

**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
BUREAU OF AIR**

October 2005

Responsiveness Summary for
Public Questions and Comments on the
Construction Permit Application from
Geneva Energy, LLC

Site Identification No.: 031801AAE
Application No.: 05040020

TABLE OF CONTENTS

Introduction.....	2
Description of the Proposed Project	2
Comment Period and Public Hearing	3
Availability of Documents.....	3
Questions and Comments	4
Changes to the Permit	29
For Additional Information.....	30

INTRODUCTION

Geneva Energy, LLC submitted an application to the Illinois EPA Bureau of Air for a construction permit to restart the waste tire-fired power plant located at 1705 Cottage Grove Avenue in Ford Heights, formerly called New Heights Recovery & Power, L.L.C. After review of the application, the Illinois EPA prepared a draft construction permit and held a comment period, with a public hearing, to receive comments on the proposed issuance of the requested permit.

Upon review of comments received during the public comment period and final review of the application, the Illinois EPA has determined that the project meets the standards for issuance of a construction permit. Accordingly, on October 20, 2005, the Illinois Environmental Protection Agency (Illinois EPA) issued a construction permit to Geneva Energy for the restart of the plant.

BACKGROUND

This plant was formerly operated by New Heights Recovery and Power, LLC. Geneva Energy has purchased the plant out of bankruptcy and has applied for a construction permit to resume operation of the waste tire-fired boiler, burning both whole and shredded waste tires as fuel.

The boiler at this plant is designed to burn waste tires as fuel. The boiler is also equipped with supplementary natural gas fired burners to preheat the boiler during startup. The steam produced by the boiler is used to generate up to about 20 megawatts (MW) of electricity. The boiler is rated at a maximum heat input of 240 million Btu per hour, which represents, roughly, a nominal capacity to burn approximately 700 passenger tire equivalents per hour. Shredded tire fuel for the boiler will be produced on-site from whole waste tires using the existing tire shredder.

Good combustion practices are used to minimize emissions of carbon monoxide (CO), volatile organic material (VOM), and other products of incomplete combustion from the boiler. The boiler is also equipped with three add-on air pollution control devices, in series, to control the emissions of pollutants generated by combustion. Emissions of nitrogen oxide (NO_x) are controlled by selective non-catalytic reduction (SNCR) system. A fabric filter or “baghouse” removes ash or particulate matter from the flue gas. Finally, a scrubber removes sulfur dioxide (SO₂) and hydrogen chloride (HCl) from the flue gas, by passing the flue gas through a lime solution, which reacts to absorb and collect these pollutants. The boiler is not a major source of emissions for any pollutant with these required control measures.

This plant was initially permitted and developed by Chewton Glen Energy. In addition to having the waste tire fueled boiler, the plant also had a facility to produce crumb rubber from waste tires. Before the boiler became fully operational and had completed the required emissions testing to demonstrate compliance with applicable requirements, operation stopped due to the repeal of the “Retail Rate Law.” The repeal of this law reduced revenues from the sale of electricity, forcing Chewton Glen into bankruptcy.

KTI, a company involved in waste management, and certain Chewton Glen bondholders then formed New Heights Recovery & Power, LLC, to take over the operation of the plant. In 2000, New Heights was issued a construction permit to resume operation of the waste tire-fired boiler. KTI also developed an additional facility to produce crumb rubber using a cryogenic process.

In early 2004, the plant experienced a major failure with the steam turbine-generator, which prevented generation of electricity and required extensive repair. New Heights went into bankruptcy and the crumb rubber production facilities at the site were dismantled and will no longer be operated. Geneva Energy subsequently purchased the boiler related operation at the plant out of bankruptcy in 2005.

COMMENT PERIOD AND PUBLIC HEARING

The Illinois EPA Bureau of Air evaluates applications and issues permits for sources of emissions. An air permit application must appropriately address compliance with applicable air pollution control laws and regulations before a permit can be issued. Following its initial review of Geneva Energy's application, the Illinois EPA Bureau of Air made a preliminary determination that the project met the standards for issuance of a construction permit and prepared a draft permit for public review and comment.

The public comment period began on July 24, 2005, with the publication of a notice in the Chicago Heights Star. Additional notices were published in this paper on July 31 and August 7, 2005. Additionally, the notice was placed in the Daily Southtown on August 29 and September 05, 2005.

