

State of Florida



ORIGINAL

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Public Service Commission

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TALLAHASSEE, FLORIDA 32399-0850

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COMMISSION  
CLERK

**DATE:** April 14, 2006

**TO:** Blanca S. Bayó, Commission Clerk and Administrative Services Director

**FROM:** Roberta S. Bass, Assistant to Chairman Edgar *RSB*

**RE:** Re: Meeting with Biomass Investment Group

On February 21, 2006, Chairman Edgar and I met with Schef Wright and Kevin Mills, representing the Biomass Investment Group (Biomass). The meeting was a technical briefing on their proposed development of biomass projects in Florida. Toward the end of the conversation, Mr. Wright mentioned that Biomass would be applying for QF status in Florida, but the merits of that request were not discussed.

Because there is no pending proceeding, and because the conversation did not involve the merits of a potential QF status issue, it appears the conversation was not prohibited by Section 350.042, F.S. Nevertheless, in an abundance of caution that a petition is filed within 90 days of the date of the meeting, I am requesting that this memo and the attached copies of meeting materials be placed on the public record pursuant to Section 350.042(6), F.S. Please place these documents in Docket No. 060000. If a docket is opened within 90 days, I will request that the materials be placed at that time in the docket file.

If you have any questions regarding this request, please let me know.

- CMP \_\_\_\_\_
- COM \_\_\_\_\_
- CTR \_\_\_\_\_
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- QPC \_\_\_\_\_
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- OTH \_\_\_\_\_

DOCUMENT NUMBER-DATE

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FPSC-COMMISSION CLERK

# Biomass Investment Group, Inc. "BIG"

A Biomass  
Farm  
Producing  
Renewable  
Electricity



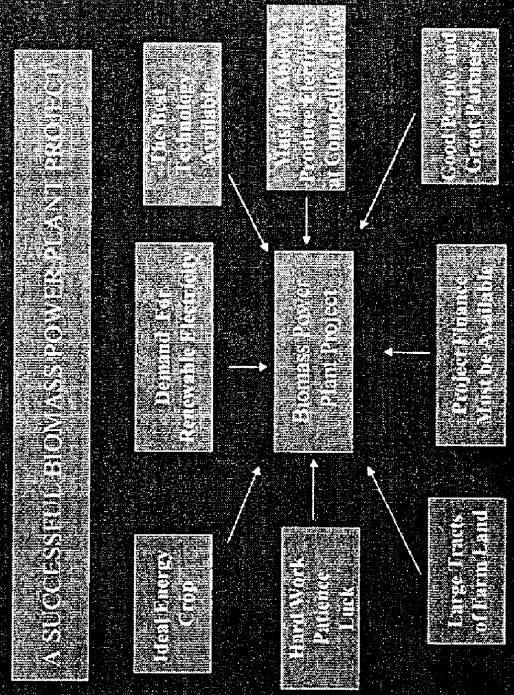
## The Business Model

We can meet the objectives of our Mission Statement by utilizing the Business Model that we have developed.

## Mission Statement

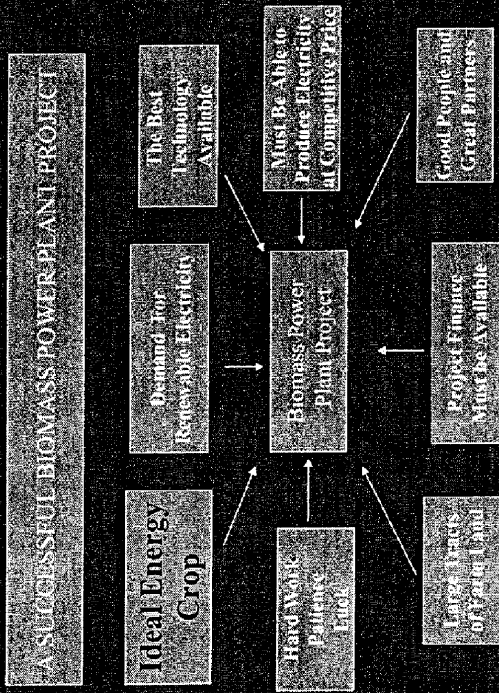
- To reduce dependence upon foreign oil and other fossil fuels.
- To improve air quality by reducing harmful emissions.
- To create new jobs and business investment.
- To earn a good return on capital invested while producing renewable electricity and improving the environment.

