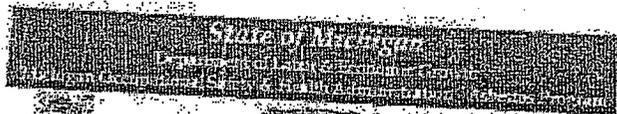
**LICENSÉE À TITRE D'ABATEMENT CONTREACTEUR
Type II (5+ employees)**

The issuance of this license does not ensure that asbestos indemnification insurance coverage has been acquired by the licensee. This license is non-transferable.

This license is issued under the authority of the Department of Labor & Economic Growth.

5016 58375

OK
11/15/05



Asbestos Inspector

Dennis J. Pearson
2527 2nd Avenue South
Escanaba, MI 49829



Accreditation Number:
A322

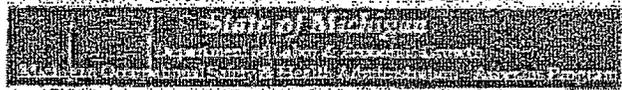
Expiration Date:
04/25/2006

DOB: 01/06/1956

This credential is valid only if you are licensed under the provisions of Michigan Public Act 442 of 1990, as amended, to be employed as an Asbestos Inspector.

Accreditation valid only if you are licensed under the provisions of Michigan Public Act 442 of 1990, as amended, to be employed as an Asbestos Inspector.

60448



Asbestos Inspector

Gary E. Christensen
5596 25th Road
Gladstone, MI 49837



Accreditation Number:
A13908

Expiration Date:
04/30/2006

DOB: 07/13/1956

This credential is valid only if you are licensed under the provisions of Michigan Public Act 442 of 1990, as amended, to be employed as an Asbestos Inspector.

Accreditation valid only if you are licensed under the provisions of Michigan Public Act 442 of 1990, as amended, to be employed as an Asbestos Inspector.

60448

PEARSON ASBESTOS ABATEMENT

2715 Danforth Rd., P.O. Box 1292

Escanaba, MI 49829

BULK SAMPLING REPORT

Name: UPPCO
Address: P.O. Box 584
Escanaba, MI 49829

Facility Name: Escanaba Generating Plant
Address: 2000 Power Plant Road North
Escanaba, MI 49829

Contact Person: Jim Melchiori

Contact Person:

Title:

Title:

Phone:

Project # 05-001

Phone: 906-786-2321

FAX: 906-786-9480

Date(s) of inspection/sampling: 9/28/05

Date of Report: November 7, 2005

Inspector/Sampler: Dennis Pearson #A322

SAMPLE #	LOCATION & DESCRIPTION	RESULTS
EGP-56	Mud - dark gray - 2nd Operating Floor - South Boiler - rear wall of boiler, the inside part of the South Wall near sample #48.	PC 6.3% Chrysotile
EGP-57	Mud - dark gray - 2nd Operating Floor - South Boiler - rear wall of boiler, the inside part of the North Wall.	None Detected
EGP-58	Pipe Insulation - gray - 2nd Floor - South Boiler - from the rear wall header pipe that runs across the back of the boiler, about 2' off the floor, from the North end of the pipe.	None Detected
EGP-59	Pipe Insulation - gray - 2nd Floor - South Boiler - from the rear wall header pipe that runs across the back of the boiler, about 2' off the floor, from the South end of the pipe.	None Detected
EGP-60	Pipe Insulation - tan - 2nd Floor - North Boiler - middle of the rear wall header pipe.	None Detected
EGP-61	Pipe Insulation - white - 4th Floor - Out of the same hole as #36 which was lost by the lab.	None Detected



CERTIFICATE OF ANALYSIS

Client: Pearson Asbestos Abatement Inc
2715 Danforth Rd. PO Box 1292
Escanaba MI 49829

Report Date: 10/31/2005
Project: Escanaba Generating Plant
Project No.: 05-001

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 2399419	Description / Location: Dk Grey Insulation		
Client No.: EGP-56	9/28/05		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
PC 6.3	Chrysotile	40	Mineral Wool
			<u>% Non-Fibrous Material</u>
			PC 53.7

Lab No.: 2399420	Description / Location: Grey Insulation		
Client No.: EGP-57	9/28/05		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	30	Mineral Wool
			<u>% Non-Fibrous Material</u>
			80

Lab No.: 2399421	Description / Location: Grey Insulation		
Client No.: EGP-58	9/28/05		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	30	Mineral Wool
			<u>% Non-Fibrous Material</u>
			80

Lab No.: 2399422	Description / Location: Grey Insulation		
Client No.: EGP-59	9/28/05		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			<u>% Non-Fibrous Material</u>
			100

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

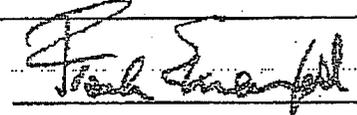
AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix. Quantification at <1% by volume is possible with this method. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed.

