CONSULTING ENGINEER'S REPORT

for the

AMERICAN MUNICIPAL POWER GENERATING STATION

located in

Meigs County, Ohio

Prepared for the

DIVISION OF CLEVELAND PUBLIC POWER
CITY OF CLEVELAND

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AMERICAN MUNICIPAL POWER GENERATING STATION
CONSULTING ENGINEER'S REPORT

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

1.1 Introduction

Burns and Roe Enterprises, Inc. ("BREI") was retained by the City of Cleveland, Division of Cleveland Public Power (CPP), to provide independent engineering due diligence of the proposed American Municipal Power Generating Station ("AMPGS"). This report will support a decision by the Division of Cleveland Public Power to participate in the 960 MW coal-fired power plant project. As a separate activity, BREI is providing a Consulting Engineer's Certificate to meet the obligations to the Bond Trustee under the CPP Revenue Bond Series 2006B.

1.2 Project Background

American Municipal Power - Ohio, Inc. (AMP-Ohio) is planning to construct a 960 MW (net) coal-fired power plant to be located in Meigs County, Ohio, to supply power to its member organizations. The plant will consist of two (2) 480 MW subcritical coal-fired units. At present about 97.5% of the AMPGS Project will be owned by AMP-Ohio and the remainder by the Central Virginia Electric Cooperative. CPP, along with all other participating members, will execute a power sales contract with AMP-Ohio that specifies the obligations to take or pay for power and transmission service from AMPGS. The original CPP commitment to the project was 185 MW, including 10 MW currently being received from the Richard H. Gorsuch Generating Station. This commitment level has been reduced to 80 MW, as CPP is considering participation in other base load generating projects including the Prairie State coal project and a new hydro facility.

AMP-Ohio initiated development of the project in 2002 as a result of a long range strategic plan. Sargent & Lundy was hired in 2003 to provide various project development services including technology selection, fuel availability and delivery, conceptual design, and site selection. Sargent & Lundy has also supported the permit application process. RW Beck was hired in 2006 as the Owner's Engineer to support AMP-Ohio in project implementation.

The overall project development schedule has a target of April 2013 for commercial operation of Unit 1 and October 2013 for Unit 2. The project is currently in the permitting stage and the EPC Contractor selection process has been initiated. Final selection of the EPC Contractor is scheduled for March 2008. All permits are to be approved by March 2009 with construction starting in April 2009.

1.3 Scope of Work

The scope of BREI's due diligence review including reviewing all available AMPGS project documents as well as CPP historical and forecasted operating results to determine the reasonableness of the project design and implementation approach, and to identify outstanding issues and potential risks. This included a review of the following:

1. Technology selection and plant design.

2. The strategy and approach to regulatory compliance, identify the status of permitting activities and confirm compliance with all Clean Air Act standards.
3. Siting criteria and adequacy of the site.
4. The project construction cost and operating costs.
5. The overall project economics to determine the competitiveness of the power supplied to CPP.
6. The status of property acquisition including easements and rights-of-way.
7. Project development, permitting and construction schedule
8. The reasonableness of the power purchase commitment level of CPP.
9. Potential impact of future federal and state regulations on carbon dioxide emissions.

1.4 Summary of Findings

The following is a summary of BREI's technical and financial assessment:

1. The proposed AMPGS project can provide a source of clean, reliable and competitively priced power to CPP. The AMPGS project will have substantially lower airborne pollutant emissions than any coal fired power plant currently operating in Ohio. The project is expected to displace dirtier sources of power, resulting in a net improvement to air quality in the region.

2. Although the selected 2 x 480 MW (net) subcritical pulverized coal (PC) technology is certainly a proven technology, BREI believes there is a potential risk that this technology may be challenged in the air permitting process leading to potential delay in receipt of permits and thereby impacting the commercial operation date. There is a reasonable probability that the project may be forced to consider other technologies including supercritical PC technology or other technologies. For this size range and application, the supercritical technology is more efficient, resulting in slightly lower emissions.

   In a conference call held on September 28, 2007, AMP-Ohio stated that the EPC Contractors will be given the opportunity to propose a supercritical pulverized coal power plant as an alternate to the subcritical plant.

3. It is noted that AMP-Ohio has been proactive in the selection of the Powerspan ECO-SO_2 process for pollutant control. The Powerspan ECO system will include features that allow for future expansion to make the plant CO_2 capture ready. However, there are a number of significant risks associated with use of the Powerspan ECO- SO_2 process. The scale-up of the ECO-SO_2 process and its operation is a major unknown risk factor. The design proposed for AMPGS differs in some key areas from the pilot plant being tested at the Burger Station. Also, the ability to obtain a full wrap performance guarantee for the Powerspan process and fertilizer plant has not been confirmed. There are moderate risks associated with the market pricing of the byproduct fertilizer. Also it is noted the AMPGS project is using only the SO_2 removal capabilities of the Powerspan ECO process. Sargent & Lundy considered that the use of the ECO process for NOx capture added significant developmental risk. For this limited purpose, Powerspan is not unique and other suppliers, such as

Marsulex, should be considered for providing ammonia based scrubbers that produce ammonium sulfate fertilizer.

4. The remainder of the plant design reflects good engineering practice and will result in a facility with a useful life of 40 years or more.

5. The site selected by AMP-Ohio, as recommended by Sargent & Lundy, is suitable for a coal-fired power plant of this size. Adequate acreage has been identified and there is good access for fuel delivery, makeup water supply and transmission interconnection.

6. The plans for the design, equipment procurement, and construction through the use of a fixed price EPC contract represents a proven approach that minimizes risk (but not necessarily cost) to AMP-Ohio. As discussed in detail in this report, under today's market conditions, it may not be possible to obtain a completely fixed price contract even after an Open Book process. Based on recent industry experience, the construction material and labor costs, representing 20 to 25% of the total EPC cost may not be fixed at the time the EPC contract is to be signed.

7. The plant performance assumptions as well as annual capacity factor and availability are reasonable and appropriate for use in the financial projections. The plant efficiency (net plant heat rate) and output are achievable.

8. The project milestone schedule for permitting, financing, design and construction is reasonable. It is noted that the time shown for delivery of the steam turbine generator cannot be achieved in the current market, but this component is not on the critical path. Achieving the commercial operation date of April 2013 is dependent on timely receipt of all permits required to initiate construction.

9. A detailed review of the Project Cost Estimate prepared by R. W. Beck was performed. Although there are differences (higher and lower) on a number of items, these tend to offset each other. BREI finds the cost estimate to be in the range of the expected cost for a two unit subcritical coal-fired power plant of this size and design. It is noted that the escalation estimate may not be conservative as seen by significant increases in construction material costs in recent years. The Project Cost estimate needs to be periodically updated to reflect the latest projections.

10. The permitting process is well planned and key permits have been submitted. The Draft Air Permit was issued on September 13, 2007. The US Army Corps of Engineers has not yet approved the wetland delineation report, so it is unknown whether there are any isolated wetlands on the site and whether any will be impacted. Several permits referenced in the Ohio Power Siting Board (OPSB) application, specifically the Title V Operating Permits, Acid Rain and Permit, and the NO_x Budget Permit, are not shown on the project schedule provided to BREI.

11. The PJM interconnect application process is already underway and the projected schedule will support the overall schedule of the Project. Only limited information is

available identifying what is necessary to interconnect with the Midwest ISO ("MISO") for those Members in the MISO region.

12. In a conference call held on September 28, 2007, AMP-Ohio stated that options were in place with 100% of the land owners for the project site and buffer. Options were also in place for about 57% of the property required for easements and right-of-ways for transmission interconnection.

13. BREI believes that the Proforma Projections accurately represent the expected operating results of the AMPGS and the projected cost of electricity (the Postage Stamp Rate). BREI believes the assumptions used in the Projection and the results of the Base Case are reasonable and indicate sufficient cash flow to cover AMP-Ohio's expected annual operating costs and scheduled debt service.

14. BREI initially evaluated a proposed 185 MW contract level. The 185 MW commitment, while not optimal from a quantitative perspective, is reasonable when qualitative or risk factors are factored in. This contract level represents the total commitment for base load power and may come from several sources. At this level, the risk of exposure to market cost energy is balanced against potential losses from over-subscription. With the reduced contract level of 80 MW, additional base load power from other sources can be accommodated, further diversifying CPP's resource portfolio. Under the terms of the Power Sales Contract, there is a small risk that CPP will be required to accept an additional 20 MW of power if other participating members default on their take or pay obligations. There are a number of steps that will be taken by AMP-Ohio, including attempts to re-sell the output and legal action, to mitigate this risk.

15. With regard to the impact of future regulations on CO_2 emissions, there is considerable uncertainty as to the timing and the actual costs for CO_2 emissions. Based on review of industry projections, BREI believes the approach taken in the Project Proforma is conservative.

1.5 Risk Assessment and Recommendations

The key potential risks identified as a result of our review of the AMPGS project are:

1. The selection of a subcritical PC technology given the industry trend to choose supercritical PC technology for units in the 500 MW size range.

2. Risks associated with use of the Powerspan ECO-SO_2 process including scale-up concerns and the need for a full wrap performance guarantee.

3. The difficulty of obtaining a fixed price EPC contract and its impact on the project cost.

4. The potential for higher escalation than assumed in the project construction cost.

Our recommendations for actions regarding each of the above are as follows:

Subcritical PC Technology

BREI recommends that the project team develop a backup plan now to consider switching to a supercritical PC technology. This plan would identify all of the documents affected by the change, a schedule for implementation, revisions to the project Proforma, etc. The project may want to go beyond developing the plan, and begin to develop the documentation including preparing the necessary sections of the EPC specification for the supercritical plant. AMP-Ohio's indication that EPC Contractors can propose an alternate supercritical power plant addresses this item.

Powerspan ECO-SO_2 process

The technical concerns identified in Section 2.4 of this report will not be fully resolved within the timeframe needed to select the EPC contractor and order equipment. These concerns would be alleviated to a large extent if the viability of obtaining a full performance guarantee and extended warranty from an EPC Contractor covering the full Powerspan ECO process and fertilizer plant were demonstrated. This is critical to mitigating a major risk and is a prerequisite to successful financing of the project. Action should be initiated now to identify the entities that would provide this guarantee and accept liquidated damages.

The AMPGS project is using only the SO_2 removal capabilities of the Powerspan ECO process. For this limited purpose, Powerspan is not unique and other suppliers, such as Marsulex, should be considered for providing ammonia based scrubbers that produce ammonium sulfate fertilizer. It is noted that Powerspan is developing a CO_2 capture process that can be integrated with the ECO system.

Fixed Price EPC Contract

As discussed above the principal risk that BREI believes exists with the proposed EPC contracting approach is that a fixed price contract may not be achievable. Specifically the construction material and labor costs, representing 20 to 25% of the total EPC cost may not be fixed at the time the EPC contract is to be signed. Sufficient time is available to address this risk and mitigate its impact. BREI recommends the following steps:

1. In the pre-qualification package, the EPC Contractors must address their willingness to fix price the entire project or identify in detail the areas that will not be fixed. For all areas not fixed the proposed method for capping the AMP-Ohio exposure needs to be defined.

2. Meetings should be held with all of the major EPC bidders to discuss this issue. If a satisfactory approach can be identified that places a ceiling on the AMP-Ohio cost exposure, this should be documented in writing by the Contractor.

3. The Project budget needs to be adjusted to reflect the potential AMP-Ohio exposure for construction costs that are not fixed.

4. Meetings with the proposed financing entities should be held to discuss the impact of the alternate approaches identified including the use of target pricing, contingency pools and cap or ceiling prices.

If the results of steps 1 and 2 above indicate that a cap or limit on AMP-Ohio cost exposure cannot be achieved, then serious consideration to alternate contracting approaches (identified in Section 11.1) should be given.

Escalation of Construction Costs

Although historical cost trends on construction material pricing (alloy pipe, steel, concrete, copper) are available it is difficult to project too far into the future. The project team needs to monitor construction activity trends that affect the availability and cost of labor as well as material pricing. The Project Cost Estimate should be updated several times a year.

2.0 TECHNICAL DESCRIPTION

A review and assessment of the plant design is presented in this section. BREI's key findings are that there are risks associated with use of the subcritical steam cycle and use of the Powerspan SO_2 technology. Specific recommendations are provided. The remainder of the plant design reflects good engineering practice and will result in a facility with a useful life of 40 years or more.

2.1 Technology Selection

2.1.1 Introduction

The selection of the subcritical pulverized coal technology was made early in the project when the subscription rate was lower and the plant size was 620 MW (net). As the project grew in size to its current 960 MW, the technology selection was reconfirmed.

BREI believes that there is a significant risk that the use of subcritical technology will be challenged in the air permitting process. The supercritical technology is more efficient, resulting in lower emissions. As a result of its lower fuel consumption and comparable capital cost, it will result in a lower bus bar cost of electricity.

The evolution of the project size played an important role in the technology selection process. This is summarized in the following section.

2.1.2 Technology Selection Process

A Technology Analysis Study was commissioned by AMP-Ohio in May 2003 to select the appropriate technology for base load generation as well as the unit size. The study was conducted by Sargent & Lundy, LLC, and a report was issued in January 2004 (Ref. 2.1). The study evaluated multiple unit size configurations of the following technologies:

- Pulverized Coal (PC) – both subcritical and supercritical
- Integrated Gasification Combined Cycle (IGCC)
- Circulating Fluidized Bed (CFB) Combustion
- Natural Gas Combined Cycle (NGCC)

At the time this study was performed, AMP-Ohio had determined that 618 MW of new generation was required. This size criterion was a key factor in the selection of subcritical pulverized coal as the preferred technology. Sargent & Lundy performed a comprehensive comparison of the technologies and unit size alternatives. Key evaluation criteria included:

- Total megawatts needed
- Unit sizes available to meet total megawatts
- Operational flexibility - peak power, load following
- Capital and O&M costs
- Plant efficiency
- Fuel type and cost

Sargent & Lundy recommended that the AMP-Ohio project use two (2) 310 MW (net) subcritical pulverized coal boilers. The other technologies were rejected for the following primary reasons:

Supercritical PC – the minimum supercritical unit size was identified as 375 MW, which was too large for the required plant size. Scaling down to 310 MW would result in a loss of its efficiency advantage.

Integrated Gasification Combined Cycle (IGCC) - the technology has a high capital cost and insufficient operating experience to meet the project requirement of being a low-cost reliable source of power. (BREI notes that there is only one operating IGCC plant in the U.S. – TECO's Polk County station. The availability of this plant is 82%, below what is needed for a base load facility. Addition of a spare gasifier would improve availability but would increase further the capital cost.)

Circulating Fluidized Bed (CFB) - the largest CFB in operation at the time of the study was 250 MW and a scale up to 310 MW represented first of a kind risks. Also, the CFB had operational issues - slower ramp rate and higher minimum load than the PC. (BREI notes that CFB units in the 300 MW range are now considered commercially proven. The CFB technology has the advantage of fuel flexibility (e.g., burn pet coke).)

Natural Gas Combined Cycle - due to the unstable price projections of natural gas, this technology would not be able to provide a stable low cost source of power.

Based on the technology status and plant size criteria, the selection by Sargent & Lundy was appropriate at the time of the Task 1 Report.

When subsequent work started on the Task 6 - Conceptual Design Report, the plant size had increased to 720 MW (two 360 MW units) and the technology selection was still appropriate. However, at the time the Task 6 Report was completed (September 2005) (Ref. 2.2), the subscription rate and plant size had increased to 960 MW (two 480 MW units). Sargent & Lundy was asked to address again the comparison of subcritical vs. supercritical technology based on this increase in plant size. In a letter to AMP-Ohio dated May 13, 2006 (Ref. 2.3), Sargent & Lundy reiterated its recommendation that at a maximum unit size of 480 MW subcritical technology should be used. Sargent & Lundy noted that:

1. A unit size of 500 MW is the typical threshold above which supercritical is normally selected and below which subcritical is normally selected.

