CITY COUNCIL/ELECTRICAL ADVISORY COMMITTEE

March 11, 2015 – 6:00 p.m.
Regular Meeting

CITY COUNCIL
Marc Tall, Mayor
Ronald Beauchamp, Mayor Pro-Tem
Patricia Baribeau, Council Member
Michael Sattem, Council Member
Ralph Blasier, 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

ELECTRICAL ADVISORY COMMITTEE
Tim Wilson, Chairperson
Ann Bissell, Vice Chairperson
Larry Arkens, Committee Member
Glendon Brown, Committee Member
John Anthony, Committee Member
Vacant Seat
Vacant Seat

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

Meeting Agenda
Wednesday, March 11, 2015

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

1. **Update - Electric Department –General Operations.**
   Explanation: Electrical Superintendent Mike Furmanski will update the City Council, Electrical Advisory Committee and Citizens of Escanaba on the current departmental activities.

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. **Update– Substation Repair/Replacement**
   Explanation: An update on the repair/replacement of the power plant substation will be provided.

4. **Update – Power Plant Sale.**
   Explanation: Sterling Energy Group, Inc has submitted a proposal to the City of Escanaba to purchase the power plant. The administration will update the City Council, Electrical Advisory Committee and the Citizens of Escanaba on the proposal. Representatives from Sterling Energy Group will be present to discuss their proposal.

Agenda - March 11, 2015

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

OFFICIAL PROCEEDINGS
CITY COUNCIL
ELECTRICAL ADVISORY COMMITTEE
CITY OF ESCANABA, MICHIGAN
Special Joint Meeting
Wednesday, February 11, 2015

Pursuit to a meeting notice posted February 6, 2015, the meeting was called to order by the Mayor Marc D. Tall at 6:00 p.m. in the Council Chambers of City Hall located at 410 Ludington Street.

Present: Mayor Marc D. Tall, Council Members, Patricia A. Baribeau, Ronald J. Beauchamp, and Michael R. Sattem.

Absent: Ralph B. Blasier.

Sattem moved, Baribeau seconded, **CARREID UNANIMOUSLY**, to excuse Council Member Blasier.

Present: Electrical Advisory Committee (EAC) Members: Chairperson Tim Wilson, and John Anthony.

Absent: Two vacancies, Power Plant Liaison, Larry Arkens, Ann Bissell, and Glendon Brown.

Also Present: City Manager James V. O'Toole, Electric Superintendent Mike Furmanski, City Controller Michael Dewar, City Attorney Ralph B. K. Peterson, Pro Energy Services, Inc. Representative Jack Scott, members of the public and media.

ADJUSTMENTS TO THE AGENDA

Beauchamp moved, Sattem seconded, **CARRIED UNANIMOUSLY**, to approve the Joint City Council & Electrical Advisory Committee Agenda as submitted.

CONFLICT OF INTEREST – None

NEW BUSINESS

Update - Electric Department –General Operations.

Electrical Superintendent Mike Furmanski updated the City Council, Electrical Advisory Committee and Citizens of Escanaba on the current departmental activities.

- Completed temporary service for an Industrial customer;
- LED street light replacement program on Lincoln Road was completed;
- Worked with Water department to thaw out two residential freeze ups.

Update– Operation and Maintenance of Power Plant – Pro Energy Services, Inc.

Jack Scott of Pro Energy Services, Inc. updated the City Council, Electrical Advisory Committee and Citizens of Escanaba on the status of the operation and maintenance of the power plant.

- Reviewed Unit starts for Units 1 & 2. CT unit was in outage due to burnt out oil heaters and a frozen water injection pump which was being rebuilt;
- No planned or Unplanned outages;
- One forced outage on Unit 1 and Unit 2 due to a tube leak in the boiler;
- Reviewed maintenance activities for the month;
- One Air Monitoring deviations in the month of January due to maintenance;
- No NPDES Permit or Water Monitoring Deviations for the month of January;
- No OSHA work or lost time injuries or accidents for the month.

Update– Substation Repair/Replacement/Restoration Project.

Manager O'Toole and Electric Superintendent Furmanski presented an update to the City Council and Electrical Advisory Committee on the progress of the substation repair, replacement and restoration project associated with the substation damage of February 2, 2015. (See Attachment – A)

- Reviewed Staff recommendations;
- Discussed testing performed by Energis that was accomplished to date;
- Discussed possible insurance settlements;
- Option #3 took care of the City needs immediately.

Beauchamp moved, Baribeau seconded, to approve option #3 as presented by City Administration for the Substation Repair/Replacement/Restoration Project.

Upon a call of the roll, the vote was as follows:

Ayes: Beauchamp, Baribeau, Sattem, Tall
Nays: None

MOTION CARRIED.

Administration advised further updates would be presented to Council as information was received.

GENERAL PUBLIC COMMENT

City resident James Hellermann questioned Administration on the length of down time when construction was being accomplished. Mr. Hellermann concluded by stating how appreciative he was for all the individual work to bring the City back online.

COUNCIL/COMMITTEE, STAFF REPORTS – None

ADJOURNMENT

Hearing no further public comment, or further reports from the Electrical Advisory Committee or Council, the meeting adjourned at 6:57 p.m.

Respectfully submitted,

Robert S. Richards
City Clerk

Approved: _____
Marc D. Tall, Mayor

City of Escanaba Substation Incident
February 2, 2015

Presented to the City Council and Electrical Advisory Committee
February 11, 2015

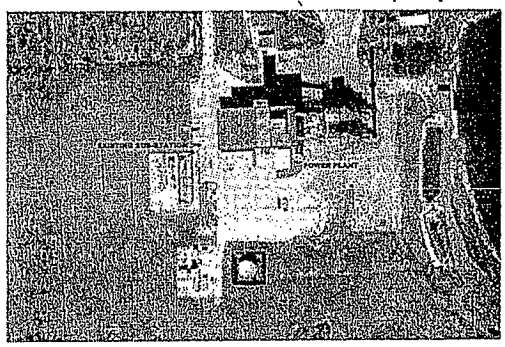
Discussion Topics

- Background
- Council approvals to date
- Insurance
- MISO SSR Responsibility
- Preliminary Substation Damage
- Preliminary Power Plant Damage
- Preliminary Combustion Turbine Damage
- Substation Restoration Options
- Substation Restoration Summary
- Staff Recommendation
- Q/A

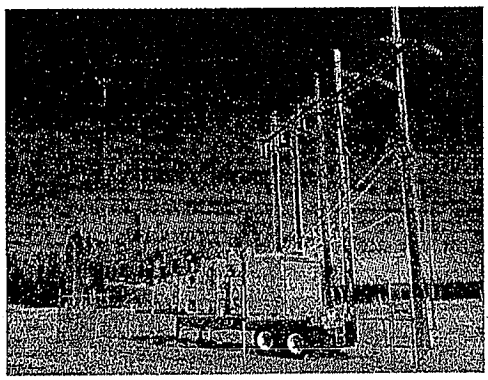
Background

- On February 2, 2015 at approximately 1:30 am, an explosion occurred at the power plant substation which resulted in a fire with major damage to the substation, power plant and combustion turbine.
- City crews worked to restore power through the West Side Substation.
- Contractors worked to install a mobile substation adjacent to the power plant substation to provide electricity to our customers.
- The mobile substation was energized at 5:45 am on February 3.