A public hearing was held on September 7, 2005 at the Cottage Grove Middle School, 800 East 14th Street in Ford Heights to receive oral comments and answer questions regarding the application and draft air permit. The comment period closed on October 7, 2005.

AVAILABILITY OF DOCUMENTS

Copies of the final Permit and this Responsiveness Summary are available through the following means:

1. To obtain a printed copy of the documents by mail and free of charge, contact the Illinois EPA by telephone, facsimile or electronic mail:

Illinois EPA
Bradley Frost, Office of Community Relations
217-782-7027 Desk line
217-782-9143 TDD
217-524-5023 Facsimile
brad.frost@epa.state.il.us

2. View the documents at one of the following repositories:

Illinois EPA – Des Plaines Regional Office 9511 West Harrison Des Plaines, IL 847/294-4000	Illinois EPA 1021 North Grand Avenue, East Springfield, IL 62794 217/782-7027
--	--

3. Electronic copies are available by accessing the World Wide Web at www.epa.gov/region5/air/permits/ilonline.htm (look under All Permit Records, State Construction Permit, New).

QUESTIONS AND COMMENTS

General

1. Why did New Heights, the previous owner of this plant, stop operating in January 2004? Did this have anything at all to do with the Illinois EPA?

The plant experienced a major failure of the steam turbine-generator, which prevented generation of electricity and required extensive repair. The Illinois EPA was not involved in the decision to stop operation of the plant.

2. The plant only produces about 20 megawatts of electricity, which is not much for a power plant. Where does this power go?

The electricity from the plant goes to the “grid,” along with the power from other larger power plants for distribution and sale by Commonwealth Edison.

3. Is this boiler using modern “2005” emission control technology?

Yes. The plant uses the modern approach to control of emissions from a solid fuel fired boiler. This approach includes good combustion practices for the boiler to minimize emissions of carbon monoxide, volatile organic material, and other products of incomplete combustion and it also includes add-on control for emissions of particulate matter (baghouse), nitrogen oxides (selective non-catalytic reduction), and sulfur dioxide and other acid gases (scrubber). This is accompanied by continuous monitoring for opacity and continuous emissions monitoring for carbon monoxide, nitrogen oxides and sulfur dioxide.

4. What experience does Geneva Energy have in operating a whole tire combustion facility? Who will be operating the plant?

This is the first power plant owned by Geneva Energy. However, Geneva Energy has contracted with the Wood Group, an engineering firm with international experience, to operate the plant.

5. My understanding is that the major concern for maintaining good combustion in a boiler is consistency in the rate at which fuel is fed into the boiler, so as to maintain stable combustion temperature in the furnace chamber in the boiler.

Consistent fuel feed rate is certainly one factor that is important for maintaining good combustion in a boiler. Also important are maintaining proper flow and distribution of combustion air into the boiler to match the fuel feed rate. For a grate-fired boiler in which fuel is burned on the floor or grate at the bottom of the furnace, like this boiler, it is also important to maintain appropriate coverage of the grate by fuel, without open areas. Primary combustion air, which is blown up through the bottom of the grate, must also be distributed across the grate area to match the loading of fuel on the grate. Finally, it is important to maintain proper functioning of the grate, which is made up a number of separate sections that move to agitate the fuel and move it across the grate, from one side of the boiler to the other.

Geneva Energy has requested the ability to burn whole waste tires to address these other aspects of boiler operation. After reviewing the past operation of the boiler with shredded waste tires, it concluded that burning whole waste tires either alone or with shredded tires would improve the performance of the boiler. When waste tires are shredded, the steel belting in the tires is chopped into pieces. These pieces tend to wedge into the air passages in the grates and the spaces between the grate pieces and accumulate on the grate. Over time, this acts to disrupt even distribution of primary combustion air through the grate and the movement of shredded tire fuel across the grate. Geneva Energy believes that the use of whole waste tires as the primary fuel in the boiler will act to prevent this clogging of the grate, both as the large wires from whole tires are less likely to get snagged and as these large wires should act to move smaller pieces of wire along the grate. After contacting the original boiler vendor to confirm that the boiler was originally designed to burn whole waste tires, Geneva Energy requested authorization to install equipment to deliver whole waste tires to the boiler so that whole waste tires could be burned in the boiler.