2. The subcritical steam cycle uses a 2500 psig/1050^{o}F/1050^{o}F design rather than the traditional 2400 psig/1000^{o}F/1000^{o}F, to reduce the performance gap to an estimated 1 to 1.25% (steam turbine efficiency).

3. The supercritical design would have a 3 to 5% lower busbar cost of electricity and lower pollutant emissions as a result of its higher efficiency.

4. A possible reduction in the subscription rate below 960 MW favors the subcritical technology selection.

The Initial Project Feasibility Report for AMPGS prepared by RW Beck (Ref. 2.4) does not re-examine the selection of the subcritical PC technology, nor does it explicitly identify it as a potential project risk.

BREI acknowledges that past practice indicated approximately 500 MW was a threshold for the selection of subcritical vs. supercritical. In the US, all new coal plants will need to demonstrate that they represent "clean coal" technology. The efficiency advantage of supercritical technology results in a reduction in emissions of 1 to 3% (depending on steam cycle design conditions) on a lb/MWhr basis. The Sargent & Lundy technology selection report estimated about a 3% improvement in net plant heat rate (efficiency) for supercritical PC(Ref. 2.5). This benefit is well known to environmental groups. BREI believes there is a strong likelihood that the selection of subcritical technology will be challenged during the air permitting process.

Relevant points regarding technology selection include:

1. The 480 MW net output represents a summer guarantee condition. The average net output is estimated by S&L to be 506.5 MW with a turbine generator gross output of 546.6 MW.

2. The developed countries with strong environmental regulations are moving towards to acceptance of only "clean coal" technologies. This is generally interpreted as either IGCC, supercritical coal or CFB. For projects significantly below 500 MW, CFB in unit sizes of 300 MW is the common choice.

3. Recent supercritical power plants below 500 MW include the 495 MW Genesee Unit 3 in Canada and the 2 x 420 MW Callide C Power Station in Australia.

BREI contacted the major boiler suppliers to determine their interest in supplying either subcritical or supercritical boilers at the 500 MW size, to identify any constraints, and get their comments on relative cost differentials. All of the suppliers would supply either technology except one Japanese vendor that would only supply supercritical boilers in the US market. The only constraints noted were those relating to high manufacturing shop loading that would influence their decision to bid. With regard to pricing, although the cost of the supercritical boiler was noted to be about 2% higher due to higher grade materials, in practice the pricing is market driven (not cost based) and there would be no significant difference in pricing.

2.1.3 Assessment

Although the selected 2 x 480 MW (net) subcritical pulverized coal technology is certainly a proven technology, BREI believes there are significant risks that this technology will be challenged in the air permitting process leading to potential delays in receipt of permits and thereby impacting the commercial operation date. There is a reasonable probability that the project will be forced to make a change to supercritical technology.

BREI recommends that the project team develop a backup plan now to switch to supercritical technology. This plan would identify all of the documents affected by the change, a schedule for implementation, revisions to the project proforma, etc. The project may want to go beyond

developing the plan, and begin to develop the documentation including preparing the necessary sections of the EPC specification for the supercritical plant.

In a conference call held on September 28, 2007, AMP-Ohio stated that the EPC Contractors will be given the opportunity to propose a supercritical pulverized coal power plant as an alternate to the subcritical plant.

2.2 Plant Capacity and Design

The proposed American Municipal Power Generating Station ("AMPGS") Project will utilize pulverized coal subcritical boiler technology supplying steam to a steam turbine generator for the sole purpose of generating a guaranteed electrical output of 960 MW (net). The plant is to be located on a 200 acre footprint on a 1,000 acre site in the township of Letart Falls, Meigs County, Ohio, on the east side of Ohio Route 124, near the Ohio River. An additional 600 acres will be purchased as an environmental buffer.

The plant is configured as two (2), pulverized coal-fired generating units with a net dependable capability of 480 MW for each unit, totaling 960 MW for the plant. The plant will consist of the following ancillary equipment and facilities: an auxiliary boiler, landfill facility, roadways, materials storage piles, barge unloading, cooling tower, coal crushing, materials preparation areas, and conveying operations.

Each unit will be designed and equipped to limit emissions with low NO_x burners, fabric filters, selective catalytic reduction ("SCR") with ammonia injection for NO_x reduction and a flue gas desulfurization system ("FGD") for SO2 removal based on the Powerspan technology or a traditional wet limestone FGD system, and wet electrostatic precipitators ("ESP").

The electric energy generated by the plant will be stepped-up to 345 kV by the main power transformers, sent to the on-site switchyard for delivery to the transmission grid, and then delivered to the participating members.

2.2.1 Operating Conditions and Plant Performance

AMPGS will be operated as a base load generating facility. The annual capacity factor is assumed to be 85% and plant availability, taking into account planned and forced outages, is assumed to be 88%. This is a conservative availability assumption for a modern coal plant.

The annual average design dry bulb temperature is 55.2°F and the summer design temperature is 94°F. Plant performance will be guaranteed at the summer design condition. At this condition, the EPC contractor is to guarantee a maximum continuous electrical output of 960 MW (net) of electric power when firing coal and no additional steam generation for other uses. At the annual average ambient temperature net plant output is estimated to be 492.8 MW under new and clean conditions and is adjusted to 487 MW for the financial analysis to reflect performance degradation over time.

Blended fuel qualities range from 12,051 Btu/lb to 10,535 Btu/lb for an Eastern coal blend and a Western coal blend, respectively. For purposes of long-range performance assumptions, including an allowance for degradation over time of one percent, a generating unit net heat rate of 9,325 Btu/kWh is assumed based on use of an Eastern coal blend.

2.2.2 Steam Cycle

The Project employs a steam turbine cycle for electric power generation at 2520 psig and 1050°F, and reheat temperature of 1050°F. The cycle will include seven (7) stages of feedwater heating consisting of four (4) low-pressure heaters, a deaerator, and two (2) high-pressure heaters. Waste heat will be rejected to the atmosphere via mechanical draft cooling towers. The steam cycle is typical of power plants of this type and size, except that steam pressure is about 100 psig higher than typical (2520 psig vs. 2400 psig) resulting in an efficiency improvement.

Three (3) 50% capacity constant-speed electric motor-driven condensate pumps will be provided to pump condensate from the condenser hotwell through the gland steam condenser, drain cooler and low-pressure heaters to the deaerator. One (1) 100% capacity deaerator will be provided with a storage tank sized for five (5) minutes at valves-wide-open conditions.

The feedwater system with two (2) 50% capacity turbine-driven boiler feed pumps and one (1) 50% electric motor-driven boiler feed pump will pump feedwater from the deaerator storage tank through the HP feedwater heaters to the boiler economizer, inlet header. Feedwater will be heated by turbine extraction steam in HP feedwater heaters to improve thermal cycle efficiency. The boiler feedwater system will also supply HP water to the reheater and superheater attemperators to maintain steam temperatures at desired levels.

Raw makeup water for general plant use will be pumped from the Oho River, which will provide an average of 9,500 gallons per minute (gpm) based on two units at full-load conditions and annual average conditions, and a peak value of 12,500 gpm for summer peak conditions. The Plant will include a storage tank sized to provide makeup water to the plant for one hour in the event of water supply interruption, plus 250,000 gallons to be reserved for fire protection use.

2.2.3 Plant Liquid Discharges

Demineralizer regeneration will be performed offsite to eliminate any demineralizer regeneration wastewater. Blowdown from cooling tower cells will be either reused or discharged to the Ohio River. If a limestone-based FGD system is used, the FGD blowdown will be treated to remove suspended solids, dissolved gypsum, and heavy metals before being discharged to the Ohio River.

Storm water runoff from the coal (and limestone if used) storage areas will be routed through a settling basin to remove most of the suspended solids, and then will be sent to the onsite wastewater collection pond for treatment or recycling. Storm water runoff from developed but uncontaminated parts of the site will be routed through a settling pond and then discharged to surface drainage.

Sanitary wastes will be collected, piped, and treated in an activated sludge package treatment system and discharged to the Ohio River. Sanitary wastewater treatment solids will be trucked off-site to a municipal landfill. A plant sump oily water separator will collect oily wastes, which will be sent off-site for disposal. Water that passes through the oil/water separators will be sent to the wastewater collection pond for treatment or recycling.

2.3 Major Components

2.3.1 Pulverized Coal-fired Boilers

Each of the two (2) subcritical pulverized coal-fired boilers will be rated at 3,330,300 pounds per hour at a superheater outlet pressure of 2,520 psig and a temperature of 1050°F. Boiler efficiency is anticipated at 85%. Each boiler will power a steam turbine generator and will use low NO_x burners with an overfire air system to reduce NO_x emissions and designed for balanced-draft firing. Steam generator pressure part components will include an economizer, membrane waterwall furnace area, drum, primary and secondary super-heaters, and a reheat sections.

2.3.2 Steam Turbine Generator

The steam turbine generators will be single reheat tandem-compound type, located in an enclosed building and designed for base load or load-following operation. Each turbine will have a gross rating of 546.6 MW at design operating conditions. Each steam turbine generator will be a 3600-rpm single-reheat-condensing unit in a tandem-compound, four-flow exhaust configuration.

2.3.3 Condenser and Cooling System

The closed loop cooling system is designed to provide a steam turbine backpressure of 1.92 inches HgA when operating at full load under the design ambient conditions. The cooling system includes the steam surface condenser, the mechanical draft cooling tower and the circulating water system.

The multi-cell induced mechanical-draft cooling tower is sized to provide the required cooling water for the main surface condenser as well as all the other plant auxiliaries. Cooling water is circulated between the cooling tower and the condenser with the use of three (3) 33 1/3% capacity vertical circulating water pumps.

2.3.4 Electrical Equipment

The Project has a main generator step-up transformer (GSU) to increase the generator voltage to the transmission voltage of 345 kV.

2.3.5 Balance of Plant

Major auxiliary equipment systems consist of:

- 2x100% Circulating Water Pumps
- 2x50% Forced draft fans and motors
- 2x50% Induced draft fans and motors
- 2x50% Primary air fans and motors
- 2x50% Air Heater
- Baghouse minimum of 3.8:1 air-to-cloth ratio
- 1x100% Condensate system
- 2x50% turbine-driven, 1x50% motor-driven; Boiler Feedwater Pumps

2.3.6 Fuel, Reagent and Ash Handling Systems

Coal will be delivered to the site via river barges. Raw coal that arrives at the site by truck will be stored in outdoor storage piles. Coal bulk storage will consist of a 40 to 60-day supply, assuming full load coal consumption, to mitigate coal delivery interruptions. Conveyors will be used to move and transfer the coal from one area of the plant site to another. The high sulfur Ohio coal will have to be blended with a lower sulfur coal such as coal from Central Appalachia, or Southern Powder River Basin (SPRB) coal. SPRB coals are very low in sulfur; however, they also have a lower heating value that means more SPRB coal is needed to produce the heat energy required by the boiler. The assumed blend of fuel for this Report is a blend of Ohio and Central Appalachia coal ("Eastern Blend"). A reclaim conveyor system will be used to mix and blend the two different coals before distribution to coal crushers for size reduction and then to pulverizers for final grinding. The pulverized coal will then be mixed with hot air and sent to the boiler burners. Nominal use rate of fuel will be 350 tons per hour and a maximum of approximately 12,000 tons per day.

Coal dust from the coal handling operations will be mitigated using water sprays at various points in the handling and storage process as well as using enclosed conveyors to minimize airborne dust.

The site will include an on-site landfill for the disposal of ash, and potentially the byproduct from the limestone-based FGD system, if that technology is utilized.

2.4 Powerspan ECO-SO_2 Removal Process

In September 2006, Sargent & Lundy, LLC, issued a report on its evaluation of Powerspan Corp. pollution control technologies for use on the AMPGS project (Ref. 2.6). Sargent & Lundy limited its evaluation to use of Powerspan Electro Catalytic Oxidation (ECO) technology for sulfur dioxide (SO_2) removal. It was considered that the use of the ECO process for NOx capture added significant developmental risk. Instead a more conventional selective catalytic removal (SCR) system is used for NO_x capture. The Sargent & Lundy report concluded that the Powerspan ECO technology could be used for SO_2 removal. The primary risks identified were the limited run time of the demonstration unit and the economic sensitivities related to the cost differential between the ammonia reagent and fertilizer.

RW Beck in its role as the owner's engineer (OE) for AMP-Ohio conducted a subsequent feasibility study to investigate the use of Powerspan's technology to control SO_2 emissions for the proposed AMPGS. Consistent with Sargent & Lundy's recommendations, the RW Beck report (Ref. 2.7) evaluated Powerspan's ECO system for SO_2 only; other multi-pollutant ECO technologies were not to be used at AMPGS.

In addition, a Memorandum of Understanding (MOU) between The Andersons, Inc. (ANDE) and AMPGS was issued defining the terms under which ANDE would operate, buy reagents, and sell by-product from the fertilizer plant. This MOU has been reviewed and comments are provided herein.

The assessment of ECO-SO_2 scrubber is solely based on our review of the RW Beck report. BREI has not visited the Commercial Demonstration Unit (CDU) facility, reviewed the laboratory results, emission performance testing protocols, and has not verified the capital and O&M costs included in RW Beck's economic analysis.

RW Beck reviewed ECO system specifically for SO_2 removal only, and provided specific economic comparison data for the ECO ammonia-based scrubbing technology and limestone flue gas desulfurization technology. In their ECO process evaluation, RW Beck made various assumptions with respect to the conditions that may exist or events which may occur in the future. RW Beck did not offer any justifications or provided assurances for the validity of the assumptions used in the report, and stated that some assumptions may vary significantly due to unanticipated events and circumstances. These assumptions included plant capacity, capacity factor, net plant heat rate, and two types of coals, but did not specify flue gas data and composition, chloride concentrations, power consumption calculations, etc. These variables may directly impact the study conclusions related to the ECO scrubber design, its operation, and the O&M costs.

Since RW Beck made various assumptions in their comparison of the two technologies, BREI's review was based on these assumptions and limited to the technology capability, byproduct sale, risks and reliability issues only.

From a technical point of view, based on the commercial demonstration unit results, Powerspan ECO-SO_2 technology appears to be capable of meeting the required environmental goals. The technology has a potential to reduce wastewater, by-product disposal costs, and recover costs by selling the by-product ammonium sulfate (AS), while meeting the SO_2 reduction targets. The technology is yet to demonstrate that it can overcome scale up and other performance related, operational, and technical issues to achieve the commercial success.

From a commercial point of view, the viability of obtaining a full performance guarantee and extended warranty from an EPC Contractor covering the full Powerspan ECO process and fertilizer plant has not been demonstrated. This is critical to mitigating a major risk and is a prerequisite to successful financing of the project. Action should be initiated now to identify the entities that would provide this guarantee and accept liquidated damages. In addition, the AMPGS plant would produce a significant share (13 to 27%) of the total US market for

ammonium sulfate (AS) fertilizer. This could impact the sales price of AS, particularly if Powerspan is successful in installing multiple ECO systems at other power plants.

It is noted that Powerspan is being used on the AMPGS project only for supply of an ammonia based scrubbing system for SO_2 control. In this regard, it is not unique and other suppliers such as Marsulex should be considered.

Detailed comments and recommendations are presented at the end of this section.

2.4.1 Powerspan Process Review

The Powerspan's ECO technology is designed to remove multiple pollutants (SO_2, NO_x, particulates, air toxics, acid gases, CO_2, heavy metals and mercury) simultaneously from the boiler exhaust gases. The overall process consists of four independent technologies:

1. Electro-catalytic oxidation (ECO) reactor

2. ECO-SO_2 process for simultaneous reduction of SO_2 and NOx

3. Photochemical oxidation (PCO) process for mercury removal

4. ECO_2 process for CO_2 removal.

It is important to note that the Powerspan ECO system will include features that allow for future expansion to make the plant CO_2 capture ready using the Powerspan ECO-CO_2 process. The conventional wet limestone FGD system does not address CO_2 capture.