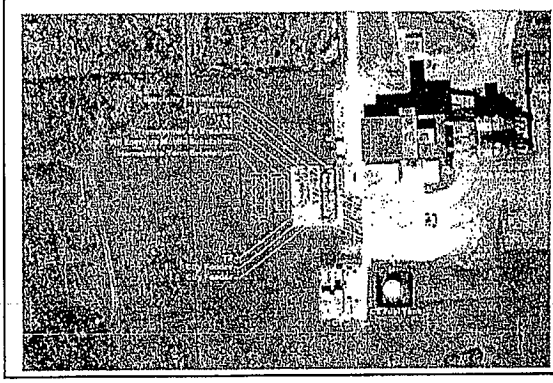
Aerial View of Power Plant Property



W.E. Mobile Substation



Existing Substation Diagram



Council Approvals to Date

1. Purchasing Policy Waiver – On February 5, 2015, the City Council approved a temporary waiver on purchasing policy requirements for work associated with the substation damage of February 2, 2015.

Council Approval to Date - Continued

2. Emergency Response Cost/Repair/ Replacement/Restoration Costs – On February 5, 2015, the City Council authorized to pay for all initial emergency response costs and future costs associated with the substation damage including, but not limited to, the deployment of resources, labor, materials, repair/replacement/restoration of damaged equipment, fuel, supplies, engineering design, permits, legal costs (SSR matters) and any other costs related to the substation incident up to $1 million.

Council Approval to Date – Continued

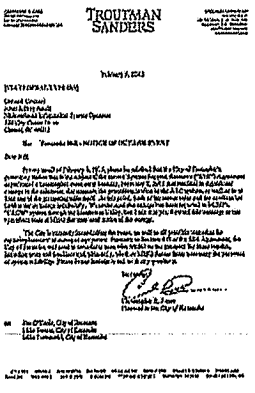
3. Mobile Substation Lease - On February 5, 2015, the City Council approved an "Equipment Lease" between the City of Escanaba and the Wisconsin Electric Power Company for the use of a mobile substation, temporary fencing, wiring and other miscellaneous materials needed until a more permanent substation solution is engineered, constructed and energized.

Insurance

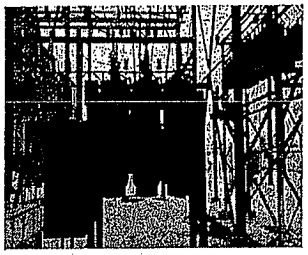
- The insurance adjuster came to the site on February 3, 2015, and conducted a preliminary investigation. At that time, the City was advised to stop testing pending further instruction from the insurance company.
- On February 6, 2015, the insurance company provided authorization to continue testing equipment.
- Testing was resumed on February 9, 2015.
- Beginning February 23, 2015, the City insurance company will be sending a Claim's Manager, Independent Claim's Adjuster, an Expert on subrogation rights, an Expert on cause and an Expert on boiler and maintenance matters to further investigate our claim.

MISO SSR Requirement

Pursuant to Section 9.G of the SSR Agreement, the City of Escanaba is required to coordinate with MISO on the prospect for repairs, including costs and timeliness and, ultimately, whether MISO deems them necessary for purposes of system reliability


TROUTMAN SANDERS

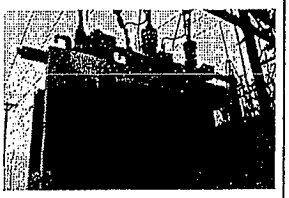
Preliminary Substation Damage



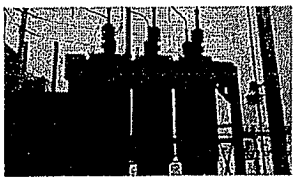
15kV Oil Circuit Breaker 467 is a complete loss. Likely a total loss.

Preliminary Substation Damage Continued

15kV Oil Circuit Breaker 467 C phase bus side bushing failure. Likely a total loss.



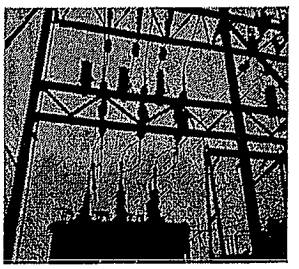
Preliminary Substation Damage Continued



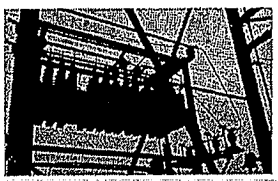
15kV Oil Circuit Breaker 471 received damage to the bus side bushings due to oil contamination, particulate, arch flash and blast from Oil Circuit Breaker 467. Likely a total loss.

Preliminary Substation Damage Continued

South main bus and tertiary bus structure, line and bus disconnects, line surge arresters all receive heat damage and contamination. Likely a total loss.



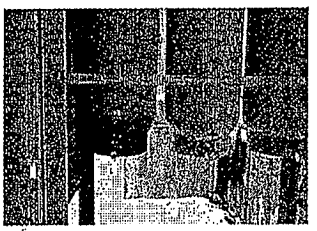
Preliminary Substation Damage Continued



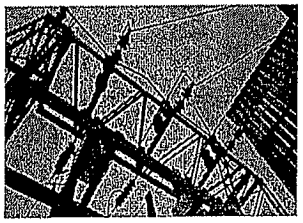
5.4MVAR Capacitor bank receive heat damage, contamination, and broken insulators from molten and dissipated debris.

Preliminary Substation Damage Continued

15kV GEN #1 Oil Circuit Breaker 451 and Oil Circuit Breaker 455 both show signs of heating on C phase tanks.



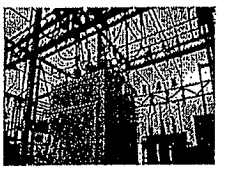
Preliminary Substation Damage Continued



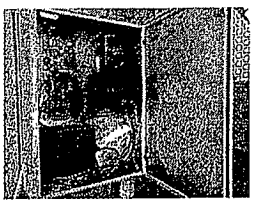
69kV disconnect 692 was found inoperative due to seized mechanism and will need to be replaced.

Preliminary Power Plant Damage

15kV Vacuum Breaker Circuit 479 and GEN#2 Vacuum Breaker Circuit 455 both need external cleaning of bushings and should be maintenance tested for electrical quality prior to return to service. Mechanical inspection shows units should be functional and returned to service upon minor reconditioning.



Preliminary Power Plant Damage Continued



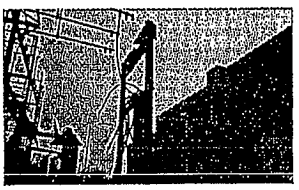
RTU in Power Plant. A complete loss.

Power Plant Updates

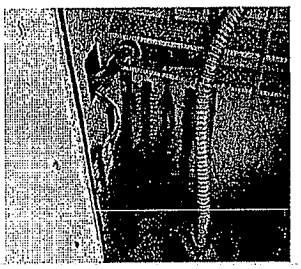
- The steam generator leads, station service transformer leads, station service transformers, switch gear leads, and generator breakers were tested on February 10, 2015, and were mostly found to be in good condition. The 480 V bus off of the #1 station service transformer needs to be repaired.
- Further testing in the Power Plant is scheduled for February 12, 2015.

