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DEC 23 RECT

INDEPENDENT REGULATORY

From:

Gorton, III, William T. [wgorton@stites.com]

Sent:

Tuesday, December 22, 2009 3:51 PM

To:

Cc:

EP, RegComments Roth, David; Kellermeyer, Dave; glmerritt@aol.com; Collignon, Lucinda

Northern Star Generating, LLC Comments on EQB Beneficial Use of Coal Ash Rulemaking

Subject: Attachments:

NSGS Letter to Environmental Quality Board (12.22.09).pdf; LEXINGTON-#336891-v3-

NSG MEMO.pdf

To the Environmental Quality Board,

Attached is the cover letter and Comment Document from Northern Star Generating Company, LLC related to the proposed Beneficial Use of Coal Ash rulemaking. With four waste coal power plants in the Commonwealth, Northern Star has significant interest in the subjects covered by the rulemaking and looks forward to further discussions concerning them. A hard copy version is also being sent overnight.

Sincerely,

William T. Gorton III | Member | STITES & HARBISON PLLC | 250 West Main Street, Suite 2300, Lexington KY 40507 direct 859.226.2241 | cell 859.312.7300 | fax 859.253.9144 | wgorton@stites.com | www.stites.com |

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INDEPENDENT REGULATORY REVIEW COMMISSION

NORTHERN STAR
GENERATION SERVICES
COMPANY LLC

2929 Allen Parkway, Suite 2200 Houston, TX 77019

Telephone: 713-580-6300 Facsimile: 713-580-6320

Submitted by Express Mail and Electronically at RegComments@state.pa.us

Environmental Quality Board Rachael Carson State Office Building 400 Market Street - 16th Floor Harrisburg, PA 17101-2301

RE:

Comments on Proposed Rulemaking 25 Pa. Code Chapters 287 and 290 Beneficial Use of Coal Ash

To the Pennsylvania Environmental Quality Board:

Northern Star Generation LLC ("Northern Star") is an independent power producer with ownership interests in four Pennsylvania waste coal power plants. Our facilities, located in both the anthracite and bituminous coal fields operate with state of the art fluidized bed combustion boilers and are recognized under the Pennsylvania Alternative Energy Portfolio Standards Act for providing environmentally beneficial sources of electric energy. Along with removal of millions of tons of bituminous gob and anthracite culm and aiding in the abatement of long term acid mine drainage for close to 20 years, our company has projections to utilize nearly 30 million additional tons of waste coal from numerous sites in the coal fields by 2020.

The use of CFB ash in the reclamation of the waste coal sites is an integral aspect of our operations and will be directly impacted by the rulemaking presently before the Environmental Quality Board. We are pleased to participate in the rulemaking process and provide the attached comments from the perspective of an actual operator with practical experience and knowledge in the field. During the rulemaking process, we would welcome the opportunity to discuss various points to assure that the regulatory program resulting from this process is both practical and efficient in meeting the goals of protecting the waters of the Commonwealth.

If you have any questions on these comments, I can be contacted at (713)580-6368 or by email at dave.kellermeyer@nsgen.com. Alternately, you can follow up with Gary Merritt of Northern Star at (412)551-6641 or by email at gary.merritt@nsgen.com.

Sincerely,

Northern Star Generation Services Company LLC

David A. Kellermeyer Vice President, EH&S

David A. Keeling

DG91:41607:336966:1

Enclosure

cc: Gary Merritt, P.G., NSGS

Jeff Zick, P.E., NSGS

Shawn Simmers, Cambria Cogen Rob Simmerman, Cambria Cogen

David Roth, Esq.

William T. Gorton III, Esq.