The ECO-SO_2 control system is based on the ammonia scrubbing process. It consists of an ammonia scrubber with liquid reservoir, a packed bed and wet electrostatic precipitator (WESP) above the packed bed, and a by-product Crystallizer plant. In the ECO system, the ammonia scrubbing process is completed in a four step operation. In the ECO reactor (not being used at APMGS) the NO_x and mercury are oxidized to facilitate their removal in the ammonia scrubber. In the second step, the ammonia scrubber captures SO_2, NO_x and oxidized mercury. In the third step, the WESP captures the particulates, aerosols, acid mists, and ammonia carryover. In the fourth and final step, the liquid is removed, filtered for mercury and ash particulate, and sent to the Crystallizer plant to form ammonium sulfate (AS) crystals.

Powerspan installed the first ECO Commercial Demonstration Unit (CDU) unit in a 50 MW slipstream at the R.E. Burger plant near Shadyside, Ohio. The purpose of the CDU unit was to demonstrate the commercial readiness of Electro-Catalytic Oxidation (ECO) technology. The CDU unit demonstrated 65% NO_x, 98% SO_x, 95% particulate matter, and 80% mercury emission reductions. Based on the results achieved at CDU, Powerspan has offered a scaled up ECO-SO_2 process for AMPGS.

Through operation of the CDU, the ECO process and technology has demonstrated its ability to remove 98% SO_2 and to enhance mercury removal.

As noted in the RW Beck report, the CDU sells the scrubbing liquor as a liquid fertilizer. Tests are being conducted on a small stream (1 gpm) to determine the ability to make AS crystals of a suitable size. The reliability of the crystallizer, which can have high maintenance costs, will impact ultimate sale of the by-product. Since there are no defined standards for heavy metal or mercury concentrations in the AS product, BREI cannot provide comments on the fertilizer quality.

2.4.2 ECO-SO2 Reliability and Risks

Powerspan's approach to the design of the ECO-SO_2 absorber appears to be reasonable and prudent. Based on RW Beck's report and Powerspan's literature descriptions, it is assumed that the ECO-SO_2 system does not include any equipment redundancy in the design. Our review of the RW Beck report notes the following risks and concerns associated with the ECO-SO_2 system reliability:

Technical

1. As stated in RW Beck's report, the absorber scale up factor of 10:1 is a concern (a 50 MW commercial demonstration unit is proposed to scale up to 500 MW). The proposed ECO-SO_2 technology has not been proven in a full scale operation to produce a corresponding removal efficiencies for SO_2 control.

2. The reliability of operation with ammonia solution using the Raschig packing design has not been fully tested at any power plant. There are also risks associated with ECO-SO_2 system operation with the modified Raschig packing height, which in conjunction with baghouse malfunctioning may potentially increase the system pressure drop. The operating temperature of 310^oF may cause ammonia evaporation in the absorber and create environmentally controlled exhaust gases. This may require some additional ammonia odor mitigation and treatment system.

3. The WESP has limited experience in a power plant operation in the US. As noted in RW Beck's report, the two field WESP experienced some difficulties in capturing the aerosols at the CDU, but the modified three field WESP offered at AMPGS may mitigate those problems. The type of WESP used at AMPGS is not defined, as related to tube or plate type electrode construction. WESP operation over the absorber tower may pose a minor risk.

4. Powerspan proposed a single loop ECO-SO_2 process for AMPGS without the use of the ECO reactor. This may not be a true scale-up duplicate system for a full scale absorber column since a two-loop system is used at the CDU. The two-loop system was used for combined SO_2 and NO_x reduction at the CDU. The impact of this design change is unknown, and may affect SO_2 collection efficiency or AS crystallization properties in the oxidation tank.

5. Construction, operation and maintenance of any new technology requires more down time for tuning and commissioning of the unit.

6. As noted in RW Beck's report, the scrubbing liquid was distributed over the upper packed bed with spray nozzles at the CDU facility. At AMPGS, Powerspan proposes a new design with liquid distributors. The liquid distributors have been used at large commercial units, but their capability for even and uniform liquid distribution over the entire bed, and their operational performance over large size packed bed is unknown. The uneven flow distribution may impact the overall absorber collection efficiency. Powerspan is still evaluating the packing size, material of construction of Raschig rings, flow rates and packing bed depth to optimize the system. This is a concern and can be a risk factor.

7. The chloride concentrations in the flue gas or liquor are not defined in the report. The material of construction for the absorber is Alloy 2205, which may require certain parts to be upgraded to C-276 alloy material. Also, the material of construction shown in RW Beck's report for the absorber inlet as alloy C-256 may not be adequate for high sulfur and high chlorine coal operation. Mostly in the conventional Limestone Forced Oxidation wet FGD system operating on high sulfur and high chlorine coal with very low wastewater stream system requires C-276 material of construction. If C-256 material for absorber inlet and C-276 for absorber vessel needs to be replaced, it will impact the project's capital and O&M costs.

8. The scale-up ratio of the ECO-SO_2 process from the CDU to AMPGS plant is 10 to 1, which is on the border line of what is typically considered acceptable for scaling up a technology. A scale-up ratio of this magnitude is common in the process industries. However, applying this scale up ratio to first-of-a-kind power plant processes may pose considerable risks. As stated in RW Beck's report, it is not unreasonable to expect that issues not presently considered or envisioned would arise as the full scale installation is designed, constructed and tested. It may be possible to resolve these issues by means of field modifications, but modifications themselves could adversely affect the project schedule, commissioning and start up time, and may add significant O&M costs, and thus may alter the fixed and variable O&M costs included in RW Beck's report. Provision to deal with baghouse malfunctioning and its impact on ECO-SO_2 operation should be provided.

9. Risk analysis associated with packing ring breakages causing plant down-time for maintenance and increasing O&M costs should be provided.

10. Provisions should be made to control ammonia slip during absorber and equipment malfunctioning to meet environmental regulations.

11. Impact of liquid distributors malfunctioning on the ECO absorber operation should be specified.

12. The CDU used a complete Powerspan train system, including ECO-reactor for SO_2 and NOx oxidation and ECO-SO_2 absorber for SO_2 control, but at AMPGS only the ECO-SO_2 absorber is offered. It is not certain that the ECO-SO_2 absorber alone would be able to provide an SO_2 control efficiency similar to that demonstrated at CDU.

13. Per RW Beck's report, the pressure drop across the packed bed observed at the CDU was 7.5 to 8.5 inches water column for a 13 feet packing height. The design description of the full scale absorber also indicates a pressure drop of 7.5 to 8.5 inches water column. It will be certainly higher with 25 ft Raschig packing or any other alternate packing height. A higher pressure drop will impact power consumption and O&M costs.

14. The liquid waste stream from the ECO process will be different than the conventional limestone based wet FGD system. The impact on wastewater treatment system design needs to be assessed.

Commercial

1. If ANDE defaulted in its reagent supply, the power plant could not be operated. The maximum liability will be limited to one year's reagent fee. This is equivalent to about $500,000 (depending on coal), whereas the lost revenue for power will be very high for APMGS. Minimum inventory requirements must be specified and alternate reagent supply sources need to be available.

2. The full wrap around guarantee for Powerspan's ECO-SO_2 system is required to reduce risk and exposure to AMPGS. However, responses received from five vendors don't make it certain that a full wrap around guarantee would be offered by any of them. This will impact the ability to finance the plant.

3. The project is estimated to produce approximately 13 to 27 percent of the U.S. total fertilizer consumption. This may create a significant surplus at the U.S. fertilizer market. This, in turn, could make it difficult to absorb or sell fertilizer at the same price as existed prior to this surplus. The economic feasibility of the ECO-SO_2 process is dependent on the prices of urea and AS. The spread between the costs of urea and AS cannot be projected with any degree of certainty for a surplus situation. This difference can be significant and could alter the economics of the ECO-SO_2 system.

4. BREI does not have sufficient basis and data for direct comparison of the capital and O&M costs conclusions for the ECO-SO_2 technology presented in the RW Beck report. The economics of the ECO-SO_2 absorber are based on the assumptions and data provided by Powerspan. Since the O&M costs provided in the RW Beck report are based on data provided by Powerspan, a more detailed capital and O&M cost evaluation is recommended.

2.4.3 Memorandum of Understanding (MOU) with The Andersons Inc. (ANDE)

1. The MOU is a well-structured maintenance agreement. The bonus and penalty incentives contained in the agreement appropriately align the interests of ANDE and AMPGS.

2. There is no discussion of the financial responsibility for failure to meet the budget targets in the RW Beck report. If the operator cuts the cost to meet the performance, it will impact the plant's availability, or at the minimum, put it at risk.

2.4.4 Conclusions

Based on our review of the Powerspan ECO process a number of detailed comments have been identified above. These should be addressed by RW Beck and Powerspan as the project proceeds. Our more significant findings are as follows:

1. The Powerspan ECO system offers important benefits of a reduction in sold waste disposal requirements, the capability for future addition of CO_2 capture, and a reduction in net O&M costs, with its beneficial impact on the cost of electricity. The O&M savings is estimated to by RW Beck to be about $4.5 to $5.5 million per year. For this level of savings, AMP-Ohio and its members are getting into the fertilizer business with its commercial and market risks, above and beyond the technical risks identified.

2. The AMPGS project is using only the SO_2 removal capabilities of the Powerspan ECO process. For this limited purpose, Powerspan is not unique and other suppliers, such as Marsulex, should be considered for providing ammonia based scrubbers that produce ammonium sulfate fertilizer.

3. The scale-up of the ECO-SO_2 process and its operation is a major unknown risk factor. This is recognized in the RW Beck report, and it is noted that that presently unknown issues can be accommodated by adjustments in the field and modifications to the equipment. However, the design and operational changes that may ultimately be needed can increase the capital cost and O&M cost to the point where this system is not as economic as the conventional wet FGD system.

4. The net O&M costs for the ECO-SO_2 system is highly dependent on the price spread between prices of the AS and urea. AMPGS will produce 13 to 27% of the present US consumption of AS. This may create a market surplus, particularly if more plants are retrofitted with ECO systems and start selling AS. This may make the AS market less attractive and possibly force AMPGS to store the product on or off site.

5. The Powerspan ECO process and the fertilizer plant will be provided by different equipment suppliers. Also, it is not clear that Powerspan has the financial strength to stand behind performance guarantees for its system. Therefore, the EPC Contractor will be expected to provide a full wrap performance guarantee for the integrated

system. The viability of obtaining a full performance guarantee and extended warranty from an EPC Contractor covering the full Powerspan ECO process and fertilizer plant has not been demonstrated. This is critical to mitigating a major risk and is a prerequisite to successful financing of the project. Action should be initiated now to identify the entities that would provide this guarantee and accept liquidated damages.

3.0 SITE SELECTION

An in-depth site selection process was conducted by Sargent & Lundy in the 2003-2005 time period. A report (Ref. 3.1) was issued in August of 2005 evaluating nine (9) potential sites in Ohio, Virginia and West Virginia. BREI reviewed S&L's methodology and process. We believe that the process they followed was correct and prudent taking into account location to power interconnection, fuel supply and transportation, topograghy, terrain, layout, access to roads and plant emissions considerations.

The ultimate recommendation of the Greenfield Ohio Site O-2 in Meigs County is a good one. The parcel is flat, 2,500 to 4,000 feet wide by 2 miles long, not in a flood plain and formerly agricultural farmland. Out of 1000 available acres, the site to be graded for the plant proper will be approximately 200 acres at 610 feet above sea level.

3.1 Access to Transportation and Fuel Supply

Present access to the site is limited. There is no rail access on the Ohio side of the river and only two-lane paved roads. Rail access is available on the other side of the river, with the potential to ferry coal across as a backup to barge delivery. The site has access to the Ohio River at a point where the river is straight and 800-1,000 feet wide. Barge facilities can be built along this stretch of river within 1-mile of the plant site.

The barge facilities will include mooring cells, foundations, a barge haul system and a grab bucket excavation. Dust suppression will be accomplished by water spray at the unloading facility. Coal will be moved to the plant site via a conveyor system.

Land acquisition is necessary for the transmission line right-of-way as well as the plant site. There are residences in both areas.

3.2 Transmission Interconnection

The power plant will be designed with an on-site 345 kV Switchyard. This will be an AMP-Ohio cost, outside of the EPC contract. AMP-Ohio will also be responsible for constructing a new double-circuit 345 kV transmission line. Additionally, upgrades for the Utility electric system, land and infrastructure upgrades will bring the total interconnect cost to $134 million. BREI believes this to be adequate to cover such costs.

The proposed new interconnect will be to the PJM ISO, however, a portion of the power will be delivered to the Midwest ISO (MISO) for project participants located within MISO. There will be certain additional Owner's costs for transmission services to MISO. Interconnection to PJM will be as a "Capacity Resource" through firm point-to-point transmission service under the PJM Open Access Transmission Tariff ("OATT"). The process of arranging these interconnect services is not yet completed by AMP-Ohio, however, the process with PJM is already underway.

The new 345 kV double-circuit transmission line to the PJM intertie will be about 5 miles in

length at a cost of $24 million. There will also be an estimated $58 million of upgrades required to the existing transmission system. The transmission load flow studies are still underway for point-to-point transmission to MISO. The current schedule for upgrades is 12 months. Upgrades include: Rebuilding two 4-mile 345 kV lines; Reconductoring 1.4 miles of 500 kV and 1.0 mile 345 kV of; Reconductoring 29 miles of 138 kV transmission lines. In BREI's opinion, AMP-Ohio should assume 18 months based on current trends in the industry vis a vis manufacturer's lead times under an expanding economy in this industry sector. The overall schedule for installation of the upgrades and new transmission line is 24-36 months, which BREI feels is reasonable.

3.3 Fuel Storage and Waste Disposal

Delivered coal will be from three (3) sources, high sulfur Ohio bituminous coal, medium sulfur Central Appalachian coal, and low sulfur coal from the Southern Powder River Basin ("SPRB") in Wyoming. Coal will be transported by rail to port facilities where it can be barged to the new barge unloading facility near the AMPGS site. It will then be conveyed and stored on the 1000 acre plant site. Blending will take place on site. The EPC contractor will be responsible to design the material handling systems to handle eastern coal or western coal separately and to handle various blends of the three coal sources. BREI believes that there is adequate plant space for storage and blending and that the technology exists for the EPC contractor to make prudent selection of equipment and storage.

Ash will be deposited in a new 135-acre on-site landfill. Non-ash waste disposal will be handled separately. The Sargent & Lundy Site Selection Report identified several potential solid waste landfills in the area.

3.4 Water Supply

Cooling water makeup can be sourced from the Ohio River. The plant will need approximately 10,000 gpm. Static head would be less than 100 feet. The Ohio River is high in suspended solids, which affects water treatment costs. Potable water is available from the Tuppers Plains – Chester Water District.

3.5 Assessment

The site selected by AMP-Ohio, as recommended by the S&L study, is suitable for a coal-fired plant of this size. There is 1000 acres of useable land. AMP-Ohio intends to purchase an additional 600 acres to act as an environmental buffer. The land was previously farmland, which means that there should not be any soil or water contamination . The area is in Uniform Building Code Seismic Zone 1, which means low expectation of seismic activity.

Potential site risks include:

- Sandy soil conditions may require piling to bedrock.
- Costs of electrical transmission upgrades are not fully determined. Load Flow studies are in progress.

- No rail service is available on the plant side of the river. (Rail is available across the river.)
- Roads are currently rural 2-lane. DOT may require upgrades for heavy load truck traffic.

