



Oneida Seven Generations Corporation

Oneida Seven Generations Corporation / Oneida Business Committee meeting agenda

November 5, 2010

- I. Project overview – power point

- II. Financials
 - Projections
 - Grant monies
 - BIA loan guarantee

- III. Due diligence
 - Big binders
 - ACTI White paper
 - Roger Knight – BIA letter

Project Overview

A Pyrolysis based **Waste-to-Energy**
System for creating Electrical Power
from **WASTE**



Oneida Seven Generations Corporation

Pyrolysis based Waste-to-Energy System

Pyrolysis is the thermal decomposition of organic & synthetic waste material at elevated temperatures in the absence of oxygen.

The gases that are extracted during this decomposition are called Product Gas, which contains mainly Hydrogen, Carbon Monoxide & Hydrocarbons such as
– **Methane, Ethane & Propane.**

Pyrolytic Gasification System

Feedstock Hopper

Dual Feed Knife
Valves

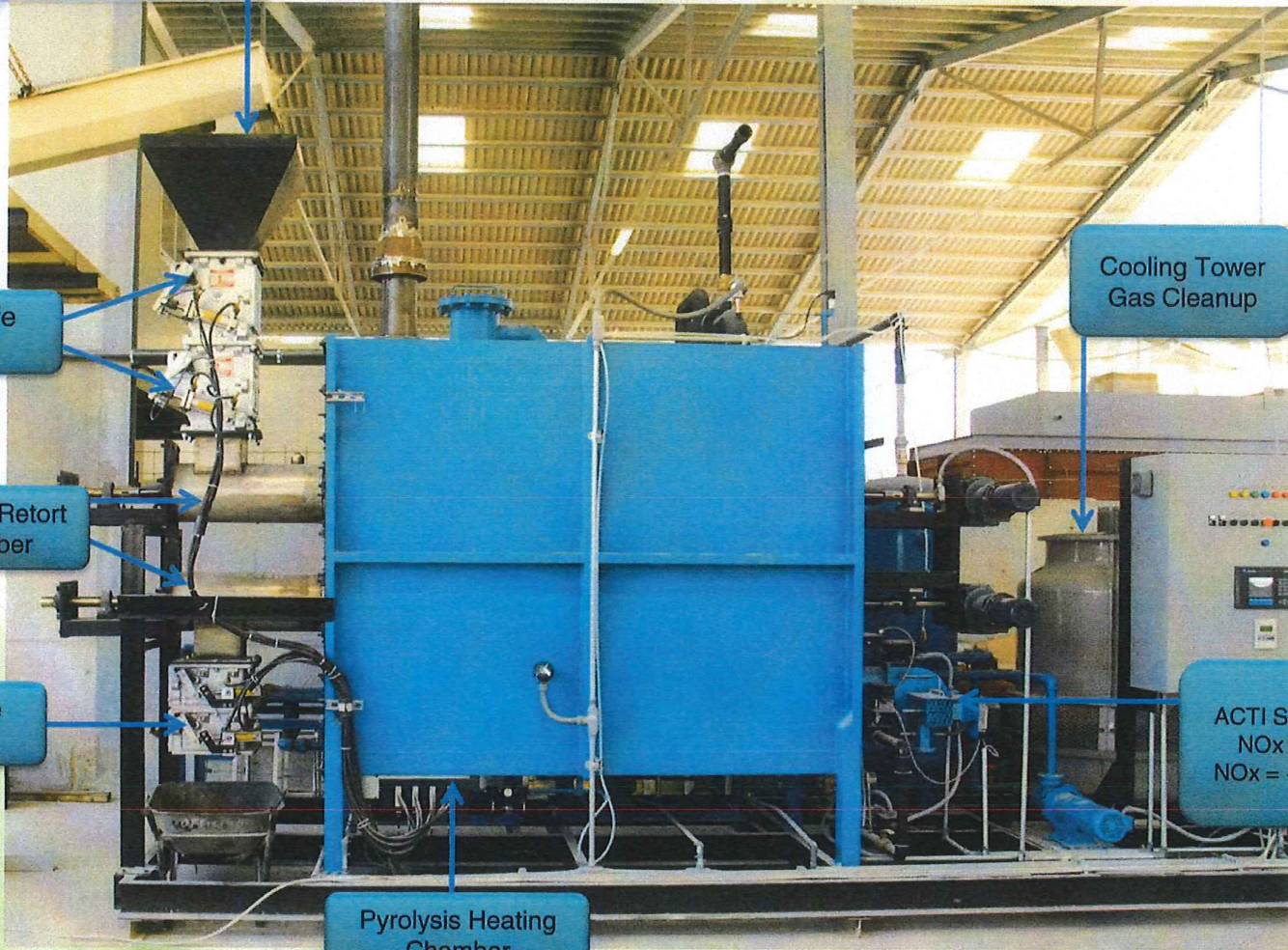
Upper & Lower Retort
Auger Chamber

Dual Discharge
Valves

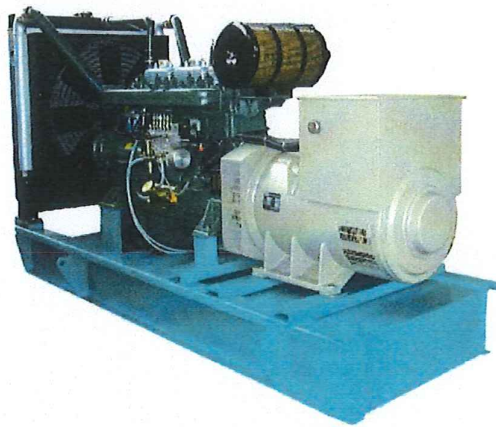
Pyrolysis Heating
Chamber

Cooling Tower
Gas Cleanup

ACTI Super Low
NO_x Burner
NO_x = <20-PPM



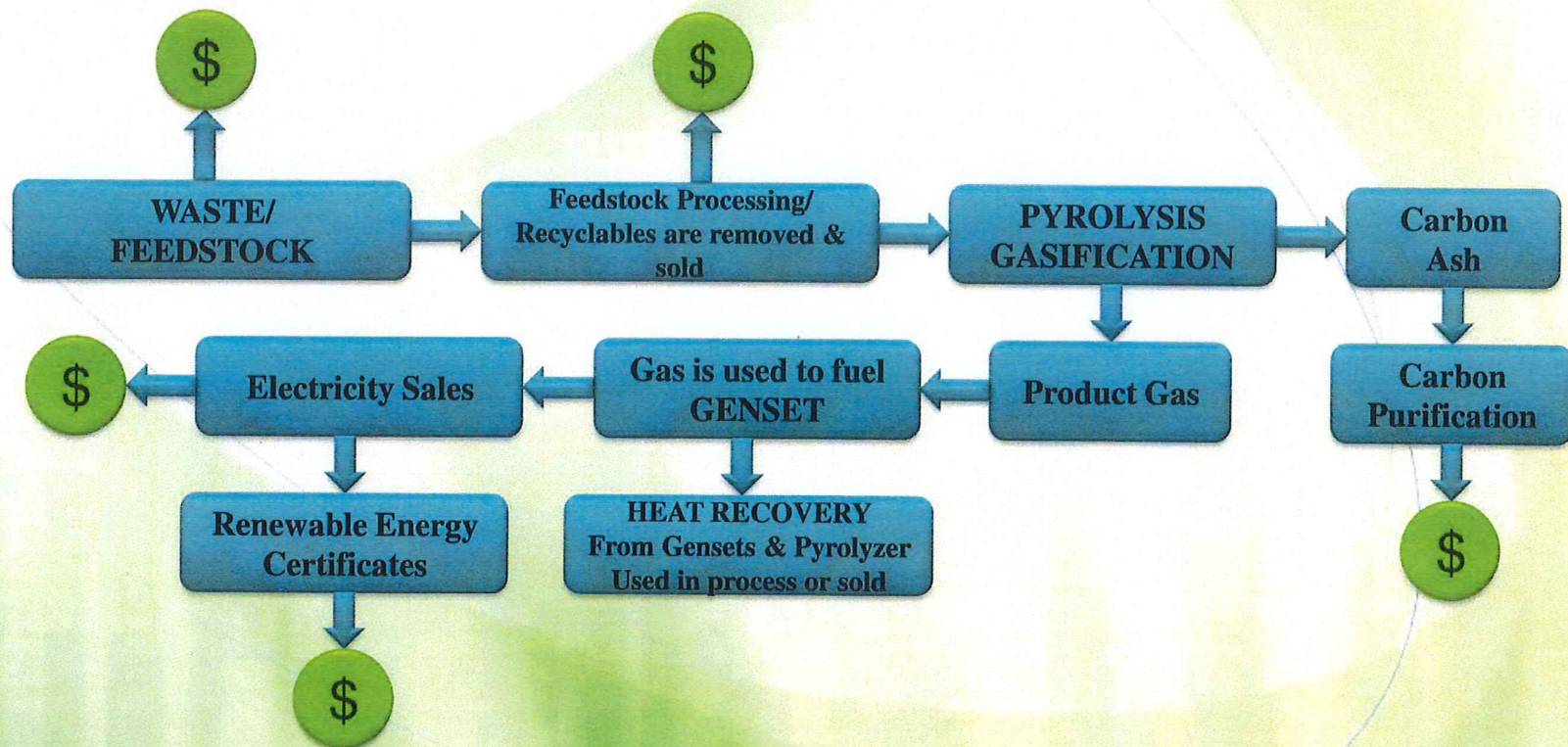
Energy is placed back onto the grid



Horsepower = 5 semi-truck engines

Emissions = NO_x 2600 grams/HR

PROCESS



Benefits of Pyrolysis Waste to Energy

- **Pyrolysis is:**
 - Safe, Simple & Efficient waste treatment process that substantially reduces the weighted volume of waste by more than 90%
- **Complete Destruction of Waste Pollutants**
- **Very Low Emissions that exceed California's South Coast Air Board Standards**
- **Extends life of local landfills**
- **Reduces Hauling Costs and Tipping Fees**
- **Potential Tax Benefits**
- **Ultimate Return on Investment (ROI) & Increased Shareholders Equity**

Contact



Oneida Seven Generations Corporation

Pete King III
Project Manager

P.O. Box 257
