NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Application of the NEW YORK STATE ELECTRIC & GAS CORPORATION Petitioner, For a Declaratory Ruling	DECLARATORY RULING DEC 27-20

INTRODUCTION

Petitioner, New York State Electric & Gas Corporation ("NYSE&G"), seeks a Declaratory Ruling, pursuant to the State Administrative Procedure Act ("SAPA") §204 and 6 NYCRR Part 619, that a solid waste management facility permit pursuant to 6 NYCRR Part 360 is not required for the proposed placement of bottom ash, produced at the Goudey Station steam electric generating facility, in the former bottom ash disposal pond ("pond") at Goudey Station as construction fill to provide a foundation for pollution control facilities.

Petitioner asserts that the proposed placement of the bottom ash does not make the pond a facility within the definition of a new solid waste management facility or, in the alternative, if the pond is a solid waste management facility, that Petitioner is exempt from the permit requirement because the bottom ash is being beneficially used as fill.

The Petition raises a novel question concerning the scope of the exemption from the requirement of a solid waste management

facility permit due to claimed beneficial use, reuse, legitimate recycling or reclaiming of solid waste. 6 NYCRR 360.1(f)(1)(ix). Even though that concept is proposed to be eliminated this year in the pending Part 360 recodification, it is nevertheless in the public interest to inform Petitioner and the public about the scope of the exemption. However, no definitive answer can be given to Petitioner because of factual issues raised in the Petition itself which cannot be resolved within the Declaratory Ruling format.

ISSUES

Petitioner essentially argues that use of the bottom ash already present in the bottom ash collection pond, and addition of bottom ash to be generated over the next one and one-half to two years, as construction fill to provide a foundation for the installation of water pollution control facilities (1) does not bring the area to be filled within the definition of a new solid waste management facility or (2) is the utilization of a nonputrescible solid waste for a beneficial use and thus is exempt from the necessity of a solid waste management permit under 6 NYCRR 360.1(f)(1)(ix):

> Any operation or facility which receives or collects only nonputrescible solid waste, and beneficially uses or reuses or legitimately recycles or reclaims such waste, or stores or treats such waste prior to its beneficial use or reuse or legitimate recycling or reclamation is exempt. Said operations or facilities include, but are not limited to, automobile junkyards, citizen programs, metal recovery

from nonhazardous sludges, municipal operations, secondary materials dealers, and private and commercial salvage activities which collect, separate, clean or assemble materials, including but not limited to paper, corrugated board, metals, containers, glass, white goods, textiles and rubber.

FACTS

Neither SAPA nor Department regulations concerning Declaratory Rulings, 6 NYCRR Part 619, provides authorization or procedures for the determination by the Department of the accuracy of facts alleged in a petition for a Declaratory Ruling. The binding effect of the Ruling will accordingly be limited by its assumed factual predicates. Power Authority of the State of New York v. NYSDEC, 58 N.Y.2d 427, 461 N.Y.S.2d 769 (1983). The following facts are derived from the Petition and exhibits unless otherwise noted.

Petitioner owns and operates a steam electric generating facility, Goudey Station, located in Johnson City, Broome County, New York on the north bank of the Susquehanna River. Goudey Station is located over a sole source aquifer (Clinton Street-Ballpark Valley Aquifer System), as designated by the United States Environmental Protection Agency (50 Fed. Reg. 2025-27, January 14, 1985; under the provisions of the Federal Safe Drinking Water Act of 1974, 42 U.S.C. §300f et seq.), which, if contaminated, would create a significant hazard to public health. ECL §15-0514.1(d); 6 NYCRR 360.1(d)(68).

In addition I take official notice of the fact that the

United States Environmental Protection Agency made the following finding when determining to designate the Clinton Street-Ballpark Valley Aquifer:

> The aquifer is overlain by permeable unconsolidated glacial and recent deposits. As a result of the permeable soil characteristics, the Clinton Street-Ballpark Valley Aquifer System of the Broome and Tioga County areas is highly susceptible to contamination through its recharge zone from a number of sources including, but not limited to, chemical spills, leachate from landfills, stormwater runoff, highway deicers, faulty septic systems, wastewater treatment systems, and waste disposal lagoons. The aquifer is also susceptible to contamination to a lesser degree from the same sources, through its streamflow source zone. Since ground water contamination can be difficult or impossible to reverse and since the aquifer in this area is solely relied upon for drinking water purposes by the population of the Broome and Tioga County areas, contamination of the aquifer could pose a significant hazard to public health. 50 Fed. Reg. 2026.