## Business Model





## Business Model



## E-Grass™ - The Ideal Energy Crop

- ✔ High yield per acre.
- ✔ High BTU value per pound.
- ✔ Low maintenance cost.
- ✔ Easy harvest and storage.
- ✔ Not vulnerable to disease and pests.
- ✔ E-Grass is the Ideal Energy Crop.

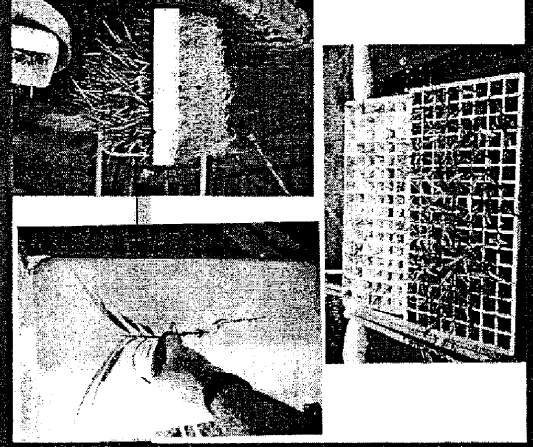


## E-Grass™ - The Ideal Energy Crop

- ✔ Yields 15-20 dry tons per acre per harvest.
- ✔ You can get two harvests per year in warm climates with adequate rainfall.
- ✔ Approximately 8,000 BTUs per pound.
- ✔ The Company has obtained a proprietary method of tissue culturing plantlets.
- ✔ You can use conventional methods for harvesting the crop.
- ✔ The crop is basically free of plant disease and insect infestation.