6. Burning a given mass of whole tires in the boiler will take longer than burning the same mass of shredded tires. Does the boiler have the ability to compensate for this difference, by slowing down the movement of the grate sections and the velocity of the fuel across the grates?

Grate fired boilers are designed to be able to move fuel across the grate at different velocities. This is necessary for routine operation of a boiler, to adjust for variation in the loading of fuel on the grate, to manage the operating rate of the boiler, and for startup and shutdown of the boiler. As this boiler was designed to use whole waste tires as fuel, Geneva Energy's planned use of whole waste tires, or a mix of whole and shredded tires, should be readily accommodated by the grate system of the boiler

7. Are the whole tires going to be better for the operation of the boiler in terms of getting uniform heat so that the add-on control systems work more effectively, especially the selective noncatalytic reduction (SNCR) system, which requires the flue gas to be in a certain temperature range to be effective?

The form of the tire fuel to the boiler, whole or shredded tire fuel, is not a particular concern for operation of the add-on control equipment, including the SNCR system.

8. It is possible that whole waste tires will burn at a lower temperature in the boiler, which could impact the boiler on several fronts. A lower temperature might create an altered emission profile that the current emissions control devices cannot handle or the Illinois EPA may find unacceptable. More tires may have to be burned in order to reach the target amount of electricity output, so as to increase the tire flow into the plant. This might create more problems in terms of fire risk, threat of disease from mosquitoes, and tire storage constraints if the system breaks down or proves unreliable.

The form of the fuel delivered to the boiler should not have an impact on the operating temperature or emissions profile of the boiler.

9. How does Illinois EPA define the heat content of the following types of tire fuel proposed to be used in the boiler: whole passenger tires, shredded passenger tires, whole truck tires and shredded truck tires?

The heat content of waste tires can range from about 12,000 to 16,000 Btu per pound, higher heating value. There would be no change in the heat content of the tire fuel when comparing shredded and whole waste tires. What affects the heat content of different tires is the amount of steel and fiber reinforcing in the tire, which relates to the particular design of a tire and to a much lesser extent to the amount of wear. As a result, the heat content of waste truck tires would be expected to be somewhat less than the heat content of waste passenger tires.

10. If whole tires can be burned more easily than shredded tires, why does Geneva Energy plan to keep the tire shredder at the plant and retain the ability to burn shredded tires in the boiler?

Geneva Energy has explained that it wants to maintain the flexibility to use both whole tires and shredded tires as fuel. Whole tires do have certain advantages. For example, whole tires would not have to be shredded, and when burned, whole tires should not leave small pieces of wire that can degrade the operation of the grates and require more frequent maintenance. However, shredded tires also have desirable features. For example, fuel can be stored in bulk and fuel can be fed to the boiler in smaller amounts, which is desirable for startup and shutdown of the boiler. The combination of whole and shredded tire fuels enhances the ability for effective operation of the boiler and plant, compared to either fuel by itself.

11. When does the plant do shakedown or cleaning of the baghouse?

The baghouse is cleaned on a “continuous” basis while the unit is in operation. This is done by mechanically cleaning the filter bags in each compartment about every 30 to 60 minutes, while the bags are in place without opening up the compartment. This is possible because the baghouse, which has eight separate compartments, can operate with less than all compartments in service. During cleaning, the exhaust flow through the compartment that is being cleaned is first shut off.

Pulses of compressed air are then blown “backwards” through the bags in the compartment. This dislodges the layer of accumulated dust from the bags. The dislodged dust falls into the hopper at the bottom of the compartment. After the bags in a compartment are cleaned, the compartment is returned to service, and the next compartment is taken out of service for its bags to be cleaned.

This design of the baghouse with multiple compartments also means that individual compartments of the baghouse can be taken out of service for maintenance or repair while the boiler continues to operate and the other compartments of the baghouse control emissions.

12. What happens to the dust collected by the baghouse? Where is it disposed of?

The collection hoppers in the baghouse feed directly into an enclosed material transfer system that take the collected dust to a dust storage silos, from which the dust is directly loaded into trucks for disposal. The dust must be disposed of at a landfill that is properly permitted to handle the ash from the boiler.