Analysis Performed By: V. Smith

Approved By: 

Date: 10/31/2005

Frank E. Ehrenfeld, III
Laboratory Director



International Asbestos
Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08
Telephone: 856-231-9449 Fax: 856-231-5

CERTIFICATE OF ANALYSIS

Client: Pearson Asbestos Abatement Inc
2715 Danforth Rd. PO Box 1292
Escanaba MI 49829

Report Date: 10/31/2005
Project: Escanaba Generating Plant
Project No.: 05-001

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 2399423
Client No.: EGP-60

Description / Location: Off-White Insulation
9/28/05

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	40	Fibrous Glass	60

Lab No.: 2399424
Client No.: EGP-61

Description / Location: White Insulation
9/28/05

<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Cellulose	95

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix. Quantification at <1% by volume is possible with this method. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed.

Analysis Performed By: V. Smith

Date: 10/31/2005

Escanaba Generating Station Equipment Inventory

Main Structure – Turbine / Boiler Building

Ground Floor / Basement

Maintenance Shop Equipment

Cincinnati Drill press with 3ph, 1hp, drive motor
ESAB Type PCM 875 Model EN50192 Plasma Arc Cutter
Miller Millermatic 90 Portable 115 volts Wire Feed Welder
Enerpac 5 Ton Vertical Press
Oxygen Acetylene Welding Torches and Cart
LeBond Regal Horizontal Lathe 15" Swing, 12' Bed
Baldor Pedestal Grinder Model 23M2-357, 2hp
Baldor Pedestal Grinder/Buffer Model 623ED, 1hp
PowCon Arc Welder Model 300 SS
Miller Millermatic 130XP Portable 115volts Wire Feed Welder
Small Portable Oxygen Acetylene Welding Torches
Jancy Slugger Mag-Drill Model JM -101
Ridged No. 1452 Pipe Threader with Dies
Wilton Model 3400 Horizontal Metal Ban Saw 115 volts
Miscellaneous Power Hand Tools – Drills, Grinders etc
Miscellaneous Hand Tools – Wrenches, Hammers, Grease Guns etc
Extension Cords, Welding Supplies, Fasteners
Boscero Fork Model – MBRA 25 (for Overhead Crane) outside Maint.Shop
SRH-333 DC ARC Welder (outside Maint.Shop)

Lunch Room

Coronado Refrigerator, GE Stove, Magic Chef Microwave, Two 80 gallon Water Heaters

Battery Room

Station Batteries – 20, C&D Technologies 3DJ-110, 1.25spg
Hindel Power Series AT101 Battery Charger (Primary)
GE 6RW985BN12W4 Battery Charger (Reserve)

Warehouse / Oil Storage Room

Lubrication Engineers Oil Storage & Distribution System, Various 55 Gallon Drums containing petroleum products. Oil Absorbent Pads, Portable Oil Cans, Ash Handling System
Parts, Coal Handling System Parts, Combustion Equipment Parts, Turbine Parts
Various Gasket Material, Toyota 7FG430 6,000lbs Capacity Fork Truck, Velcon MP-5E Portable Filter Pump with Hand Cart, 250 gallon Waste Oil Tank and Enclosed Containment Structure, Portable 1000 gallon Turbine Oil Storage Tank

Office

Six Desks, Ten File Cabinets, Konica/Minolta Bizhub 200 Copier, Four Dell Optiplex 990 Computer with Monitors, GE Refrigerator, Brother Intellifax 2820, SPL-5242D Paper Shredder, HP Color Laser Jet CP2025 Printer, Lexmark Printer/Scanner, Emerson Microwave

Unit 1 Turbine/Generator & Boiler Equipment

General Electric Generator Neutral Breaker
General Electric Excitation & Surge Protection Breaker,
General Electric Reactor - CLS - 80 volts, 200 amps, 16 KVA
CH Wheeler 2243-1, 8500sq-ft, 2 Pass (Turbine Steam) Surface Condenser with Hotwell & Level Control, Air Ejector Trap
Building Heaters Drip Tank with Fisher Control Valve Type 667-ES
Bowser Turbine Oil Filter Tank 832P-2 with return pump and Vapor Extractor
Turbine Oil Tank (≈1,000 gals) with Steam Driven Oil Pump, Electric Oil Pump,
Vapor extractor, 2 shell & tube oil coolers, 1 Plate Style Auxiliary Oil Cooler with Oil Circulating Pump

Turbine Steam Seal Gland Exhauster Water Eductor

1-1 Condensate Pump - Byron Jackson Type VC Pump, with GE Model 5K4324XJ2E1,
25hp, 440 volt, 3ph Motor