While not noted in the Petition, the exhibits to the Petition reveal that observations made at the site suggest that there is a downward flow potential from the upper aquifer to the Clinton Street-Ballpark Valley Aquifer. The Johnson City Camden Street wellfield is located several hundred feet northwest of the site and the Clinton Street-Ballpark Valley Aquifer at Goudey Station is within the zone of influence of the Camden Street wellfield. Groundwater most likely leaves the site along the northern and western site boundaries. The majority of the groundwater is suspected to be flowing beneath the channels of the Susquehanna River and Little Choconut Creek, and toward the Camden Street

wellfield.

Goudey Station utilizes three pulverized coal-fired boilers and two turbine generators that produce approximately 125 megawatts of power. Goudey Station boilers produce bottom ash as a result of the combustion of coal. The bottom ash is kept separate from other materials generated by the combustion of coal (e.g., fly ash and pyrites).

The current bottom ash handling system works as follows: the bottom ash falls into hoppers at the bottom of boilers and is sluiced to an unlined collection pond designed to permit rapid percolation of water into subsurface sediments; the ash is removed from the pond and placed on the banks by a drag line for dewatering; after drying out the ash is placed in trucks for transportation to either a disposal site or a large proportion is sold to municipalities for use as a anti-skid agent on icy or snowy roads.

The Goudey Station bottom ash disposal system has operated pursuant to a State Pollutant Discharge Elimination System (SPDES) permit issued by the Department--SPDES Permit No. NY-000-3875. The SPDES permit limits are based on effluent standards and/or limitations for discharges to Class GA groundwaters, 6 NYCRR 703.6.

The Petition includes three sets of data: (1) SPDES compliance monitoring data (effluent data) of the discharge from the pond to groundwater (summarized as Attachment II to Exhibit 1); (2) a year-long (1986) study of ambient water quality

contained in the report "Hydrogeologic Assessment - SPDES Ground Water Monitoring Program - Goudey Generating Station" ("Report") which was submitted to the Department on April 24, 1987 (Attachment III to Exhibit 1); and (3) groundwater monitoring in 1987 after the period covered in the Report (included in Attachment IV a-d of Exhibit 1).

SPDES compliance monitoring results show that discharges from the ash pond caused exceedances of the effluent standards in the Spring of 1986 for aluminum, arsenic, iron, manganese, pH and sulfate. (See Attachment II to Exhibit 1 for plots of aluminum, arsenic, iron, manganese, pH and sulfate.)

The groundwater monitoring results of the Report show exceedances of groundwater standards near the ash pond in the Spring of 1986. Wells 8503 and 8101 exhibited exceedances of arsenic and iron groundwater standards (Attachments IVa and c to Exhibit 1). Additional evidence exists that the loading of arsenic from the pond is, in part, responsible for this groundwater contamination because "compositional analyses of Goudey Station bottom ash materials conducted in 1980 (Acres America, 1980) indicate a 91.5 ppm arsenic concentration. Thus this source is expected to be high in dissolved arsenic." Report, p.6-7.

Well 8102 exhibited exceedances of the manganese groundwater standard and had a single sulfate exceedance in late 1986 (Attachment IVb to Exhibit 1). Well D-8504 also showed manganese exceedances (Attachment IVd to Exhibit 1). While the Petition

opines that the manganese is most likely derived from an unknown off-site contaminant source (Exhibit 1, ¶8b; Report, p.6-2), the Report admits that the data used to reach this conclusion is suspect due to flow reversals:

> At Goudey Station, wells 8505 D and 8506 SH were installed to measure background ground-water quality because they are normally upgradient from on-site contamination sources. However, ground-water elevation records and chemical data suggest that flow reversals have occurred across the eastern half of the site, and that during these reversals the wells may not have represented background conditions, but instead were affected by on-site contaminant sources. Report, p.6-2.