Oneida, WI 54155
Phone: (920) 347-0500
Fax: (920) 347-0504

E-mail:
peteking@osgc.net
Website:
www.osgc.net

ONEIDA ENERGY, INC
PROFORMA INCOME STATEMENTS

PERIOD ENDED YEAR END	PROFORMA STATEMENTS 000'S OMITTED				
	1ST	2ND	3RD	4TH	5TH
REVENUE	\$ 5,386.0	\$ 5,386.0	\$ 5,386.0	\$ 5,386.0	\$ 5,386.0
SALARIES/WAGES	\$ 1,057.5	\$ 1,057.5	\$ 1,057.5	\$ 1,057.5	\$ 1,057.5
FRINGE BENEFITS	\$ 317.3	\$ 317.3	\$ 317.3	\$ 317.3	\$ 317.3
MANAGEMENT FEE	\$ 208.0	\$ 208.0	\$ 208.0	\$ 208.0	\$ 208.0
MAINT/SUPPLIES	\$ 161.6	\$ 161.6	\$ 161.6	\$ 161.6	\$ 161.6
COMMUNICATIONS	\$ 8.0	\$ 8.2	\$ 8.4	\$ 8.6	\$ 8.8
GAS/ELECTRIC/WATER	\$ 12.0	\$ 12.4	\$ 12.7	\$ 14.1	\$ 14.5
TRAVEL/ENTERTAIN	\$ 2.0	\$ 2.0	\$ 2.0	\$ 2.0	\$ 2.0
PROFESSIONAL FEES	\$ 40.0	\$ 40.0	\$ 40.0	\$ 50.0	\$ 50.0
INSURANCE	\$ 95.0	\$ 95.0	\$ 95.0	\$ 95.0	\$ 95.0
ASH DISPOSAL COSTS	\$ 79.0	\$ 81.4	\$ 83.8	\$ 86.3	\$ 88.9
DEPREC IATON / AMORTIZATION	\$ 1,060.7	\$ 1,519.1	\$ 1,519.1	\$ 1,519.1	\$ 1,519.1
LAND LEASE	\$ 25.0	\$ 25.0	\$ 25.0	\$ 25.0	\$ 25.0
VILLAGE SERVICE FEE	\$ 25.0	\$ 25.0	\$ 25.0	\$ 25.0	\$ 25.0
EQUIPMENT MAINTENACE RES.	\$ 24.4	\$ 24.4	\$ 24.4	\$ 24.5	\$ 24.5
MISCELLANEOUS	\$ 10.0	\$ 10.0	\$ 10.0	\$ 10.0	\$ 10.0
TOTAL OPERATIONS EXPENSE	\$ 3,125.4	\$ 3,586.9	\$ 3,589.7	\$ 3,603.9	\$ 3,607.1
INCOME FROM OPERATIONS	\$ 2,260.5	\$ 1,799.1	\$ 1,796.2	\$ 1,782.0	\$ 1,778.8
INTEREST EXPENSE LONG TERM DEBT	\$ 1,259.3	\$ 1,206.5	\$ 1,150.1	\$ 1,089.7	\$ 1,025.0
INTEREST EXPENSE UNSECURED	\$ 37.5	\$ 32.1	\$ 26.6	\$ 20.9	\$ 15.2
INTEREST EXPENSE ADDITIONAL BOR		\$ -	\$ -	\$ -	\$ -
LOAN SERVICE EXPENSE	\$ 46.6	\$ 44.6	\$ 42.6	\$ 40.3	\$ 37.9
LOAN GUARANTEE AMOUNT	\$ 30.0	\$ 30.0	\$ 30.0	\$ 30.0	\$ 30.0
NET INCOME B4 TAX	\$ 887.1	\$ 485.9	\$ 547.0	\$ 601.1	\$ 670.8
TAX (.43)	\$ 381.5	\$ 208.9	\$ 235.2	\$ 258.5	\$ 288.4
NET INCOME	\$ 505.7	\$ 276.9	\$ 311.8	\$ 342.6	\$ 382.3
EBITDA	\$ 3,321.2	\$ 3,318.2	\$ 3,315.3	\$ 3,301.1	\$ 3,297.9