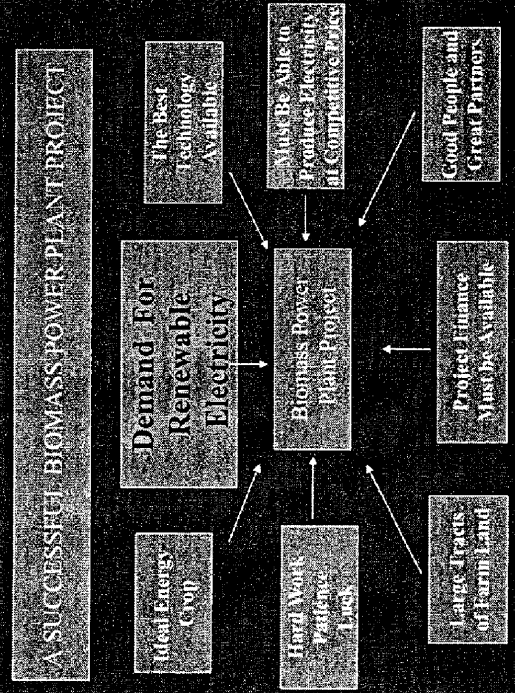
## E-Grass Plantlets



Mature E-Grass produces a full crop every 5-6 months

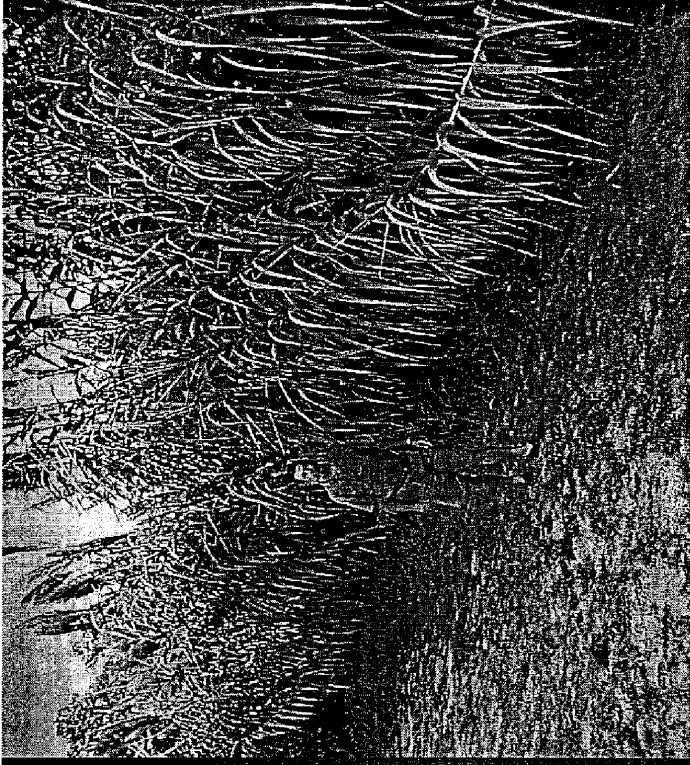


## Business Model

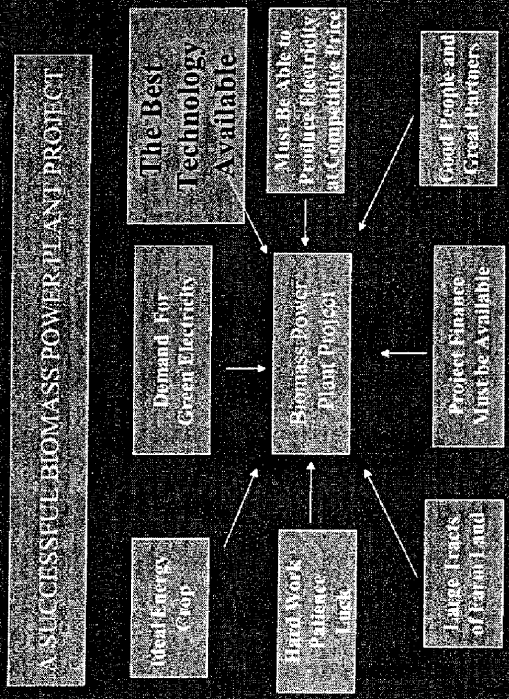


## Demand for Renewable Electricity

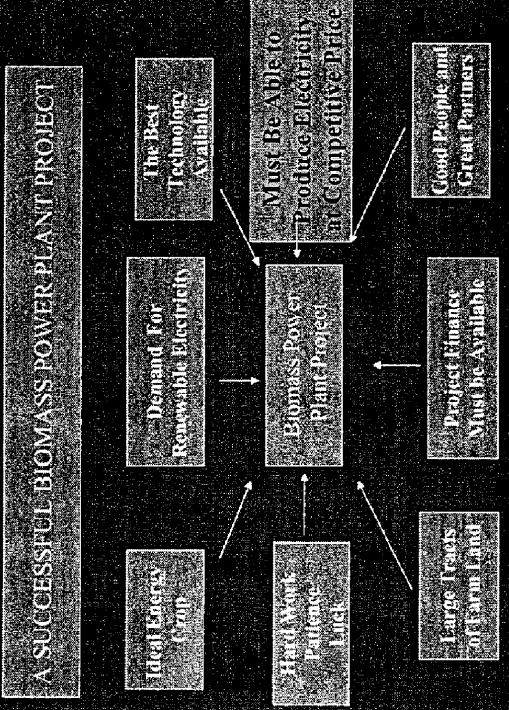
- ✔ Currently, 21 states have adopted portfolio requirements.
- ✔ The US military and many US governmental agencies have adopted goals for the utilization of renewable electricity.
- ✔ Many municipal and other power distribution systems have established green electricity programs.
- ✔ Almost all electric utility companies are seeking better and more stable fuel costs.



# Business Model



# Business Model



# You must Use the Best Technology Available

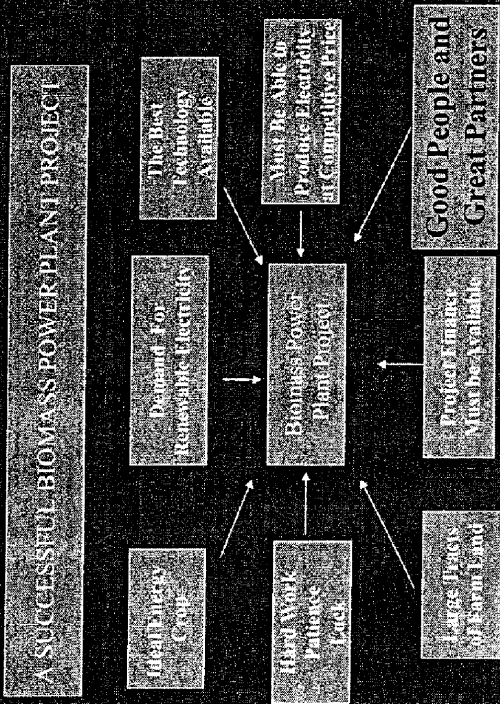
- Older technology consists of burning biomass in a furnace in a simple cycle process.
- By using a process (fast pyrolysis) that can convert the biomass into a gas or oil, you can use the gas or oil as fuel in a gas turbine as part of a combined cycle process for increased efficiency.
- BIG has developed proprietary fast pyrolysis technology that allows it to convert E-Grass into a bio-oil and use it in a combined cycle process.
- Using this process enables BIG to be able to produce renewable electricity at competitive prices.