4.0 CONSTRUCTION SCHEDULE

4.1 Permitting and Financing

The Baseline Schedule for the AMPGS project (Ref. 4.1) provides a very detailed listing of activities required to support the permitting and financing process. The schedule also includes activities necessary to select the EPC Contractor. The schedule includes a nine month Open Book period for the EPC contractor prior to receipt of final permits and a full Notice to Proceed (NTP).

The BREI review concludes that the activities are well documented and planned and that the durations within the control of AMP-Ohio and its consultants are reasonable. However, it is noted that the permit approvals are on the critical path and delays in regulatory agency actions can impact the schedule. The Draft Air Permit was issued on September 13, 2007.

4.2 Engineering, Equipment Delivery and Construction

The overall project schedule for the AMP-Ohio 2 x 480 MW coal units is 54 months, with 30 months for Engineering and 48 months for Construction and Startup. There is a six month lag between startup of each unit. BREI has looked at schedules from similar coal plants and compared the time frames for overall project duration, engineering and construction/startup. As can be seen from the listing below, the AMP-Ohio schedule falls within the expected durations to do the work. Based on this, the overall schedule duration does appear reasonable.

TABLE 4.2.1
Plant Comparison of Overall Duration

Power Plants	Engineering	Const / Startup	Lag Unit Start	Overall
Coal Project A 2 x 300 MW Coal Unit	24	48	NA	54
Coal Project B 1 x 600 MW Coal Unit	29	45	NA	56
Coal Project C 2 x 800 MW Coal Units	22	41	6	47
AMPGS 2 x 480 MW Coal Units	30	48	6	54

Note: Durations in months.

BREI has also made a further analysis, comparing procurement and installation time frames for major equipment against the same plants identified above. The AMP-Ohio schedule falls reasonably well with the standard durations for major equipment procurement and installation. It is noted, however, that the procurement duration of 17 months for the Steam Turbine Generator is not achievable when compared to 24 months for other similar plants based on current industry experience.

The schedule identifies issuance of purchase orders for the Boiler and STG within a couple of weeks of the EPC contractor receiving notice to proceed. The contractor is released for preliminary engineering nine months prior to full notice to proceed (Open Book Process). During this time, the schedule needs to identify the activities for development of specifications and the issue/evaluation of vendor bids in order to support the early release of purchase orders for this equipment.

In summary, the schedule is well thought out with clear milestones identifying work progression. The overall schedule durations appear reasonable and the work can be completed in the 54 month project duration. As noted, the fabrication and delivery of the STG appears to be unachievable and will need to be looked at further. The upfront activities for work in progress are very detailed, with the EPC engineering and construction at a much higher, summary level. When the EPC contract is awarded, this portion of the schedule will need to be expanded by the contractor to a more detailed level that can be used to track and monitor the job.

4.3 Off-Site Interfaces

A number of important construction activities and fuel supply contracts will take place outside of the EPC Contract. These include:

- AEP Switchyard
- Transmission Lines
- On-Site Landfill
- Gas Supply
- Fuel Supply and Transportation

The off-site construction activities are not scheduled to start until 2009 or later. The present schedule supports the on-line commercial operation date of April 2013. A fuel supply study will be complete in July 2008.

5.0 REGULATORY COMPLIANCE

5.1 Strategy

The environmental strategy for the AMPGS project is based on environmental compliance with federal, state and local regulations. Since the power plant will be located in a region considered to be an inherently large source of coal combustion with the potential to generate large amounts of gaseous and solid particle emissions, the AMPGS must comply with the Clean Air Interstate Rule (CAIR) as well as with the Clean Air Mercury Rule (CAMR). AMP-Ohio management has filed a "Permit to Install" (PTI) with the Ohio Environmental Protection Agency (OEPA) on May 2006. The facility proposes to comply with New Source Performance Standards (NSPS) as a new major source for all criteria pollutants as well as Prevention of Significant Deterioration (PSD) by employing Best Available Control Technology (BACT). To date, the PTI is currently under review by the OEPA.

The Project must also comply with Title IV (Acid Rain) permitting due to the fact that the primary fuel (coal) contains sulfur which when combusted is capable of creating sulfuric acid and sulfur dioxide emissions. The Project must also comply with CAIR rules that allocate allowances based on the facility's NO_x and SO_x emissions. The CAIR rule also takes into account the transport of ozone which has no allowances assigned, but relies on controls to minimize its emissions.

The CAMR rule will impose a "cap and trade" program as well as a measurement program to monitor and control the emissions of mercury (Hg) from the combustion of coal. The AMPGS Project plans to comply with the CAMR rules to address its own profile of Hg emissions. The Ohio EPA has established reduction levels that are more stringent than the CAMR.

NO_x emissions will be controlled by low NO_x burners and over-fire air systems on the boiler while selective catalytic reduction technology will be employed on the back end flue gas stream. Additional equipment such as a baghouse to control Particulate Matter (PM) and PM 10, wet electrostatic precipitator and a Powerspan ECO-SO_2 or wet flue gas desulfurization unit will be installed for the control of sulfur dioxide and sulfuric acid compounds.

5.2 Current and Future Carbon Emissions Requirements

Power plants that combust pulverized coal have the potential to emit large amounts of Carbon Dioxide (CO_2) emissions. In the US, some facilities are voluntarily submitting their annual emissions of CO_2 into the USEPA database. Therefore, market conclusions can begin to be drawn from the participating facilities to date.

Industry and CO_2 market forecasters indicate that the market may begin to establish baseline carbon tax values beginning in the 2010 timeframe. Although industry sources state that CO_2 emissions will range from 5 $/ton to 15 $/ton beginning in the year 2012, it is uncertain where pricing will begin.

The Energy Information Administration has analyzed proposals for the reduction in greenhouse gases (GHG) through a national Cap and Trade system to be implemented in 2012. The proposal distributes 90% of the GHG allowances for free among all industries and assigns the remaining 10% into a multi-industry auction program. An increase up to 38% of the GHG allowances through the auction program occurs in 2030, thereby reducing the original free allocations. Revenues from the auction program and a "Safety Valve Program" are proposed to be capped in a Climate Change Trust Fund at $50 million established to pay for research and development aimed at reducing GHG. The "Safety Valve Program" has been defined as assigning a dollar per ton amount to emissions of GHG to regulated industries. The pricing range for GHG allowances would start at $7 per metric ton in 2012 and increase yearly by five (5) percent above the rate of inflation..

It is noted that AMP-Ohio has the joined the Midwest Regional Carbon Sequestration Partnership. This participation will allow AMP-Ohio to keep abreast of the latest developments in carbon sequestration as well as national activities related to CO_2 regulation.

5.3 CO_2 Control for Fossil Fuel Power Plants

There are generally two approaches to CO_2 emission reductions. The short term approach is based on currently available measures and includes plant efficiency improvements, cogeneration, biomass co-firing, and procurement of offsets. The long term approach is dependent on progress with numerous actively developing technologies, expected to allow safe, reliable, and affordable CO_2 sequestration (capture and disposal) in the future. The CO_2 sequestration itself consists of three distinct parts:

- CO_2 separation
- transport, and
- permanent storage

Technology pathways to CO_2 separation include relatively well established concepts, such as pre-combustion, post-combustion, and oxyfuel combustion, and emerging concepts, such as chemical looping (indirect combustion) and CO_2 hydration.

Emerging concepts are expected to produce practical results in the distant future. Therefore, at this time it appears prudent to concentrate on relatively well established concepts, which may soon produce technologies required to meet future CO_2 regulation.

Post-combustion and oxyfuel combustion concepts are applicable to natural, oil, and coal-fired power plants. Pre-combustion concepts are only applicable to IGCC, and involve the addition of a CO shift reaction process that converts the CO in the syngas to CO_2. The reduction in CO reduces the power plant output.

Both post-combustion and oxyfuel combustion concepts require very large amounts of energy in the form of steam and electricity from the host plant. These significantly reduce plant output and efficiency, thereby increasing the emission of other pollutants on a lb/MWhr basis.

Oxyfuel Combustion

Oxyfuel combustion requires an air separation unit, similar to that for IGCC, to separate O_2 from N_2. After O_2 is separated it is used in the combustion process instead of air to produce emissions that consist primarily of CO_2 and H_2O. CO_2 in the flue gas can be cleaned, compressed, and concentrated to be ready for transport and storage.

The process requires substantial new equipment and metallurgy. The process can be easier retrofitted into a CFB then PC boiler (combustion product recirculation in the CFB furnace allows maintenance of a lower furnace temperature), although neither technology can take full advantage of a substantial boiler size reduction available to new installations. Additional issues with oxyfuel combustion include build up of inert gases and potential for acid corrosion.

Post-Combustion CO_2 Capture

In this concept CO2 is separated other combustion products. The post combustion concept can be implemented with minimal plant changes. However, large plant foot print would be needed. Additionally, the post-combustion CO_2 separation process is expensive and energy intensive. The CO_2 concentration and pressure in flue gas are low, which decreases the separation driving force. Flue gas contaminants, especially SO_2, degrade solvents. As mentioned earlier, parasitic loads are large, because the process requires substantial amounts of thermal energy to be extracted from the power cycle.

Post-Combustion CO_2 Capture Processes

Post-combustion CO_2 capture processes include:

- Absorption
- Adsorption
- Membrane Separation
- Separation by Frosting
- Biological Capture

Of all these processes only the absorption technologies based on amines and ammonia are fully developed. The leading developers of amine absorption are Canslov, Fluor, and Mitsubishi Heavy Industries. Amines are widely used in chemical industry, but not well tested on flue gases with low CO_2 concentrations. Solvent cost and service life remain the major issues. Amine degradation products (reaction with impurities in flue gas) may create additional environmental issues.

The main developers of ammonia absorption are Alstom and PowerSpan. Ammonia is less expensive than amines, but it is also less reactive. Additionally, the process may cause some ammonia evaporation and attendant increase in ammonia slip. Alstom is experimenting with chilled ammonia to avoid the latter problem.

Post-Combustion and Oxyfuel Combustion CO2 Capture Summary

- CO_2 can be captured using existing technologies
- Technologies are expensive
- Technologies need to be demonstrated at large scales before they can be recommended for retrofit or implementation
- CO_2 capture reduces power plant efficiency by about 10-12 percentage points
- Cost of capture is about 2-4 US cents/kWh, excluding storage ($20-60/ton of CO_2 avoided)

5.4 Assessment

The overall strategy for the Project has been to follow a proactive approach to regulatory compliance. The management for the Project plans on controlling and reducing emissions of criteria pollutants and hazardous air pollutants including Hg and PM 2.5, although legislation has not been promulgated to date. In the area of CO_2 emissions, the RW Beck report has assumed promulgation of a carbon tax and cap and trade by the federal government and included the impact on the cost of electricity.

The general assessment for the Project is that a moderate level of uncertainty exits for the impact caused by the incremental cost added by the cap and trade program for CO_2 emissions. The variable costs associated with operating the plant with CO_2 emission costs as presented in the RW Beck model appear to be conservative. However, the incremental cost of operating with the CO_2 emission costs will affect all coal burning plants and AMPGS will maintain its competitive position with respect to other coal plants.

6.0 Status of Plant Permits

6.1 Current Status

Air Permits

The Air Permit applications for Prevention of Significant Deterioration (PSD), New Source Performance Standard (PSD), Permit to Install (PTI) and Best Available Control Technology (BACT) have been completed as of June 2007 and submitted to the Ohio EPA for draft review. Modeling and response to questions have been completed. The Draft Air Permit was issued on September 13, 2007. After a public hearing and comment period, the Final Air Permit is scheduled to be issued seven (7) months after the Draft permit. This is followed by an Appeal process that can take one year to complete.

Water Permits

A waters determination of the property was completed for the site in March of 2006 and was subsequently submitted to the US Army Corps of Engineers (USACE) on June 19, 2006. Several addendums were sent to the USACE (last correction made September 2006) as corrections to the original report. No jurisdictional determination has been issued by the USACE as to the jurisdictional authority over the waters found/identified on the site. Because the USACE has not approved the wetland delineation report, it is unknown whether there are any isolated wetlands on the site and whether any will be impacted.

USACE individual 404 and section 10 permit applications were completed by URS in May, 2007. The applications have not been submitted to the USACE. Because the site requires impacts over the USACE nationwide permit amounts, an Ohio EPA 401 water quality certification and/or an isolated wetland permit will also be required. The Ohio EPA 401 water quality application was also submitted in May 2007. It is unknown whether isolated wetlands will be impacted. If they are, an Isolated Wetland Permit will be required from the OEPA.

It is indicated in the USACE individual 404 and section 10 permits that some filling within the 100-year floodplain may be required. If filling activities of any kind are planned for the floodplain the impacts must be approved through the local Flood Emergency Management Agency (FEMA) coordinator.

Based on the information provided, the NPDES construction permits, a PTI, NPDES industrial discharge permit along with a SWP3 permit will be required. A reference is made to permits in the Ohio Power Siting Board (OPSB) documents. Reference is also made in the schedule for these permits, however, the permits were not included in the documents provided.

Remaining items identified to be completed are the Title V Operating Permits, Acid Rain and Permit, and the NO_x Budget Permit, which are not in the schedule. These permits are referenced in the OPSB document.

Landfill

The PTI for the Landfill appears to be complete. The project schedule contains information of the upcoming activities required to obtain the PTI.

Overall Permit Status

The overall permit status for the power plant guidelines is listed below:

Environmental Construction Permits –Plant Site

	Permit/Approval	Issuing Agency	Comments	Status
P-1	PSD Air Permit to Construct	• OEPA • EPA review	Required before construction can begin for Major source of air pollutants	Schedule shows OEPA review August 07
P-2	Title V Air Permit (Operating Permit)	OEPA	Required to submit application no later than one year after operation begins.	After plant is in operation
P-3	Acid Rain / NOx Budget	OEPA	Registration Form, with no review/approval.	Not yet filed
P-4	Construct Stack	• FAA • ODOT	Required for construction of stack over 100 feet. Must comply with signage and lighting requirements for construction.	Not started – Not in Schedule
P-5	Permit for Construction of Wastewater Treatment Plant	• OEPA EPA review	Required for construction of wastewater treatment system.	Not started
P-6	NPDES Discharge Permit	OEPA	Required to discharge effluent to surface waters.	Not started
P-7	Industrial Pre-Treatment (to POTW)		Only if discharge is to POTW. No permit required from OEPA. Need approval from POTW.	Not started
P-8	Streams/Wetlands • USACE 404 Permit (Encroachment Permit) • 401 Water Quality Certification • Section 10 • Isolated Wetland Permit	• OEPA • ACOE	• Individual permit required could take 4 to 6 months to issue. • No jurisdictional letter from the ACOE affirming the waters determination report has been issued. • Must have clearance from SHPO on cultural Resources and US FWS/ODNR on threatened and endangered species before ACOE will issue permits. • Is isolated wetlands are determined to be present by the ACOE, and any will be impacted, a permit from the OEPA will be necessary.	404, Section 10, and 401 Water Quality Certification were submitted on May 7, 2007 It has not been determined if there are isolated wetlands, so the need for an Isolated Wetland Permit is unknown.
P-9	Storm water General Permit for Construction Activities	OEPA	Required for any project impacting at least one acre of land. The permit requires a S*torm water Pollution Prevention Plan* that is the soil erosion control plan. For disturbances over 3 acres must submit registration 45 days prior to commencing construction activities. Also must submit a Notice of Termination when construction completed.	Not Started. Must submit at least 45 days prior to construction