*at 5 yrs
(annual)*

ONEIDA ENERGY, INC
PROFORMA STATEMENTS OF CASH FLOW

PERIOD ENDED YEAR END	PROFORMA STATEMENTS 000'S OMITTED						
	BB	1ST	2ND	3RD	4TH	5TH	
BEG. OF PERIOD CASH BAL.	\$ -	\$ 1,441.3	\$ 6,309.3	\$ 6,830.5	\$ 6,540.9	\$ 6,216.7	
CASH PROVIDED FROM/(USED) FOR OPERATIONS							
NET INCOME	\$ -	\$ 505.7	\$ 276.9	\$ 311.8	\$ 342.6	\$ 382.3	
NON CASH ITEMS							
DEPREC AND AMORT	\$ -	\$ 1,060.7	\$ 1,519.1	\$ 1,519.1	\$ 1,519.1	\$ 1,519.1	
EQUIP RESERVE	\$ -	\$ 24.4	\$ 24.4	\$ 24.4	\$ 24.5	\$ 24.5	
TOTAL PROVIDED	\$ -	\$ 1,590.8	\$ 1,820.5	\$ 1,855.3	\$ 1,886.2	\$ 1,925.9	
CASH PROVIDED FROM FINANCE							
CAPITAL CONTRIBUTIC	\$ 2,750.0	\$ -	\$ -	\$ -	\$ -	\$ -	
ADDITIONAL CAPITAL	\$ 4,770.0	\$ -	\$ -	\$ -	\$ -	\$ -	
LINE OF CREDIT	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
SECURED LONG TERM	\$ 19,000.0	\$ -	\$ -	\$ -	\$ -	\$ -	
UNSECURED DEBT	\$ 2,000.0	\$ -	\$ -	\$ -	\$ -	\$ -	
OSGC DEBT	\$ 5,275.0	\$ -	\$ -	\$ -	\$ -	\$ -	
TOTAL PROVIDED	\$ 33,795.0	\$ -	\$ -	\$ -	\$ -	\$ -	
CASH USED							
PUR OF FIXED ASSETS	\$ 21,134.8	\$ -	\$ -	\$ -	\$ -	\$ -	
ORG COSTS	\$ 1,449.0	\$ -	\$ -	\$ -	\$ -	\$ -	
GOODWILL	\$ 5,000.0	\$ -	\$ -	\$ -	\$ -	\$ -	
PRINCIPAL REPAY	\$ -	\$ 1,027.2	\$ 1,085.4	\$ 1,147.3	\$ 1,213.4	\$ 1,283.8	
PRINCIPAL REPAY	\$ -	\$ -	\$ 200.0	\$ 1,000.0	\$ 1,000.0	\$ 1,000.0	
CHANGE IN WC	\$ 4,770.0	\$ (4,304.5)	\$ 13.9	\$ (2.4)	\$ (3.1)	\$ (2.7)	
DIVIDEND	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,000.0	
ROUNDING	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
TOTAL USED	\$ 32,353.8	\$ (3,277.3)	\$ 1,299.3	\$ 2,144.9	\$ 2,210.3	\$ 3,281.1	
TOTAL CHANGES IN CASH	\$ 1,441.3	\$ 4,868.1	\$ 521.2	\$ (289.6)	\$ (324.1)	\$ (1,355.2)	
END OF PERIOD CASH BAL.	\$ 1,441.3	\$ 6,309.3	\$ 6,830.5	\$ 6,540.9	\$ 6,216.7	\$ 4,861.5	

minimal (2)

FIRST YEAR PROJECTIONS

Number Personnel	7-5 salary			
0	0			CFO
1	1			Secretary
0	0			Human Relations
1	1			Floor Manager/ Plant Manager
	1st Shift 7-3:30	2nd Shift 3-11:30	3rd Shift 11-7:30	
2	0	1	1	Gasification operator/plus material Handling
0	0			Generator Manager
2	1	1	on call	Mechanics
0	0	0	0	Material receiving
6	2	2	2	Processing Line

12

TOTAL PROJECTED EMPLOYEE COUNT

SECOND YEAR PROJECTIONS

Number Personnel	7-5 salary			
0	0			CFO
2	2			Secretary
0	0			Human Relations
1	1			Floor Manager/ Plant Manager
	1st Shift 7-3:30	2nd Shift 3-11:30	3rd Shift 11-7:30	
2	0	1	1	Gasification operator/plus material Handling
1	1			Generator Manager
2	1	1	on call	Mechanics
0	0	0	0	Material receiving
6	2	2	2	Processing Line

14

TOTAL PROJECTED EMPLOYEE COUNT

THIRD YEAR PROJECTIONS

Number Personnel	7-5 salary			
1	1			CFO
3	3			Secretary
0	0			Human Relations
1	1			Floor Manager/ Plant Manager
	1st Shift 7-3:30	2nd Shift 3-11:30	3rd Shift 11-7:30	
2	0	1	1	Gasification operator/plus material Handling
1	1			Generator Manager
2	1	1	on call	Mechanics
3	1	1	1	Material receiving
9	3	3	3	Processing Line

22

TOTAL PROJECTED EMPLOYEE COUNT

Grant Monies



P. O. Box 7970
Madison, Wisconsin 53707
(608) 266-1018
TDD #: (608) 264-8777

Jim Doyle, Governor
Richard J. Leinenkugel, Secretary

November 10, 2009

Mark Hess,
Oneida Seven Generations Corp.
1239 Flightway Drive
De Pere, WI 54115-9596

RE: Contract LEG FY10-19812

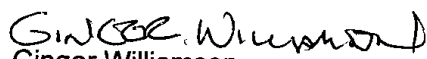
Dear Mr. Hess:

Enclosed are copies of the signed originals of the Legislative Award (WDF) Agreement and other related documents between Oneida Seven Generations Corp. and the Department of Commerce.

In order to receive funds under this Agreement, you must first submit a Request for Reimbursement. This form is attached at the end of the Agreement. Please make copies of this form as necessary to request funds.

If you have any questions, please contact John A. Roos at 608/267-0774.

Sincerely,


Ginger Williamson
Community Services Specialist
Business Development

Enclosures

cc: John A. Roos, Business Finance Specialist

May 19, 2010

Revised from May 17, 2010 letter

Kevin Cornelius
CEO
Oneida Seven Generations Corporation
1239 Flightway Drive
De Pere, WI 54115

Dear Mr. Cornelius:

On behalf of Governor Jim Doyle, thank you for the opportunity to review your proposed project. Based upon the information provided to my staff, it is my understanding that Oneida Energy, LLC is proposing to invest approximately \$22,700,000 to develop a municipal waste energy conversion system in Green Bay, Wisconsin.

To assist with this project, the Wisconsin Department of Commerce (Commerce) proposes to provide the following terms conditional upon securing adequate financing for the remainder of the project costs:

I. STATE ENERGY PROGRAM (SEP)

- BORROWER:** Oneida Energy, LLC
- LOAN AMOUNT:** Up to Two Million and 00/100 dollars (\$2,000,000)
- USE:** Purchase of equipment and/or working capital.
- INTEREST RATE:** Two (2) percent.
- REPAYMENT:** A 6 month drawdown, interest-free period of no payments of principal and interest, followed by a five year zero interest, principal only amortization period with equal monthly payments, followed by an 18 month period of 6 percent interest and full amortization of remaining principal.
- COLLATERAL:** Subordinate position General Business Security Agreement on all assets now owned or hereinafter acquired.
- GUARANTOR(S):** The guaranty of any shareholder with 20% or more ownership interest.
- DELIVERABLES:** **Job Retention and Creation the Borrower will be required to:**
- (1.) **Job Creation:** The Borrower will be required to:
Create up to Twenty-two (22) new full-time positions with an average wage of \$25.00 per hour in Green Bay, Wisconsin by

December 31, 2013 and, thereafter, maintain each of these new full-time positions until December 31, 2015.