The Report also indicates that manganese is added onsite:

> Statistically significant increases in dissolved iron, manganese, and sulfates were observed from the upgradient site boundary to the downgradient site boundary. These three components are interpreted to be leaving the site in excess of the Class GA standard limits. Report, p.6-13, ¶4.

This is confirmed by the fact that while all the five upgradient wells had exceedances for sulfates and manganese 62 times, all the six downgradient wells had 162 exceedances. And the Report states "Dissolved manganese was highest in downgradient well 8501 SH...." Report, p.6-7. Therefore, not all exceedances are derived from an unknown off-site contaminant source and some result from the ash pond.

Two of the wells (8501 D and 8504 D) are located in the Clinton Street-Ballpark Valley Aquifer. Monitoring results indicate that well 8504 D has many exceedances for manganese and exceedances for arsenic and iron (Attachment IVd to Exhibit 1;

Report, Table F-29). Well 8501 D has many exceedances for iron and manganese, and also some for arsenic and sulfates. This indicates that certain contaminants are not only leaving the site in excess of Class GA standards (see Report, p.6-13, ¶4, quoted above) but are actually in the Clinton Street-Ballpark Valley Aquifer several hundred feet from the Johnson City Camden Street wellfield.

Also the Report contains the following statements:

> Generally, ground water contaminant flow at the site appears to originate at the bottom ash pond and the coal storage pile. Contaminants appear to be flowing westward and southwestward from the ash pond, and northeastward from the coal storage pile, in accordance with the direction of ground-water flow across the site. Iron, arsenic, manganese, and sulfates were observed downgradient of both the coal pile and ash pond source areas. Report, p.6-6
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> The primary sources of ground water contamination at the Goudey Station site are considered to be the bottom ash pond and the coal storage pile. The quality of effluent from the ash pond is controlled by short-term fluctuations of the quality of plant discharge into the pond. Report, p.6-13, ¶2
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> Contaminant concentrations in ground water downgradient from the ash pond are related to the quality of the ash pond water.... Peaks in ash pond contaminant concentration are directly related to the discharge of acidic maintenance cleaning wash water to the pond. Report, p.6-13, ¶5

While the Report ascribes peaks and exceedances to maintenance cleaning wash water, there are unexplained data. For

example, Table 5-1 notes that of the exceedances of the four maintenance washes in 1986, the first one started on April 7. This should mean that no exceedances occurred prior to that date. However, Appendix C of the Report indicates all nine samples for iron in February and March are exceedances and all four samples for arsenic in January through March are exceedances in downgradient well 8101. Appendix C also indicates an exceedance for iron in downgradient well 8503 on February 5, 1986 (0.92 mg/l; GA standards is 0.3 mg/l) and indicates exceedances for manganese in downgradient well 8504 on January 31 and February 24, 1986 (0.54 mg/l and 0.68 mg/l respectively; GA standard is 0.3 mg/l).

Also, downgradient wells 8501 SH and 8501 D also have exceedances before the first maintenance wash. For well 8501 SH all ten iron samples for January through March showed exceedances and the values for March 18 and 24 were the highest of the year for the well. Similarly all ten sulfate samples for January through March showed exceedances and the value for March 18 was the highest of the year for the well. For well 8501 D four of the five samples for iron for March showed exceedances, the February and March samples for manganese showed exceedances, and the sulfate sample for March 24 showed an exceedance.

In addition the Discharge Monitoring Report for Goudey Station for January and February, 1986, of which I take official notice, indicate even higher values for iron (1.4 mg/l for January, 1.2 mg/l for February) than that indicated on Attachment II to Exhibit 1, which is presumed to be derived from

compliance monitoring samples for the Discharge Monitoring Reports.

Groundwater monitoring has continued since the publication of the Report, and the Petition (Attachments IV a-d to Exhibit 1) includes updated water quality data from wells in the vicinity of the ash pond. The data indicates continuing exceedances for arsenic and iron in downgradient well 8101 (Attachment IVa to Exhibit 1) and manganese exceedances in well 8102 (Attachment IVb to Exhibit 1) and downgradient well D-8504 (Attachment IVd to Exhibit 1).