NORTHERN STAR GENERATION LLC REVIEW COMMISSION

COMMENTS TO PENNSYLVANIA ENVIRONMENTAL QUALITY BOARD NOTICE OF PROPOSED RULEMAKING "BENEFICIAL USE OF COAL ASH" (25 Pa. Code, Chapters 287 and 290)

I. Introduction

Northern Star Generation LLC ("Northern Star") is pleased to participate in the Pennsylvania Environmental Quality Board's rulemaking process related to the Beneficial Use of Coal Ash. As a privately owned independent power producer, Northern Star has ownership interests in 12 power plants across the United States, six of which are coal or waste-coal fired. Four of those plants are in Pennsylvania where we found the 20-year stability and success of the waste-coal power industry attractive for substantial investment. Our four waste coal power plants in Pennsylvania are:

- Cambria Cogeneration, Ebensburg, PA
- Inter-Power/AhlCon Partners L.P. Colver Power Project, Colver, PA
- Panther Creek Partners, Nesquehonning, PA
- Gilberton Power Project, Gilberton, PA

Our Pennsylvania power plants have more than 200 direct professional and technical employees and provide an additional 300-400 indirect jobs in mining, transportation and maintenance support.

Northern Star through affiliate companies and partnership companies has investment and exclusive rights to numerous and significant waste coal (gob and culm) fuel sites in Pennsylvania that will be reclaimed by the beneficial use of coal ash. Our projections for the period of 2010 through 2020 include the removal and use of almost 30 million tons of leaching gob and culm from Pennsylvania watersheds. When completed, reclamation efforts at those sites will restore these lands while abating pollution to improve surface and groundwater quality.

The Northern Star power plants utilize state of the art circulating fluidized bed (CFB) technology along with limestone injection for control of SO₂ emissions. Our plants are expressly recognized under the Pennsylvania Alternative Energy Portfolio Standards Act¹ as providing environmentally beneficial sources of electric energy.² The resulting CFB coal ash is much higher in alkalinity than coal ash from a conventional pulverized coal boiler and exhibits numerous characteristics that support mine reclamation. This material has been proven to be ideal for reclamation at waste coal re-mining, reprocessing and reclamation sites. For example, at the Maple Coal site adjacent to the Colver Power Project in Cambria County, water quality has improved dramatically over the past 15 years as a result of the beneficial placement of coal ash. Downgradient monitoring wells have shown dramatic declines in polluting acidity concentrations (up to 98% reduction), iron (97%), manganese (87%), aluminum (99%), sulfates (65%) and TDS

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¹ 73 P.S. 1648.1 et seq.

² 73 P.S. § 1648.2(10)

(67%) during this period. Northern Star believes that the Department must continue to recognize the proven track record of CFB coal ash beneficial use and support future utilization of this material in the development and implementation of beneficial use regulations that do not unnecessarily impede the proven synergy between energy production and pollution abatement.

By participating in this important rulemaking process, we focus on several key aspects of the proposed rules that are of particular concern to the industry and in particular to Northern Star as an owner and operator of close to one third of the Pennsylvania waste coal power plant fleet and a holder of significant investments in the Commonwealth.

Our comments provide the Environmental Quality Board with very practical concerns and rationale based on actual operational experience. Related to the issues discussed herein, we also provide proposed language to address our concerns while meeting the intent of the rules to provide necessary and appropriate environmental protection while continuing the benefits of energy production and reclamation on thousands of acres in the Pennsylvania coal fields.

II. Overview of Comments

In general, Northern Star is particularly interested in assuring that the regulations governing the beneficial use of coal ash in reclaiming abandoned or permitted waste coal sites recognize the pre-existing nature of problems associated with gob and culm piles. We are also very concerned that "retrofitting" the existing fuel extraction/reclamation sites with new monitoring and performance standards proposed in these regulations may be impractical and lead to unanticipated results. The nature of the ash generated through the circulating fluidized bed technology is different than that created through the ordinary pulverized coal process utilized by most electric generating utility power plants. The ash associated with CFB boilers which receive limestone injection to capture SO₂, is a high alkaline, pozzolanic material that lends itself very well to the reclamation of abandoned and active pollution source waste coal sites. As such, the beneficial use regulations must distinguish between CFB boiler ash and ash created by conventional boilers. Since the independent power industry relies on pre-negotiated power purchase agreements for fixed costs, the industry is very concerned about the continued increase in administrative costs associated with environmental regulation with no apparent benefit to the environment. The regulations should consider overall benefits to the environment by promoting practical design consideration and providing incentives, not disincentives, for reclaiming smaller unreclaimed refuse areas. We are very concerned with and provide practical comments to the proposed rules related to development of the background hydrologic baseline monitoring which is critical to later aspects of the regulations concerning assessment triggers and possible abatement requirements.