- (2.) **Job Penalties:** For each full-time position not kept, created or maintained, the Borrower would be required to pay a penalty. The penalty will consist of an incremental increase in the interest rate. The maximum penalty under this provision would be four (4) percent.

II. **OTHER CONDITIONS:** The awards would be subject to the following:

- 1) The submission of a timely application and financial statements in a form acceptable to Commerce.
- 2) The financial commitment in this agreement is conditioned upon the borrower obtaining sufficient other funding (equity or debt) to complete this project. Proof of financial adequacy must be provided to Commerce prior to June 15, 2010. Failure to provide this proof may result in Commerce withdrawing this commitment.
- 3) The approval of the application by Commerce, the U.S. Department of Energy, and any applicable Board.
- 4) The execution and delivery of all standard documents as required by Commerce.
- 5) The Borrower agreeing, in accordance with federal administrative requirements, to provide Commerce with its DUNS number ("data universal numbering system" issued by Dun and Bradstreet-D&B).
- 6) The Borrower agreeing that, in accordance with §560.075(2), the Project will not be relocated outside of Wisconsin for a minimum of five years from the date of the award.
- 7) The Borrower agreeing to comply with all rules and regulations pertaining to the receipt of ARRA federal funds.
- 8) All loan funds must be spent in the state of Wisconsin, to the extent practicable.
- 9) To produce or cause to be produced in Wisconsin the product or products developed under this agreement.
- 10) There being no material adverse change in the Project between now and the funding of the award.
- 11) This commitment represents the extent of Commerce's participation in the project. Any future requests to Commerce regarding assistance for this project will take into account the participation identified above.
- 12) In signing this document, you agree to consult Commerce before seeking publicity for the project in the news media, or conducting an event to publicize the project. Please contact Tony Hozeny, Commerce's Communications Director, at (608) 267-9661 on any issues related to publicity.

III. DEFINITIONS: For purposes of this document and future documents:

- a) The term "full-time position" means any "regular, full-time position where an employee is required, as a condition of employment, to work at least 40 hours per week and at least 2,080 hours per year, including paid leave and holidays.

IV. EXPIRATION DATE: Commerce's proposal will expire automatically unless it is accepted by signing below and faxing it back to Commerce at 608-267-2829, attention: Tom Miskella before noon on June 1, 2010.

In closing, Governor Doyle and I are firmly committed to doing everything possible to expedite the processing and awarding of this incentive package. Should you have any questions about Commerce's proposal, please contact

Sincerely,

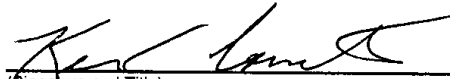
Aaron Olver
Secretary

AO:ayc

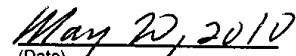
cc: Jim Doyle, Governor
Jim O'Keefe, Division Administrator

ACCEPTANCE OF TERMS AND CONDITIONS:

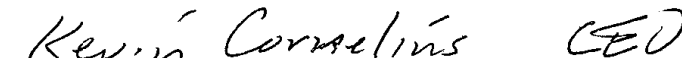
I have read and agree to the terms and conditions in this letter dated::



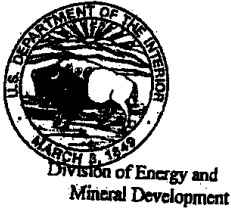
(Signature and Title)



(Date)



(Type or Print Name and Title Signed Above)



United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, DC 20240

MAR 15 2010

RH
Pll

The Honorable Richard Hill
Chairperson, Oneida Tribe of Indians of Wisconsin
P.O. Box 365
Oneida, WI 54155-0365

RECEIVED
MAR 18 2010

TRIBAL CHAIR'S OFFICE

Dear Chairperson Hill:

Several weeks ago we wrote you two letters stating that the Oneida Tribe was awarded funding from the Division of Energy and Mineral Development (DEMD) for a Biomass Waste to Energy Feasibility Study. The first letter dated February 17, 2010, reflected the original amount of funding of \$200,000.00. The second letter dated March 9, 2010, stated you were receiving \$275,000.00.

We made a mistake on the award amount in the second letter. The total amount stated (\$275,000.00) was intended to show the initial funding of \$200,000.00 plus additional funding of \$75,000.00. However, the correct amount of additional funding is \$50,000.00, not \$75,000.00. So, to show this clearly -

Initial funding from February 17:	\$200,000.00
Additional funding from March 9:	\$50,000.00
Total funding:	\$250,000.00

We apologize for this error but realize that receiving this additional amount of money will still benefit your project. When you submit your updated scope of work and budget, please adjust it to this new funding total.

We wanted to reiterate that your assigned DEMD staff member to serve as project monitor will continue to be Ms. Winter Jojola-Talbert, a staff engineer, who can be reached at (303) 969-5270 x381. Please use Ms. Jojola-Talbert as your contact concerning discussion or advice on the technical issues of the project.

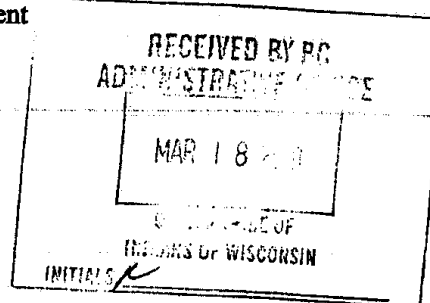
We wish you every success in your project this year, and please contact your project monitor if you have any concerns or questions. If you have any questions of a more general nature, please contact me at (303) 969-5270 x225.

Sincerely,

Robert Anderson (ACTING)

Stephen Manydeeds,
Chief, Division of Energy and
Mineral Development

cc: Director, Midwest Regional Office
Superintendent, Great Lakes Agency





United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, DC 20240

SEP - 2 2010

The Honorable Richard Hill
Chairman, Oneida Tribe of Indians of Wisconsin
P.O. Box 365
Oneida, WI 54155-0365

Dear Chairman Hill:

On behalf of the Division of Energy and Mineral Development (DEMD), I am pleased to inform you that your funding proposal for a 2010 Energy and Mineral Development (EMDP) grant has been approved for funding in the amount of \$334,000 for your Waste to Energy project. The following tasks were funded:

Finalize Engineering design	\$325,000
Finalizing Contracts with Fuel Sources:	\$9,000

Please contact your Agency Awarding Official concerning the transfer of award funds.

I have assigned a DEMD staff engineer to serve as your project monitor. Your project monitor is Winter Jojola-Talbert, who can be contacted at (303) 969-5270 ext 381. The project monitor will be available to discuss or advise on technical issues of the project. In addition, all written correspondence concerning the project should be addressed to the project monitor, such as the quarterly reports, requests for changes in the project scope, or requesting an extension if the project continues for more than one year.