1-2 Condensate Pump - Byron Jackson Type VC Pump, with GE Model 5K4324XJ2E1,
25hp, 440 volt, 3ph Motor

1-1 FW Heater Drip Pump - Byron Jackson Type VTL-OOBCK Pump, with Louis Allis
SOGX, 5hp, 440 volt, 3ph Motor

1-2 FW Heater Drip Pump - Byron Jackson Type VTL-OOBCK Pump with Reliance
P18G1355, 5hp, 440 volt, 3ph Motor

1-4 Feedwater Heater (HP) - Ross EU Shell & Tube Heat Exchanger with Level Control

1-2 Feedwater Heater (LP) - Ross EU Shell & Tube Heat Exchanger with Level Control

1-1 Feedwater Heater (LP) - Ross EU Shell & Tube Heat Exchanger with Level Control

1 thru 4 Extraction Steam Drain Traps

No. 1 Boiler Feed Pump - Byron Jackson SDMX 3x4x71/2 Pump with Elliot BA-586-S,
440 volt, 200hp 3ph Motor

No. 3 Boiler Feed Pump - (Common to Unit 1 and 2) Byron Jackson SDMX 3x4x71/2
Pump, with Elliot BA-586-S, 440 volt, 200hp 3ph Motor

M.C.C. 1 - 480V Motor Control Center with 20 cubicle/23 Breakers

M.C.C. 3 - 480V Motor Control Center with 22 cubicle/24 Breakers

(2) United Conveyor Boiler Bottom Ash Collection Hoppers and associated Ash
Handling System Pneumatic Conveyance Piping

(2) Grate Sifting Ash Collection Hoppers and associated Ash Handling System
Pneumatic Conveyance Piping

Feedwater/Boiler Chemical Feed System with one 50 gallon and two 120 Gallon Tanks and/or
Totes with Pumps

No. 1 Force Draft Fan - American Blower Size 397 Type AHS with GE Model
5K1504LMZ, 60hp, 440V Motor and Fisher Actuator 1061 Damper Control

No. 1 Over Fire Air Fan - with Milton Roy/Hayes Republic Damper Control and GE
SKE286AC115A, 40hp, 440V Motor

Unit 2 Turbine/Generator & Boiler Equipment

General Electric Generator Neutral Breaker

General Electric Excitation & Surge Protection Breaker,

General Electric Reactor - CLS - 80 volts, 200 amps, 16 KVA

CH Wheeler 2243-2, 8500sq-ft, 2 Pass (Turbine Steam) Surface Condenser with
Hotwell & Level Control, Air Ejector Trap

Building Heaters Drip Tank with Fisher Control Valve Type 667-ES

Bowser Turbine Oil Filter Tank 832P-2 with return pump and Vapor Extractor

Turbine Oil Tank (≈1,000 gals) with Steam Driven Oil Pump, Electric Oil Pump,
Vapor extractor, 2 shell & tube oil coolers, 1 Plate Style Auxiliary Oil Cooler with
Oil Circulating Pump

Sodium Bisulfite Chemical Injection System - Circulating Water Chlorine Scavenger

Turbine Steam Seal Gland Exhauster Water Eductor

2-1 Condensate Pump - Byron Jackson Type VC Pump, with GE Model 5K4324XJ2E1,
25hp, 440 volt, 3ph Motor

2-2 Condensate Pump - Byron Jackson Type VC Pump, with GE Model 5K4324XJ2E1,
25hp, 440 volt, 3ph Motor

2-1 FW Heater Drip Pump - Byron Jackson Type VTL-OOBCK Pump, with Louis Allis
SOGX, 5hp, 440 volt, 3ph Motor

2-2 FW Heater Drip Pump - Byron Jackson Type VTL-OOBCK Pump with Reliance
P18G1355-G6003, 5hp, 440 volt, 3ph Motor

2-4 Feedwater Heater (HP) - Ross EU Shell & Tube Heat Exchanger with Level Control

2-2 Feedwater Heater (LP) - Ross EU Shell & Tube Heat Exchanger with Level Control

2-1 Feedwater Heater (LP) - Ross EU Shell & Tube Heat Exchanger with Level Control

1 thru 4 Extraction Steam Drain Traps

No.2 Boiler Feed Pump – Byron Jackson SDMX 3x4x7 1/2 Pump with Elliot BA-586-S,
440 volt, 200hp 3ph Motor

M.C.C. 2 – 480V Motor Control Center with 21 cubicle/24 Breakers

Relay Panel Escanaba No.1, 69KV Transmission Line

(2) United Conveyor Boiler Bottom Ash Collection Hoppers and associated Ash
Handling System Pneumatic Conveyance Piping

(2) Grate Sifting Ash Collection Hoppers and associated Ash Handling System
Pneumatic Conveyance Piping