# You must be able to produce electricity at a competitive price

- You must plant, grow and use the ideal energy crop. (BIG has E-Grass)
- The power plant must utilize a combined cycle of a combined cycle power plant)
- The power plant must be located on or near the biomass farm to reduce fuel transportation costs.
- Recent increases in fossil fuel prices has resulted in BIG being able to use biomass to produce electricity at prices lower than electricity produced from fossil fuels



# Business Model



## You must have good people and great partners.

### ✓ Company People

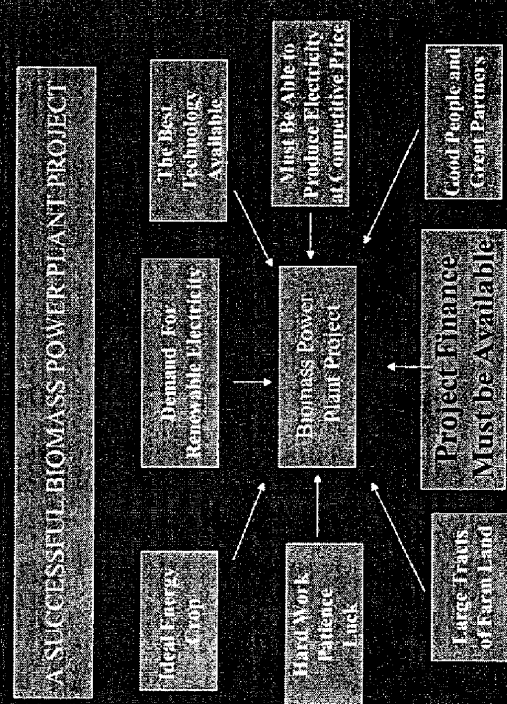
Engineers with proven track records, farm manager with years of experience growing our energy crop, experienced top level management, etc.

### ✓ Partners

GE (turbines); Willbros Engineering (EPC contractor); Troutman & Sanders Law Firm (corporate); Wachovia Bank (limited partner); Ernst & Young (auditors); Young von Assenderp Law Firm (licensing); Cummings & Barnard (project engineers); ECT Engineering (permits).



# Business Model



## Project Finance Must Be Available

- ✓ Must have a long-term PPA with a credit-worthy purchaser.
- ✓ Must have an EPC contractor that will guarantee price and performance.
- ✓ Project must be able to stand on its own financially; i.e. income to debt service ratio.





# Large Tracts of Farm Land Available

- ✓ We need a 15-20,000 acre farm for our standard 120MW power plant.
- ✓ We have tracts of farm land that meet this requirement available to us in the southeastern part of the US well as in Mexico & South America.
- ✓ These farms are available for purchase and/or lease and meet our farming requirements.