13. Is the condition of the baghouse on the boiler something that is inspected regularly?

Geneva Energy must conduct inspections of the baghouse on a regular basis and perform maintenance as needed for proper operation. This is an aspect of good air pollution control practice and is required for all pollution control equipment at the plant.

In addition, the opacity monitoring system on the boiler stack provides continuous information on the condition of the baghouse. This is because opacity, which is the extent to which emissions or smoke blocks the passage of light, is an indicator of the level of particulate matter being emitted from a stack and the effectiveness of the equipment used for control of particulate matter emissions.

14. Is the boiler a high-pressure boiler? If it is, I am concerned about the safety because there are homes near the plant. Would Geneva Energy need any kind of permit to operate a high-pressure boiler?

The boiler is a high-pressure power boiler, producing steam at a pressure of about 1400 psi and a temperature of about 1000 °F. While boiler safety is a concern for the public, it is an even greater concern for the employees at a facility who operate and maintain a boiler and would be at the greatest risk in the event the boiler failed. In Illinois, the operational safety of boilers and pressure vessels is regulated by the Illinois State Fire Marshal, Division of Boiler and Pressure Vessel Safety. It issues permits and oversees regular inspections of these units by certified inspectors. This boiler has been and will continue to be subject to these requirements.

A key to the safe operation of boilers and pressure vessels, which is addressed by both applicable equipment design codes and regulations, is the presence of emergency relief valves. These valves are designed to protect the physical integrity of a unit by opening and safely releasing pressure in a controlled manner if the pressure in the unit exceeds the working level for a unit based on its design and condition. The boiler at this plant has eight main safety valves in

different places that would relieve excess steam pressure. There are also a number of safety valves for the water lines in the boiler.

15. When the plant was initially proposed, the public was told that there would not be any problems with fires because the plant would burn shredded tires. However, there was a fire at the plant, operation of the plant was stopped, and the plant has been sold. Now Geneva Energy and the Illinois EPA are saying there will not be a problem because the plant is going to burn whole waste tires. The local residents should be very concerned about the fire hazard.

The original operation of the plant, which involved operation with shredded tires, was an action that minimized the risk of a tire fire in the stored fuel. However, the Illinois EPA never suggested that this action would be sufficient to eliminate all risk of a tire fire. Indeed, the construction permit for the plant included various requirements for managing shredded tire fuel to address the potential for a fire in the stored shredded tire fuel. This construction permit for the restart of the plant continues to include these requirements.

The Illinois EPA is not aware of any fire at the plant involving the stored shredded tire fuel. The Illinois EPA is aware of a localized fire involving one of the four feed hoppers that introduce fuel into the boiler. The fire was the result of electric power outages that led to a fire working its way back up one of the fuel feed chutes on the boiler. This fire was promptly contained and safely extinguished.

Geneva Energy believes that using whole tires will solve some the operational problems that the previous operator encountered. While whole waste tires may pose a greater concern for storage, because of the potential fire hazard and as breeding areas for disease carrying mosquitoes, these concerns are minimized by the regulations and other requirements that address storage of waste tires at the plant.

16. Why does the plant also have separate diesel oil fired engine generators, in addition to the boiler? How many hours are these generators allowed to operate?

The plant has separate engines to provide an emergency source of electricity for the actual operation of the plant. This is because the boiler has electrically powered pumps, fans and motors, so that a power outage can disrupt operation of the plant.

In addition to being limited to use for the purpose of emergency generation of power, the operation of each engine is limited to 500 hours per year. The permit allows for emissions from each engine for 100 hours independent of the boiler. Any additional operation and emissions of the engines are to be included with the annual emissions from the boiler. Geneva Energy must keep records of the operation of each engine verify compliance with these provisions.

17. How much water does the plant use?

Geneva Energy has indicated that the daily water usage of the plant would be about 60,000 gallons.

18. Will Geneva Energy use the rail line that runs through the area?

Geneva Energy has indicated that it currently has no plans to use this rail line.

Tire Storage/Handling

19. Is there any kind of visual inspection of the waste tires to make sure that they are not coated in dirt?

Geneva Energy has stated that deliveries of waste tires would be inspected to assess their cleanliness and potential for resale. Geneva Energy does not want to handle dirty tires, due to the nuisance factors for its workers. Geneva Energy is prohibited from receiving any wastes material other than waste tires.

