

**Response to the "IT Decision" Questions  
Submitted in Conjunction with River Birch Landfill, Inc.'s  
Application for Renewal and Modification of  
Title V (Part 70) Air Permit**

## **INTRODUCTION**

River Birch Landfill, Inc. ('River Birch') is a fully permitted, Type I and Type II solid waste landfill located on Highway 90 in Jefferson Parish, Louisiana. River Birch has a Title V air quality permit (No. 1340-00223-V1) from the Louisiana Department of Environmental Quality (LDEQ).

The current application (of which this submittal is an integral part) serves as an application to renew the existing Title V permit and an incorporation of hurricane-induced changes and a proposed Landfill Gas To Energy Project. This submittal will address the renewal and the incorporation of the hurricane-related changes and the Landfill Gas To Energy Project.

The Amended Declaration of Emergency and Administrative Order, as amended, required all permitted solid waste facilities to "seek modifications of their existing permits to address any long-term impacts" from accepting waste in the wake of Hurricane Katrina as soon as possible, but no later than the date of the expiration of the Order. Order, Section 2.j.

A permit modification request was granted on October 2, 2006, and includes changes to the air quality permit required as a result of Major Modification No. 7 to River Birch's solid waste permit, the addition of a gas collection and control system, and the addition of several small sources. LDEQ provided an authorization to construct the gas collection and control system on October 28, 2004 (Phases I and II) and March 10, 2005 (Phases III and IV). An IT Response was included with the permit modification request. This Supplemental IT Response should be considered in conjunction with the IT Response included in the request and the original IT Responses submitted with the original permit application.

## **SECTION 523 AND THE 'IT QUESTIONS'**

The 'IT Questions' are made an integral part of the solid waste permit application process through LAC 33:VII.523, which requires that permit applications contain responses to the specific questions in order to facilitate the evaluation of the application. The 'IT Questions' themselves, which are embodied in Section 523, evolve from the Louisiana Constitution of 1974, Art. IX, Sec. 1, and the principles enunciated by the Louisiana Supreme Court in *Save Ourselves, Inc. v. Louisiana Environmental Control Commission*, 452 So. 2d 1152 (La. 1984), as refined by the Court of Appeals, First Circuit, in *Blackett v. Louisiana Department of Environmental Quality*, 506 So. 2d 749 (La. App. 1 Cir. 1987) and *In re: Rubicon*, 95-0108 (La. App. 1 Cir. 2/14/96), 670 So. 2d 475, rehearing denied, 3/29/96.

The secretary of the Louisiana Department of Environmental Quality (LDEQ) has been designated as the primary public trustee of the environment. He must consider and follow the will and intent of the Louisiana Constitution of 1974 in making decisions regarding the environment. La. R.S. 30:2014(A)(4). The secretary fulfills his duty as the primary public trustee, and thereby justifies the discretion afforded him in permit decisions, through the consideration and detailing of three broad issues:

- 1) Have the potential and real adverse environmental effects of the project been avoided to the maximum extent possible;
- 2) Does a cost benefit analysis of the environmental impact costs balanced against the social and economic costs demonstrate that the latter outweighs the former; and
- 3) Are there alternative projects, alternative sites, or mitigating measures which offer more protection to the environment than the proposed project without unduly curtailing non-environmental benefits.

*Rubicon*, 670 So. 2d at p. 483; see also *In re: American Waste and Pollution Control Co.*, 93-3163 (La. 9/15/94) 642 So. 2d 1258, 1266. <sup>1</sup> This submittal will address these three inquiries.

## PRELIMINARY CONSIDERATIONS

Before a discussion of the 'IT Questions' is undertaken, several important preliminary considerations should be noted. As the 'IT Questions' are reviewed, it is suggested that these considerations be kept in mind.

1. River Birch has submitted in-depth responses to the IT Questions as part of its initial Title V permit application and the pending permit modification request. The prior responses to the IT Questions are incorporated herein and made a part hereof by reference.