III. Economic Concerns: Environmental Administrative Costs are Rapidly Escalating

The economics of independent power production are very tight and administrative costs are escalating. Any new regulations must be cost effective and result in meaningful outcomes. In recent years our Pennsylvania plants have experienced exponential increases in environmental compliance costs, not because of increased expenditures on environmental controls, but rather because of dramatic increases in fees, monitoring costs, and required reclamation bonds and water treatment trusts associated with pre-existing pollutional discharges at waste coal sites.

Although all four power plants face similar concerns, one example of environmental cost escalation is particularly compelling. In 2004 when Northern Star first obtained an ownership interest in Colver, the total amount of reclamation bonds and treatment trusts posted for the mining sites associated with this power plant was \$457,000. By 2009, this amount has risen to \$1,187,000 and is now projected to increase to more than \$6,000,000 by 2014.

At the Colver power plant in 2010, we are faced with a new requirement of purchasing SO_2 allowances under the CAIR program. This will produce a new environmental expenditure estimated to be \$300,000 to \$500,000 annually. In addition, the Department recently proposed an increase in Title V emission fees from \$54/ton to \$70/ton. This will represent an annual fee increase of more than \$50,000 next year. It is worth noting that none of these costs have contributed to any reduction in pollutant releases to the environment. They are simply increased administrative costs.

The additional and significantly increased monitoring frequency and parameter testing costs associated with the proposed beneficial use rules will add even more to this rapidly increasing cost burden. For example, each laboratory groundwater, surface water or leachate test costs approximately \$1,600 - \$2,000 increasing overall costs significantly on an annual and a ten year life-of-mine basis. Coupled with annual proposed renewal fees of \$2,000/yr. for ten years following ash placement, the costs continue to escalate. Northern Star's waste coal plants sell power primarily under fixed price power purchase agreements that do not allow recovery of the increased environmental regulatory program expenditures. As a result, we ask the Department to develop and implement the beneficial use program in a practical and meaningful way as to mitigate, where possible, the costs to operating these Alternative Energy facilities.

IV. The Proposed Regulations must recognize Existing Conditions at Currently Active Fuel Removal/Reclamation Sites

The draft regulations develop a protocol for background/baseline hydrologic monitoring, operational monitoring, assessment triggers and abatement in the event of exceedances. The proposal does not recognize that many sites are presently being operated under existing regulatory and permitting requirements that did not require the full spectrum of testing required under the proposed regulations. As such, it would be inappropriate to develop new assessment or abatement triggers based on data developed during ongoing operations. Several of the new monitoring requirements should not apply to existing facilities such as the requirement for up gradient groundwater monitoring proposed under Section 290.301(a)(1) and 302(a)(1). Upgradient groundwater monitoring associated with a pre-existing highly disturbed environment or inactive waste coal fuel removal/reclamation site provides no relevant information associated with the benefit or detriment to the overall hydrology associated with the operation. Further, it is widely understood that to the extent that there are increases in constituents being monitored, such increases occur during the actual disturbance of the waste coal during mining and/or reprocessing while the material is being excavated and the site is open without regard to ash placement. Northern Star suggests that the regulations be drafted recognizing that retrofitting new regulations on existing sites may be inappropriate and suggests that the regulations allow enough flexibility to recognize that each waste coal site has unique characteristics due to its historical industrial background.

V. <u>The Proposed Regulations Could Discourage the Mining of Small Coal Refuse Sites</u> (Section 290.104(f)(1))

Throughout the bituminous and anthracite coal fields there are many small abandoned refuse piles (<100,000 tons of refuse) that will not be economic to remove as a result of these regulations unless there is ability to manage the ash at larger sites. The costs of monitoring, permitting, bonding, and developing a small mine site are substantial relative to the amount of waste coal extracted and utilized. The additional costs of monitoring imposed by these proposed regulations will in many cases make the beneficial use of coal ash at these already marginally economic small coal refuse sites cost prohibitive. If the ash derived from coal refuse from these small sites cannot be placed at larger sites, then it is highly unlikely that the smaller abandoned piles will be reclaimed. We urge the Department to make certain that sufficient flexibility exists in the regulations to allow ash from small refuse sites to be economically placed at large sites which will result in benefits to the watersheds where the smaller piles are located. We recommend that Section 290.104(f)(1) of the proposed rules be reworded as follows:

"(1) Subject to § 290.104(f)(6), the volume of coal ash placed at the site may not exceed the volume of coal, coal refuse, culm or silt removed from the site by the active mining operation on a cubic yard basis unless an increased volume is needed to insure the reclamation plan is achieved, the abatement plan per Subchapter F of Chapter 87 or Subchapter G of Chapter 88 requires additional ash placement at the site, it is part of an integrated multi-site refuse reprocessing operation, which should result in an overall benefit to watershed quality, or is otherwise approved by the Department."

VI. The Proposed Regulation Could Eliminate the Beneficial Use of Coal Ash at Waste Coal Sites (Section 290.104(f)(5))

It is estimated that Pennsylvania has more than 800 abandoned coal refuse piles that continue to degrade the waters of the Commonwealth. The cost of reclamation greatly exceeds the funding available to the Commonwealth. Fortunately, most of the gob and culm dump reclamation efforts to date in Pennsylvania have been in association with the waste coal power industry removing this refuse, utilizing it in CFB power plants, and returning ash to restore the properties under controlled, engineered designs as a clear beneficial use. As drafted it appears that the proposed beneficial use regulations could eliminate this activity in the future. Section 290.104(f)(5) as written appears to prohibit the placement of coal ash on sites where refuse material is deposited in large surface piles. In many instances, this would eliminate beneficial coal ash placement at coal refuse mining sites in Pennsylvania. It makes sense in many cases to remove the old waste piles and to reconstruct the affected site in accord with a designed and approved reclamation plan. As we do not believe it is the Department's intent to preclude controlled reconstruction of these piles, we recommend that Section 290.104(f)(5) be rewritten as follows:

"(5) For coal refuse reprocessing sites where refuse material is presently deposited in large surface piles, the piles shall be designed and constructed with coal ash provided that the placement of coal ash shall be accomplished in accord with an engineered design and in a manner

that blends into the general surface configuration, and complements the surface drainage patterns of the surrounding landscape."

VII. The Definition of Background Water Quality at Mining Sites is Critical (Section 290.301)

A. For developing site pre-ash utilization baseline conditions, the proposed rulemaking requires a minimum of 12 background samples be taken at each monitoring point prior to ash placement. We understand the need to define seasonal fluctuations in parameter concentrations due to variable precipitation, groundwater levels, and surface water flows. However, variations in concentrations at mining sites will also be introduced due to activities associated with excavating old gob and culm banks. While a site is being excavated, temporary hydrologic impacts that are unrelated to coal ash placement are typical. A significant amount of activity will occur prior to ash placement and the water monitoring data during the pre-ash placement period is a critical part of the baseline against which monitoring data post-ash placement can be measured. Many sites have a period of mining activity that may extend for months to years prior to the first placement of ash. In addition, there will be continuing mining activity occurring after ash placement has commenced. It is critical that the definition of background concentrations include the water quality changes caused by all pre-ash placement mining activities. This will better enable the Department and the mining operators to identify whether water quality changes after the placement of ash is attributable to ash placement or mining activities.

Northern Star recommends Section 290.301(a)(2) be reworded as follows:

- "(2) A minimum of 12 background samples from each monitoring point taken at monthly intervals prior to placement of coal ash, unless a different number or frequency is approved by the Department. Samples collected following the 12 background samples required for permit approval, including samples collected before site development, during site development and during mining but prior to ash placement shall be considered in defining the sites background water quality."
- B. The long term water quality monitoring provision in Section 290.301(g) is confusing as drafted and may conflict with the bond release standards under these Surface Mine Conservation and Reclamation Act. Reclamation bonds extend for five years following Stage II site reclamation which includes full reclamation and successful vegetation. It appears from the proposed rule that an <u>additional</u> five years of monitoring following final reclamation is required, therefore extending the Stage III reclamation standards to ten years. To be consistent with the well established SMCRA financial assurance requirements and practice in the industry, the regulation should be modified as follows:
 - "(g) Water quality monitoring shall continue quarterly for five years following Stage II reclamation bond release. If there is a statistically significant increase in parameters being monitored during that period, the Department may require more frequent or longer water quality monitoring."