20. How many whole tires are allowed on the property?

At this time, Geneva Energy has posted a \$52,500 bond for Financial Assurance under 35 IAC Part 848. This allows the plant to store 500 tons of whole waste tires, pursuant to 35 IAC 848.404. If Geneva Energy posts a higher bond in the future, it would be allowed to store more whole waste tires on site.

21. How many trailers would it take to hold whole tires stored at the plant? How many trailers can they have at the site? Will the trailers be completely enclosed with walls and roofs? Will the doors on the trailers always be locked?

The amount of whole waste tires allowed by the bond posted by Geneva Energy's could be stored in about 20 transport trailers. While some whole tires may be stored in totally enclosed trailers, other tires may be stored in smaller "cages," which are covered, have roofs and wire-mesh sides and are typically used by smaller generators of waste tires or for intermediate storage of waste tires. Pursuant to 35 IAC 848.202(b), tires in cage trailers will have to be managed to prevent any accumulation of water, including (1) emptying tires of any accumulated water upon receipt; and, (2) further processing the tires or covering the trailer within 14 days to prevent accumulation of water. The doors on trailers do not have to be locked since the plant property is fenced and secured, although Geneva Energy may choose to lock the trailers.

22. The draft permit may allow an excessive and dangerous amount of tire fuel to be stored at the plant, as it would allow storage of 20,000 tons of tire fuel. This equates to 3.2 months of fuel if the plant operates at its target capacity. The previous permit allowed for only a 30 day supply of tire fuel to be stored onsite. The Illinois EPA should limit the amounts of waste tires stored on-site to 6,250 tons of shredded tires and 1,350 tons of whole tires. Additionally this volume of whole tires needs to be stored in fully enclosed containers and out of the floodplain. Financial Assurance should also be required in an amount that would fully ensure the proper disposal of the entire permitted amount of tire fuel (both shredded and whole) stored at the site.

The manner in which waste tires would be stored at the plant must also be considered as well as the total amount of tires stored. This permit and 35 IAC Part 848 impose requirements on the storage of waste tires to appropriately address the management of waste tires at the plant. In addition, the previous permit for the plant did not limit the amount of whole tires stored at the plant. Therefore, as this permit for the restart of the plant limits total tire storage at the plant, this permit is more restrictive than the prior permit. In addition, the limits established in this permit do not allow Geneva Energy to store whole tires in excess of the amount authorized pursuant to the Financial Assurance requirements of 35 IAC Part 848. Although this permit “allows” a total of 20,000 tons of tire fuel to be stored at the plant, the amount of whole tires stored is also restricted by the \$52,500 bond that Geneva Energy posted, which restricts whole tire storage to 500 tons. This amount can only be increased if Geneva Energy provides additional financial assurance.

The Illinois EPA does not have the ability to impose requirements for financial assurance related to storage of shredded tire fuel. This is because such requirements would not be supported by regulations that provide implementation of such requirements. This is different than the requirements for Financial Assurance for whole waste tires, which are supported by 35 IAC Part 848. The underlying authority for 35 IAC Part 848 is Section 55.2 of the Environmental Protection Act, which specifically requires financial assurance criteria for facilities engaged in the storage of waste tires.

23. The property does not have the berms that are necessary, in the event of a fire, to adequately protect surrounding properties from the runoff of water and chemicals used to suppress or extinguish the fire.

Geneva Energy is required comply with all applicable requirements of 35 IAC Part 848, including the requirements for the design, construction and maintenance of a system that would control water runoff from the tire storage areas.

24. Does Geneva Energy have to comply with all of 35 IAC Part 848, Management Of Used And Waste Tires, for waste tire storage operations at the plant? The mass storage of whole tires poses a serious health and safety risk in terms of both West Nile Virus and tire fires. The permit should not allow for the mass storage of whole tires.

Geneva Energy must comply with all applicable requirements of 35 IAC Part 848, which regulates the storage and handling of whole waste tires at the plant. However, the requirements of 35 IAC Part 848 are not applicable to the waste tires once shredded, as the used or waste tires that have been shredded and stored at the site, are used as fuel (35 IAC 848.201(f)). The Illinois EPA’s Bureau of Land oversees enforcement of Part 848 and performs inspections of tire storage facilities to ensure compliance.