Preliminary Combustion Turbine Damage

15kV Combustion Generator riser and underground cables burned from the bus and will need to be replaced.

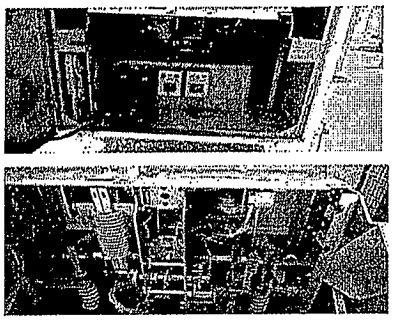


Preliminary Combustion Turbine Damage Continued



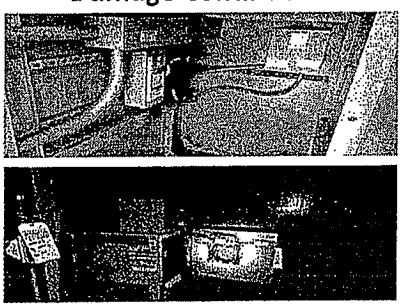
Gas combustion turbine controls and related auxiliary systems. Multiple points of burned control wiring include output breaker enclosure, battery charger, and main control/relay panels.

Preliminary Combustion Turbine Damage Continued

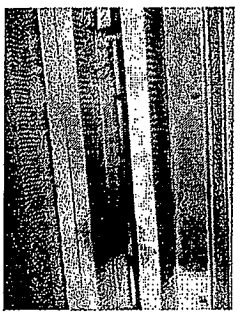


Preliminary Combustion Turbine Damage Continued

Preliminary Combustion Turbine Damage Continued



Preliminary Combustion Turbine Damage Continued

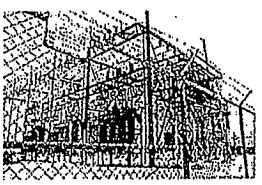


Combustion Turbine Generator Update

- On February 10, 2015, a partial visual inspection was completed on the combustion turbine generator. In the course of the evaluation, obvious damage to the power cables, breaker, battery charger, relays, control wiring and other equipment was observed.
- Additional testing of the combustion turbine generator will be needed to determine the extent of the damage.
- Many parts in the combustion turbine generator will need to be replaced.

Substation Options - Overview

1. Fix all existing issues within the existing substation
2. Fix part of existing substation
3. Construct new intermediate substation adjacent to the existing substation
4. Combine new intermediate substation and partially repair existing substation
5. Construct new intermediate substation at permanent location on 20th Avenue North



Option #1
Fix All Existing Issues Within the Existing Substation

- New transformer #2, new feeder, generation and transmission breakers, new controls/relays, new control cables, new fence/grounding, new switches and structures, new capacitor bank, new metering, new power cables
- Estimated cost to complete $4,000,000
- Estimated time to complete is 40 weeks +/-

Fix All Existing

Pro's
- Can support generation
- Don't need more grading/earthwork
- Can use two existing 15kV breakers
- Controls are routed to plant control room
- Provides electrical path for plant aux power
- Adds line relaying

Con's
- Need to find second power transformer (could be 6 months or more)
- Need multiple new breakers
- Don't know extent of control system damage/replacement
- Costs more than Temporary or Partial Fix option
- Cleanup has to occur before return-to-service
- Can't start until insurance survey is completed
- Most expensive option
- Will not be completed in time for "summer peak"

Option #2
Fix Part of Existing Substation

- Move T1 to T2 location to utilize existing transmission line termination/switch, install stock gas breaker, relay panels, 15kV bus breaker, move two feeder breakers, extend two feeder overhead lines to new bays, abandon south four bay positions, install temporary control building/battery system, cables for new protection relays.
- Estimated cost to complete $800,000
- Estimated time to complete 8 weeks +/-

Partial Fix Existing

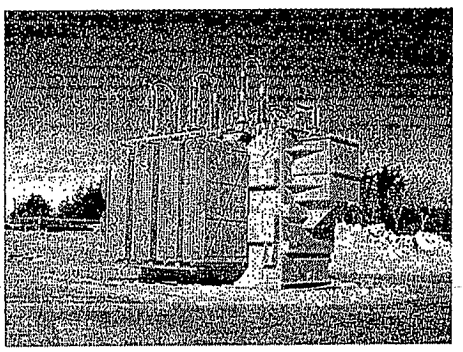
Pro's
- Can support generation
- Don't need more grading/earthwork
- Can use two existing 15kV breakers
- Controls are routed to plant control room
- Provides electrical path for plant aux power
- Faster and cheaper plan than Fix All
- Adds line relaying

Con's
- Does not have full capacity for loss of West Sub (only 2 feeders).
- Don't know extent of control system damage/replacement
- Costs more than Intermediate
- Cleanup has to occur before return-to-service
- Impedes T2 repair/replacement

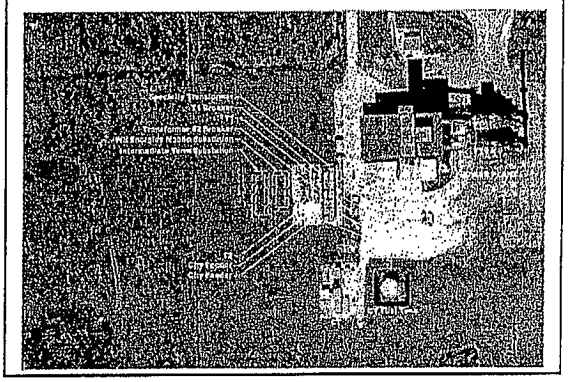
Option #3
Construct New Intermediate Substation Adjacent to the Existing Substation

- Grade and fence area west of existing sub under ESC #2 line, move and set 69kV breaker, spare transformer, relay panels and install four (4) temporary cable feeder lines to connect to existing overhead feeder lines. Requires temporary control enclosure/battery/grounding-tie to existing substation grounding grid for support.
- Estimated cost to complete $500,000 (with the use of our on-hand transformer and other on-hand equipment)
- Estimated time to complete 4 weeks +/-

TRANSFORMER



Intermediate Term Substation Relocation Site



Intermediate at Power Plant

Pro's
- Fastest full capacity backup for West Sub/all of City
- Controllable Schedule – all new/no surprises
- Implementation does not require assessment of existing damaged equipment nor does proceeding with the plan impede insurance survey.
- No reliance on existing/damaged infrastructure
- Does not hamper repair option if generation is needed
- Quickest way to return leased mobile sub to WE Energies

Con's
- Some grading/earthwork/ fencing required
- Some construction/grounding will be abandoned when complete.
- Needs temporary feeder tie lines.
- Costs to relocate equipment to permanent site once that project is complete.
- Does not support generation restoration

Option #4
Combine New Intermediate Substation and Partially Repair Existing Substation

- Construct temporary sub first to mitigate public safety/operational risk concerns (get full-capacity backup)
- Damage assessment then fix existing substation to get some generation plus two feeder outlets
- Shares control enclosure, battery system, grounding, line protection panel
- Estimated cost to complete $1,200,000 (as we will share some work if we do Option #3 then have to extend it to Option #4)
- Estimated time to complete 8 weeks +/-

Intermediate at Power Plant + Partial Fix

Pro's
- Full capacity backup for West Sub/all of City first and fastest
- Provides generation outlet
- Does not require second power transformer nor replacement of some breakers which results in less cost than fix all option
- Isolates generation controls from substation/feeder controls
- Adds line protection relaying

Con's
- Some grading/earthwork/ fencing required
- Some construction/grounding will be abandoned when complete.
- Needs temporary feeder tie lines.
- Costs more than single options.
- Costs to relocate equipment to permanent site once that project is complete.