Section 103 of the Indian Self-Determination Act, (P.L. 93-638, as amended by P.L. 100-472) provides authority for the EMDP. Awards are discretionary and competitive, requiring established guidelines and paneling procedures to make the award of limited funds as fair as possible. Because of limited funds, there may be some items of your proposal which we did not fund fully, or not at all. Those issues should be discussed with your assigned project monitor.

We wish you every success in your project this year. Always feel free to contact your project monitor if you have further questions.

Sincerely,

Stephen A. Manydeeds
Director (Acting), Office of Indian
Energy and Economic Development

RECEIVED

SEP 13 2010

ONEIDA GRANTS OFFICE

cc: Director, Midwest Regional Office
Superintendent, Great Lakes Agency

BIA Loan

Guarantee



**United States Department of the Interior
OFFICE OF THE SECRETARY**

AS-IA Indian Energy and Economic Development
Southwest Zone/Division of Capital Investment
1011 Indian School Road NW, Suite 131
Albuquerque, NM 87104



October 6, 2010

Mr. Kevin Cornelius, Chief Executive Officer
Oneida Seven Generations Corporation
PO Box 257
Oneida, WI 54155

Dear Mr. Cornelius:

On behalf of the Indian Loan Guaranty, Insurance and Interest Subsidy Program, administered by the Office of Indian Energy and Economic Development's Division of Capital Investment, I'm pleased to confirm Oneida Energy, LLC's 5 MW energy recovery project meets the eligibility requirements of the loan guarantee program. Further, the Division of Capital Investment has completed its analysis of the loan guarantee request from the lender, and has obligated sufficient funds to provide a loan guarantee of 90% to the lender on the senior debt required to construct and equip the facility.

The final conditions of the loan guarantee will be provided to the senior lender after terms and conditions of the loan structure have been finalized. As was discussed when we met on September 21, 2010, at Oneida Seven Generations Corporation's office, the Indian Loan Guaranty, Insurance and Interest Subsidy Program requires certain documentation per 25 CFR § 103. Both Oneida Energy, LLC and the lender are in the process of meeting these requirements and finalizing the loan structure details.

If you have any questions or require further information regarding the Indian Loan Guaranty, Insurance and Interest Subsidy Program, please contact me at (505) 504-4125.

Sincerely,

Shannon Loeve
Southwest Zone Credit Office Manager
Office of Indian Energy and Economic Development
Division of Capital Investment

[Home Page](#) > [Executive Branch](#) > [Code of Federal Regulations](#) > [Electronic Code of Federal Regulations](#)



e-CFR Data is current as of October 29, 2010

Title 25: Indians

PART 103—LOAN GUARANTY, INSURANCE, AND INTEREST SUBSIDY

Subpart D—Provisions Relating to Borrowers

[Browse Previous](#) | [Browse Next](#)

§ 103.26 What must the borrower supply the lender in its loan application?

The lender may use any form of loan application it chooses. However, the borrower must supply the lender the information listed in this section in order for BIA to process a guaranty or insurance coverage application:

- (a) The borrower's precise legal name, address, and tax identification number or social security number;
- (b) Proof of the borrower's eligibility under the Program;
- (c) A statement signed by the borrower, indicating that it is not delinquent on any Federal tax or other debt obligation;
- (d) The borrower's business plan, including resumes of all principals and a detailed discussion of the product or service to be offered, market factors, the borrower's marketing strategy, and any technical assistance the borrower may require;
- (e) A detailed description of the borrower's equity in the business being financed, including the method(s) of valuation; ✓
- (f) The borrower's balance sheets and operating statements for the preceding 3 years, or so much of that period that the borrower has been in business; ✓
- (g) The borrower's current financial statement, and the financial statements of all co-makers and guarantors of the loan (other than BIA); ✓
- (h) At least 3 years of financial projections for the borrower's business, consisting of pro-forma balance sheets, operating statements, and cash flow statements;
- (i) A detailed list of all proposed collateral for the loan, including asset values and the method(s) of valuation; ✓
- (j) A detailed list of all proposed hazard, liability, key man life, and other kinds of insurance the borrower will maintain on its business assets and operations;
- (k) If any significant portion of the loan will be used to finance construction, renovation, or demolition work:
 - (1) Written quotes for the work from established and reputable contractors; and
 - (2) To the extent available, copies of all construction and architectural contracts for the work, plans and

specifications, and applicable building permits;

(l) If the borrower is a tribe or a tribal enterprise, resolutions by the tribe and proof of authority under tribal law permitting the borrower to borrow the loan amount and offer the proposed loan collateral; and

(m) If the borrower is a business entity, resolutions by the appropriate governing officials and proof of authority under its organizing documents permitting the borrower to borrow the loan amount and offer the proposed loan collateral.

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[Section 508 / Accessibility](#)

Case
by USGC
(M)

ACTI

White

Paper

**AMERICAN COMBUSTION TECHNOLOGY INC'S (ACTI)
PYROLYSIS TECHNOLOGY
AN ADVANCED WASTE CONVERSION TECHNOLOGY**

Most societies in the world today are already living beyond their ecological means, and if they are to continue their much-needed economic expansion, they will have to shift towards efficient 'green growth' patterns. The importance of *Advanced Waste Conversion Technologies* to this "green growth" cannot be emphasized enough. Rising oil prices and rising costs of electricity have increased the value of renewable energy.

As a practical matter, after communities have recovered as much material for recycling as is environmentally and economically warranted, there will always be a need for some disposal capacity. The choice comes down to *Advanced Waste Conversion Technologies* or landfills. From an environmental point of view, that choice should be clear. *Advanced Waste Conversion Technologies* create a renewable fuel that reduces our reliance on foreign oil. Landfills have historically been the disposal option of choice because they have been less expensive than alternatives. What policy makers have failed to recognize is that solid waste is a highly valuable resource that should not be buried, but rather converted into some form of usable energy.

The ACTI Technology Process

Pyrolysis is the thermal decomposition of organic matter at temperatures sufficient to volatilize or gasify organic material in the absence of oxygen and is the process at the foundation of the ACTI technology design.

ACTI manufactures a system utilizing pyrolysis which is capable of converting a variety of waste materials including municipal solid waste, post-consumer plastics, tires, bio-solids and other biomass to highly valuable commodities including pyrolysis gas and carbon. This system is the culmination of years of research and development by testing the numerous feed stocks leading to commercialization of the process. Most importantly to this report, the ACTI process has direct operating experience with municipal solid waste, tires and auto fluff.

The combination of proven hardware and system control software allow ACTI to install a system that can be reliably operated in a sustainable way to help solve the problem of solid waste disposal by profitably recycling waste materials into marketable commodities.

The technology consists of a reactor chamber (a sealed chamber) heated with Super Low NOx burners. The ACTI patented super low NOx burner system is considered the most efficient in the world for low NOx emissions. The reactor is designed so that no raw gases can be released to the atmosphere. The process sequence is depicted as follows:

1. Ignition of highly efficient, Super Low NOx, low emission burners. It takes approximately one hour to bring the system up to processing temperature once feedstock is loaded and the purging is complete.
2. The thermal decomposition process normally starts within 10 to 15 minutes and completes in about an hour. The pyrolysis gases leaving the system go through a gas scrubbing and cleanup system at which point the gases are available for use in a gas turbine or engine-generator set to produce electricity.
3. The primary byproduct produced in the process is carbon (char) which has numerous commercial applications depending on the feedstock and the purity of this material.