Feedwater/Boiler Chemical Feed System with one 50 gallon and two-120 gallon Tanks and/or
Totes with Pumps

No. 2 Force Draft Fan – American Blower Size 397 Type AHS with GE Model
5K1504LMZ, 60hp, 440V Motor and Fisher Actuator 1061 Damper Control

No. 2 Over Fire Air Fan – with Milton Roy/Hayes Republic Damper Control and GE
SK1365N5, 40hp, 440V Motor

System Equipment Common to Unit 1 & 2

Condenser Water Box & Bearing Cooling Water Vacuum Priming System with (2) Nash
Vacuum Pumps Size H4, (2) Delco F56, 5hp, 440V 3ph Motors, (1) Vacuum Tank,
Piping and Control System

RO System - American Industrial Shell & Tube Heat Exchanger (for Permeate Storage
Tank) Permeate Transfer Pumps (2), EBARA –EVMU 88 Pumps with Baldor
VM3616T, 7.5hp 3ph Motors

Demin System - 500 gallon Caustic Storage Tank and Transfer Pump, Permutit
Demineralizer with a 15gpm output and ≈16,000 gallon Regeneration Cycle

Compress Air System - Great Lakes Air Model # GTX-250A-436 Refrigerant Air
Dryer, Pioneer Air System Model R200A Refrigerant Air Dryer, House Air
Storage Tank No. 919490, Control Air Storage Tank No. 71949, Compress Air Storage
Tank No. 6662877, Worthington L-66287T Single Piston Horizontal Air Compressor with
GE 5K4324A2A1-A 25hp 3ph Motor, Joy Twistair TA-040T-AN4E Rotary Air
Compressor with Marathon CK 324TTDC6026AA 40hp 3ph 460V Motor,
Sullivan/Palatek 50 Rotary Air Compressor with Lincoln 50hp 3ph 460V Motor, Piping
and Control System

Ash Handling System – Makeup Water Pumps (2), Aurora Pump 79-08916-1
(100gpm/150ft head) with US Electric F7014-02-657 15hp 3ph 460V Motor,
Aurora Pump 79-08916-2 (100gpm/150ft head) with US Electric F7014-02-670
15hp 3ph 460V Motor

City Water System - Booster Pump A with Baldor Model 856000, 71/2hp Motor & Grundfos
Type CRS-80-U-6-A Pump, Booster Pump B with Louis Allis VM3709T, 71/2hp Motor &
Grundfos Type CP8KU Pump, Permutit BKE-204422 36 inch diameter Anthracite Water
Filter

Bearing Cooling Water System – (1) Twin Basket Strainer, Bearing Cooling Water
Pumps (2) Aurora Pump 01-345184 with Marathon Electric 8VF
215TTFS6526HTL 10hp 3ph 460V Motor, Aurora Pump 94-08833 Marathon
Electric 8VF 215TTFS6526HTL 10hp 3ph 460V Motor

Fire Suppression System & Equipment – Ansul Model A150-C Wheeled Cart Dry Chemical
Extinguisher, Numerous Handheld Dry Chemical Extinguishers throughout Plant and
Outbuildings, Deluge Wet Pipe System for Turbine Oil System

Coal Handling System – Track Hooper and 30' x 12' Linkbelt Conveyor with 2hp, 440V
Drive Motor, 24' x 12' Linkbelt Incline Conveyor with 7 1/2 hp 440V Drive Motor,
American Pulverizer AC-3 Rolling Ring Coal Crusher with GE 75hp 3ph 440V Motor,

PA System – Single Channel GAI-Tronic Page and Talk Intercom System with Hand Stations
throughout the Boiler/Turbine Building, Combustion Turbine, Precipitator Buildings and
Pump House

Mezzanine Level

Unit 1 Equipment

CH Wheeler 350lbs Two Stage Air Ejector #22444-1
CH Wheeler 350lbs Single Stage Hogger #2245-1
Condensate Control Valve - Fisher Type 657A

Unit 2 Equipment

CH Wheeler 350lbs Two Stage Air Ejector #22444-2
CH Wheeler 350lbs Single Stage Hogger #2245-2
Condensate Control Valve - Fisher Type 657A

1st Level/Operating Level

Unit 1 Equipment

Allis Chalmers SN-10696, 600 psig / 825 °F, 12,650 kw, 12,500 volts 625 amps
Turbine/Generator
Exciter Transformer - Oslum 75 KVA HVUS16-SMV75-OE4
Basler Electric DECS 400-N Generator Static Excitation System
Babcock & Wilcox Stirling Boiler No. 19572 with Economizer, rated at 125,000 lbs/hr Steam,
Design Pressure- 775psi/830°F, Detroit Stoker Rotor Grate with Variable Speed Drive,
Four Alstrom Maxifeed UT
Stokers with Alstrom Control Panel A83971
Auxiliary Overfire Air Fan (Buffalo Forge Fan with 10hp Marble Card Motor- Not in Service)
Ash System Collection Hoppers (4) with Manual Isolation Gates and Pneumatic Conveyance
Piping
Fisher Feedwater Control Valve Type 667 with Fieldvue Actuator