C. Planning and development of waste coal fuel sites is a long process involving many technical and legal requirements. Adding another year to the process to complete background monitoring is not necessary to the permitting process. For the purposes of expediting the permitting process for new waste coal mining sites, we suggest that the Department allow applications to be submitted prior to the completion of 12 months of background sampling. The Department can withhold final issuance of a permit seeking beneficial use until the minimum 12-month sampling is completed and submitted.

Northern Star recommends a new Section 290.301(j)(2):

"The applicant may submit its permit application or plan to the Department prior to the completion of 12 background samples, however a permit shall not be issued for the beneficial use of ash at the site until 12 background samples have been submitted."

VIII. <u>Upgradient Groundwater Quality is Irrelevant to Defining Impacts of Coal Ash on</u> Waste-Coal Reclamation Sites (Section 290.301(a)(1) and 302(a)(1)

The groundwater monitoring plan requirements appear to be designed for "virgin" sites where up gradient groundwater quality creates the baseline for site conditions. In the waste coal power industry, the fuel sites exist in extremely disturbed environments, many with significantly fractured geology, pre-existing pollutional discharges and underlying mine pools. In designing the mine/reclamation plan at these disturbed sites, the permittees develop plans to reconstruct surface hydrology and abate or diminish pollutional discharges and groundwater infiltration. The quality of upgradient groundwater is irrelevant to defining the baseline conditions related to work on seriously impacted waste coal remining and reclamation sites that will be utilizing ash for the beneficial use in restoring the site. Northern Star therefore suggests that Sections 290.301(a)(1) and 290.302(a)(1) remove the requirement for upgradient groundwater monitoring as it relates to waste coal reclamation sites.

IX. The Required Location of Monitoring Wells May Not Be Feasible or Advisable at Active Mining Sites (Section 290.302)

It appears that the requirements for monitoring well placement in Section 290.302 were designed for green field, lined residual waste sites and not for the types of environments associated with waste coal. Most beneficial use sites are significantly disturbed, where there has been historic acid mine drainage and where there will be temporary impacts from excavation activities associated with refuse removal. As a result, the requirements for placement of downgradient monitoring wells within 200 feet of the coal ash placement area may place them in the mining or reprocessing area itself and is not feasible or advisable. As an example, at our Indiana County, Ernest coal refuse mining site compliance with 290.302(b)(4) would require placement of monitoring wells within areas of coal refuse placement that are subject to active mining operations. We don't believe that this result is the intention of the Department nor would this provide useful monitoring information to address the potential impacts of coal ash placement. Therefore, we recommend that a new subparagraph 290.302(b)(4) be inserted to address monitoring locations at active mining sites:

"(4) At active mining operations, located within 200 feet of the area projected to be disturbed by the mining and coal ash placement area, except as necessary to comply with subsection (c), and located at the points of compliance."

X. The Proposed Rulemaking May Trigger Costly and Unnecessary Assessments at Active Mining Sites (Section 290.304)

The Assessment Plan aspects of the proposed Beneficial Use regulations are critically important and must consider the realities of waste coal removal and reclamation operations. The program must offer an ample opportunity to review site specific factors in order to, where possible identify the cause of pollutant increases without automatically triggering what could be very expensive and time consuming prescriptive monitoring and assessment efforts. Our observations of mining and reclaiming waste coal sites has been that significant fluctuations in water quality can occur throughout active operations until the completion of ash placement and final reclamation. It has been our experience and has been recognized by the Department,³ that following final reclamation, water quality improvements have been substantial and permanent. However, during active operations increases in water quality concentrations often occur when new portions of a mining site are opened up or as mining activities expand towards the monitoring well locations.

Section 290.304 requires the preparation of an assessment in the event of a "significant" change in the quality of groundwater or surface water compared to the background levels determined in Section 290.302. The requirements for the assessment contained in the Section are substantial and potentially quite costly. To apparently account for laboratory error, the assessment would not have to be done if re-sampling performed within 10 days after the initial sampling shows that surface or groundwater degradation has not occurred. In addition, the assessment would not have to be performed if within 20 days after the initial sampling showing contamination, it could be demonstrated that the degradation "was caused entirely by seasonal variations or activities unrelated to coal ash placement" (Section 290.304(b)(2)). We believe that the limited amount of days to respond is not sufficient to adequately review the data, corresponding site conditions and related variables and respond appropriately.