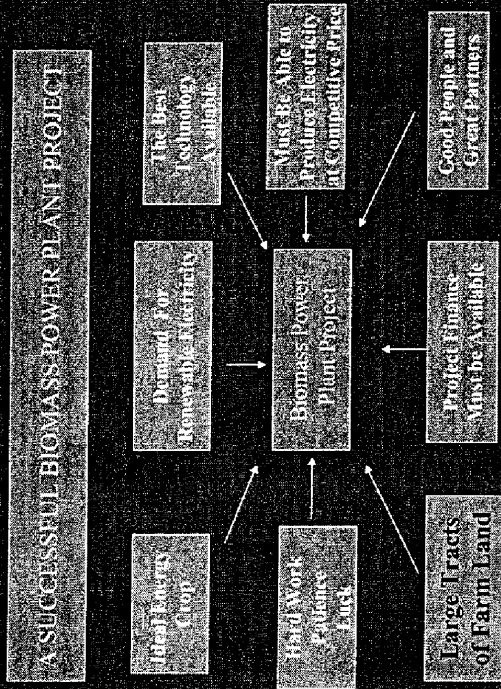


# Hard Work, Patience & Luck

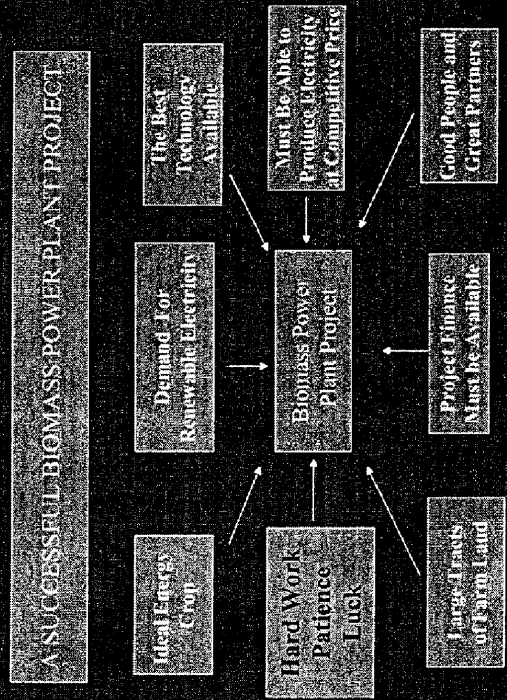
- ✓ This has been a 24/7 project for the past 5 years.
- ✓ We have developed the best system available today to convert biomass into electricity.
- ✓ We have identified the best energy crop in the world and developed a method of producing plantlets at a reasonable cost in an efficient manner.
- ✓ Due to the high cost and price volatility of fossil fuels, the demand for renewable energy sources is at an all-time high.
- ✓ "Hard work is the mother of luck!"



# Business Model



# Business Model



## Our Plans

- ✔ Develop 2-3 standard 120MW biomass projects (biomass farm with a power plant) in Florida over the next 4 years.
- ✔ Develop several projects in the northeastern area of the US over the next 5-7 years using bio-oil from our biomass farm(s) in Mexico as the fuel.
- ✔ Develop several projects over the next 5-7 years in other countries around the world to help them meet their energy needs with biomass rather than foreign oil.

Biomass Investment Group, Inc.  
1198 Gulf Breeze Parkway Suite 6  
Gulf Breeze, Florida 32561

850-916-1300

For more information contact:

Allen Sharpe, CEO

Jim Wimberly, President

Kevin Mills, VP Process Operations



# IPCC Technology Overview

Biomass Investment Group

Co-Located Farm and  
Integrated Pyrolysis  
Combined Cycle

IPCC Technology Overview  
Kevin J. Mills  
kevin@egrass.com  
(850) 916-1300

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## Discussion Outline

- Biomass Renewables Past Impediments
- Pyrolysis
- Process Overview
- Project Team
- Permitting & Licensing

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IPCC Technology Overview

## Past Impediments

- Standard Offer Contract
- Unreliable Fuel Supply
- Operational Issues

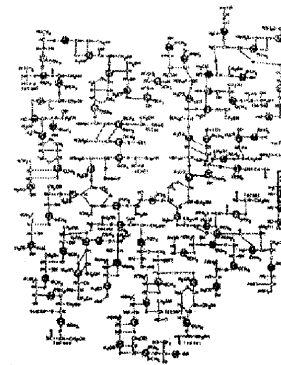
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IPCC Technology Overview



## Pyrolysis



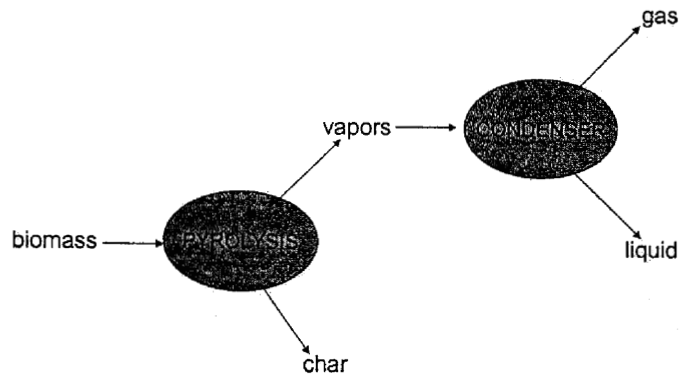
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IPCC Technology Overview