NYSE&G is initiating a major construction effort at Goudey Station to install state-of-the-art water pollution control technologies to bring the Station's wastewater discharges into compliance with its SPDES permit. The construction project involves:

a. Lining the coal pile.

b. Construction of a coal pile runoff/maintenance cleaning wastewater treatment plant.

c. Construction of a low-volume wastewater treatment plant to collect and treat plant floor drains and yard and roof drains.

d. Construction of a closed-cycle bottom ash handling system to replace the current system, thereby terminating use of the existing pond.

These improvements are being made according to the schedule in a Consent Order with the Department.

An integral part of the Goudey Station wastewater treatment system improvement project described above is closing down and filling of the current bottom ash disposal pond area. Because Goudey Station has limited land available for new construction, Petitioner alleges much of the filled-in pond area is needed to house part of the low-volume wastewater treatment facility, the bottom ash handling system, the temporary ash storage area and the coal pile runoff/maintenance cleaning wash treatment building.

NYSE&G proposes to utilize both the bottom ash already in the bottom ash disposal pond and the bottom ash to be generated at the Goudey Station over the next one and one-half to two years as the construction fill to provide a foundation for the above-mentioned facilities. There are approximately 4,000 cubic yards of bottom ash currently in the pond. A total of approximately 25,360 cubic yards will be needed to bring the site up to grade for construction purposes. If NYSE&G cannot use the Goudey Station bottom ash as fill material for the planned construction of the pollution control facilities, it will have to obtain alternative fill material. NYSE&G would buy gravel from gravel pits located nearby Goudey Station at an estimated expense of $465,000.

DISCUSSION

That the bottom ash is currently a solid waste is not subject to dispute. It is a residue from the burning of coal to generate electricity and, after being dewatered and dried out, is, for the most part, discarded at a disposal site.

Petitioner's assertion that the placement of bottom ash as fill in the pond area does not make the filled area a solid waste disposal facility begs the question. Once denominated a solid waste, the bottom ash remains so and its treatment, storage or disposal [6 NYCRR 360.1(d)(80), (71) and (20)] by a "treatment, storage or disposal facility" [6 NYCRR 360.1(d)(79)] requires a permit (6 NYCRR 360.2) for a solid waste management facility (defined in ECL §27-0701.2 to include a disposal facility) unless said facility is exempted [6 NYCRR 360.1(f)]. More specifically, "disposal facility" means a "facility or part of a facility at which solid waste is intentionally placed into or on any land or water, and at which waste will remain after closure" [6 NYCRR 360.1(d)(20)]. This definition clearly includes the proposed covering in and filling of the existing bottom ash disposal pond area by (1) not dredging and removing the existing 4,000 cubic yards of bottom ash currently in the pond, and (2) by the addition (over a period of one and one-half to two years) of additional bottom ash to total approximately 25,360 cubic yards of bottom ash.

The remaining question then is whether the facility qualifies for the exemption from a permit for the beneficial use of a nonputrescible solid waste [6 NYCRR 360.1(f)(ix)]. If not, and if Petitioner still desires to place the bottom ash on site, it must obtain a permit but may qualify for variances from some of the standard permit requirements [6 NYCRR 360.1(g)].

I note initially that discussion of the meaning of the term

"beneficial use" may largely be moot because the Department has proposed a massive recodification of existing Part 360 (State Register, April 27, 1988) which proposes to eliminate this exemption. A new Subpart 360-12, entitled "Recycling Facilities", regulates the construction and operation of recycling facilities, (the intermediate processing step) and does not speak to beneficial use. The one remaining use of the concept of beneficial use survives in Subpart 360-3, entitled "Solid Waste Incinerators and Processing Facilities." This provision defines "bottom ash" to be the ash residue only from a solid waste incinerator, i.e., not also the bottom ash from an electric generating plant [proposed 6 NYCRR 360-12(b)(18)]. Normally such bottom ash is required to be disposed of in a monofill with a single composite liner [proposed 6 NYCRR 360-5(g)(2)], and can only escape such requirements if it is proposed to be beneficially used as an ingredient or as a substitute for a raw material in an industrial process to make a marketable product. However, the beneficial reuse of that bottom ash from incinerators is severely restricted by requirements that: (1) the use is by a party other than the producer; (2) the ash is used as an ingredient in a production process (rather than used alone); (3) the ash is not used in a manner constituting disposal (such as for fill material); and (4) the ash is environmentally benign.