2. As a result of the hurricane, River Birch has experienced an increase in the rate of waste disposal. Increased waste disposal may create increased air emissions. As a protective measure only and solely to insure that it has sufficient permitted capacity to accommodate any amount of waste sent to it for disposal, River Birch has assumed that it may receive approximately 4.7 million tons of waste per year (for which it has requested a modification to its solid waste permit) and has calculated a gas generation and emission number based on that 'worst-case' amount of waste receipts.

3. It should be noted that assumed level of waste receipt (approximately 4.7 million tons per year or about 13,000 tons per day) may never be realized or may be realized only for short periods of time in emergency situations. However, the assumed level of waste receipt is used to calculate gas generation and potential air emissions. Thus, the air emissions number represents a conservative and 'worst-case' approach, in that the

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<sup>1</sup> Section 523 separates Issue 3 into three distinct inquiries.

maximum level of waste receipt will, in all likelihood, never be realized for a sustained period of time.

4. However, even assuming that the facility receives 4.7 million tons per year effectively immediately, gas generation and air emissions are not expected to peak or reach their maximum potential until the year 2012. Thus, although River Birch will be permitted for an increase in air emissions, gas generation and air emissions are expected to rise at a steady pace, peaking in 2012.

5. Air emissions of landfill gases are or will be controlled by two methods. First, the facility possesses a Landfill Gas Collection and Control System that serves to minimize emissions to the atmosphere. In fact, the system constitutes Maximum Achievable Control Technology (MACT) under all applicable federal and state regulatory standards. Second, the facility has plans to institute a Landfill Gas To Energy Project, upon final approval of the LDEQ. These projects are expected to be operational by 2007. The anticipated emissions from the Landfill Gas To Energy Project are presented in this application. Most of the emissions are due to the proposed 1.6 MW electrical generator that will produce electricity for the compressor and refrigeration system. The initial Landfill Gas to Energy Project will have a capacity to process up to 5 million cubic feet per day of medium Btu (500 Btu/scf) landfill gas (LFG). The generator will burn approximately 20% of the LFG produced by the process unit as its fuel. LFG is a renewable resource. The LFG will be sold to a single customer located approximately one mile from the property. The customer will use the LFG as a fuel in place of natural gas.

6. The air emissions for which the modification is requested represent potential uncontrolled emissions. However, it is important to note that the requested emission increase is submitted in an abundance of caution to account for a potential rise in anticipated volume. Actual emissions result from the volume of waste received. Hence, a lower volume of waste translates to lower gas generation and lower air emissions. Additionally, and it bears repeating, that even if the maximum volume of waste is received today, maximum air emissions will not be realized until 2012.

## ANALYSIS

*1) Have the potential and real adverse environmental effects of the project been avoided to the maximum extent possible?*

Yes, any adverse impacts have been minimized to the maximum extent possible. As stated above, the changes to the air permit involve a 'worst-case' scenario. River Birch already has in place, or will have in place, environmental safeguards that serve to minimize emissions to the atmosphere. The impact of the increase in emissions (which will be gradual in nature and will not peak until 2012) will be reviewed in the context of air quality

### **Air Quality**

The proposed changes should not impact air quality in any appreciable manner as the maximum rate of disposal, which influences the rate of gas generation, may never be

realized. The maximum rate of disposal is proposed, as stated above, in an abundance of caution.

First, the additional volume created by the hurricane has not, at this time, caused an increase above presently permitted levels. Any increase in gas generation will occur gradually over time.

Second, the facility possesses a Landfill Gas Collection and Control System that serves to minimize emissions to the atmosphere. Phases I and II were approved by the LDEQ on October 28, 2004 and are now operational. Phases III and IV were approved by the LDEQ on March 10, 2005. Phase III should be operational in a few months and Phase IV should be operational next year. The system constitutes Maximum Achievable Control Technology (MACT) under all applicable federal and state regulatory standards. In essence, the system collects gas generated by the decomposing waste, thus controlling the amount of air emissions.