P-10	Erosion and Sedimentation Control Plan Approval (Stormwater Pollution Prevention Plan)	OEPA	OEPA must approve as part of storm water construction permit.	To be submitted with P-9
P-11	Public Land Corporation Stream Activity Permit	OEPA of Natural Resources, Office of Real Estate Management	Required for and any stream activity impacts. Real Estate Management Office contacts OEPA state biologists, archaeologists, and fisheries scientists for review.	Not started
P-12	Storm water General Permit for Operation of facility	OEPA	If have industrial activities that have potential to come into contact with storm water, must obtain permit. If facility is required to have NPDES, storm water is incorporated into NPDES. If not separate storm water permit is required. Must submit application 180 days prior to commencing operation of facility. Must have a S*torm water Pollution Prevention Plan (SWPPP) and Ground Water Protection Plan (GWP)* as part of registration.	To be completed during construction prior to first fire
P-13	Flood Protection Program	FEMA	Fill within floodplains/floodways require a permit through the local floodplain coordinator	Local FEMA Floodplain fill permit.
P-14	National Historic Preservation Act (Section 106) Compliance, Comment on Cultural Resource Studies	State Historic Preservation Office	Required for projects that need Federal permit or involve Federal monies. Must conduct evaluation to validate that project will not impact cultural resources that are either listed on or eligible for listing on the NRHP.	In Appendix 07-04 of the application to the Ohio Power Siting Board (OPSB) for a certificate of environmental compatibility and public need there is a 12/4/06 letter from Ohio Historic Preservation Office (OHPO). In the letter it indicates that OHPO expects geophysical surveys, and Phase II archaeological surveys at up to 8 locations. Also, while not specifically mentioned, it appears that OHPO wants a Memorandum of Agreement (MOA) for commitments to avoidance, protection, and mitigation to important cultural resources. There is no evidence to

				suggest that these comments, expectations, or commitments have been or will be addressed.
P-15	Section 7, Endangered Species Act and State Sensitive Species Protection Regulations	• US Fish and Wildlife Service • State Department of Natural Resources	Required for projects that need Federal permit or involve Federal monies. Provide biological opinion on species of wildlife and plants that are federally listed.	In Appendix 07-2 of the application to the Ohio Power Siting Board (OPSB) for a certificate of environmental compatibility and public need it is stated that a survey for the federally-endangered Indiana bat is planned for Spring 2007. The status of the survey, and/or findings, was not provided in the package for review. The survey and report need to be completed and submitted. In Table 1 of Appendix 07-2 of the application to the Ohio Power Siting Board (OPSB) for a certificate of environmental compatibility and public need a list of animal species present within the study area, or believed likely to be present by the authors, is presented. It is not clear which were actually identified, but as presented it must be assumed that the authors know or believe all are present. Contained within the list are: • Timber rattlesnake (state-endangered, federal-prelisting species) • Osprey (state-endangered) • Eastern Box Turtle (state species of concern) • Pygmy shrew (state species of concern) None of these species, if present as suggested by the authors, are

				addressed in the endangered species section, and there was apparently no coordination with ODNR and/or USFWS regarding additional studies, as was done for the Indiana bat and mussel species. In Appendix 07-2 of the application to the Ohio Power Siting Board (OPSB) for a certificate of environmental compatibility and public need an 11/15/06 letter from the USFWS is included. In the letter the USFWS asks if the project is located within 0.5-mi of a bald eagle nest. They state that coordination with USFWS is necessary if there is one that close. The report and application do not respond to that request for information.
P-16	Spill Prevention, Control and Countermeasures Plan (SPCC)	NA – Must have on-site, not submitted unless store over 1 million gallons of oil.	Required for petroleum products (oil) with above ground storage capacity >660 gallons in one tank , aggregate above ground storage > 1320 gallons, or below ground storage capacity >42,000 gallons. Separate plan will be required for *construction* and *operational* phases. EPC will be responsible for plan for materials they bring on-site during construction phase.	Not started.

Environmental Construction Permits

	Permit/Approval	Issuing Agency	Comments	Status
U-1	Streams/Wetlands • USACE 404 Permit (Encroachment Permit) • 401 Water Quality Certification • Section 10 • Isolated Wetland Permit	• OEPA • ACOE	• Individual permit required could take 4 to 6 months to issue. • No jurisdictional letter from the ACOE affirming the waters determination report has been issued. • Must have clearance from SHPO on cultural Resources and US FWS/ODNR on threatened and endangered species before ACOE will issue permits. • Is isolated wetlands are determined to be present by the ACOE, and any will be impacted, a permit from the OEPA will be necessary.	404, Section 10, and 401 Water Quality Certification were submitted on May 7, 2007. It has not been determined if there are isolated wetlands, so the need for an Isolated Wetland Permit is unknown.
U-2	Storm water General Permit for Construction Activities	OEPA	Required for any project impacting at least one acre of land. The permit requires a storm water pollution prevention plan which is the soil erosion control plan.	Not started
U-3	Erosion and Sedimentation Control Plan Approval (Stormwater Pollution Prevention Plan)	OEPA	OEPA must approve as part of storm water construction permit.	Not started
U-4	Public Land Corporation Stream Activity Permit	OEPA of Natural Resources, Office of Real Estate Management	Required for and any stream activity impacts. Real Estate Management Office contacts OEPA state biologists, archaeologists, and fisheries scientists for review.	
U-5	Public Land Corporation Right of Way Permit	OEPA of Natural Resources, Office of Real Estate Management	Right-of-way permit is required if the pipeline crosses Department land. Requires a biological survey to be done prior to the application. Also requires archaeological clearance, which should be obtained with the SHPO Permit to Conduct Site Clearance on State Land.	
U-6	Accommodation of Utilities on Highway Right-of-Way	ODOT	Issue permits for utility crossing of highways.	Not Started
U-7	Flood Protection Program	FEMA	Fill within floodplains/floodways require a permit through the local floodplain coordinator	Local FEMA Floodplain fill permit.
U-8	National Historic Preservation Act (Section 106) Compliance,	State Historic Preservation	Required for projects that need Federal permit or involve Federal monies. Must conduct evaluation to validate that	In Appendix 07-04 of the application to the Ohio

	Comment on Cultural Resource Studies	Office	project will not impact cultural resources that are either listed on or eligible for listing on the NRHP.	Power Siting Board (OPSB) for a certificate of environmental compatibility and public need there is a 12/4/06 letter from Ohio Historic Preservation Office (OHPO). In the letter it indicates that OHPO expects geophysical surveys, and Phase II archaeological surveys at up to 8 locations. Also, while not specifically mentioned, it appears that OHPO wants a Memorandum of Agreement (MOA) for commitments to avoidance, protection, and mitigation to important cultural resources. There is no evidence to suggest that these comments, expectations, or commitments have been or will be addressed.
U-9	Section 7, Endangered Species Act and State Sensitive Species Protection Regulations	• US Fish and Wildlife Service • State Department of Natural Resources	Required for projects that need Federal permit or involve Federal monies. Provide biological opinion on species of wildlife and plants that are federally listed.	In Appendix 07-2 of the application to the Ohio Power Siting Board (OPSB) for a certificate of environmental compatibility and public need it is stated that a survey for the federally-endangered Indiana bat is planned for Spring 2007. The status of the survey, and/or findings, was not provided in the package for review. The survey and report need to be completed and submitted.

				In Table 1 of Appendix 07-2 of the application to the Ohio Power Siting Board (OPSB) for a certificate of environmental compatibility and public need a list of animal species present within the study area, or believed likely to be present by the authors, is presented. It is not clear which were actually identified, but as presented it must be assumed that the authors know or believe all are present. Contained within the list are: • Timber rattlesnake (state-endangered, federal-prelisting species) • Osprey (state-endangered) • Eastern Box Turtle (state species of concern) • Pygmy shrew (state species of concern) None of these species, if present as suggested by the authors, are addressed in the endangered species section, and there was apparently no coordination with ODNR and/or USFWS regarding additional studies, as was done for the Indiana bat and mussel species.

				In Appendix 07-2 of the application to the Ohio Power Siting Board (OPSB) for a certificate of environmental compatibility and public need an 11/15/06 letter from the USFWS is included. In the letter the USFWS asks if the project is located within 0.5-mi of a bald eagle nest. They state that coordination with USFWS is necessary if there is one that close. The report and application do not respond to that request for information.

6.2 Plant Air Emissions

Air permit applications and Permits to Install (PTI) have been completed and submitted to OEPA for draft review. Receipt of the Draft Air Permit has not occurred. This is to be followed by a public notice and comment period. The AMPGS schedule shows an OEPA issue of the PTI in February 2008, however, the delay in issuing the Draft Permit indicates a minimum two month slip in the schedule (as of September 2007).

6.3 Water Related Permits

Section 404, 401, and 10 permits are necessary for the project. In addition, it appears that an Isolated Wetland permit may also necessary. These permits cannot be completed until the Wetland Delineation Report has been approved by the USCOE. Based on the information provided, it does not appear that this has occurred.
The wetland delineation report does not indicate whether any of the wetlands are isolated. If such wetlands are present and impacted, an isolated wetland permit will be necessary.

The schedule shows NPDES permits and information to be developed in 2008.

According to the landfill PTI, there are no isolated wetlands at the landfill site. The basis for this conclusion is not provided. How this conclusion was reached is unknown because the wetland delineation report does not identify where, if anywhere, isolated wetlands are located. In addition, only the USCOE can determine which wetlands are isolated, and since they have not approved the wetland delineation report, it is uncertain where the isolated wetlands are located.

6.4 Solid and Hazardous Waste Permits

The current schedule indicates the permit required for the on-site the landfill to be completed by the end of 2008.

6.5 Other Federal, State and Local Permits

Sensitive species (threatened, endangered and special concern) have been investigated to varying degrees. It appears that mussel surveys in the Ohio River are complete, but mist-net surveys for the federally-endangered Indiana bat were to occur, but the results of the survey were not provided. The presence of other sensitive species is identified, but has not been addressed. Also, US Fish & Wildlife Service (USFWS) has requested information regarding the location of the nearest bald eagle nest. Depending on its location, the USFWS indicated a need for coordination with the agency. There is no record that this information was provided to USFWS.

A Phase I cultural resource investigation has been performed. The Ohio Historic Preservation Office (OHPO) indicated a need for geophysical and Phase II investigations at the site, based on their review of the Phase I report. In addition, while not specifically stated, it appears that OHPO would like to have a Memorandum of Agreement (MOA) prepared for the project. There is no indication that the surveys and MOA have been prepared.

The area of the planned facility is near the Ohio River and may or may not be within a floodplain. It should be determined whether any changes may impact the floodplain (i.e. raise elevations, change steams, creeks, or other bodies of water). If there will be an impact, then FEMA will need to be contacted and additional work may be required.

7.0 LONG TERM FUEL SUPPLY

7.1 Strategy and Plan

AMP-Ohio plans to use a blend of Eastern coals and western coal from the Southern Powder River Basin (SRPB) in order to meet SO_2 emissions and maintain fuel supply flexibility. The Eastern coal blend will use high sulfur coal from Ohio and medium sulfur Central Appalachian coal from West Virginia. The Western coal blend will use SPRB and Ohio coal. The Eastern coal blend would be preferable based on low transportation costs.

The Eastern coal has a range of 12,000-12,500 Btu/lb. The SPRB coal ranges from 8,400 to 8,800 Btu/lb. The Western coal will also have a lower ash content. AMP-Ohio projects a 2013 fuel price for Ohio coal of $1.93/mmBtu. Central Appalachian coal is projected at $2.25/mmBtu. The SPRB coal is projected to cost $2.45 mm/Btu (delivered price). An overall blended price is included in AMP-Ohio's projected operating proforma and is covered in Section 13.0 of this report.

7.2 Fuel Supply and Transportation Agreements

Critical to the operations of the AMP-Ohio is the procurement and delivery of coal, in sufficient quantities to operate the Plant efficiently and of sufficient quality to maintain compliance with all environmental permits. In a conference call on September 28, 2007, AMP-Ohio stated that a Fuel Supply Consultant has been hired. The schedule indicates that following a fuel supply study, a specification for fuel supply will be completed in July 2008.

Based upon the 85% capacity factor, as indicated in the RW Beck study, the Plant will consume approximately 2.8 million tons of coal per year.

The conceptual fuel supply plan calls for all coal delivered to the site to arrive via river barge. Based upon the quantity of coal above, this equates to approximately 1,750 barges of 1,600-ton capacity per year. When the coal transportation contracts are finalized, sufficient firm barge capacity should be acquired to meet the Projects requirements due to shortages in barge availability. Moreover, on-site storage should be of a sufficient quantity to sustain the Plant in the event of river flooding or some other event that may impede river barge traffic.

7.3 Assessment

BREI concurs that fuel blending will provide a cost effective means of meeting emissions requirements and maintaining fuel supply flexibility to achieve competitive pricing.

If a wet limestone FGD process is used instead of the Powerspan process for SO_2 control, limestone will need to be delivered to the site. Two potential limestone suppliers have been identified within 20 miles of the plant site. In BREI's opinion, limestone availability should not be a problem as the reagent supply exists in both West Virginia and Pennsylvania. It would just be a matter of contracted delivery costs. We would not expect AMP-Ohio to enter into such contracts until they are well into the development process.

Coal transportation contracts do not yet exist so BREI cannot assess how the SPRB coal will be transported to the Ohio River for ultimate barge delivery to the site.

8.0 POWER SALES AGREEMENTS, ELECTRICAL INTERCONNECT AND TRANSMISSION LINE

8.1 General

AMP-Ohio will enter into individual Power Sales Contracts with the Participants. They will be "take-or-pay" commitments including Postage Stamp Rates for incremental transmission costs. The City of Cleveland's commitment was originally 185 MW out of the 960 MW net generation of the plant but subsequently has been reduced to 80MW. The City of Cleveland is the largest off taker. The next largest are Cuyahoga Falls and Westerville at 50 MW each.

Each Power Sales Contract will set forth the rights and obligations of each Participant. The governing bodies of the Participant Members will authorize the contracts by ordinance.

A potential risk is the requirement that the Members assume up to an additional 25% of their contracted take-or-pay amount of megawatts to account for participants who may default. For the City of Cleveland, this would mean committing to an additional 20 MW (for 80 MW commitment). AMP-Ohio has identified a number of steps that will be taken to reduce the chances that the "Step-Up" provisions will be triggered. This includes use of debt service reserves, selling the power into the open market, offering to other members, and legal action against the defaulting party.

8.2 Power Sales Agreement

AMP-Ohio will sell the output of the Plant under the terms and conditions of a Power Sales Contract (the "Contract") between AMP-Ohio and the City of Cleveland (the "City"). The term of the Contract is 50 years, or approximately 45 years from the anticipated commercial operation date in 2013. The Contract remains in full effect until February 28, 2057. Obligations under the contract could continue after this date if there is debt service remaining on the Plant, or there are decommissioning costs that could be incurred.

The Contract is a "Take-or-Pay" arrangement in that the City agrees to pay an amount for capacity and energy at rates sufficient for AMP-Ohio to recoup all of the costs associated with providing the output from the Project. The Contract requires the City to make payments to AMP-Ohio regardless of the operating status of the Project.

Specific costs for capacity or energy are not listed in the draft of the contract reviewed by BREI (Ref. 8.1). The Contract envisions using a Postage Stamp Rate and other charges to ensure that the costs of operating the AMP-Ohio facility are recouped through the rates charged. Included in the rate calculations are the costs associated with replacement power and transportation, all operation and maintenance charges, fuel and other consumables, cost of debt and other credit charges, decommissioning costs, reserve funds, legal and professional fees and any other charges incurred with the running of the Plant.

Of primary concern to BREI is the requirement that the City assume up to 25% of their contracted take-or-pay amount of megawatts to account for participants who may default. For

the City of Cleveland, this would mean committing to an additional 46.25 MW, at the original subscription level of 185 MW or 20 MW at a reduced subscription level of 80 MW. As discussed above a number of steps will be taken by AMP-Ohio to minimize the risk that the "Step-Up" provision will be invoked.