Control and Measurement Equipment:

A PLC is used to control the process such as interlocks related to the opening and closing of valves. Pressure and temperature conditions are also controlled by an Allen Bradley touch screen panel.

Air Emissions:

Emissions for Pyrolysis/Gasification Facilities/Technologies

(Values are in mg/Nm³ unless noted.)

	PM	NO _x	CO	VOC	SO ₂	Dioxins/ Furan (ng- TEQ/ Nm ³)	HCl	Cd	Pb	Hg
Regulatory Limits										
U.S. EPA Limits	18.4	21.9	8.2		6.1		2.9	0.01533	0.1533	0.0613
ACTI Limits	0	<5.0	<4.0		<3.0	ND	ND	ND	ND	ND

Notes:

PM = particulate matter - NO_x = oxides of nitrogen - CO = carbon monoxide - VOC=volatile organic compounds - SO₂= sulfur dioxide - Cd = Cadmium, Pb=Lead - Hg= Mercury

ACTI is also the manufacturer of the super low emission burners used in the pyrolysis unit. Air pollution regulations in California are determined by the capabilities of manufacturers to reduce the level of emission to a safer lower level. This regulation is called Best Available Control Technology (BACT). The state of California at the present and for a long time has been practicing the most stringent air quality rules in the world and these rules have been set by manufacturers. At the present time the highest NO_x emission level from any stationary source is below 9 PPM corrected to 3.0% excess oxygen. The last three consecutive years BACT were set by ACTI using patented combustion technologies.

This special qualification has enabled ACTI to be very successful in the recycling field as the pyrolysis technology that processes municipal solid waste rubber, plastic, wood and animal waste. ACTI burners are all regulated by the South Coast Air Quality Management District (SCAQMD). This organization orders a third party to test the burners as soon as they are installed to make sure they comply with the regulations. ACTI products are also UL approved. UL (Underwriter Laboratories) which is a safety regulatory organization controls the quality of every product before it is shipped.

Feed-stock Conversion

Biomass which is a carbohydrate can be readily converted into pyrolysis gas which has been demonstrated to be an excellent fuel source for both turbine and reciprocating engine driven power generation systems.

Biomass can include municipal solid waste, compost, bio-sludgs from waste water treatment plants and manure from farm operations.

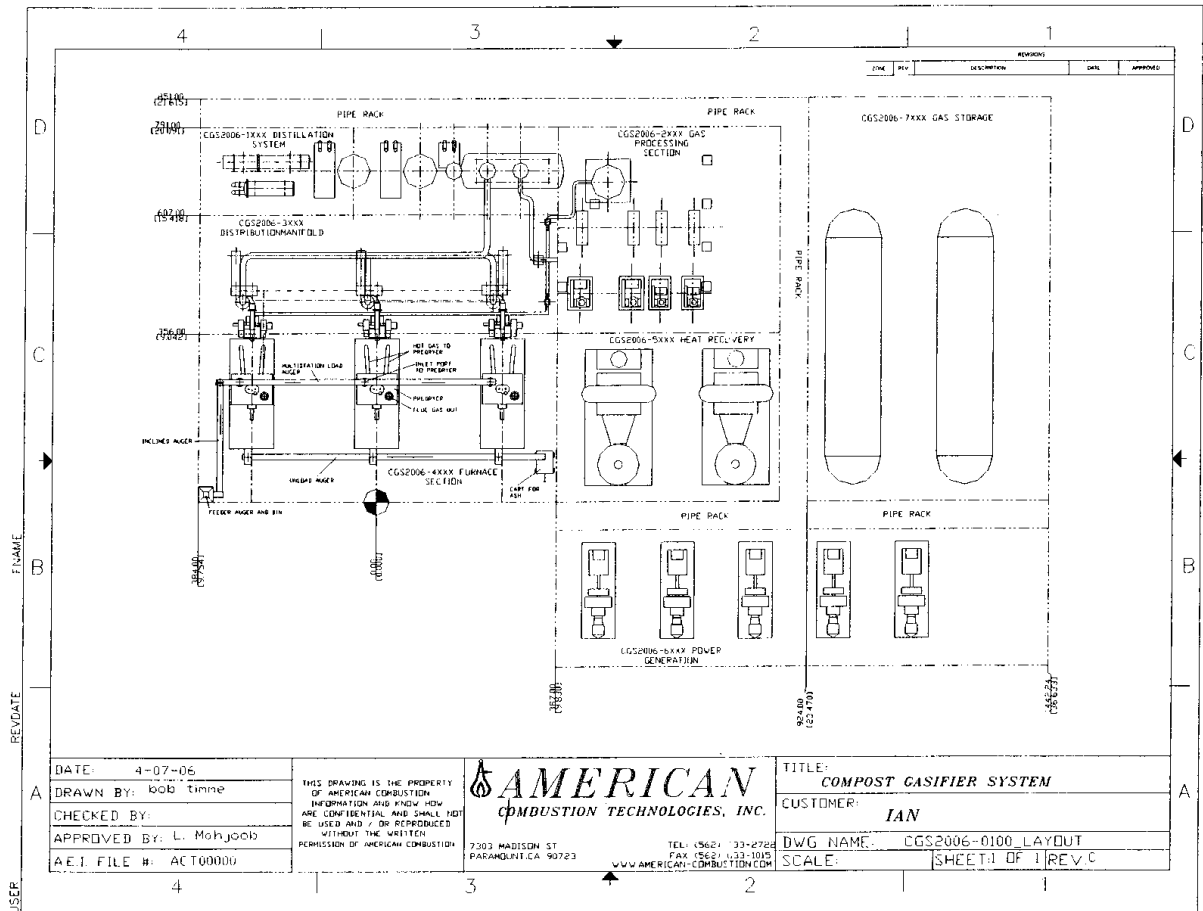
Feedstock Chart

Yield	Feedstock				
	MSW	Olefin Group Plastics	Mixed Plastics	Bio Sludgs	Coal
		X			
				X	
		X			
		X			

* Used in Process

General Layout Drawing of Municipal Solid Waste Project

This plant layout depicted below was designed to process composted municipal solid waste to produce pyrolysis gas which can be readily converted to electricity.



Third party, independent testing comments and results

The following quote is taken from, "ACTI Biomass Gasification to Liquid Fuel System Assessment, Technikon Report # 1602-113 NA; "The ACTI pyrolysis gasifier is well designed and is fully serviceable for the...[gasification of biomass.]" This report summarize[d] a test program to assess the performance of a biomass-to-liquid-fuel technology designed to thermally convert biomass to a hydrocarbon fuel suitable for use in DOD multi-fuel power plants. Technikon, operators of the Renewable Energy Testing Center (RETC) for the Department of Defense (DOD), and American Combustion Technologies Incorporated (ACTI) conducted the test during the week of May 11, 2009 at ACTI's demonstration facility in Paramount, California.

Below is a chart indicating the constituents of the product gas which was sent to an independent lab for testing by Technikon:

“The major pyrolysis gas constituents that were measured are summarized in Table 2-1.