Unit 2 Equipment

Allis Chalmers SN-10697, 600 psig / 825 °F, 12,650 kw, 12,500 volts 625 amps
Turbine/Generator
Exciter Transformer - NWL 70 KVA
Siemens-Allis Type VQ Static Excitation System
Babcock & Wilcox Stirling Boiler No. 19571 with Economizer, rated at 125,000 lbs/hr Steam,
Design Pressure- 775psi/830°F, Detroit Stoker Rotor Grate with Variable Speed Drive,
Four Alstrom Maxifeed UT Stokers with Alstrom Control Panel A83971
Auxiliary Overfire Air Fan (Buffalo Forge Fan with 10hp Marble Card Motor- Not in Service)
Ash System Collection Hoppers (4) with Manual Isolation Gates and Pneumatic Conveyance
Piping
Fisher Feedwater Control Valve Type 667 with Fieldvue Actuator

Control Room

Delta V Boiler Control System with Monitor Screens, Recording Charts, Motor
Control Switch Panels, Turbine Control Panel, City Feeders Switch Panels, Escanaba
18 1/2 69kv Switch Panel, Combustion Turbine Monitoring Screen and Control System
Interface, Soot Blowing System Operating Controls, Opacity Monitor & Computer, Coal Scale
Controls, Liebert UPS CXT System, Two Desks, HP Laser Jet P20055AN Printer, HP Desk
840C Jet Printer, Dell Optiplex 990 Computer & Monitor, HP Laser Jet 1200 Printer, 3 Metal
Storage Cabinets, Two File Cabinets (4 drawer & 2 drawer), Danby Refrigerator, Amanda
Microwave Oven,

System Equipment Common to Unit 1 & 2

EDC Reverse Osmosis Water Purification System CP 3101 Clean-in-Place Skid
Two RO System Chemical Injection Totes with 80 gallon Tanks and Pumps
RO System Skid with Four Membrane Filters, Pump and Multimedia Filter
Boiler Water Sample Trough
Eye Wash Station Water Heater
480 Volt Load Center/MCC with Westinghouse DB 50, 25, & 15 Style Breakers - (10) Load
Control Breakers/Cubicles and (16) Motor Control Cubicles (12 breakers, 4 spares)
UCC Ash Handling System Control Panel
Escanaba #2 Line Relay Panel
30 Ton P&H Traveling Overhead Crane with 5 ton Auxiliary Hoist

Laboratory

Dell Optiplex 990 Computer with Monitor, Work Station with Sink, Desk, Exhaust Hood, Print Storage Cabinet, Glass Wall Cabinet, miscellaneous testing equipment

Electrical Shop

Two Desks, Work Table with Drawers, Shelving Unit, Two File Cabinets, Dell Optiplex 990 Computer with Monitor, HP Office Jet 6500 Printer, miscellaneous electrical supplies and tools
Greenlee 1818 Conduit Bender (Located in Warehouse)

Locker Rooms (2)

Shower Units, Clothes Lockers, Restroom Facilities

Miscellaneous

Westinghouse Washer & Dryer,
Turbine Parts
Spare DB 25 Breaker, DB 50 Breaker Spare for Parts

2nd Level/Mud Drum Level

Unit 1 Equipment

(2) Beaumont Birch 15 TPH Belt Feed Coal Scale (200lbs Bucket Load) with Stock Isolation Gate
(6) Diamond Power DB-9 Fixed Soot Blower (Economizer Section), (1) Diamond Power Diamond Power Retractable IK Blower (SH Section),
Phelps WRM - 261/83 Stoker Air Fan with 40hp, 460V Reliance Motor
Three Neundorfer MVC III Precipitator Control Panels

Unit 2 Equipment

(2) Beaumont Birch 15 TPH Belt Feed Coal Scale (200lbs Bucket Load) with Stock Isolation Gate (6) Diamond Power DB-9 Fixed Soot Blower (Economizer Section), (1) Diamond Power Diamond Power Retractable IK Blower (SH Section)
Phelps WRM - 261/83 Stoker Air Fan with 40hp, 460V Reliance Motor
Three Neundorfer MVC III Precipitator Control Panels

System Equipment Common to Unit 1 & 2

City Water Booster Pump Surge/Suction Tank

3rd Level/Steam Drum Level

Unit 1 Equipment

Mobre Type 2468 Hydrastep Drum Level Indicating System, Drum Bi-Color Gauge, Economizer Inlet Valve (manual)