Given the open-ended nature of the charges incurred under the Contract, BREI believes that it is imperative that the City, as the largest off-taker, be duly represented on the Participants Committee. Under the terms of the Contract, the Participants Committee will make recommendations regarding rates to the Board of Trustees. By participating in this process, the City can closely monitor construction and operating costs to ensure that the City receives energy from the Project on the most economical terms possible.

8.3 Electrical Interconnection

The electrical interconnection was a major consideration in S&L's Site Selection Study, as discussed in Section 3.0 of this report. The RW Beck Report also devotes considerable attention to the envisioned arrangements. The electrical interconnect includes some significant unknowns and, therefore, project risk. Those risks being capital costs for land acquisition, easements, transmission lines, transmission line upgrades, substation reinforcement and permitting as well as the schedule to execute the above. Risks due to energy and capacity market fluctuations, congestion and ancillary charges will be reflected by market conditions and can be accounted for in proforma sensitivity projections.

AMP-Ohio has submitted the required "Generator Interconnection Request" to PJM. PJM completed their "System Impact Study" on May 31, 2007. This puts the process about 9 months from commencing an Interconnect Agreement with PJM. That process will take an additional 3 months minimum. This will then allow the Project to proceed with Construction. The construction is a 2-3 year process depending on how fast a bid and award can be made to a contractor. The pre-requisites for construction are completion of the design, procurement of equipment, land acquisition and attainment of easements. Additionally, the upgrades to the existing transmission lines and substations need to be executed.

In BREI's opinion, the time line to complete these PJM actions are feasible. More unknown at this time is what is necessary to interconnect with Midwest ISO ("MISO") for those Member customers in the MISO region. AMP-Ohio has only commenced those studies. Results are pending and then a similar process with PJM will be conducted with MISO.

8.4 Transmission Line

The Project will require a new 5-mile, double circuit, 345 kV transmission line to connect the new Project switchyard to the existing 345 kV Sporn-Waterford transmission line.

The interconnect could be made at the existing substation located near the existing Phillip Sporn power plant. This substation is in West Virginia and the final costs, including the possibility of crossing the Ohio River, cannot be determined until after interconnection agreements and load flow studies are completed. It is noted that there is a new 1200 MW "Mountaineer" transmission

project in the PJM queue. This project represents transmission system expansion and upgrades by PJM. This project would affect the load flow in the area and the system impact to nearby substations and transmission lines. This is an "unknown risk" at this time.

The projected cost breakdown for the new transmission line in the PJM is provided below. The cost breakdown for any MISO interconnects is not yet determined and may add to the projected costs to the MISO users.

8.5 Conclusions

The MISO interconnect arrangements are not yet determined. If the interconnect process is not complete by the time the Project comes on line, AMP-Ohio will have to sell the equivalent power requirement into PJM and purchase replacement power in MISO to service the MISO Member participants.

The PJM interconnect application process is already underway and the projected schedule will support the overall schedule of the Project. As the Project gets closer to Financial Closing, the appropriate contingency can be applied to the projected costs of the PJM transmission line and transmission line upgrades

9.0 PROPERTY ACQUISITION

The documents provided to BREI by AMP-Ohio indicated that property acquisition was in the early stages. This was supplemented in a conference call with AMP-Ohio on September 28, 2007.

9.1 Title Reports and Land Options

No specific information was provided regarding title reports or land options. However, it was reported that there are 12 residences on the site area (Ref. 9.1). AMP-Ohio stated that 100% of necessary site options have been acquired. Site control is scheduled to be complete by April 1, 2009. When complete the site will be owned by AMP-Ohio.

9.2 Easements and Right-of-Ways

AMP-Ohio stated that 57% of acquiring right-of-way options is complete for property required for the transmission interconnection..

9.3 Property Appraisals

There was no evidence that property appraisals had been initiated or completed, and it is not identified in the schedule provided.

9.4 Conclusions

Based on the information provided in a conference call on September 28, 2007, acquiring site options is complete and acquiring options for the easements and right-of-ways is progressing satisfactorily.

10.0 CAPITAL COST REVIEW

A detailed assessment on a line item basis is provided for the EPC Contract cost and Owner costs. As identified below, there are a number of specific items where BREI believes the estimate is low, and other areas where the estimate is considered high. Taken together, the overall impact on the project cost is not significant. Specific comments are provided in the Conclusions section regarding the risk associated with escalation of construction costs.

10.1 EPC Cost

This review of the EPC cost estimate will follow the same order as presented by RW Beck in the Feasibility Study Report (Ref. 10.1). In performing our due diligence review of a conceptual cost estimate, BREI relied on current in-house cost data for plants of a similar size. A more detailed review could not take place at this time since engineering has not begun and bulk quantities for items such as concrete, structural steel, building sizing, piping, electrical cable, conduit and tray, etc. have not been developed. Budget quotations for most major equipment have not been obtained, which further restricted our review to the use of current in-house cost data.

Site Preparation & Power Station Building

The site preparation costs reported by RW Beck are reasonable. Beck reported building costs for the boiler building, the turbine building and other buildings required including the warehouse/service building, the administration building and any other small buildings.

Under normal conditions, the cost for buildings is higher than expected. However, RW Beck compiled the cost estimate to include boiler steel with the boiler building cost as well as all the concrete for the boiler, steam turbine and other major equipment contained within the buildings. Therefore, these are reasons for the higher than expected cost, but the method used in combining costs made it difficult to evaluate.

In conclusion, the building costs will have to be considered collectively with the overall estimated cost for the project and are considered within range due to the added quantities in the scope.

Boiler Supply & Installation

The estimate is based on a material supply cost for the boilers without the boiler steel and an allowance for erection.

BREI recently received multiple budget quotations for two larger supercritical units. All quotations included boiler steel. The RW Beck estimated cost for boiler supply appears to be approximately $50,000,000 high based on BREI in-house cost information. This is our evaluation by adjusting the bids received by BREI on a kW basis including the supply of boiler steel.

RW Beck estimated the direct labor cost to install each boiler. The labor costs used appear to be in range of what would be expected.

In conclusion, there could be as much as a $50,000,000 reduction in boiler supply costs.

Draft System

This section is difficult to evaluate in detail due to the combining of items by RW Beck. This section includes two concrete stacks, ductwork to the stack and all the main fans. Since lengths and sizes of ductwork are not known at this time, we are not able to say if the R W Beck allocation is correct.

In conclusion, it is believed that the total estimate for the scope of work as described by RW Beck is likely to be in range for a project of this size.

Piping, Valves, Pumps & Insulation - Supply & Install

This section is broken down into pumps and piping with insulation. The pump costs appear within the expected range, but could vary depending on the quantity of steam turbine driven boiler feed pumps vs. electrical driven and the decision to use either 3 - 50% pumps or 2 - 100% pumps.

The piping and insulation cost also appears to be in range and at worst case perhaps 10% high when compared to recent BREI estimates for projects of a similar size. Since piping quantity information is extremely conceptual at this time, the RW Beck cost appears to be a reasonable assessment of the piping and insulation.

In conclusion, BREI considers the total cost to be reasonable. Additional costs due to final pump configuration could be offset by as much as $10,000,000 in potential over estimates in the piping section.

Coal Handling Equipment

Coal handling conveyor costs depend on the location of the coal pile from the boilers and can vary significantly between projects. Based on BREI current in-house cost data, the cost appears about 10% higher then what we anticipate based on expected lengths of conveyors. BREI assumes that the RW Beck cost includes installation for a complete system. In conclusion, this section appears to be in range of the expected cost.

Bottom Ash & Fly Ash Holding System

The cost used by RW Beck is about twice what BREI has as a current cost in our database. However, the BREI cost is for conveyors only. The RW Beck estimate may include storage silos, which would drive up the cost. The length of the conveyors anticipated by RW Beck could be longer then used in the recent BREI cost estimates.

In conclusion, BREI would have to accept this cost at this time pending exact scope definition. There could be up to $8,000,000 more than necessary in the RW Beck estimate.

Powerspan or FGD System

RW Beck estimated $270 per kW for the Powerspan system and $240 per kW for the wet FGD system. RW Beck decided to use the $240 per kW to cover the cost for either system. This approach is reasonable to BREI and the cost is in the range of current projects. There is no better way to estimate the costs of this section at this time due to the conceptual nature of the project.

Steam Turbine Generator

RW Beck's estimate includes the material cost of the Steam Turbines and erection labor. . Based on current BREI cost information on Steam Turbines, the cost is about 10% higher than expected. The labor hours and average rate for direct labor also appears on the conservative side of what we would expect.

In conclusion, BREI finds that this section of the cost estimate could be overstated by 10 %.

Condenser

BREI has no comment on the cost. It matches our current in-house database cost information. If the figure also includes field labor, it would be slightly on the low side. In conclusion, the cost for the condenser is acceptable.

Circulating Water System (incl. intake)

RW Beck breaks this cost down to include the Intake Structure and the cooling towers, concrete work and the circulating water piping. This is difficult to evaluate since there is no information available in regard to the intake structure, the concrete quantities or piping quantities. However, based on BREI current in-house cost data, the total estimate would appear to be within + or - 10% of the expected cost. In conclusion, the cost of the Circulating Water System is acceptable.

Switchgear, Elect/Ctrl Equip., Breakers, DCS & GSU

Assuming this section of the estimate by RW Beck includes field labor, BREI finds this section to be about 10% on the high side when compared to our in-house current costs and estimates. In conclusion, this section has the potential for a decrease of about $5,000,000.

Overall Plant Instrumentation Allowance

BREI estimates this work by including all control cable within the electrical section and not the instrumentation section. The DCS is also already included in the above section only leaving the CEMS as the remaining high cost item that is probably included here. Based on the BREI

approach, this section could be double of what we would expect to see. In conclusion, this section could be overstated by approximately $7,000,000.

Electrical Commodities - Supply & Install

BREI does not know the exact scope of this section from the information contained in the RW Beck cost estimate. BREI includes all power and control wiring, conduit, cable tray, building electrical, electrical fire protection and alarm systems as well as closed circuit TV and intercom. If RW Beck includes the same scope, then the RW Beck estimate is about 25% lower than what a comparable BREI estimate would be for the same scope. In conclusion, if RW Beck anticipates the same scope for this section as BREI would, the RW Beck estimate could be low by about $16,000,000.

Miscellaneous Balance of Plant("BOP") Equipment & Substructure

RW Beck reported that this section accounts for mostly yard concrete and for the BOP equipment. The concrete cost appears to be in range for the quantity given. The BOP equipment also appears to be in range, provided it includes such items as feedwater heaters, any auxiliary boiler or diesel generator, field erected and shop fabricated tanks, miscellaneous pumps and other auxiliary equipment not covered elsewhere. In conclusion, the costs in this section appear to be in the expected range provided there is the customary extensive list of BOP equipment included here.

Switchyard Structure Equipment & Labor

The RW Beck estimate of switchyard costs appear to be in range of what BREI would expect to see. In conclusion, the cost in this section appears to be in the expected range.

Startup Personnel & Craft Supply Support

BREI would expect to see approximately $15,000,000 per unit for start up costs. The RW Beck estimate appears to be in line with BREI expectations.

Contractor Profit (except for Baghouse and FGD)

Based on what BREI has currently seen in the industry, the estimate is much lower than expected. Current market for profit is 10% on total scope for which the contractor is responsible. If the contractor is responsible for all major equipment supply and engineering, profit will be most likely be greater than the estimate. If performance risk is not required, it would be possible to receive a slightly lower mark up. In conclusion, consider adding as much as $80,000,000 to the contractor profit section.

Contractor G&A

Due to the overload of construction work in the US, contractors are generally applying 3% to 5% to their bids on their total scope to cover G&A. Based on this observation, the G&A section could be twice as high as the RW Beck estimate unless AMPGS can negotiate a better deal.

Scaffolding Labor

Scaffolding costs are hard to predict at the conceptual stages of a project considering various types of self-propelled lifts are available today. The estimate should cover the costs of both scaffolding and lifts regardless of what is used.

Indirect Craft Labor Costs and Indirect Craft Material Costs

BREI combined these two sections for this evaluation. RW Beck explained that they used 22% of base labor cost for these two sections. At this conceptual stage of the project, it is not necessary to attempt to calculate exact indirect costs. The 22% used is in line with expectations and is a fast way to get in the range on indirect material and labor costs. In conclusion, the costs in these two sections appear to be within the expected range.

Construction Management Costs

It appears that RW Beck used about 3% of total project cost to cover construction management costs. Based on the long duration required in order to construct two large coal fired power plants, the cost appears to be reasonable. In conclusion, the cost in this section appears to be in the expected range.

Engineering & Design and Open Book Eng. Credit -– less an allowance for the Open Book Process

The RW Beck estimate represents about 3.5% of the total project cost. This cost is considered reasonable.

Other (Builders Risk Insurance, Consultants, etc)

The budgeted amount is less than 1% of the total project cost and appears low. There is no notation as to where the Payment and Performance Bond is included, which will more than likely be required for a project of this size as well as general liability, umbrella and vehicle insurance. In conclusion, BREI recommends adding approximately $25,000,000 to this section.

Contingency

This is estimated as a percentof the total EPC cost. The number used is in range for a power project at the conceptual level. The cost in this section appears to be in range.

Escalation - RW Beck Estimate

Escalation is one of the most difficult costs to predict in today's market where costs on major construction projects continue to escalate beyond normal inflation rates. These two plants require a number of years beyond today before construction can be completed. It is possible that we could continue to see higher commodity price pressure over the next five years or it could level off and not increase much in the later years.

The budgeted amount used in the estimate reflects an 11% increase in the cost. In conclusion, it is difficult to predict escalation to cover any potential increase in cost between now and project completion. Based on BREI experience, it may be necessary to consider adding additional funds to cover continued excessive cost growth in construction materials and construction labor.

10.2 Owner's Costs

Some Owner's costs will vary, while many categories of cost remain the same when comparing one plant site to another. BREI evaluated the Owner's Costs as prepared by RW Beck against other projects for which we have current project information. When an Owner's Cost in the RW Beck estimate appears to be in line, BREI assumes that it is a correct number without any further detail provided. The assumption is that RW Beck had the opportunity to conduct some research and consult with AMP-Ohio when applying the expected costs to the itemized estimates. Where BREI found a cost that appears to be either high or low as compared to the norm, we advise that AMP-Ohio should confirm the cost used.

Transmission Line

RW Beck estimates that the project will require 5 miles of double circuit 345KV transmission line. For the length given, the budgeted cost is reasonable and is acceptable.

Interconnection Upgrades

RW Beck recently updated their cost estimate. BREI does not have sufficient details to compare this cost since it is a site-specific cost. In the event that AMP-Ohio has not reviewed this cost in detail, BREI recommends that a detailed review be conducted.

Spare 345KV Transformer

The price for this spare transformer may be a bit on the conservative side, but is in the range of expected cost. The spare transformer is prudent based on the PJM System Impact Study.

AEP Switchyard

This is a site specific cost where BREI cannot comment without detailed information. It is assumed that a quotation was obtained from AEP and that is what was used here.

Gas Line

This is another site specific cost and is based on the length of the piping run needed in order to bring gas into the site. BREI has no information to confirm or deny the requirements for the cost of the gas line. It is assumed that Beck estimated the cost based on the length of the gas pipe line required and any needed major equipment such as gas compression. AMP-Ohio should review the methodology used in order to confirm.

Contingency - Owner's Only

The estimate is in the range of what BREI would expect to see for Owner's contingency. BREI would normally use 5% of the total cost which would increase the budgeted amount

Land and Right of Way Costs

BREI cannot comment on this item as it is a site specific cost for which we did not receive sufficient information. It is assumed that AMP-Ohio provided input to RW Beck for this cost.