Copies of 35 IAC Part 848 may be obtained from the Illinois EPA Bureau of Land. Access to 35 IAC Part 848, as well as other State of Illinois environmental regulations, is also directly available at the Pollution Control Board’s web site:

www.ipcb.state.il.us/SLR/IPCBandIEPAEnvironmentalRegulations-Title35.asp

25. Can and will waste tires be stored outdoors or indoors at the plant? What provisions apply to the storage of waste tires outside and indoors at the plant?

Whole tires will be stored inside buildings and outside in enclosed trailers. The construction permit for the plant requires that whole waste tires be stored within enclosed trailers, transport vehicles, or within a building. Shredded tires may be stored outside on a concrete pad at the plant or inside a building.

35 IAC Part 848 has requirements that address the principal environmental concerns posed by waste tire storage facilities. These concerns are the potential for tire fires, the health threats posed by mosquitoes and other disease-bearing pests that can be supported by tire storage piles, and the potential costs for taxpayers from cleanup of abandoned waste tire storage facilities.

Whole waste tires at the plant are subject to the requirements of 35 IAC Part 848, which regulates the manner in which the whole waste tires are stored, including distances from other structures and potential ignition sources. Although shredded tire storage at the plant is not subject to 35 IAC Part 848, pursuant to 35 IAC 848.101, this construction permit limits the amount and the manner in which shredded waste tires will be stored.

In addition, the Illinois EPA is developing revisions to 35 IAC Part 848, which have not yet been submitted to the Pollution Control Board. These revisions would require that whole waste tires be stored inside or otherwise be fully enclosed, as they would make it illegal to allow any waste tire in the State of Illinois to accumulate water.

26. Since the revisions to 35 IAC Part 848 are not yet adopted, would this plant be “grandfathered” and not have to comply with the revised regulations?

No. The proposed revisions do not include provisions to grandfather existing facilities. When the revisions are finalized, all waste tire storage facilities including Geneva Energy will need to comply with the revised regulations.

27. In its application, why did Geneva Energy request that the construction permit refer to applicable requirements of 35 IAC Part 848 and not include separate conditions for management of waste tires?

Geneva Energy requested that the air permit not include provisions for management of whole waste tires, and instead address whole waste tires by reference to 35 IAC Part 848. It is the Illinois EPA’s understanding that Geneva Energy made this request to avoid any inconsistency between the requirements of the air pollution control permit and the requirements of 35 IAC Part 848. Geneva Energy did not request that the construction permit exclude requirements for management of shredded waste tires. Indeed, the issued construction permit continues to address the management of shredded tire fuel at the plant, because this material is not regulated under 35 IAC Part 848. The requirements imposed for shredded tire fuel by the air permit are similar to the requirements under 35 IAC Part 848 for whole waste tires.

28. Has the Illinois EPA Bureau of Land reviewed the way Geneva Energy plans on operating to determine whether it will meet 35 IAC Part 848?

Geneva Energy's plans, including its tire management plan and contingency plan, have been initially approved by the Used Tire Program in the Bureau of Land. This review is separate from the Illinois EPA Bureau of Air review of the construction permit application. Monitoring of implementation is ongoing.

Emissions

29. Do other sources have emissions similar to those of this plant?

There are other sources whose emissions are similar to those of this plant. The most obvious examples of such sources would be existing plants and institutions with coal-fired boilers. However, the amount of emissions from this plant is much lower, given its relatively small size and the air pollution control equipment on the boiler.

30. The application provides information for uncontrolled emission rates from the boiler that seem large. What are these uncontrolled emissions? Would the uncontrolled emission rate be the emissions that occur during start-up of the boiler? How were the uncontrolled emission rates arrived at? Were they based on information that came from the other two waste tire plants, in Modesto, California and Sterling, Connecticut?

These uncontrolled emission rates are "theoretical" levels of pollutants in the ductwork before being reduced by add-on control equipment. These uncontrolled emissions would not occur during startup. This is because the baghouse and scrubber are operational during startup. In addition, the boiler is pre-heated using natural gas to bring it up to normal operating temperature, so that the SNCR system is also operational when tire fuel begins to be fed into the boiler.