Option #5
Construct New Intermediate Substation at Permanent Location on 20th Avenue North

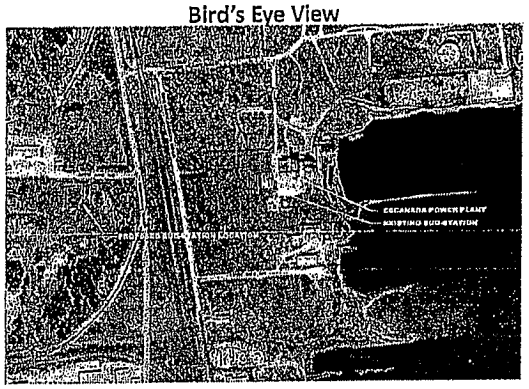
- Grade and fence undefined total substation area, install grounding grid, concrete foundations, cable raceways, ask ATC to build temporary transmission line extension, install spare transformer/69kV breaker/ switches /steel/concrete pads/building, control systems.
- Estimated cost to complete $2,000,000
- Estimated time to complete 50 weeks +/-

Intermediate at Permanent Location

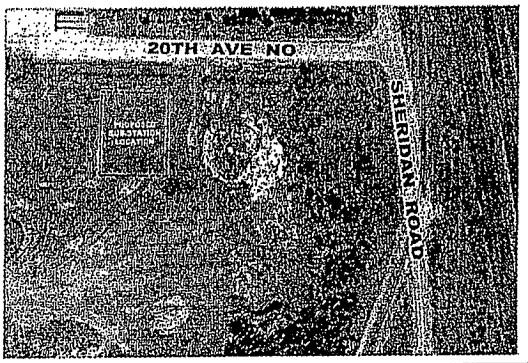
Pro's
- Full capacity backup for West Sub/all of City
- Does not require equipment relocation when complete

Con's
- Complete grading/earthwork/fencing required
- Winter construction for subgrade excavations
- Requires more design time for foundations/steel structures
- Have to work around energized equipment for completion of project
- Coordination/design details not vetted
- Takes longer to implement than other options
- Will not be completed in time for "summer peak"

Siting Location in Relation to Power Plant – Bird's Eye View



Siting Location in Relation to Power Plant – Close Up



Restoration Option Summary

Option	Estimated Cost	Estimated Timeframe
#1 Fix All of Existing Substation	$4,000,000	40 weeks +/-
#2 Fix Part of Existing Substation	$600,000	8 weeks +/-
#3 New Intermediate Sub near Power Plant	$500,000	4 weeks +/-
#4 New Intermediate and Partial Fix of Existing Substation	$1,200,000[1]	8 weeks +/-
#5 New Intermediate Sub at Permanent Location	$2,000,000	50 weeks +/-

[1] As we will share some work if we do Option #3 then have to extend it to Option #4.

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Staff Recommendation

- Staff is recommending Council approve proceeding with Option 3 which is the fastest path "to normal" distribution strength. Additionally, it is the least cost option and can be turned into Option 4 if MISO determines that our generation must be placed back in service.
- It is the opinion of staff and others that Option 1 and 5 will take too long to complete and will not be ready and able to support City load in the months of June to September.
- It is the opinion of staff and others that Option 2 places the City of Escanaba in a vulnerable situation should something occur at the west side substation.
- Depending on the needs of MISO, Option 4 is an extension of Option 3 which would allow generation to be added to the system should MISO call for that.

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NB# 1
CC/EAC 3/11/15

Average Revenue per kWh, 2013
(in cents)
U.P. of Michigan and Wisconsin

	Residential Rev/kWh	Commercial Rev/kWh	Industrial Rev/kWh	Total Rev/kWh
Michigan				
Publicly Owned	12.1	10.8	8.5	10.4
Investor-Owned	14.8	11.6	8.1	11.8
Cooperative	14.2	10.6	8.4	12.2

U.P.	Residential	Commercial	Industrial	Total	Rank
Wisconsin Public Service Corp	10.0	10.1	5.7	7.2	1
Wisconsin Electric Power Co	16.5	14.4	6.8	8.4	2
Escanaba City of	**10.5**	**8.9**	**8.0**	**8.9**	**3**
Daggett Village of				9.5	4
Cloverland Electric Co-op	11.0	10.1	7.2	9.7	5
Northern States Power Co	11.0	9.8	7.0	9.7	6
Marquette City of	10.4	9.5	-	9.8	7
Newberry Water & Light Board				9.9	8
Wakefield City of				10.2	9
Stephenson City of				11.4	10
Gladstone City of	12.5	12.3	-	12.4	11
Norway City of	13.4	12.3	-	12.9	12
L'Anse Village of	13.5	12.8	-	13.1	13
Upper Peninsula Power Co	20.5	15.7	5.7	13.1	14
Baraga Village of	13.2	13.2	-	13.2	15
Negaunee City of	15.9	11.6	-	13.8	16
Crystal Falls City of	15.3	12.6	-	13.9	17
Alger-Delta Coop Electric Assn	20.6	15.6	13.7	18.7	18
Ontonagon County R E A	NA	NA	NA	23.6	19

Wisconsin				
Wisconsin Public Service Corp	13.0	9.6	6.1	9.2
Wisconsin Electric Power Co	14.8	11.9	8.5	11.8

Source: U.S. Department of Energy, Energy Information Administration, Form EIA-861, 2013 data.
Prepared February 2015 by the American Public Power Association, Department of Statistical Analysis.
Revenue per kilowatt hour data represent full-service sales only.
See final tab, "Unbundled Sales," for unbundled rates.

* Note: State revenue per kilowatt-hour totals include only utilities that report data on Form EIA-861, long form.

NB# 2
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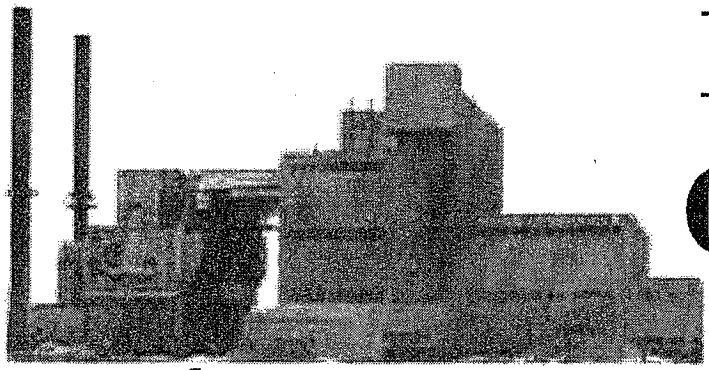
3/11/15

Escanaba Operating Services
Monthly Report
February 2015



Escanaba Generating Station

Escanaba Operating Services

Executive Summary

The power plant operating statistics for the month of February 2015 are described in the tables below.