Furthermore, the proposed regulations contain no transition rule which would allow survival of a determination, under the current regulation, that beneficial use exists. While proposed

Part 360 is not final, it indicates that the concept of beneficial use is proposed to be eliminated, except for the narrow instance of bottom ash from a solid waste incinerator, and then only if all the enumerated requirements and preconditions are met. Were this Petition to be decided under the proposed regulations, Petitioner would not be entitled to the beneficial use exemption because it would not exist. However, Petitioner could apply for variances from permit requirements since variances could still be obtained under the proposed regulations [proposed 6 NYCRR 360-1.7(c)].

With respect to the question whether the proposed use of Petitioner's bottom ash constitutes a beneficial use under the current regulations, I decline to rule because a Declaratory Ruling is an inappropriate means of resolving this factual issue, 6 NYCRR 619.3(d), since the underlying facts concerning beneficial use are in dispute and cannot be resolved through the Declaratory Ruling process.

While beneficial use, reuse and recycling of solid waste are to be encouraged as one way to reduce solid waste, however, it must be emphasized that whether an operation or facility is beneficially using or reusing nonputrescible solid waste is a question of fact in each case.

When such an exemption is sought the burden is essentially on the Petitioner to prove that appropriate environmental controls are not necessary. From a public policy point of view these considerations highlight the absolute necessity to have the facts clearly established before exemptions can be granted as a matter

of law, particularly when the result is no regulatory control.

In determining whether a beneficial use will occur, a consideration of the following factors is relevant:

- the purpose the material fulfills for the user
- whether the material has an economic value or avoids costs
- whether the use is environmentally benign.

The question whether a contemplated use of a nonputrescible solid waste could be a beneficial use is thus a broad factual question involving these considerations, and requires a finding that the use of the solid waste in the manner sought is in fact environmentally benign. That environmental benignness should be a consideration in resource recovery is clear from one of the legislative purposes of ECL Article 27:

> to effect maximum resource recovery from solid waste on a cost-effective basis, with minimum environmental debit, energy-efficient materials recovery, prudent land use, maximum economic benefits and maximum effective private sector participation, with due concern for the primacy of the local and regional role in resource recovery procedures upon the basis of public knowledge and consent. ECL §27-0101.2 (emphasis added).

That a large portion of the bottom ash is currently sold to municipalities for use as a traction agent on icy or snowy roads is not dispositive of the separate issue of whether use as fill on-site would be a beneficial use. However, that the bottom ash would serve the purpose of construction fill is clear from the facts presented. Thus, the bottom ash could, from Petitioner's

perspective, fulfill a beneficial purpose as fill material necessary to prepare the construction site, although the time required for such a project (one and one-half to two years) is necessarily longer since ash generation on-site is slower than immediate procurement of all the necessary fill from a commercial source.

That the Petitioner meets the second consideration (economic value or cost avoidance) by making use of the bottom ash as fill material is clear from the fact that the bottom ash is displacing or avoiding the $465,000 cost of importing fill material.

However, I cannot conclude on the facts provided that use of the bottom ash satisfies the third consideration that the use is environmentally benign such that the Department could dispense with the normal protective requirements of a solid waste management facility permit and all applicable disposal standards.

The proposed placement of the bottom ash fill must be evaluated to insure that the benefit of low-cost fill to Petitioner does not result in an unacceptable risk of environmental degradation to a critical environmental resource. This is especially true since the Department is under a statutory mandate to protect primary water supply aquifers and primary groundwater recharge areas. ECL 15-0514. As noted, the site is over the Clinton Street-Ballpark Valley Aquifer, there is a connection with that aquifer, the Johnson City Camden Street wellfield is located several hundred feet northwest of the site, and the Clinton Street-Ballpark Valley Aquifer at Goudey Station

is within the zone of influence of the Camden Street wellfield.