Third, the facility has plans to institute a Landfill Gas To Energy Project, upon final approval of the LDEQ. This project should be in place and operational in the latter part of 2007. The gas collected by the Landfill Gas Collection and Control System will be routed to this project. Once operational, the removal of generated landfill emissions as a result of the project will assist in offsetting an increase in emissions as a result of increased waste disposal. The only emissions anticipated from the Landfill Gas To Energy Project will be associated with an electrical generator that will use LFG as its fuel. LFG is a renewable energy source and will replace the dependency on natural gas to generate electricity.

Fourth, River Birch has created and undertaken an extensive odor control program to minimize potential odor emissions from the landfill and the potential migration of odors and emissions into residential areas. After numerous and rigorous evaluations of several odor control technologies, the following programs are currently being utilized to manage and minimize potential odor emissions from River Birch:

- Installation of a high-pressure, perimeter misting system that provides a misting 'curtain' between the landfill and residential properties north of the landfill. The mist contains a non-toxic, odor neutralizing chemical to increase the effectiveness of removing potential odor-causing chemicals from the atmosphere.
- Installation of a vertical-well gas collection within Cells 1-12 (Phases I and II) and within Cells 13-18 (Phases III and IV). This system consists of 60 horizontal collection wells interconnected by a piping system which routes landfill gases to a flare system. Additionally this system collects landfill gases from 23 leachate risers, routing these gases to the flare system.
- Installation of a horizontal gas collection system consisting of eleven collection pipes that collect landfill gases from portions of Phases III and IV. The gases are routed to the flare system. This system was voluntarily installed ahead of NSPS schedule within an area previously identified as a possible source of odors. Today,

the landfill gas collection and control system is meeting the requirements of NSPS WWW for Phase III and is still ahead of schedule for Phase IV.

- Continued implementation of rigorous daily and interim cover programs to minimize odors emanating from the working face and non-active areas.
- Routine monitoring of surface methane emissions, landfill gas wellheads, and leachate riser heads to ensure proper performance of the Landfill Gas Collection and Control System (LFGCCS).
- Installation of a weather station to monitor wind direction, temperature, and precipitation. The weather station provides real-time data used to notify operators of potential odor problems. Meteorological data is electronically downloaded onto a computer for historical comparisons of dates and time when odor complaints are reported.

Additionally, River Birch and Jefferson Parish Landfill cooperate on odor control issues and participate in weekly meetings to exchange ideas and discuss findings regarding each facility's odor control program. River Birch is continually evaluating new technologies and techniques to reduce odor emissions from facility operations.

The projects in place and those to be installed serve to maximize emission reductions and will assist in offsetting any increase in gas generation and thus potential emissions (which are still below permitted levels at this time) caused by an increase in volume of waste.

## **2. Does a Cost/Benefit Analysis Demonstrate that the Social and Economic Benefits of the Facility Outweigh the Environmental Impact Costs?**

Yes, the social and economic benefits of the facility far outweigh any environmental impact costs.

As was seen above, the proposed change is potential in nature, contingent on the actual receipt of the volume of waste used to calculate the emissions. Additionally, installing the Landfill Gas Collection and Control System and the Landfill Gas To Energy Project serves to minimize the potential emissions brought about by an increased rate of disposal. When the potential impact is weighed against the benefits of the existing landfill, it is clear that the social and economic benefits outweigh any such potential cost.

Obviously, the landfill has a profound economic impact. Dr. Timothy Ryan, Dean of the School of Business and Economics at the University of New Orleans, previously provided a report, which is incorporated herein by reference, in which he pointed out that the facility produces over 100 million dollars in primary and secondary spending impacts and state sales taxes.

Further, Dr. Ryan pointed out that the landfill provides hundreds of jobs for local workers. With the advent of increased hours of operation, new employees will be hired for additional shifts, thus providing needed jobs in the post-Hurricane Katrina economy.