Key Performance Indicators

Measure	Unit of Measure	Month	Year to Date
Steam Plant Gross Electrical Generation	MWH	3	6717
Unit 1 Net Electrical Generation	MWH	0	3026
Unit 2 Net Electrical Generation	MWH	0	3074
Unit 1 Hours of Operation	Hours	2.2	486.2
Unit 2 Hours of Operation	Hours	0	454
Coal Consumption	Tons	11.9	3638.91
Coal on Dock	Tons	1513.39	1513.39
Steam Plant Net Heat Rate	BTU/KWH	13800	13800
Plant Availability	%	4%	53%
Combustion Turbine Gross Electrical Generation	MWH	0	0
Combustion Turbine Station Service	MWH	0	52
Combustion Turbine Hours of Operation	Hours	0	0
Fuel Oil Consumption	Gallons	0	0
Combustion Turbine Availability	%	0%	0%

Operations Summary

Unit Starts

Unit 1 was started in February 2015.

Unit 2 was not started in February 2015.

The CTG is Out of Service. The CT Generator Leads were melted during a ground fault incident.

Unit	Date	On-Line Time	Off-Line Time	Reason
1	2-1	2305		MISO Request
1	2-2		0115	Substation Event
2	NA			
CT	NA			

Unit Trips and Unplanned Outages

There were no Unit trips or unplanned outages.

Unit	Date	Breaker Open Time	Unit Released	Duration (Hours)	Cause
1	2-2	01115	NA	Ongoing	Substation Event
2	None				
CTG	None				

Planned Outages

There were no planned outages during the month.

Unit	Start Date	Start Time	End Date	End Time	Cause
1	None				
2	None				
CTG	None				

Forced Outages /Load Limitations

There was one forced outage on Unit 1 and Unit #2 due to a substation event.

Unit	Start Date	End Date	End Time	Load Limit	Cause
1	2-2	NA		NA	Substation Event
2	2-2	NA		NA	Substation Event
CTG	2-2	NA		NA	Substation Event

Maintenance Activities

Plant Major Maintenance Activities for February 2015.

Unit 1 and 2

On February 2nd, at 1:15 AM, Unit #1 was online when the substation had an event which trip off Unit #1 Generator and all power to the plant was lost. The substation was reported to have a fire in it and glowing metal during the event that caused the loss of power and the generator trip. Call outs were made to maintenance crew and management about the event. Maintenance crew immediately began working on getting temporary power for strictly the diesel and propane heaters along with temporary string lights in the plant to keep the plant from freezing up.

The facility was able to use 5 gas generators in the beginning to power the string lights and heaters. On February 3rd, a large diesel generator was rented to allow for temporary power to replace 3 of the gas generators. After an assessment of the plant, provisions were made to use the diesel generator to provide power to some of the MCC breakers to allow for plant lighting, heat and office power.

Energis was brought in test the 3 station power transformers to insure that were not damage during the event and the tested within specs along with the bus work. Also, L&S Electric was brought in to test the Switch Gear to ensure if powered up they would not fail. All of the Switch Gears tested within specs. On February 13th, power was feed from the distribution lines into the #3 station service transformer so that power could be restored to the plant and the diesel

generator could be returned. L&S Electric was brought in a different date to test the generator leads and generator rotor. They also tested within operating limits.

Combustion Turbine

The Combustion Turbine during the substation event sustained major damage to the power leads leading going to the Combustion Turbine from the substation. The Combustion Turbine sustained other damage to its battery and electrical components but a full list had not been developed yet.

Balance of Plant Outstanding Issues

- 2 Operating Stations are no longer working due to the event
- 2 variable frequency drives for the #1 Boiler coal conveyors and rotor are not working
- No power can be sent out to the grid until the substation is repaired
- Waiting on the City and MISO to determine repair options.

Emissions Compliance Overview-Air/Water

- There were no Air Monitoring deviations in the month of February.

Air Monitoring Deviations

Start Date	Start Time	End Date	End Time	Opacity Parameter	Cause

Water – NPDES Permit Deviations

- There were no NPDES violations during the month of February.

Water – Groundwater

- There were no Groundwater deviations during the month of February.

Water Monitoring Deviations

Start Date	End Date	Parameter	Cause
None			

Occupational Safety and Health Overview

OSHA Summary of Work Related Injuries and Illnesses

1) There were no OSHA work related injuries or illnesses during the month of February.

EH&S Incidents – (Near Misses and/or Property Damage)

1) There were no lost time accidents, near misses or property damage during the month.

Labor Statistics Labor Statistics (Note: These statistics are for the 2015 calendar year from Jan 1 through December 31.)

Item	Month	Year to Date
Total Man-Hours Worked	2725.5	6112.5
Total Number of Standard Time (ST) Hours	2284.75	4867.25
Total Number of Overtime (OT) Hours	180.75	636.25
Total Number of Double Time (DT) Hours	260	609