Petitioner fails to adequately address the potential threat to the sole source aquifer either from the bottom ash itself or through synergistic effects. There is a conclusory statement (Petition, ¶6) that the bottom ash has not polluted the groundwater and poses no threat to health or the environment. But there is evidence to the contrary to Petitioner's assertions. Indeed, the Petition, SPDES compliance monitoring data, the Report and the continuing groundwater monitoring all acknowledge exceedances.

The SPDES compliance monitoring data shows that discharges from the ash pond caused exceedances of the effluent standards in the Spring of 1986 for aluminum, arsenic, iron, manganese, pH and sulfates. The Report also admits contraventions of ambient groundwater standards in the vicinity of the ash pond occurred in the Spring of 1986 (see discussion of wells 8101, 8102, 8503 and D-8504 on p.6-7 above) and even prior to the addition of maintenance wash water (see discussion of wells 8101, 8503, 8501 SH and 8501 D on p.9 above). Furthermore, groundwater monitoring since the publication of the Report continues to show exceedances. As discussed on p.10 above, well 8101 exhibited exceedances of arsenic and iron groundwater standards, and wells 8102 and D-8504 exhibited exceedances of the manganese groundwater standard. Finally, Petitioner's conclusory statement (Petition, ¶6) that the bottom ash has not polluted the groundwater is also inconsistent with the conclusions in the Report (see quoted

statements on p.8 above) that the ash pond is a source of contamination.

Significantly, the Report was not written to investigate the effects of the proposal to use bottom ash as fill material. The goal of the Report was to evaluate existing groundwater conditions of the site--specifically to assess the downgradient impact of two suspected contaminant source areas (coal storage pile and bottom ash settling pond) and not to assess the impact of a proposed use of 25,000 cubic yards of bottom ash as fill. While the Report acknowledged the proposed elimination of the coal storage pile and bottom ash pond (e.g., p.6-13 ¶7), it did not evaluate the impacts of the use of 25,000 cubic yards of bottom ash as construction fill. Consequently, it cannot be used to support a conclusion that a concentration of 25,000 cubic yards of bottom ash will be environmentally benign.

Nevertheless it is clear that the pond is currently one source of contamination on-site. While the Petition asserts that the pond will be removed (and the coal pile lined) it essentially says that in place of that pond will be 25,000 cubic yards of the same bottom ash whose presence in the existing pond has been shown to be a past and current source of contamination. While the 25,000 cubic yards of bottom ash will not be subject to rapid percolation, as from the pond, it nevertheless will remain on-site and, unless enclosed in a secure land burial facility, is subject to leaching. Consequently, there is no clear demonstration that all potential causes of future contamination will be removed,

especially given the presence of the Clinton Street-Ballpark Valley Aquifer and Johnson City Camden Street wellfield.

Given the acknowledged exceedances and the underlying sole source aquifer I cannot conclude that, as a matter of law, the effects of using the bottom ash as fill would be environmentally benign. In view of the conflicting facts, it is inappropriate for me to issue a Ruling on this issue. 6 NYCRR 619.3(d)

CONCLUSION

I conclude that the bottom ash is a solid waste and that the on-site handling results in the necessity of a permit for a solid waste management facility. However, an adequate showing has not been made that the use on-site of bottom ash as fill would be a beneficial use, particularly that the use would be environmentally benign. The Petition itself contains contrary evidence for the critical assertions of the Petitioner and, given the disputed facts, I cannot determine as a matter of law that the proposal meets all the elements of beneficial use, and thus it is inappropriate for me to rule on this issue, 6 NYCRR 619.3(d).

However, as I previously noted, this does not preclude combined disposal and use of the bottom ash on-site; it merely states that the combined disposal and use cannot go totally unregulated in order that the environment is protected. In the event that Petitioner is unable to demonstrate the use would be environmentally benign, there are a number of options:

- Petitioner can apply for a Part 360 permit and, if

granted, dispose of the ash onsite in a proper landfill (essentially a monofill) with liner, leachate collection, closure and monitoring requirements.

- Petitioner can, in seeking a permit, request variances from the permit requirements that may not be necessary.
- Petitioner can, prior to filing a full permit application, undergo a conceptual review process, 6 NYCRR 621.11. This would provide an appropriate adjudicatory forum to determine the facts.

DATED: Albany, New York
May 13, 1988

Janice K. Corr
Deputy Commissioner and
General Counsel