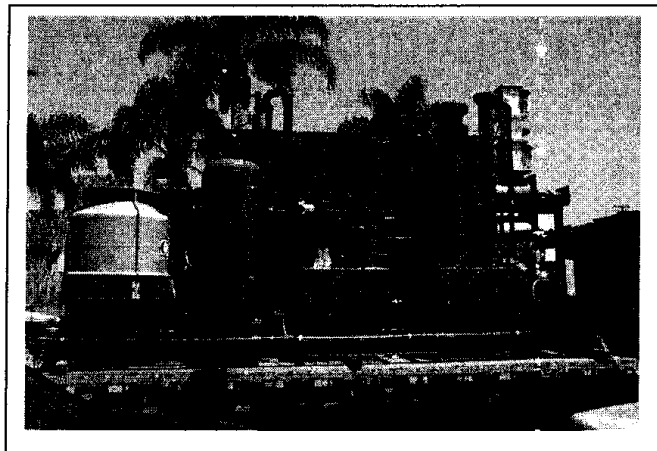
Table Error! No text of specified style in document.-1 Measurement of Major Pyrolysis Gas Constituents

Component	Average Concentration (vol %)	Concentration Range
H ₂	22.9	22.1 - 23.8
CO	29.4	27.6 - 30.9
CO ₂	17.5	17.2 - 18.0
CH ₄	12.4	12.1 - 12.8
C ₂ H ₆	1.6	1.5 - 1.6
C ₂ H ₄	4.1	3.8 - 4.4
C ₂ +	3.5	3.2 - 3.9
N ₂	8.0	4.8 - 10.1
Ar/O ₂	0.7	0.7 - 0.7

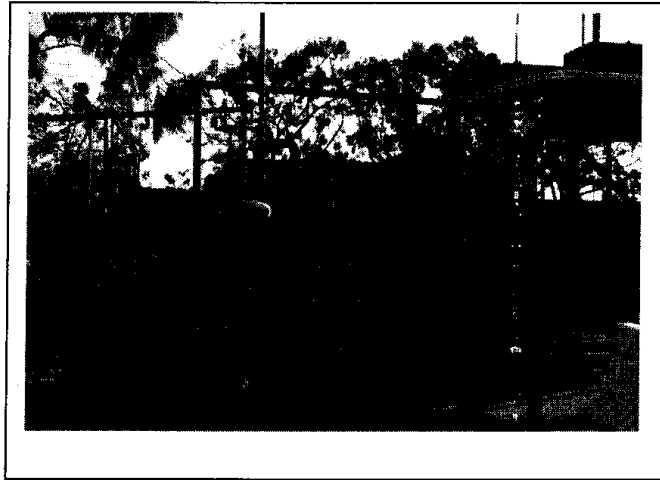
The above is a representative sampling of the biogas which results from the pyrolysis of biomass consisting primarily of organic waste.

Two of ACTI's Installations

During 2007 ACTI negotiated an agreement with Bedminster International, a Dublin based firm interested in partnering with ACTI to develop a system for pyrolyzing municipal solid waste and other waste streams which had been processed through their in-vessel composting technology. Bedminster made an investment in ACTI and received an exclusive licensing agreement to use ACTI's pyrolyzer in conjunction with its own technology. They purchased a unit from ACTI, pictured below, and set up a demonstration facility in Tennessee which they operated during 2008 and 2009. The system included the Bedminster composting unit attached to ACTI's pyrolyzer which in turn fed the resulting product gas into an engine-generator which produced electricity on site. According to Bedminster executive, John Grundin, "This system successfully demonstrated the ability to pyrolyze MSW with ACTI's technology and use the product gas as a fuel for a commercially available reciprocating engine-generator set."



During the period from 2008 through this year, ACTI has been conducting a demonstration for the City of Los Angeles at its Carson, CA waste water treatment facility of its pyrolysis system (pictured below) coupled with the ACTI product gas-to-liquid fuel conversion technology. The waste stream in this instance is human sludge, one of the most difficult and problematic waste streams to deal with. The system has performed above and beyond the expectation of all of the parties involved in demonstration. Most importantly, independent, third-party testing has been completed indicating that the system meets or exceeds all South Coast Air Quality emissions requirements for the State of California.



In summary, we are very excited about the opportunity of working with the Oneida Indian Nation and the Seven Generations Company on helping create the planned facility for processing municipal solid waste and other organic waste for the Green Bay area and surrounding counties.

Latif Mahjoob
President, American Combustion Technologies Inc.
May 2010

Roger Knight

BIA Letter



United States Department of the Interior

OFFICE OF THE SECRETARY

Washington, DC 20240

AUG 12 2010



Division of Energy and
Mineral Development

Kevin Cornelius
Oneida Seven Generations Corporation
Oneida Energy, LLC
1239 Flightway Drive
De Pere, WI 54115

RE: Oneida Seven Generations Waste to Energy Project

Attached is the Division of Energy and Mineral Development (DEMD) office's review and economic evaluation of the Oneida Seven Generations Corporation's (OSGC) waste to energy gasification plant. The plant, to be built by American Combustion Tech, INC. (ACTI), will process municipal solid waste, tires, and dairy waste. The review was conducted by our staff engineer, Roger Knight.

Mr. Knight's review has determined that the recommended municipal waste to energy project is an excellent, economical project, with a local, long term supply of waste and a very good sustainable electrical market. This project would provide the Tribe with a long term, sustainable income and more than twenty good paying Tribal jobs. Payroll at peak production will exceed a million dollars per year.

Please contact Roger Knight at 720-407-0613 or email roger.knight@bia.gov if you have any further questions.

Sincerely,

Robert Andrus (ACTING)

Stephen Manydeeds
Chief, Division of Energy
and Mineral Development

Summary

The Oneida Seven Generations Corporation (OSGC) has researched and has recommended that a twenty two million dollar American Combustion Tech, INC. (ACTI) waste to energy gasification plant be built to process municipal solid waste, tires, and dairy waste. The Tribe has formed Oneida Energy, LLC (OE), and is proceeding with obtaining financing for the six megawatt facility. As part of the process, Oneida Energy requested the Division of Energy and Mineral Development (DEMD) assistance with project review. Roger Knight, a DEMD Professional Staff Engineer, was the Division's lead on the review for the project. After completing the review of the project and economics, it was determined that the recommended municipal waste to energy project is an excellent, economical project, with a local, long term supply of waste and a very good sustainable electrical market. This project would provide the Tribe with a long term, sustainable income and more than twenty good paying Tribal jobs. Payroll at peak production will exceed a million dollars per year.

Economic evaluation included a DEMD staff review and verification of the mathematical relationships on the OSGB Baker Tilly economic model. An independent DEMD model was designed and used for the risk analysis for this project. DEMD staff established variance values and performed a Monte Carlo simulation to provide a statistical evaluation and risk mitigation for the project. Values from the Monte Carlo simulation had the most likely Net Present Value at 15% (NPV15) (taxable corporation) at \$13,000,000 while the NPV15 (nontaxable) was \$17,500,000. The evaluation of this project indicates that it is a viable, economic project. Taxable economic internal rate of return is 130% with a 1.6 year payout.