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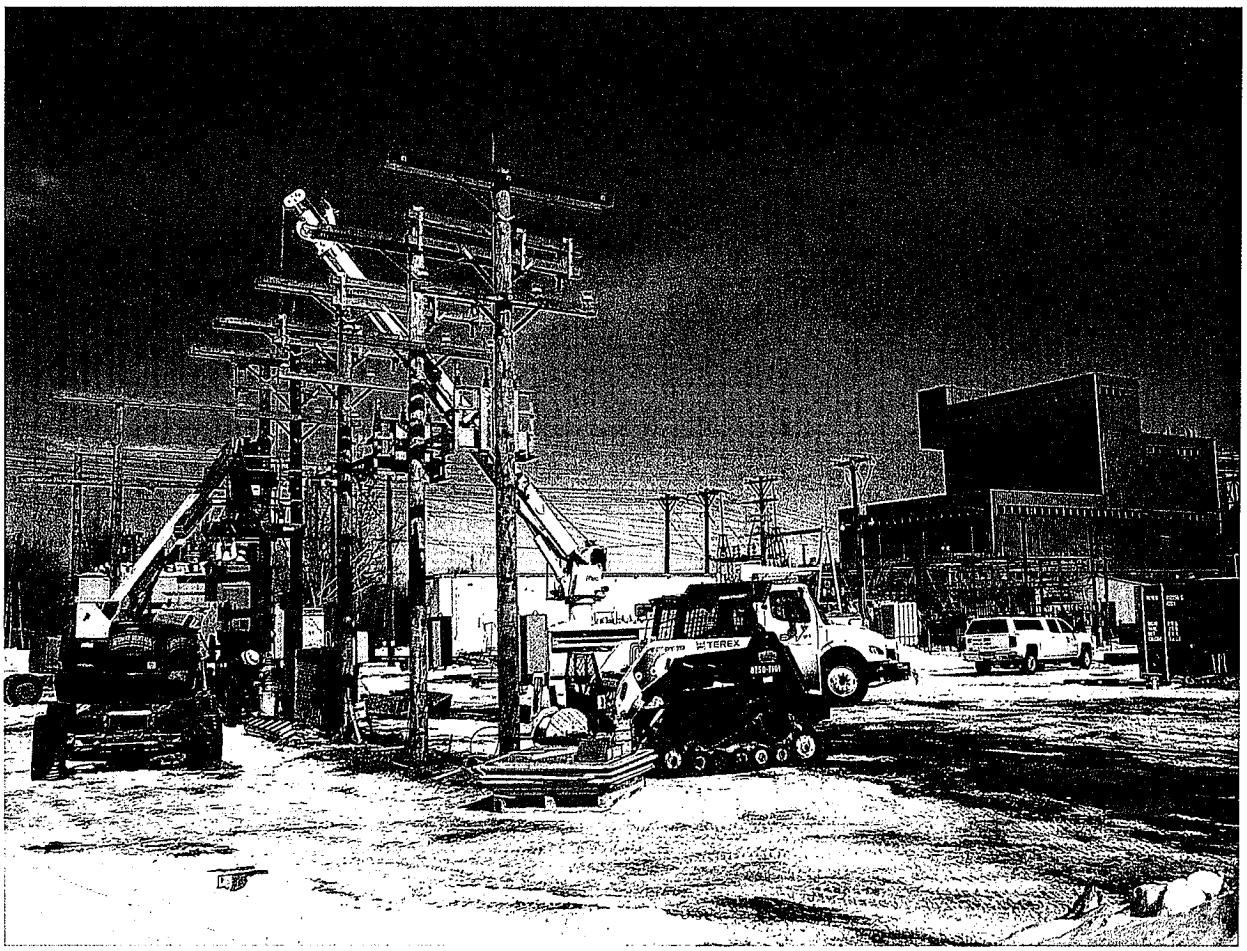
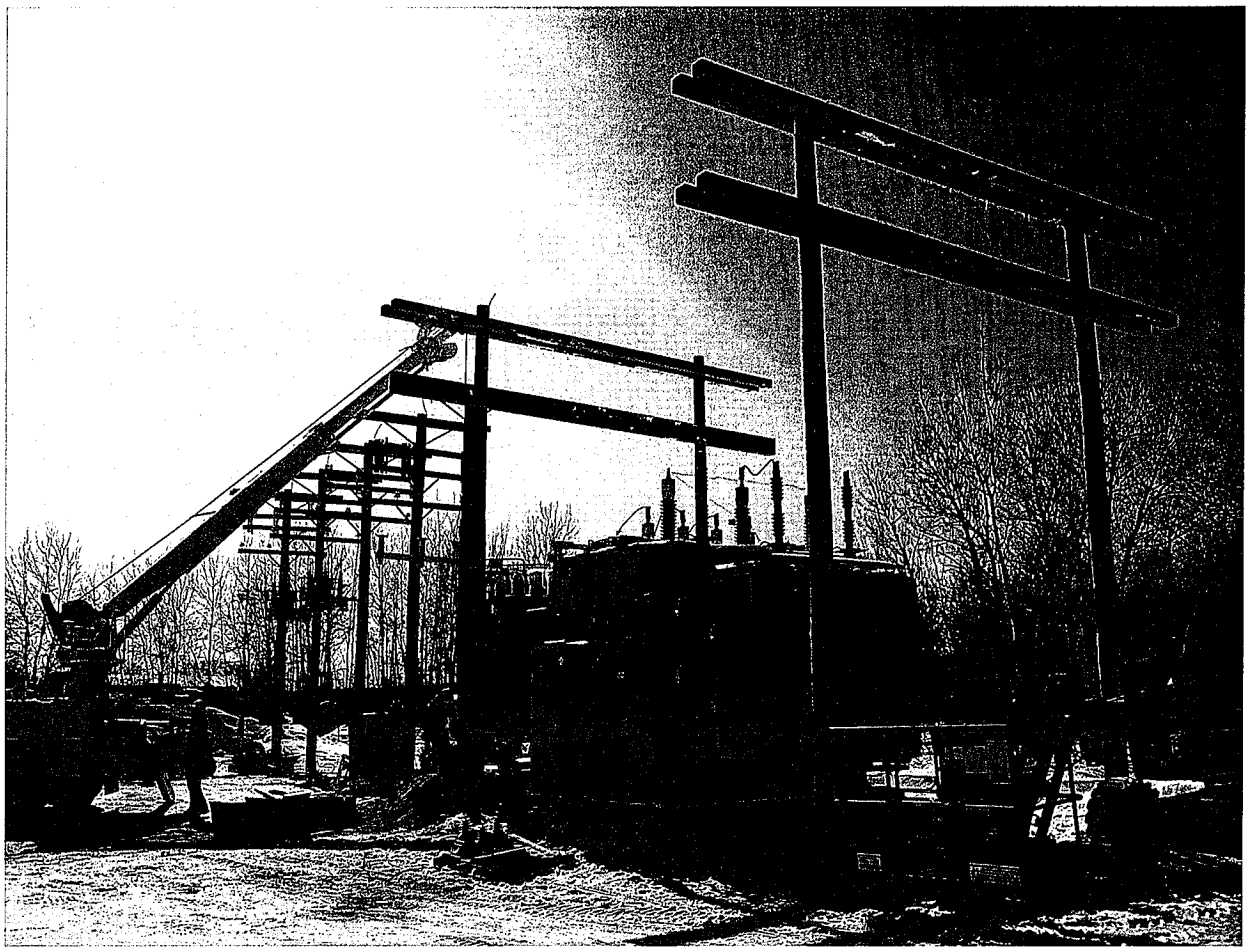




NB #4

CC/EAC

3/11/15

Sterling Energy Group, Inc.
532 Connecticut Street
Gary, IN 46402
Phone (219) 886-0661
Facsimile (219) 886-1388

Thomas Butz
Power System Engineering, Inc.
10710 Town Square Drive, NE, Suite 201
Minneapolis, MN 55449

Dear Mr. Butz,

Sterling Energy Group, Inc. (SEG) desires to make the following proposal to the City of Escanaba for the purchase of the power plant located at 2000 Power Plant Road, Escanaba, MI:

SEG proposes to pay at closing, $250,000.00 USD for the plant property and equipment. In addition to the purchase from the City of Escanaba, SEG will enter into an agreement with Escanaba Green Energy, LLC and Charles Detiege has agreed to remain involved in the project as a local Manager for SEG.

We estimate that approximately forty million dollars will be required to successfully convert this facility to use biomass as a fuel. Our purchase is contingent on the successful completion of tax exempt bond financing. Additionally, the agreement to purchase must be assignable to enable the assets to be transferred to a special purpose entity to be created as a part of the bond financing.

Upon execution of a term sheet, SEG will post a $200,000.00 non-refundable deposit for the purpose of paying the past due legal bills for the City of Escanaba law firm and an advance on legal work required on behalf of the City of Escanaba for the SEG transaction. SEG fully understands that in the event the transaction does not close prior to June 15, 2015, it will have to apply for a new MISO interconnection agreement since the City of Escanaba has applied to MISO for facility retirement. Upon financial close, SEG can work with the City of Escanaba and MISO to time the actual shutdown of the plant to make the conversion to biomass. All of the fuel handling systems can be in place to minimize the plant downtime. In the event that power is needed for the area, SEG can defer such shutdown for conversion until as late as December 2016 to allow transmission upgrades to complete prior to the plant coming offline for the conversion. SEG also understands that post closing, it will be responsible for all operating costs of the plant, even if the SSR from MISO is discontinued. Operating costs during conversion will be included in the bond proceeds and capitalized as a part of the converted facility.