Unit 2 Equipment

Mobre Type 2468 Hydrastep Drum Level Indicating System, Drum Bi-Color Gauge, Economizer Inlet Valve (manual)

System Equipment Common to Unit 1 & 2

UCC Air Washer/Steam Exhauster for Ash Conveying System, UCC Steam Jet and Venturi for Ash Conveying System, Fisher Type 667 Steam Control Valve Ash System, Fisher Type 667-ES Steam Block Valve Ash System, Pall HA Model 51HA4-0000A Desiccant Type Air Dryer, General Pneumatics Model GMD 30 Desiccant Type Air Dryer

4th Level/Deaerator Storage Tank Level

Unit 1 Equipment

Deaerator Storage Tank - Chicago Heater No.19577 (HSB 23997), Deaerator Dump Valve- Fisher Type 657-AR, Yokogawa ZR402C Flue Gas Oxygen Analyzer

Unit 2 Equipment

Deaerator Storage Tank - Chicago Heater No.19376 (HSB 23996), Deaerator Dump Valve- Fisher Type 657-AR, Yokogawa ZR402C Flue Gas Oxygen Analyzer

5th Level/No. 3 Heater (Deaerator) Level

Unit 1 Equipment

Deaerator / 3rd Point Feedwater Heater (Manufacturer Chicago Heater Company) Building Heat Supply Steam Control System

Unit 2 Equipment

Deaerator / 3rd Point Feedwater Heater (Manufacturer Chicago Heater Company) Building Heat Supply Steam Control System

6th Level /Coal Bunkers, Flight Conveyor Room

20" X 8" X 70' Linkbelt Flight Conveyor (82 Flights) with 10hp 440V Drive Motor, 109' Linkbelt Bucket Elevator (152 Buckets) with 30 hp 440V Drive Motor, Coal Bunkers ≈750 Ton Total Capacity

Outbuildings and Structures

Ash Silo

12 ft ID x 22ft 9in high Tiled Ash Storage Silo, UCC Model 1535/45 Paddle Mixer Unloader with Siemens 15hp 460 V Drive Motor and Water Spray Nozzles, UCC Rotary Vane Feeder Model 5-155581-G4 with Reliance 2hp 460V Drive Motor, UCC Bag/Filter Separator with Walk In Plenum and Auto Pulse Air System, Silo Vent Filter with Pulse Air System

Permeate Storage Tank

25,000 Gallon Insulated Stainless Steel Tank used for Boiler Make-Up Water Storage and Combustion Turbine Water Injection, Tank Fed from R.O. and Demineralizer Systems

Fuel Handling Building

1973 D6 Caterpillar Dozer, 2004 Komatsu WA 380 Loader, Two 1993 Ford LNT 8000 Tandem Axle Trucks with 25 CuYd Dump Box, 500 Gallon Fueling Station with Enclosed Containment Structure, Small Trailer with Holding Tanks used for Dust Suppression

Precipitators Buildings Units 1 & 2

Unit 1 Equipment

CE Walthers Precipitators - (3) 48KVA /50KVdc Transformer/ Rectifiers, ID Numbers 01-10321, 671-1, 01-10323, Anvil & Hammer Rapper System, Wire Frame and Plate Collection Fields, Inter-compartment Blower, Rapper Control System, Three Ash Collection Hoppers with Heaters and Vibrators, Buffalo 1200H-20 Induced Draft Fan with 400hp 460V GE 5KS511AN337MR Motor, Bearing Cooling Fan - Buffalo M747 with 5hp 460V Marathon Motor, Sick Optic Opacity Monitor with Blower, ISCO 4210 Ultrasonic Flow Meter with V Notch Flume (for monitoring water flow to Ash Pond)

Unit 2 Equipment

CE Walthers Precipitators - (3) 48KVA /50KVdc Transformer/ Rectifiers, ID Numbers 01-103210 01-10318, 01-10319, Anvil & Hammer Rapper System, Wire Frame and Plate Collection Fields, Inter-compartment Blower, Rapper Control System, Three Ash Collection Hoppers with Heaters and Vibrators, Buffalo 1200H-20 Induced Draft Fan with 400hp 460V GE 5K811052C60 Motor, Bearing Cooling Fan - Buffalo M746 with 5hp 460V Reliance Motor, Sick Optic Opacity Monitor with Blower

Stacks

Unit 1

150ft Gunitite Lined Steel Stack, 9ft Diameter Base with a 7ft Diameter Top

Unit 2

150ft Gunitite Lined Steel Stack, 9ft Diameter Base with a 7ft Diameter Top

Circulating Water Pump House

Circulating Water Surface Intake Structure Consisting of - (1) 35ft Long x 20ft Intake Trash Rack, (2) Pump Bays with Removal Intake Screens, (3) Type CAFV Size 20x24 Single Stage 8300 GPM Pumps with 125hp 440V GE 5K6325XC54A Motors, (3) Henry Pratt Butterfly Discharge Valves with Hydraulic Operators (30A715, 30A714, 30A713), (1) St Lawrence Hydraulic Company High Pressure Hydraulic System for Valve Operation, Chlorine Injection System, Electric Power Washer for Screen Cleaning