Infrastructure Cost

BREI cannot comment on this item, as it is a site-specific cost for which we did not receive any information. It is assumed that AMP-Ohio provided input to RW Beck for this cost.

Landfill Development

BREI cannot comment on this item, as it is a site-specific cost for which we did not receive any information. It is assumed that AMP provided input to RW Beck for this cost.

AMP-Ohio Staff, Owner's Engineer, Consultants, Legal Fees

BREI cannot comment of this item, as most components are specific to AMP-Ohio's requirements in managing the project. These costs, for the most part are AMP-Ohio driven. We can comment, however that the Owner's Engineer cost is likely to be $4,000,000 for home office support during the construction period. The OE may also secund site personnel to supplement AMP-Ohio staff.

Development Costs to Date

It is assumed that AMP-Ohio provided actuals to RW Beck for this cost.

Open Book - EPC

BREI agrees with this cost for the early engineering required in order to provide sufficient data needed for preparation of an Open Book contract. The budgeted amount is reduced from the overall engineering in the EPC cost, which is the correct way to account for the early engineering.

Commissioning, Training and Equipment Expenses

BREI cannot comment of this item, as most components are specific to AMP-Ohio's project requirements. These costs, for the most part are Owner driven and would have been provided to RW Beck.

Spares

This item is an owner preference as to what spares AMP-Ohio wants to have on hand. BREI would expect something lower commensurate with what we have seen on other projects. Project Lenders may also have input to this requirement.

Commissioning Inventory (Coal, Urea and Gas)

This is an Owner preference as to how much inventory is desired. BREI cannot comment as it is assumed that this cost was suggested by AMP-Ohio. It should be a sufficient dollar amount to cover the costs. The worst case is that inventory is left over, but it will be utilized during operation of the facility.

Sales Tax

R W Beck has assumed that the Project would have a tax exempt status. BREI has no comment as this item depends on the tax laws of the State of Ohio with regard to Power Projects.

Working Capital

BREI has no comment on this item. However, as a percentage of total cost, it appears low.

Taxes (Property and Other)

BREI has no comment. We do not know the tax structure for the State of Ohio and have no information as to the other taxes included with this item. It is assumed that AMP-Ohio provided these costs to Beck for the cost estimate.

Insurance (Builders Risk in EP)

BREI was not provided with a breakdown as to what insurances are contemplated in this item. With Builder's Risk Insurance already included in the EPC cost section of the cost estimate, the estimate seems excessive, but we have no way to provide further comments.

Escalation on Owner's Costs - RW Beck Estimate

The estimated figure is slightly higher than 6% of the total Owner's cost. The percentage appears to be adequate for the items involved that would need to have escalation applied.

10.3 Conclusions

BREI finds the cost estimate as prepared by RW Beck to be in the range of the expected cost for a two unit subcritical coal-fired power plant of this size and design. BREI believes that the EPC cost may be understated by perhaps 5%, due to the project schedule and the unknowns associated with potential higher escalation that could occur between now and project completion. A key factor is global demand for materials and shop fabrication space that is expected to continue for some years.

BREI's opinion on the Owner's costs presented is that they appear to be conservative for several of the items.

Since the cost differences are so slight between BREI and RW Beck and the project is still at a conceptual state, BREI sees no reason to adjust the total cost of the project at this time. It is anticipated that economic forces such as the high level of growth in China, which has been a prime cause of increased pricing, will continue. Concern that India is on the threshold of beginning a rapid expansion in the upcoming years will place additional pressure on the availability of raw materials, shop fabrication space and available work force for engineering, site management staff and field labor and supervision.

However, these conditions are difficult to predict as is escalation of future costs. The global economy, which affects our costs in the United States could swing back again in the upcoming years.

The RW Beck estimate for this project was well prepared and a true representation of what the AMPGS project will consist of at completion, provided we do not experience continued cost growth at the rate we have seen over the past two years. RW Beck was very helpful in explaining their cost estimate to BREI and through their cooperation we were able to perform this assessment.

11.0 EPC CONTRACT

The proposed EPC contracting strategy and approach to selecting the EPC Contractor has been assessed. As discussed below, the primary risk identified by BREI is that a fixed price EPC contract may not be achievable at an acceptable cost. Proposed steps to mitigate this risk are identified in Section 11.4 below.

11.1. Contracting Strategy

AMP-Ohio's plan is to execute the AMPGS project by contracting with a single firm for the engineering design, equipment procurement and construction and commissioning. It is the intent of AMP-Ohio to obtain a fixed price for this contract. This approach has the advantage of minimizing the number of contracts resulting in lower administrative costs for AMP-Ohio and lower risks associated with managing the interfaces among multiple contractors. It also is favored by the financial community since responsibility for performance rests with a single entity – the EPC contractor.

The fixed price turnkey EPC contracting approach has been the most common approach used by Independent Power Producers, and is used by municipal and regulated utilities when they do not have the in-house personnel or financial resources to assume responsibility for managing multiple equipment and construction contracts. The disadvantages associated with the fixed price turnkey EPC contract is that it reduces the design control that can be exercised by the Owner and increases the project cost as a result of profit margins added for all equipment purchases as well as significant costs included for contingency and risk fees to protect the Contractor.

BREI agrees that the fixed price turnkey EPC contract is a reasonable approach to executing the project. However, the viability of obtaining a contract of this type is not certain. The high cost of the EPC contract, in excess of $2 billion, significantly reduces the number of potential contractors even when teaming of engineers, constructors and equipment suppliers is taken into account. Recent experience on large U.S. coal projects indicates that the major EPC Contractors are not willing to fix price the entire project cost. This is a result of volatile costs for materials (alloy pipe, steel, copper, concrete) as well as a very tight construction labor market. When asked to fix the price, several EPC Contractors have commented that they are willing to do so, but the amount of money to be added to cover potential risks of a cost overrun would make the project uneconomical.

There are a number of alternate contracting approaches that could be used. The two principal alternatives are:

1. The traditional utility method used prior to the 1990's in which the utility takes full responsibility for cost and performance. The utility executes the project by contracting directly for all equipment, issues multiple construction contracts and hires an architect-engineer for all design, procurement services and construction management.

2. The use of multiple large contracts – typically a turnkey Boiler island, turnkey Turbine Island, and Balance of Plant contract. In today's market it still will be difficult to obtain fixed pricing – indexing of material costs may be required.

These approaches place a lot more responsibility on the Owner, and the financing is more suited for "On Balance Sheet" rather than "Off Balance Sheet Project Financing". They have the advantage of a lower cost and more Owner input in the design and execution.

BREI experience on a similar large U.S. coal plant was that the major EPC Contractors were not willing to fix price the construction portion of the project even after an Open Book design and cost estimating process. The concern was on future costs for construction materials and labor. These represent about 20 to 25% of the total EPC cost. Each Contractor was willing to fix price everything except the construction. One contractor was unwilling to place a ceiling or cap on construction, and the other was willing to cap the construction cost by adding a significant contingency pool above the Open Book target construction cost.

11.2. EPC Contractor Selection Process

The EPC contractor selection process leading up to an executed contract and project financing consists of the following major steps:

Issue pre-qualification packages to interested bidders.

Review the pre-qualification submittals, and short list three or four contractors to receive the Request For Proposal (RFP).

Issue the RFP, receive and evaluate bids, select the preferred EPC Contractor.

Conduct an Open Book design phase to complete the preliminary design and fix the pricing for all equipment materials and construction leading to a fixed price contract.

Based on the current schedule, EPC Contractor selection will be made in March 2008 and the Open Book period will run from July 2008 to March 2009.

BREI agrees that the EPC Contractor selection approach, and approach to finalizing the EPC Contract through the use of an Open Book period is reasonable. However, as noted in the prior section, a firm price for construction may not be achieved.

11.3 Scope of Work

The proposed scope of the EPC contract will cover the majority of the on-site facilities. Work that will be covered under separate contracts includes the gas supply, switchyard and transmission interconnection to the grid, on-site landfill and communication ties to AMP-Ohio's communication system.

BREI agrees that the proposed scope of work for the EPC contractor is reasonable and appropriate.

11.4 Risk Mitigation

As discussed above the principal risk that BREI believes exists with the proposed EPC contracting approach is that a fixed price contract may not be achievable. Specifically the construction material and labor costs, representing 20 to 25% of the total EPC cost may not be fixed at the time the EPC contract is to be signed. Sufficient time is available to address this risk and mitigate its impact.

BREI recommends the following steps:

In the pre-qualification package, the EPC Contractors must address their willingness to fix price the entire project or identify in detail the areas that will not be fixed. For all areas not fixed the proposed method for capping the AMP-Ohio exposure needs to be defined.

Meetings should be held with all of the major EPC bidders to discuss this issue. If a satisfactory approach can be identified that places a ceiling on the AMP-Ohio cost exposure, this should be documented in writing by the Contractor.

The Project budget needs to be adjusted to reflect the potential AMP-Ohio exposure for construction costs that are not fixed.

Meetings with the proposed financing entities should be held to discuss the impact of the alternate approaches identified including the use of target pricing, contingency pools and cap or ceiling prices.

If the results of steps 1 and 2 above indicate that a cap or limit on AMP-Ohio cost exposure cannot be achieved, then serious consideration to alternate contracting approaches (identified in 11.1 above) should be given.

12.0 OPERATING AND MAINTENANCE

12.1 O&M Strategy

AMP-Ohio plans to be the O&M contractor for the power plant. They will also assume the responsibility for fuel procurement, ash disposal, equipment procurement and environmental compliance reporting. Key staff members will be hired early in the process to be part of plant commissioning and thus be well familiar with startup issues and punchlist items prior to taking over operations of the plant from the EPC contractor.

The operation and maintenance of the fertilizer plant will be contracted to The Andersons, Inc. under an initial 5-year contract. The Andersons, Inc. are an agricultural company and they will be responsible for the marketing of the ammonium sulfate fertilizer. They will also be responsible for procurement of Urea.

12.2 Plant Staffing

The current Staffing Plan is for a complement of 146 people. BREI reviewed the distribution of staff provided in Table 4-1 of the RW Beck report. We made some assumptions such as a using a typical overtime component of 17%, and contracting outside personnel for major outage work. The overtime component accommodates vacation time and training time in budget planning. BREI's staffing range would be 132 personnel on the low end and 154 on the high end. The AMPGS project falls within that range.

Final determination of a staff size will include final design considerations such as fuel handling. Other considerations are level of supervision and consolidation of administrative support. The selection of the Powerspan technology will impact the size of staff. Sixteen personnel are currently planned for the Powerspan operation.

12.3 Assessment of O&M Budget

BREI reviewed the O&M cost projections provided in the RW Beck Report. The report provided sufficient detail for BREI to make comparisons to other plants on a macro scale. We looked at full year 2014 projections for comparison purposes. Attachment 4-1 of the RW Beck Report projected costs in major categories. Since we do not have a detailed annual operating budget for fixed and variable O&M or a cost of accounts, we looked at O&M on a $/MWh basis.

Our reference plant is a 900MW coal plant that has a budget of $38.03/MWh in 2014 dollars. The AMPGS plant projection for the same year is $38.06/MWH. While this appears to provide a comfort level, it must be noted that budgets for large power plants are arrived at differently by categorizing costs in different ways. However, certain costs appear to line up. The coal commodity costs are in line at approximately $127 million. Fixed and Variable O&M are $54 million on AMPGS and $51 million for the reference plant.

Certain line items we would not expect to correspond. They would include property taxes, insurance, transmission line maintenance, fuel transportation, ash disposal, CO_2 regulatory

allowances and of course the Powerspan net costs (after consideration of fertilizer sales).

BREI concludes that the RW Beck projections are reasonable in terms of commodity pricing, plant performance expectations, labor, major maintenance, capex and G&A. The all-in $/MWh cost is also reasonable.

13.0 PROJECT PROFORMA

13.1 Financial Projection

BREI has reviewed the financial projections that were developed by RW Beck (the "Projections") (Ref. 13.1). BREI analyzed the data inputs in the Projection and analyzed the ability of AMP-Ohio to meet the anticipated operating results. It should be noted that the Projections are for twenty (20) years while the financing envisioned for the Project is for a term of 40 years. The term of the Power Sales Contract (PSC) is 50 years.

The Projections are the result of a comprehensive Proforma model incorporating detailed analysis of the operational and financial performance of the Facility and the resultant cost of electricity or Postage Stamp Rate ("PSR"). The PSR is based upon the required revenue to meet all operating costs divided by the net output of the Plant. BREI has analyzed the Proforma, which was prepared by RW Beck. BREI verified its accuracy to determine that the operation of the Facility (e.g. electrical output, fuel consumption, major maintenance) was modeled correctly and to verify that the contractual obligations and rights associated with the PSC were analyzed accurately. In its review, BREI also focused on the technical and economic assumptions made, including electric generating capacity, fuel consumption and costs and the O&M expenses. In addition, to determine the sensitivity of the Net Participants Cost to potential variations in the assumptions, BREI prepared a series of selected sensitivity analyses based upon assumptions that we believe are reasonable.

BREI believes that the Projections accurately represent the expected operating results of the Facility and the projected PSR. BREI believes the assumptions used in the Projection and the results of the Base Case are reasonable and consistent with the findings set forth in this report and indicate sufficient cash flow to cover AMP-Ohio's expected annual operating costs and scheduled debt service. A detailed description of the assumptions used in the Base Case and the sensitivity cases are set forth below, together with BREI's opinions with respect to those assumptions.

13.2 Technical Assumptions

The Projection assumptions for operating efficiency and energy production are as follows:

The assumption of operating capacity factor and electrical output is based on the facility's proposed design:

Plant Electrical Output:	987 MW (net)
Capacity Factor*:*	85%
Plant Availability:	88%
Plant Heat Rate:	9,325 Btu/kWh

The 987 MW net output includes an allowance for long-term output degradation and is based on the annual average capacity. The Projection assumes an average base heat rate of 9,325

Btu/kWh. This figure was estimated by Sargent and Lundy and includes an allowance for degradation.

BREI has evaluated the plant performance technical assumptions used in the Projections and is of the opinion that such assumptions are reasonable and achievable over the term of the PSC.

13.3 Proforma Analysis

This section describes and analyzes the operational and financial assumptions used in the analysis of the cash flows to AMP-Ohio and its ability to achieve the PSR as forecast in the Projections.

BREI analyzed the Projections on the basis of the proposed design of the Facility and our experience with its other power generating facilities of similar size and configuration. In preparing the Projections, RW Beck has made certain assumptions with respect to general and economic conditions that are not within the control of AMP-Ohio. BREI has reviewed the projections prepared by RW Beck and concurs with the process by which they were prepared. BREI is of the opinion that while these assumptions and other assumptions used in the Projections are reasonable, they are also inherently subject to uncertainties and actual results may differ from those predicted. As a whole, the individual assumptions in the Projections are consistent with each other. A change in any single assumption could imply an adjustment in one or more estimates.

13.3.1 Revenue Requirement

Unlike traditional Proformas where revenue is calculated based upon the sale of output from the facility, the Revenue Projections are calculated by identifying all costs to be recovered thorough the sale of output. Participant Revenue in the Projections is calculated by taking the sum of Total Operating Expenses, Deposits to Working Capital, Total Debt Service and Total Reserve and Contingency Funds less Interest Earnings and Short Term (market) Sales. The resulting figure, divided by the net output of the Plant is equal to the Postage Stamp Rate ("PSR").

By utilizing a PSR structure, AMP-Ohio ensures that all operating and investment expenses of the Project are met through sales to the various participants.

13.3.2 Expenses

Variable Expenses

The largest expense for the Project will be coal and other consumables. The Projections for the cost of coal are $2.14 per MMBtu delivered. This is based on a cost of coal of $43.85 per ton and delivery of $7.69 per ton, for 2013. These expenses are then escalated at the general inflation assumption of 2.4% per year.