It has been Northern Star's experience that past increases in water quality concentrations at waste coal mining sites providing fuel to our plans have been caused by mining activities, seasonal hydrogeology, or other influences such as regional or local mine pools. However, we are concerned with the Department's use of the word "entirely" in Section 290.304(b). This can be interpreted to create an insurmountable burden of proof, since it is impossible to prove a negative (i.e, in this case, that there is *zero* influence of ash placement on water quality concentrations when the same constituents are in the parent material). As such, we recommend that the Department change the wording of Section 290.304(b) to the following:

³ Pa. Department of Environmental Protection, Technical Guidance Document 536-2112-225, Mine Site Approval for the Beneficial Use of Coal Ash draft dated September 20, 2008, p.2. "To date we have not observed water quality degradation as a result of ash placement, and in some instances we have seen significant improvements in water quality."

"(2) Within 45 working days after receipt of sample results indicating a statistically significant groundwater or surface water degradation over baseline, the person reasonably demonstrates that the degradation was not caused by coal ash placement, but from hydrologic seasonal variations, from the mining operations, or other influences unrelated to coal ash placement."

XI. Compliance Points and the Scope of Abatement Should Account for Site Specific Considerations (Section 290.305)

Depending on the results of the assessment required in Section 290.304, an abatement plan may be triggered. Section 290.305 must clearly emphasize that the Abatement Plan is prepared only in the event that statistically significant water quality degradation **as a result of ash placement** occurs. As written the draft rule can be interpreted to broadly impute abatement obligations if the monitored constituents increase <u>regardless of the source</u>. We recommend that Section 290.305(a) be amended to the following:

"(a) The person that is required to conduct water quality monitoring as part of coal ash beneficial use or storage shall prepare and submit to the Department an abatement plan whenever one of the following occurs as a result of coal ash placement:"

This Section also defines compliance points at which one or more abatement standards must be met. The location of compliance is either at 500 feet distance from the perimeter of ash placement or the property boundary, whichever is closer. Under the proposed rule, these abatement standards can be Statewide health standards, background standards, or risk-based standards which assume the presence of human receptors at the property boundary. We are concerned with these prescriptive requirements as they may grossly misrepresent actual health risks (if any) posed by the beneficial placement of ash and may result in expensive efforts that produce no tangible benefits. Many of the waste coal sites in Pennsylvania are abandoned mine lands that have been leaching and discharging pollutants into adjacent groundwater and surface water for decades. At some of our fuel sites, monitoring wells have been adversely affected by hydrologically connected abandoned mines and mine pools that are unrelated to our activities. As a result, water resources downgradient to these sites are severely impaired and incapable of The requirement to abate already highly impaired water resources to drinking water or risk-based standards seems inappropriate, if not impossible. In addition, any short-term abatement efforts on these impaired waters will have no impact on public health, as these waters are currently unused.

Northern Star strongly recommends that the proposed Section 290.305 be revised to incorporate the following:

- Mining sites with pre-existing discharges that use beneficial placement of ash shall be subject to only the abatement standards in Section 290.305(c)(2).
- The compliance point for Statewide Health Standards or primary MCLs shall be at the nearest residence or drinking water well or water supply intake.

• The compliance point for risk-based standards should be the nearest point of actual human receptors.

XII. Conclusion

As a major Pennsylvania Alternative Energy producer with operations in both coal fields, Northern Star recognizes it obligations to conduct and support waste coal removal and reclamation with appropriate stewardship. Our company recognizes the purposes of the rulemaking and supports the Environmental Quality Board in developing a program that is both practical and effective. The waste coal-fired independent power industry in Pennsylvania has provided reclamation and pollution abatement throughout the anthracite and bituminous coal fields and will continue to do under a regulatory framework that is predictable and does not provide disincentives that increase costs for no general benefit.

Northern Star appreciates the opportunity to provide these comments on this important rulemaking effort and is willing to participate in discussions to explain its operations and the impacts that will result under the revised coal ash beneficial use regulatory program.