Ash Pond

Permitted Receiving Pond for Boiler Blowdown, Roof & Floor Drain System, Ash System Air Washer Discharge, R.O. and Demineralizer Systems Equipment Cooling Water and Storm Water Runoff

8' x 12' Wood Storage Shed

Containing Miscellaneous Lawn Maintenance Hand Tools and Equipment

8' x 40' Shipping Container

Containing Oil Booms, Combustion Turbine Parts and some Lawn Maintenance Tools

Substation

Combustion Turbine Vacuum Breaker 477, No.1 Generator OCB 51, No.2 Generator OCB 55, City Feeder No.1 - OCB 471, City Feeder No.2 - OCB 467, City Feeder No. 3 - OCB 475, City Feeder No. 4 - OCB 479, Escanaba No.1 Transformer - GE 12.5/69KV, 12/16MVA, OCB 695, Escanaba No.2 Transformer, RTE/ASEA 12.5/69KV, 12/16/20MVA, OCB 461, Bus Tie - OCB 455, 14.4 MVA Zig-Zag Grounding Transformer, GE A2550 12,470 Capacitor Bank, (Note Three Westinghouse Station Service Transformers rated at 1000KVA (13,200/480V) Located North Side of Power Plant)

Combustion Turbine

GE Turbine - LA Frame 5 Serial No. 179401, GE Generator - 21,176 KVA, Serial No. 8384301
100,000 gallon Fuel Oil Storage Tank with Lined Containment Structure, Fuel Forwarding and Water Injection Skid, Evaporative Air Intake Cooler, Station Service Transformer, Starting Diesel, Battery Skid



CITY COUNCIL/ELECTRICAL
ADVISORY COMMITTEE

May 9, 2012 – 6:00 p.m.
Regular Meeting

CITY COUNCIL

Leo Evans, Mayor
Brady Nelson, Mayor Pro-tem
Patricia Baribeau, Council Member
Ronald Beauchamp, Council Member
Walter Baker, Council Member

ADMINISTRATION

James V. O'Toole, City Manager
Robert S. Richards, CMC, City Clerk
Ralph B.K. Peterson, City Attorney
Mike Furmanski, Electrical Superintendent
Michael Dewar, City Controller
Thomas Butz, Power System Engineering

ELECTRICAL ADVISORY COMMITTEE

Tim Wilson, Chairperson
Ann Bissell, Vice Chairperson
Larry Arkens, Committee Member
Glendon Brown, Committee Member
Donald Racicot, Committee Member
John Anthony, Committee Member
Vacant Seat
Vacant Seat

Escanaba City Council Chambers: 410 Ludington Street - Escanaba, MI 49829

Regular Meeting Agenda
Wednesday, May 9, 2012

CALL TO ORDER
ROLL CALL
APPROVAL/ADJUSTMENTS TO THE AGENDA
CONFLICT OF INTEREST DECLARATION

NEW BUSINESS

7. **Approval – Environmental Remediation of Settling Ponds**

Explanation: Administration is seeking Council approval to hire Geosyntec Consultants to design, bid, and oversee the removal of arsenic contaminated soils at the bottom of the settling ponds on the power plant property.

GENERAL PUBLIC COMMENT
COMMISSION/STAFF COMMENT AND ANNOUNCEMENTS
ADJOURNMENT

The City of Escanaba will provide all necessary, reasonable aids and services, such as signers for the hearing impaired and audiotapes of printed materials being considered at the meeting to individuals with disabilities at the meeting/hearing upon five days notice to the City of Escanaba. Individuals with disabilities requiring auxiliary aids or services should contact the City of Escanaba by writing or calling City Hall at (906) 786-9402.

Agenda -May 9, 2012

Respectfully Submitted,

James V. O'Toole
City Manager

MEMORANDUM

To: Jim O'Toole

From: Mike Furmanski *MF*

Date: 08MAY12

Re: Geosyntec Consultants Proposal

On April 12, 2012, Erik Petrovskis of Geosyntec Consultants and I attended a meeting with the DEQ in Gwinn. At that meeting, it was explained to us that the best course of action would be to dredge the settling ponds to remove the source of the arsenic that has been found in the groundwater adjacent to the pond. I requested a proposal from Geosyntec to move forward with the pond dredging. Their proposal is attached. I would like to seek City Council approval at the May 9th EAC/CC meeting.

