



MONTGOMERY COUNTY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

MCPB
Item #
10/23/08

October 9, 2008

MEMORANDUM

TO: Montgomery County Planning Board

VIA: Glenn Kreger, Acting Chief *GK*
Vision Division

Khalid Afzal, Team Leader, East Transit Corridor Team *KA*
Vision Division

FROM: Frederick Vernon Boyd, Community Planner (301.495.4654)
East Transit Corridor Team *FV*
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SUBJECT: Mandatory Referral No. 08608-DEP-1: Oaks Landfill Gas-to-Energy Facility

STAFF RECOMMENDATION: Approval, with the following comments:

1. The Division of Solid Waste Services should report regularly to neighboring civic and homeowners associations about ongoing operations at the gas-to-energy facility.
2. The Division should report the findings of additional noise studies to neighboring civic and homeowners associations.

PROJECT SUMMARY

The Division of Solid Waste Services of the Department of Environmental Protection, working with state agencies and private firms, is proposing to design, build and run a facility at the former Oaks Landfill that will convert landfill gas now being generated by decomposing waste into electricity.

PROJECT BACKGROUND

The former Oaks Landfill is located on Olney-Laytonsville Road near its intersection with Fieldcrest Road, in the Olney Planning Area. The landfill included five parcels, totaling 545 acres. Waste disposal activities occurred from 1982 until 1995 on about 170 acres. From 1995 until 1997, the County disposed of ash residue from its Resource Recovery Facility and non-processible waste such as rubble. To complete the landfill's closure, the County installed a geosynthetic cap, built stormwater conveyance facilities and installed a landfill gas collection system made up of horizontal and vertical piping. A landfill gas candlestick flare combusts collected gas.

The site continues to produce about 1,000 standard cubic feet per minute of landfill gas, which travels through the pipe system to the candlestick flare for combustion. DEP monitors ground and surface water around the site perimeter and maintains perimeter wells, which are monitored for the presence of landfill gas.

PROJECT DESCRIPTION

The Landfill Gas-to-Energy Facility will be designed, built and run by a private firm, SCS Engineers, under a lease with the Division of Solid Waste Services, which is also working with the Northeast Maryland Waste Disposal Authority. SCS will locate the facility next to the existing maintenance building, in the southwestern portion of the property. The proposed facility is about 1,300 feet from the nearest house.

The facility will take landfill gas now combusted by the candlestick flare and use methane occurring in the gas to run two generators that will produce electricity. The power generation units will be enclosed in a container to reduce noise. A third unit will maintain adequate pressure, quantity and quality of landfill gas to allow the generator to run at optimal efficiency. The gas collection and recovery system will continue to operate and computerized controllers that manage operation of the ground flare will be integrated into an overall control and data acquisition system that will monitor both the landfill gas combustion and electricity generating systems. The facility will have a transformer that “steps up” generated electricity so that it can be connected into the local PEPCO electric distribution system. The interconnection point is located at the landfill entrance.

The facility will not require daily staffing. A single operator will be responsible for this facility and for a similar facility at the former Gude Landfill in Rockville, the subject of a separate Mandatory Referral review. Two support technicians will also be available, insuring that response time in emergencies does not exceed four hours. SCS has created an online control and data acquisition system that will allow the Gude facility to be operated remotely from the Oaks facility.

A technician will be available at the site one day a week to monitor and inspect the gas collection and recovery system’s equipment.

The Division of Solid Waste Services estimates that landfill gas production is likely to continue for at least 10 years.

ANALYSIS

Master Plan

The 2005 Olney Master Plan shows the former landfill as a proposed park. The Plan recommends that the land be reserved for future recreational needs in the area, and notes that a natural surface trail has been located on the property.

Transportation

The Transportation Planning unit worked with the Division of Solid Waste Services to evaluate trip generation expected to occur when the gas-to-energy facility is operational. The unit agrees that three or fewer peak hour trips will be generated at the facility and that the project need not undergo Local Area Transportation Review or Policy Area Mobility review studies.

Environment

The gas-to-energy facility is exempt from submission requirements of the Forest Conservation Law. Locating the plant behind an existing landfill berm contributes to noise reduction, as does placement of the generator inside a container. The Division of Solid Waste Services has measured noise levels at the site and has estimated the noise impact of operating equipment. It will continue to measure ambient noise at the site and will measure noise levels generated by operating equipment similar to that proposed for the gas-to-energy facility.

The Division of Solid Waste Services has calculated that the facility's generation of electricity from landfill gas will mean a reduction in carbon dioxide emissions, because the facility can offset electricity production by traditional methods. The Division estimates that carbon emissions will be reduced by more than 13,000 tons each year.

Community Outreach

The Division of Solid Waste Services held two public information meetings on the project in April 2008.

CONCLUSION

The Planning Department recommends approval of this proposed project. It continues environmentally beneficial conversion of landfill gas to electricity by the County's government. Staff recommends that the Division of Solid Waste report regularly to neighboring civic and homeowners associations about the facility's operations and work to provide estimates of the length of time it expects the facility to operate. The Department also recommends the additional noise measurements outlined earlier in this report.

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Attachments:

1. Vicinity Map
2. Site Plan

Former Oaks Landfill