Discussion

DEMD has reviewed and analyzed the project, engineering design, feasibility plan, business plan, plant operation, plant costs, operating expenses, oil production forecast and has performed an economic evaluation with risk mitigation incorporated into the analysis. The ACTI technology will be very valuable in terms of procuring an air quality permit to establish a WTE project. Air quality is the major environmental concern with any major gasification waste to energy project.

Process Review

The American Combustion Tech, Inc company and gasification process were vetted as a portion of the due diligence evaluation. ACTI has been in the burner business for more than 24 years, but has been building gasification units for only two years with six smaller installations in different parts of the world on line for that period of time. Their latest facility is a twelve ton per day unit scheduled to go to Korea in the next few months. Their burner technology has very low NOX emissions, meets all Southern California air quality standards and is listed as best available technology in the Southern California Air Quality Region. DEMD staff visited the ACTI manufacturing plant to discuss operations, design parameters, economic parameters and witness operational equipment. The proposed OE facility will be the largest that ACTI has built.

DEMD staff discussed the ACTI equipment, ACTI support, the gasification process, equipment installation, operational procedures, operating expense (OPEX), economics of their operation and overall customer satisfaction with the plant's performance. ACTI is very proactive in terms

of assisting with remedying problems and improving the plant operations. ACTI has provided OSGC with a detailed bid for their gasification unit along with a detailed cost estimate for installation. OSGC has also contracted with RW Beck to test the Korean unit as part of the due diligence for the OE project.

The thermal distillation process offers an economical, environmentally friendly process for converting high value feed-stocks such as coal, municipal solid waste, and even sewage sludge into biofuels or into other forms of energy. Additional benefits include: sustained supply resources instead of pollution, solid waste reduction, consistent low cost feedstock, clean liquid fuels or electrical power, renewable generation initiatives & tax credits, and local employment opportunities. Although, technically, there are some subtle differences between the terms "thermal distillation", "gasification" and "pyrolysis", for the purposes of this discussion these terms have been used interchangeably.

ACTI is a, if not the, leading burner manufacturer in California. Their technology is considered "BAT" (best available technology) with all of their burners exceeding California Air Quality Standards for NOX and CO emissions. They have been in the combustion business for over 20 years. Several years ago, Mr. Mahjoob was asked to trouble shoot a gasification unit. After he discovered several processing errors, he designed his own equipment to improve the gasification of wastes. ACTI has several units (four to 150 tons/day) deployed throughout the world. The units are gasifying waste tires, cow manure, and medical waste. The closest operating facility to the Paramount plant is one for the City of Los Angeles where human sewage is being gasified.

Plant design – suggested modifications

DEMD's recommendation is to capture and use the waste heat as a "value added" product. Use the heat in a business, such as a greenhouse, or as a building heating system. The facility has been moved to a more industrial area where this type of modification is now more practical. The economic benefit will be multiplied with future expansion of the current proposed facility.

Feedstock

The facility is designed to primarily use municipal solid waste (MSW) as a feedstock but the facility will be capable of using tires, dairy waste and potentially other wastes for generation. OE has entered into a contract with Brown County for handling some of the MSW as it is brought to the landfill. The landfill is nearing capacity, so the installation of a MSW plant will ease the strain of disposing of wastes, and eliminate the need to establish a new landfill in the future. There are significant waste products in the area to support expansion of this project.

Power Purchase Agreement

OSGC has signed a power purchase agreement for the purchase of the electricity generated from this project. This is a major accomplishment toward reducing risk.

Tax considerations

The OSGC will establish OE as a taxable entity to maximize all tax benefits for the project. These will include potential production tax credits.

Economic Model

Summary of the economics of the proposed 5 MW Oneida Waste to Energy Project:

The DEMD engineering group has performed a discounted cash flow economic analysis of the Oneida Waste to Energy Project. The following major assumptions of the scenario analyzed include:

- 20 year project life (2010 to 2034)
- Tribal venture
- Waste feed rate 150 tons per day (49,500 tons/year, 330 days/year)
- Waste conversion rate 550 kWh per ton of waste
- Recyclables (extra project revenue) not included
- Plant operating cost - \$14.07/Ton
- Management fee - \$6.27/Ton
- Ash disposal cost - \$1.60/Ton
- Project is on trust lands, will establish a taxable entity
- Tipping fees charged
- Investment tax credit – 30 %
- Project capital - \$ 22 million
- Borrowed 80 % of project capital
- Equity - \$4.4 million
- Working capital - \$233,000
- Electric sales price (including RECs) - \$0.07 per kWh
- 5 year property depreciation
- Federal tax rate 40%
- State tax rate 7.9%

These assumptions were taken from the Oneida Energy's LLC project summary and information obtained from the City of Los Angeles waste to energy studies.

Sensitivity Analysis Study from Base Case

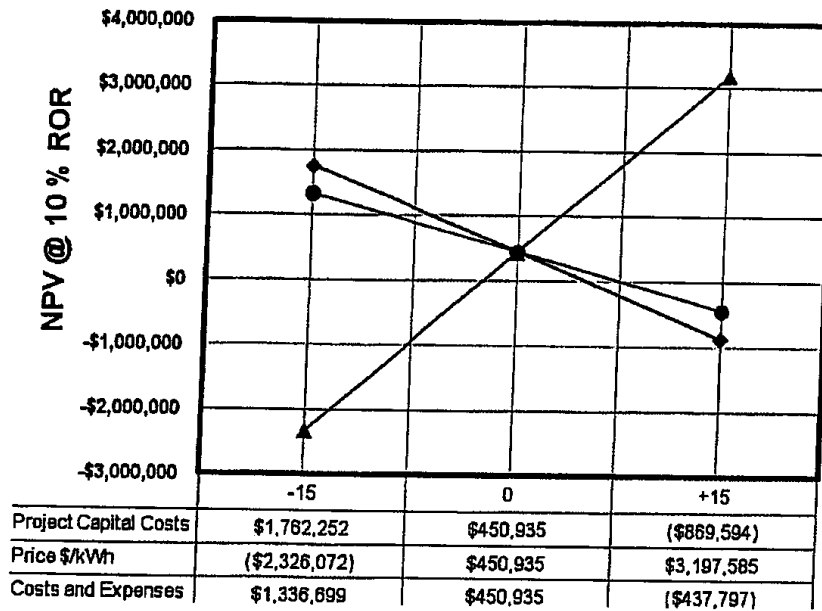
Based on the above assumptions and others a sensitivity analysis was run by varying the following inputs by plus or minus 15 percent. Variables include:

- Project capital costs
- Electricity price (\$/kWh)
- Costs and expenses

The analysis showed a positive net present value (NPV) at 10 percent of \$451,000, thus, indicating that the project is economic at an electricity price (including green tags) of \$0.07/kWh.

The spider graph below is a sensitivity analysis of the Oneida Energy Project. As shown in the graph, the project is most sensitive to electricity price. If the estimated capital cost of the waste to energy system is increased by 15 percent the project has a negative NPV of (\$870,000). Accurately estimating capital costs is an important factor when evaluating the success of this project.

Oneida Waste to Energy - NPV Sensitivity



Economic evaluation included a DEMD staff review and verification of the mathematical relationships on the OSGC economic model. An independent DEMD model was also designed for this project for the analysis. DEMD staff will establish variance values and perform an additional Monte Carlo simulation to provide a statistical evaluation and risk mitigation for the project when firm costs are established and the PPA is signed.