24 April 2012

Mr. Mike Furmanski
Electrical Superintendent
City of Escanaba
1711 Sheridan Road
Escanaba, MI 49829

**Subject: Proposal for Settling Pond Sediment Removal Bid Specifications
Escanaba Generating Station
2000 Power Plant Road
Escanaba, Michigan**

Dear Mr. Furmanski:

Geosyntec Consultants (Geosyntec) is pleased to provide the City of Escanaba (City) this proposal to prepare bid specifications and evaluate contractor bids for removing and disposing sediment from the settling ponds at the Escanaba Generation Station Property located at 2000 Power Plant Road, Escanaba, Michigan (Site). Sediment in the ponds is a source of elevated concentrations of arsenic in groundwater discharging to Little Bay de Noc. Based on our meeting with the Michigan Environmental Department of Quality Remediation Division on 12 April 2012, removal of arsenic-impacted sediment will facilitate closure of the site.

SCOPE OF WORK

Task 1: Bid Specifications and Drawings

Objective Prepare specifications for obtaining bids for removing settling pond sediment

Deliverables Bid specifications and drawings

Approach The bid specifications will specify mechanical dredging the sediments from the pond, placing saturated sediments in "frac tanks" to allow segregation of solids and decanting water, filtering decant water and returning the water to the pond, sending sediments to an offsite approved disposal facility, and obtaining bottom sediment samples for laboratory analysis.

Assumptions • The approximate pond dimensions are shown on the site plan

Mr. Mike Furmanski
24 April 2012
Page 2

- The berm in between the ponds will be removed by the Contractor
- The sediment can be disposed as non-hazardous waste and no further testing is required
- Contractor will conduct the work under OSHA 1910.120 (HAZWOPER)
- Closure documentation will be supplied to the Michigan Department of Environmental Quality at a later date, separate from this proposal.
- The following Specifications will be prepared:
 - Bid Form
 - Summary of Work
 - Measurement and Payment
 - Environmental Protection
 - Coordination
 - Regulatory Compliance
 - Submittals
 - Temporary Construction Facilities
 - Quality Control
 - Excavation and Disposal of Sediments
- Two drawings will be prepared (one plan and one details sheet)
- General Agreement for Construction will be provided by the City
- Health and Safety requirements will be addressed as a part of the City's General Agreement for Construction

Task 2: Pre-bid Meeting

Objective Provide an opportunity for Bidders to review the Site in preparing their bids

Deliverables Agenda, Meeting minutes

Approach Review Bid Documents with Bidders and address questions and provide contract addenda, if necessary.

Assumptions • Gary Daniels, Golder, will serve as Geosyntec's representative and will

20120424 Geosyntec Escanaba proposal

attend the meeting

Task 3: Contractor Evaluation

Objective Evaluate Bidders for removing settling pond sediment

Deliverable Summary Bid Evaluation Memorandum

Approach Evaluate Bids and provide a summary spreadsheet and a memorandum to facilitate the City's selection of a qualified Bidder for removing settling pond sediment and closing the pond.

PERSONNEL AND SCHEDULE

Erik Petrovskis, Ph.D., P.E., will serve as your Project Manager. He will be responsible for Geosyntec meeting the project scope, schedule and budget. He will provide regular reports to keep you informed of scope and budget status.

John Seymour, P.E., will lead the preparation of bid specifications. John is a licensed professional engineer in Michigan and has designed remediation projects, including sediment projects, and provided civil and geotechnical design engineering contract documents at power plant sites for over 30 years.

We understand that the City would like to conduct the sediment removal as soon as practicable. Geosyntec will complete the scope of work according to the schedule below:

Task	Completion Time
Bid Specifications	Within 4 weeks of authorization to proceed
Pre-Bid Meeting	Within 1 weeks of letting bids
Contractor Evaluation	Within 1 weeks of receiving bids

COST ESTIMATE

Geosyntec will conduct the scope of work described herein for the total estimated lump sum budget of \$14,500, as summarized below. We will not exceed this estimate without your written authorization. Geosyntec will invoice monthly based on the percent completion of each task. The

Mr. Mike Furmanski

24 April 2012

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work will be conducted in accordance with our Professional Services Agreement, dated 2 December 2011.

TASK		COST
Task 1	Bid Specifications and Drawings	\$11,000
Task 2	Pre-bid Meeting	2,000
Task 3	Bidder Evaluation	1,500
Total Budget Authorization Request		\$14,500

CLOSING

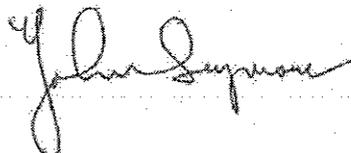
Geosyntec appreciates the opportunity to work on this assignment with the City. We look forward to initiating work upon receipt of your written authorization.

Very truly yours,

GEOSYNTEC CONSULTANTS



Erik A. Petrovskis, Ph.D., P.E.
Project Manager



John Seymour, P.E.
Principal