The Landfill Gas To Energy Project will utilize a renewal resource that is currently being flared to the atmosphere. By selling medium Btu landfill gas to a single customer located approximately one mile from the property line, the customer's dependency on natural gas as a fuel is reduced by that amount. In turn, the customer will incur considerable savings in purchasing the LFG at a lower \$/million Btu rate than what the customer is currently paying. The sales would also generate a revenue stream for the facility that could be used to compensate for its capital investment and operating and maintenance cost. The only emission impact from the Landfill Gas To Energy Project would be from the proposed 1.6 MW electrical generator to produce enough electricity to operate the compressor and refrigeration system of the gas plant. However, the reduction in emissions from the flare would offset a significant amount of the emissions from the proposed generator.

**3. Are There Alternative Projects Which Would Offer More Protection to the Environment than the Proposed Facility Without Unduly Curtailing Non-environmental Benefits?**

No. There are no alternative projects which would offer more protection to the environment than the proposed facility without unduly curtailing non-environmental benefits.

Here, the proposed changes in air emissions are a direct result of the necessity to respond to the emergency and more efficiently accommodate future anticipated volume. The massive amounts of waste generated by Hurricane Katrina, and the massive demolition and rebuilding effort which has yet to begin, require a change in the volume of waste received at the facility. This inevitably results in an increase in gas generation and air emissions.

One alternative project is to take no action whatsoever. However, this is not a viable option. Although the Declaration of Emergency and Administrative Order, as amended, allow facilities to respond to the emergency, the Order will not be renewed at some point in the future. However, the volume of waste from demolition in the hurricane-affected area will continue to rise. If the air permit is not modified to reflect potential increased emissions caused by the increased demand, there will be no fully permitted Type I and Type II facility available to receive the volume of materials necessary to efficiently handle the volume. Thus, the proposed change insures that River Birch will be able to efficiently handle the anticipated volume of waste.

Regarding the Landfill Gas To Energy Project, there are no alternative projects that would offer more protection to the environment than the proposed project. The reason is that the LFG constitutes the major source of air emissions. By recovering and selling up to 80% of the LFG and burning the rest for electrical generation, River Birch is essentially reducing the current emissions from the flare and the area's dependency on

natural gas as a fuel source. Other recovery methods, such as separating the CO<sub>2</sub> from the methane, would require more energy and, thus, create more emissions from greater electrical generation.

**4. Are There Alternative Sites Which Would Offer More Protection to the Environment than the Proposed Facility Site Without Unduly Curtailing Non-environmental Benefits?**

No, there are no alternative sites that offer more protection to the environment than the proposed expansion site, without unduly curtailing non-environmental benefits.

River Birch is an existing facility.<sup>2</sup> As such, extensive alternative siting analyses have been conducted, submitted, and considered by LDEQ and the courts. By permitting River Birch initially, and approving subsequent expansions, LDEQ has already determined that there are no alternative sites that offer more protection to the environment. By upholding the permits issued by LDEQ, the courts have also indicated that River Birch is the site most suitable for solid waste disposal activity. In terms of siting, nothing has changed since LDEQ's last approval of the facility.

Because the LFG originates from the landfill and the LFG customer is located approximately one mile from the property line, there are no other sites that would be suitable for the plant to operate.

**5. Are There Mitigating Measures Which Would Offer More Protection to the Environment than the Facility as Proposed Without Unduly Curtailing Non-environmental Benefits?**

The mitigating measures to be utilized at the, as set forth in the application for modification, prior permits, and prior applications, either meet or exceed all applicable regulatory requirements. To the extent necessary, they are incorporated herein. The mitigation measures incorporated into the design and operational plans of the facility demonstrates that there are no additional mitigation measures which would offer more protection to the environment than the facility as proposed without unduly curtailing non-environmental benefits. Some, but not all, of the mitigating measures include: the liner system, the leachate collection and treatment system, the SWPPP, landscaping and visual barriers, groundwater monitoring, a gas collection and control system, gas to energy project, zoning, and locational characteristics.

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<sup>2</sup> To the extent necessary, all prior alternative siting analyses and studies are incorporated herein.