# Pyrolysis

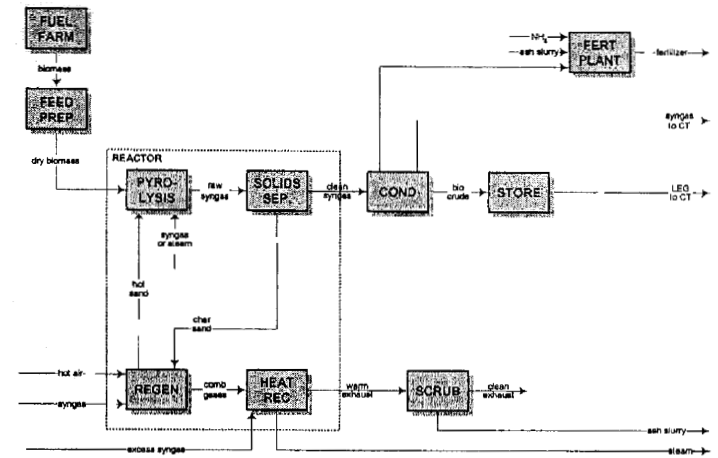


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IPCC Technology Overview

# Process Overview



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IPCC Technology Overview

# Project Team



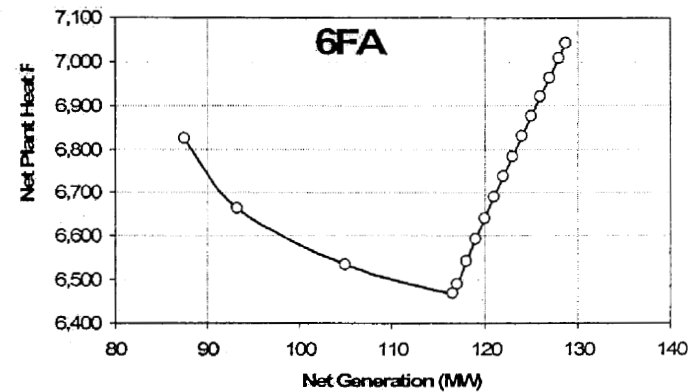
- Willbros Engineering Inc. (EPC)
- Environmental Consulting & Technology (permitting)
- Young van Assenderp (siting & licensing)
- Fieldstone (financial advisors)
- PIC Mareubi Energy Group (O&M)
- Invensys (enterprise IT architects)
- Cummins & Barnard (owner's engineers)

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IPCC Technology Overview

# Gas Turbine (GE PG6111FA)



(Siemens & Alstom offer competitive machines)

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IPCC Technology Overview

## Permitting Overview



- No Siting < 75 MW Steam Turbine & PPA
- Requesting State QF Status
- Water Use – within existing farm permits
- Storm Water Runoff – within existing farm permits
- Air Construction – 100 km from Class I
- ERP – existing farm already has
- Zoning Change – local is supportive

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IPCC Technology Overview

## Criteria Air Emissions



### UNCONTROLLED

- NOx 175 tpy
- SO<sub>2</sub> 390 tpy
- Particulate 190 tpy
- CO (15 ppmv uncontrolled) 205 tpy
- VOC 120 tpy

### CONTROLLED

- SO<sub>2</sub> 195 tpy

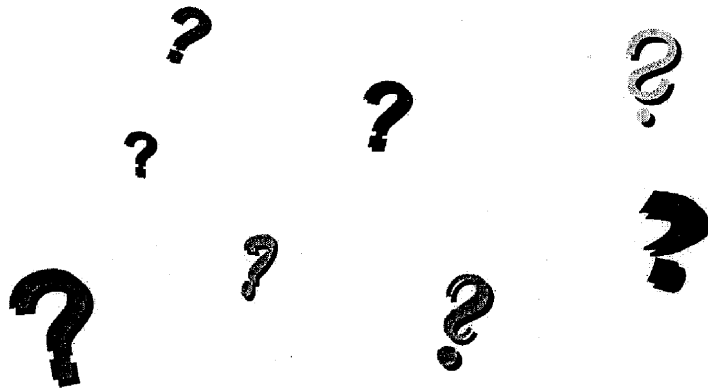
### Synthetic Minor PSD Permit

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IPCC Technology Overview

## Questions ???



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