The Projects other principal consumable is urea. The model assumes a price of $310 per ton for urea in 2013. This cost is then escalated at the assumed inflation rate. Offsetting the cost of the

urea is a credit for fertilizer sales as a result of the Powerspan process. The annual credit is estimated to be $44.4 million dollars in 2013, and increases with inflation.

Emission allowances make up another large variable expense. Allowances have been made for SO_2, NO_x, Mercury and CO_2. CO_2 expense for 2013 is forecast to be $24.8 million dollars increasing to $107 million dollars by 2022. Although regulations for CO_2 emissions have not been finalized, we believe that the Projections are reasonable based upon a review of current market trends.

Also included in the variable expense Projections is an allowance for Major Maintenance/Capital Expenditures of approximately $12 million per year. This figure increases with the general rate of inflation. We believe that this amount is adequate to maintain the Facility in good working order.

Fixed Expenses

The Projections for Fixed O&M Expenses include Labor Expense of $15.3 million dollars in 2013. The Labor Expense is increased at the rate of inflation. Fixed Expenses also include Project G&A of $500,000 per year, similarly increased at the inflation rate. Lastly, Other G&A consisting of preventative maintenance, structure and grounds maintenance, vehicle maintenance, outage support and temporary labor is estimated to be $16.4 million in 2013, increasing with the general inflation rate. BREI believes that these amounts are reasonable for a facility of this size and configuration.

Debt

The Projections envision a bond financing of both fixed and variable rate bonds (80/20 split). The Projections assume a 40-year financing with levelized annual payments of $169.220 million. Total principal of the bonds is estimated to be $2.912 billion dollars.

13.4 Sensitivity Analyses

BREI assessed the sensitivity of the debt service coverage ratios to changes in key assumptions associated with the projections. BREI selected the sensitivity cases because we believe that they represent adjustments to the assumptions that could reasonably be expected to vary over the term of the PSC and may have a significant effect on AMP-Ohio's cost of electricity. Other examples could have been considered, and the cases presented do not reflect all possible circumstances (or any combination of circumstances) that could impact the Facility's operation or AMP-Ohio's cost structure. The results of each case are presented as an average PSR over the first 20 years of the Project in 2007 dollars. The base case average PSR is $78.00 MWh in 2013 dollars. This equates to $63.45 in 2007 dollars, assuming a 3.5% discount rate.

- Case 1: Capacity Factor

Maintaining a high capacity factor is a primary concern for the AMP-Ohio Project. Every megawatt hour not produced by the Plant must be procured on the open market at presumably

higher rates, while the responsibility for the fixed costs remain in place. To test the sensitivity to a reduction in capacity factor, the gross capacity factor was lowered to 80% percent. The resulting average PSR is (2013) $86.86 and (2007) $70.66.

- Case 2: Increase In Fuel Cost

The cost of coal is the largest expense to be incurred by the Project. To test the sensitivity to an increase in the cost of coal, the cost of coal was increased by 10% percent. The resulting average PSR is (2013) $80.43 and (2007) $65.43

- Case 3: Higher Fixed O&M

Fixed O&M expenses are important to control because they are payable regardless of the availability of the Plant. To test the sensitivity to an increase in the Fixed O&M, the Fixed O&M was increased by 10% percent. The resulting average PSR is (2013) $78.72 and (2007) $64.04.

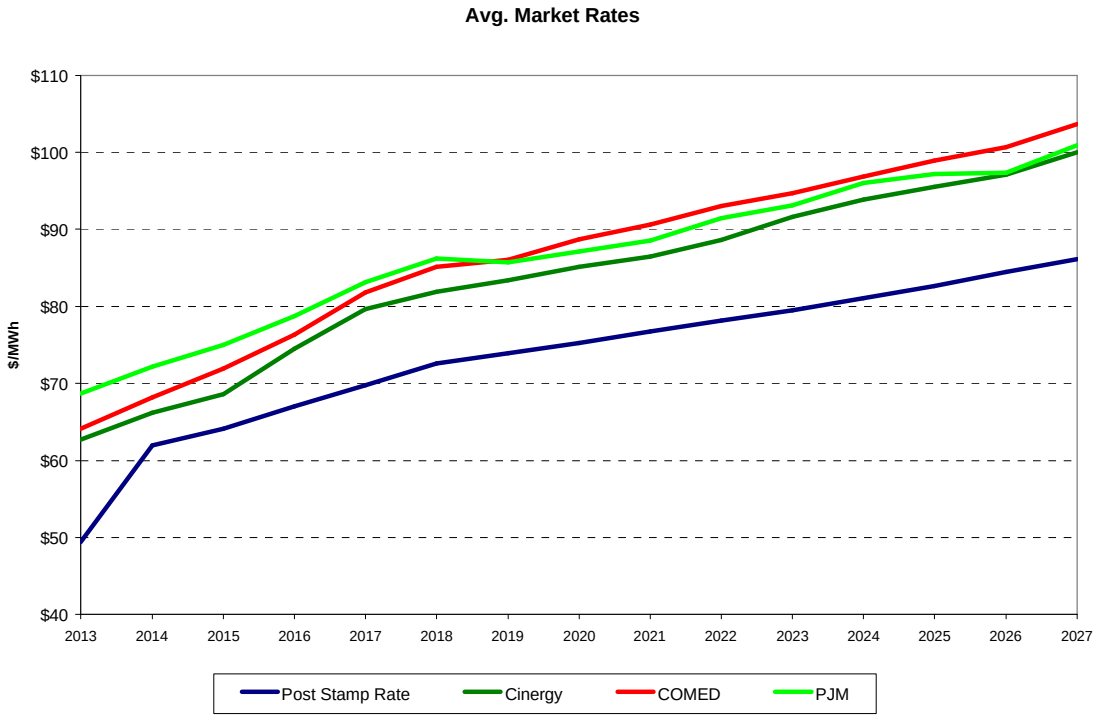
- Case 4: Reduced Fertilizer Credit

The Powerspan process produces fertilizer as a by-product. The resulting revenue is used to offset a large portion ($22.7 million in 2013) of the variable expense from Plant operations. The addition of the large amount of fertilizer onto the market could have a negative impact on the market price for fertilizer. To test the potential impact of fertilizer price reductions on the Project, the Fertilizer Credit was reduced by 20% percent. The resulting average PSR is (2013) $79.61 and (2007) $64.76.

13.5 Competitiveness of Cost of Power

BREI has reviewed the Projections and the series of sensitivity cases described above. Based upon the projected operating results of the Facility, the technical and economic assumptions underlying the Projections, and the findings set forth in our IE Report, BREI is of the opinion that the operating Projections of the Facility are reasonable and achievable, yielding the PSR estimated in the Projections.

Base load coal-fired power plants have been traditionally the most economical alternative amongst fossil fuel alternatives. BREI does not anticipate this to change. Please refer to the chart below:



It is noted that the proposed PSR is lower than the forecasted cost of electricity in the Cinergy, COMED and PJM regions. There are several factors that could negate this advantage.

Firstly, as mentioned earlier in this section, it is crucial for the City of Cleveland to closely monitor the cost of operations of the AMP-Ohio project. Should operating or capital costs exceed those in the Projections, the PSR may exceed the cost of electricity on the spot market. Capacity factor should also be closely monitored. The PSC allows AMP-Ohio to pass through all costs associated with replacement power. Assuming this power is procured on the spot market, when fixed costs are applied, the resulting PSR would be higher than the market cost.

The Projections take a liberal credit for fertilizer sales, approximately $50 million dollars per year. Should the Powerspan system fail to produce as anticipated, or the market price for fertilizer drops as a result of market conditions, the operating costs of the Plant could increase.

Secondly, the regulatory environment may change. Currently, clean coal is enjoying resurgence in popularity. However, with a change in the Federal government administration, it is possible that new, more onerous environmental control standards may be imposed on coal fired power plants. The Projections include costs associated with controlling, or purchasing credits for the most common pollutants, including a large allowance for CO_2 control. We believe the current assumptions are adequate for the short term, however, long term issues could arise, the costs of which would be passed on through the terms of the PSC.

Lastly, based upon the system load characteristics provided to BREI by the City of Cleveland, the original proposed contracted 185 MW (from AMPGS or multiple projects) would exceed the City's needs in many off-peak time periods. Specifically, from 2013 to 2029 there would be a total of 4,620 hours where the City's demand is not greater than the 185 MW proposed purchase. When this occurs, the power could be re-marketed. This could result in a net loss to the City. To further mitigate this risk, the City has reduced the allocation from AMPGS to 80 MW.

13.6 Review of Proposed Contract Capacity

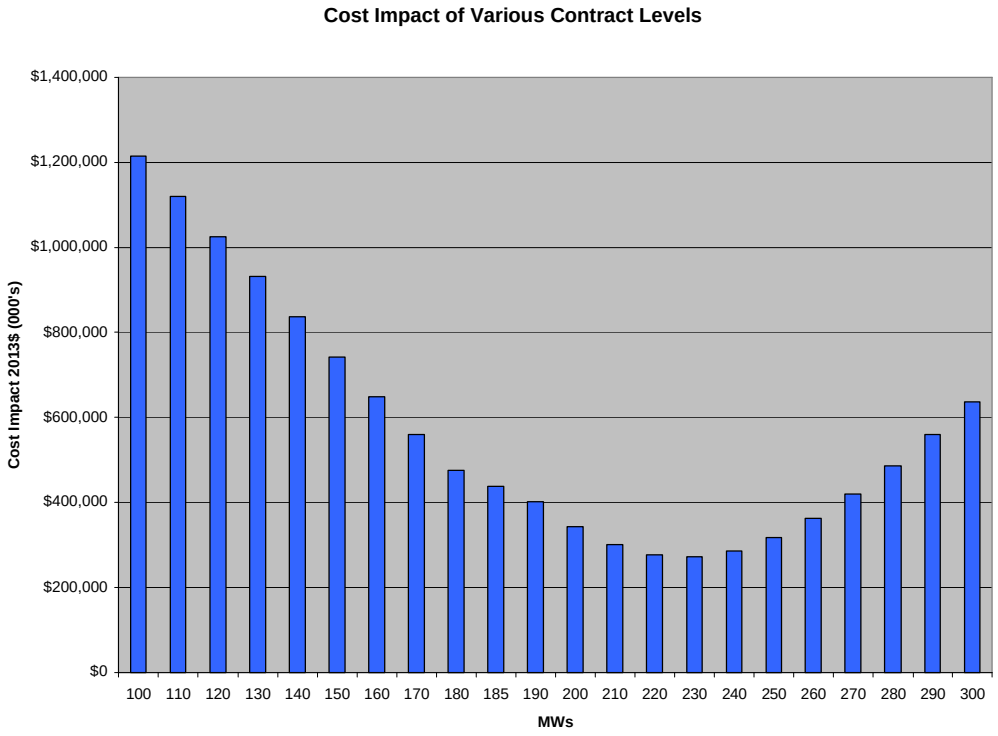
BREI conducted a review of the original proposed contract capacity of 185 MW. BREI has prepared a model to simulate the potential costs associated with various levels of contract demand. When the quantitative results are adjusted for qualitative factors, a reasonable contract capacity can be determined.

It should be noted that the 185 MW of contracted power does not have to be sourced entirely from the AMPGS Project. Accordingly, the City has decided to reduce its allocation of the AMP-Ohio Project to 80 MW. As long as the cost of service is comparable, the City could choose to receive the additional 105 MW from a combination of projects, further mitigating the risk associated with having too much exposure to any one project.

The model prepared by BREI is based upon the frequency distribution for peak demand provided by the City for the years 2013-2029 (Ref. 13.2). Based upon this distribution, the model calculates the MW-hrs above or below a given proposed capacity. Based upon these MW-hr figures, the model then assigns a cost based on either the Postage Stamp Rate, or an average market rate for energy[1].

For MW-hrs below the proposed contract capacity, the model calculates a cost based upon the Postage Stamp Rate, as forecasted by RW Beck. These hours would generally be in the off-peak period, so the assumption is that this is a sunk cost, and no credit is given for potential remarketing gains. The MW-hrs above the proposed contract capacity are to be purchased at the average market rate. These two costs are then added to obtain the theoretical cost for the given contract capacity. This calculation was performed annually through 2029. To account for the time value of money, a net present value calculation was run on the annual results. The chart below summarizes the findings:

[1] The average market rate for energy is an average of the PJM, COMED and Cinergy Expected Average Annual forecast contained in the RW Beck report dated 6-17-2007.



It is noted by reviewing the chart that the optimum level, based solely on quantitative analysis, is approximately 230 MW. The proposed total level of 185MW (with 80 MW coming from AMPGS), while not optimal, is more economical than lower alternatives, based upon the increased cost of market purchases.

While 230 MW is the optimum contract capacity based strictly on quantitative factors, several qualitative factors should be considered as well. Amongst the qualitative factors to consider is the ability of the AMP-Ohio Project to deliver at or near the forecast PSR, or the availability of new, less expensive alternatives in the future.

The model used to calculate the impact of each demand level uses the RW Beck forecast for PSR. Should this rate increase significantly, the penalty the City would incur for having too much capacity would likewise increase. Increases could come from fuel cost issues, environmental regulatory issues or general cost issues. Therefore, when selecting a contract capacity, it would be prudent to select a value where this risk is minimized by not having too much exposure to PSR cost increases.

While a base-loaded coal fired facility is considered the most economical option at this time, by oversubscribing to the AMP-Ohio project, the City would lose the ability to take advantage of any new, more economical generating projects that may come on-line in the future.

BREI believes that the original proposed 185 MW contract level, while not optimal from a quantitative perspective, is reasonable when qualitative or risk factors are factored in. By contracting for 80 MW from AMPGS, the City has gained the flexibility to source additional base load power needs from other sources at potentially lower cost and achieving diversity of supply.

13.7 Conclusions

BREI has reviewed the Projections and the series of sensitivity cases described above. Based upon the projected operating results of the Facility, the technical and economic assumptions underlying the Projections, and the findings set forth in this report, BREI is of the opinion that the operating Projections of the Facility are reasonable and achievable, yielding the PSR estimated in the Projections.

14.0 REFERENCES

No.	Description
2.1	Sargent & Lundy, Task No. 1-Technology Analysis Study, January 2004.
2.2	Sargent & Lundy, Task No. 6-Schematic Design, September 2005.
2.3	Sargent & Lundy letter from R. Presnak to S. Kiesewetter, AMP-Ohio, dated 5/15/06, RE: Sub-critical vs Super-critical Cycle Analysis.
2.4	R.W. Beck, Initial Project Feasibility Study – American Municipal Power Generating Station Project (AMPGS), June 2007.
2.5	Sargent & Lundy, Task No. 1-Technology Analysis Study, January 2004. Appendix A
2.6	Sargent & Lundy, Evaluation of Powerspan Corp. Technologies, September 2006
2.7	R.W. Beck, Powerspan Process Technical Assessment and Feasibility Report – American Municipal Power Generating Station Project, May 10, 2007.
3.1	Sargent & Lundy, Task No. 5-Site Selection –Base Load Generating Facility Development, Rev. 1, August 2005.
4.1	R.W. Beck, Baseline Schedule for AMPGS, dated June 13, 2007.
8.1	AMPGS Power Sales Contract - Document #268177.v8, Clean – Draft of 4/2/07.
9.1	Sargent & Lundy, Task No. 5-Site Selection, Appendix E.
9.2	R.W. Beck, Initial Project Feasibility Study – AMPGS, Section 7.2, June 2007.
10.1	R.W. Beck, Initial Project Feasibility Study – AMPGS, Attachment 3-1.
13.1	RW Beck, Initial Project Feasibility Study – AMPGS, Section 6.
13.2	CPP 20 Year Forecast, transmitted by T. Smith (CPP) to R. Edelman (BREI) in an email dated September 6, 2007.