The financing effort will require governmental approvals at the City, County, and State; therefore SEG requests that it has until September 30, 2015 with an automatic three month extension provided that SEG is actively engaged in the financing effort. Under no circumstance will the City of Escanaba be obligated to consummate a sale of the facility later than December 31, 2015, unless an agreed extension is granted solely at the discretion of the City of Escanaba.

Sterling Energy Group, Inc.

Sterling Energy Group, Inc. (SEG or the Company), is a holding company based in Gary, Indiana, Through its wholly owned subsidiaries, Sterling Energy, LLC, Crawfordsville Energy, LLC, Kentucky Natural Gas and Oil, Inc. (and subsidiaries), and Niagara Generation, LLC (NiGen), the Company owns and operates power generation facilities as well as an oil and gas field with approximately 100 miles of natural gas pipeline. SEG is incorporated in the State of Indiana.

Through its operation of Niagara Generation, SEG has developed an opportunity that could make the Escanaba plant productive, thereby preserving and adding jobs and economic development to the entire region.

Niagara Generation Overview

The Niagara Generating Facility (the "Facility" or "NiGen") is an operating 51 MW (gross) biomass and coal fired Facility in Niagara Falls, NY, operating on a merchant basis, selling electricity into the NYISO Zone "A" market. The Facility restarted in January of 2014 under a modified Title V air permit which allows for the combustion of Clean C&D Wood, as well as TDF, Coal, Green Wood and pet coke. In addition, generation from Clean C&D Wood has been accepted by New York State Energy Research and Development Authority ("NYSERDA") for REC credit under the New York State RPS program administered by NYSERDA. Niagara currently sells 95% of its RECs to NYSERDA under a contract through May of 2017. The pro forma operating profile of the plant calls for approximately 90% of the MWH's generated to come from the combustion of biomass and 10% from the combustion of coal.

Facility Ownership

Sterling Energy Group, Inc. (SEG) is the 100% owner of the Facility through its 100% ownership of Niagara Generation, LLC ("NiGen").

SEG is a private energy corporation with generating assets owned in Niagara Falls, NY and Crawfordsville, IN. SEG also owns and operates an oil and gas field with over 100 miles of natural gas transportation assets in Bowling Green, KY. SEG is an Indiana corporation with its headquarters in Gary, IN.

Facility Details

- Location: 5300 Frontier Avenue, Niagara Falls, NY;
- Nameplate Capacity: 51 MW (gross); 40 to 45 MW (net) depending on fuel mix, projected to be 42MW (validated by recent SEGA Engineering Study);
- Technology: Circulating Fluidized Bed (CFB) boiler;
- Emissions Mitigation: Baghouse, ammonia and limestone injection;
- Projected Capacity Factor: 85% of net capacity, annually;

- Fuel Types:
  - *Clean C&D Wood* – Wood is sorted and separated Clean C&D Wood meeting all NY Department of Environmental Conservation and NYSERDA requirements for combustion and eligibility for REC's. Wood to be burned in the future at the Facility has a typical heat content of 5,500-7,000 Btu/lb, sulfur content of approximately 0.1%, ash content of 3-6%, and moisture of about 20%;
  - *Coal* – 10% coal is only utilized for flame stabilization and to create the heavy ash bed required for the CFB technology
- Permitting Approvals: All operating permits are in place for the Facility.

History: Coal to Biomass Conversion

NiGen was one of the first coal-to-biomass conversion projects in the United States. US Renewables Group acquired NiGen in 2007 and invested an additional $35 million in NiGen to refurbish the Facility and convert it to biomass operations. The investment included operating expenses during the conversion. This was completed in April 2008.

Prior to US Renewables Group's acquisition and investment, NiGen had a poor performance history due to neglected maintenance and high coal costs. As a result of NiGen refurbishments, the power plant runs well, resulting in a high availability when operating. The refurbishment of the plant included:

- Overhauled the steam turbine;
- Re-ducted the Facility's particulate control bag-house enabling improved performance resulting in lower particulate emissions;
- Installed new distributed control system and control room panels;

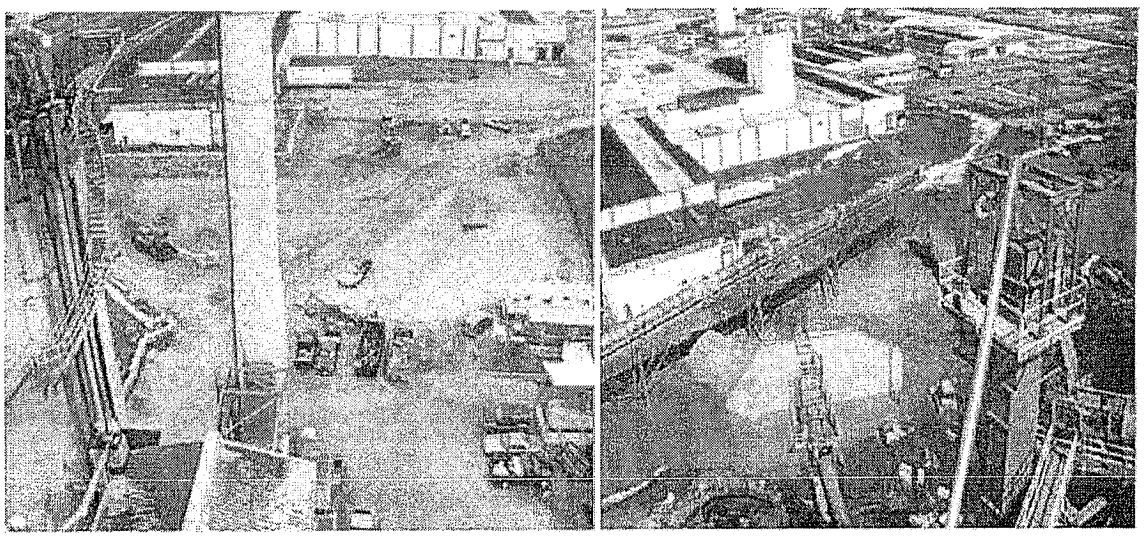
- Upgraded or replaced numerous other critical systems;
- Enhanced the original design during commissioning to optimize boiler performance on broad fuel mix.

The NiGen conversion from coal to biomass operations included a significant amount of new infrastructure at the Facility. Highlights of the new infrastructure include:

Construction of:

- New conveyors and material handling system to move biomass fuel to power plant boiler;
- Two 1,000-ton biomass storage silos;
- Installation of a truck receiving and tipping station;
- Acquisition of offsite wood fuel aggregation yards;
- Development of supply chain for biomass including rail shipments from the East Coast.

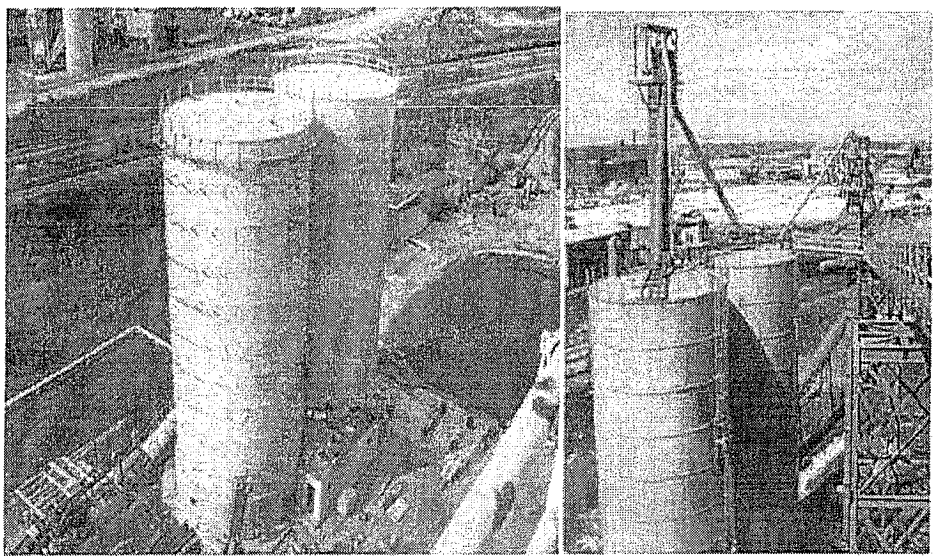
Fuel Yard During Construction



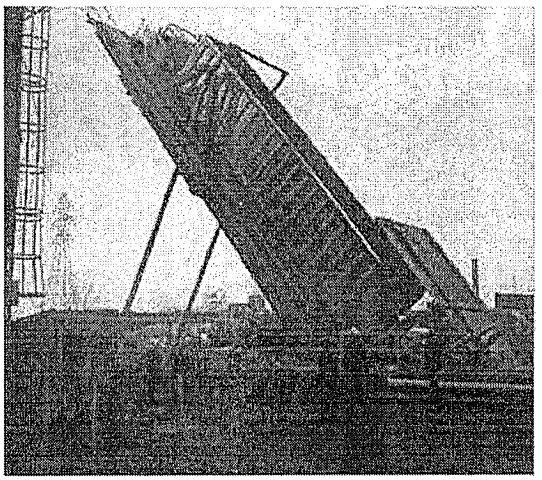
Sterling Energy Group, Inc.

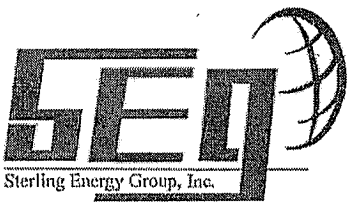
NEW WOOD FUEL YARD After

New Biomass Storage Silos New Conveyors and Material Handling System



Trucking & Receiving Station





SEG Acquisition of Niagara Generating Facility

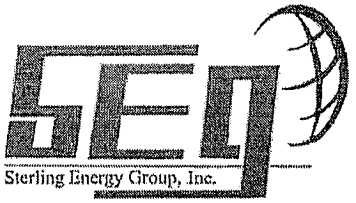
US Renewables Group, the prior owner of the facility, operated NiGen from the completion of the biomass conversion until March of 2013, when the unit was shut down, and employees laid off, due to historically low power pricing in NYISO Zone A and the unit's inability to operate economically. The unit was put up for sale and at that point SEG began a systematic review of operations and a focused effort to reduce operating costs and enhance ancillary revenues, making the plant more competitive and able to operate in a low price power environment. These efforts have resulted in a reduction in operating costs and the restart of the Facility in January of 2014. During this period NiGen operated with a rehired staff of employees from the Niagara Falls area. Highlights of these efforts have included:

- Establishing long term contracts for Clean C&D Wood;
- Fuel feed system and other plant enhancements to improve efficiency and allow for burning of greater percentages of wood;
- Installed two new feed water heaters;
- Boiler and Balance of Plant improvements to get back to original design performance;
- Installed new auger system into Silo 1; a second new auger scheduled for Silo 2 in 2015;
- Installed new burner management system and synced to DCS with software upgrades;
- Installed new Live Bottom Metering Bin to facilitate higher quantities of biomass fuel to the boiler, thereby reducing the percentage of coal in the fuel blend;

Due to the fact the Facility was in "moth ball" status until SEG's purchase of the facility in November, 2013, and did not permanently restart until January of 2014, it has only just begun operations, with feed system improvements planned to get to full-scale production in December 2014.

The NiGen facility recently appraised at 40.6 M. This appraisal was conducted by an independent third party (Thorndyke Landing) in support of the bond offering for that facility.

SEG continues to support making improvements to the Facility and anticipates operating consistently for the foreseeable future despite the current historically low power prices. As a result, when power prices improve, NiGen will be one of the most reliable sources of renewable energy in New York State, well into the future.



Escanaba Plan

In its development of a wood supply chain, SEG has opportunity to expand on existing relationships for the benefit of providing low cost fuel to the plant. SEG would propose using ground C & D fuel similar to the fuel used at Niagara Generation and blended with ground railroad ties in such percentages as allowed by modified air quality permits. We would plan to utilize tax-exempt bond financing for permanent capital which will require approvals by a public entity. We would also need to work with the State of Michigan to ensure that the Michigan Renewable Portfolio Standards (RPS) qualify all of our fuel for Renewable Energy Credits (REC). SEG is in discussions with William Reiss of C Reiss Coal Company in the development of water delivered supply chain of C & D woody biomass.

Steps to be followed are as followed:

1. Work on deal structure including declaration of tax exempt status.
2. Evaluate interconnection agreements and the potential of a Power Purchase Agreement.
3. Investigate Air Quality Permits and modification process to switch to biomass from coal.
4. Perform boiler inspections and determine modifications (if any) to accommodate new fuel.
5. Preliminary design work for fuel handling equipment to accommodate biomass fuel.
6. Develop hard estimates for capital costs to retrofit unit. Assuming SEG and the City of Escanaba reach an agreement by the end of February, SEG will formally engage an engineer for this purpose and a comprehensive study typically takes three months. A solid study with estimates could be complete by the end of May, 2015.
7. Develop bond documents and go to market with offering.

SEG has an existing relationship with B. C. Ziegler and Company (www.ziegler.com), who will be the bond placement agent. SEG is nearing the completion of a thirty million dollar bond transaction (anticipated to be complete by February 15, 2015). These revenue bonds are for NiGen only and are not guaranteed by SEG, therefore there will be no dilution of SEG's capability associated with the financial closing of these bonds.

All of the above can be accomplished in approximately six months if SEG can get the required governmental support at the local, county, and state level.

In order to facilitate financing and preserve the jobs, SEG will request tax increment financing bonds for the improvements. This will get the existing plant back on the tax rolls at its current value and allow full property taxes at the end of the bond period.

Sterling Energy Group, Inc.

Additionally, SEG believes that the repurpose of the facility not only preserves jobs and associated economic activity, but also saves the City of Escanaba between three and five million dollars of demolition costs should the plant be removed. Plants like the Escanaba plant contain a significant amount of asbestos requiring costly abatement during and as a part of the demolition.

SEG has tangible net worth in excess of fifteen million dollars and will provide financial data to the City of Escanaba upon request.

We are excited about the prospect of making this plant a win-win by creating jobs, preserving an asset, and generating green energy for the region. SEG is anxious to get a "letter of intent" in place with the City of Escanaba so that we can begin the activities outlined above.

If you have any questions regarding the above, I am available to discuss them with you at your convenience.

Sincerely,

William J. Harrington

William J. Harrington
President & CEO