These uncontrolled emissions are "back calculated" from the controlled emission rates using the design efficiency of the control equipment. The data in the application for uncontrolled emissions for this boiler is generally data that was originally provided by Zurn, the manufacturer of the boiler.

31. How does the data for uncontrolled emissions figure into the impact on the environment? Is the amount of emissions that could be released into our environment or is this something that will be caught by the baghouse and be disposed of? For instance, would 59.6 tons of hydrogen chloride be allowed to escape the system?

The controlled emissions are the emissions from a plant during normal operation. The emission rate with air pollution control devices is what is used to determine the impact of the source for normal operation would be released to the atmosphere. The uncontrolled emission rate excludes the air pollution control devices. As long as the control system is properly maintained and operated, emissions should be less than or equal to the controlled emission rates in the application. The plant's emission limits are established based on the controlled emission rate.

It should be noted that the add-on pollution control equipment does not control the emissions of CO and VOM, which are minimized by combustion practices. Therefore, for CO and VOM, the uncontrolled emission rates are the same as the controlled emissions. One further clarification is required for emissions of zinc. For zinc the application erroneously provided the controlled emission rates as both controlled and uncontrolled emissions. The uncontrolled emissions for zinc, ignoring the presence of the add-on control, assuming half the zinc in the tires is converted to particulate matter, the uncontrolled emissions of zinc from the boiler are on the order of 500 tons/year, as compared to the 4.9 tons/year of controlled emissions allowed by the permit.

32. Under the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21, the applicability threshold for a major source burning fossil fuel is 250 million Btu. Most industry reports confirm that tire derived fuel contains 14,000 to 16,000 Btu per pound. If the boiler were fired with 17,700 pounds of tire fuel per hour, as the draft permit would allow, this equates to a heat input of between 247.8 and 283.2 million Btu per hour. Geneva Energy has the ability to consistently feed the boiler with over 250 million Btu qualifying the site as a major source. The plant and the use proposed by the Geneva Energy qualify as a major source and, as such, the wrong permit is being sought. In addition, if a major source is allowed to operate under a non-major permit, substantial harm is done to the public.

While the rated capacity of the boiler is less than 250 million Btu or more per hour, as discussed below, the plant would not be a major source even if the capacity of the boiler were over 250 million Btu per hour. This is because the PSD rules do not define a boiler with a capacity of 250 million Btu or more per hour as a major source. Under the PSD rules, whether a source is a major source or not depends on its potential emissions. This plant is clearly not a major source for purposes of PSD because its potential emissions of various pollutants, as limited by permit, are less than 100 tons per year. The capacity of fossil-fuel fired boiler(s) at a plant is relevant under the PSD rules as it may alter the emission threshold for a major source. That is, if the fossil fuel boiler capacity at a plant is less than 250 million Btu, the source might not be considered a major source unless it had the potential to emit 250 tons per year of a pollutant.

The boiler has a maximum designed firing rate of 240 million Btu/hr. The boiler feed rate of 17,700 pound per hour was based on and reflects an average heat content of 13,550 Btu per pound of tire fuel, including steel belting. Although the heat content of the waste tire fuel may vary, the firing rate of the boiler is not allowed to exceed its design capacity of 240 million Btu per hour.

In addition, Geneva Energy applied for a construction permit for a whole tire conveying system, enhancements to the operation of the boiler, and to restart operation of the plant. The plant will not be a major source of emissions, since this permit continues to contain operational and emission limitations that to restrict the plant to below the emission threshold for major sources established by the PSD rules.

33. The Draft Permit Does Not Quantify or Otherwise Limit Emissions of Several Regulated Hazardous Air Pollutants, and Therefore Does Not Provide An Adequate Basis

Avoiding Maximum Achievable Control Technology, therefore the boiler should be subject to 40 CFR 63 Subpart DDDDD.

The draft permit did limit specific HAPs, similar in approach as 40 CFR 63, Subpart DDDDD. The Illinois EPA has targeted specific HAPs that are indicative of normal combustion of industrial boilers, i.e. formaldehyde, hydrogen chloride, and a metal. The limits established for Formaldehyde come from 40 CFR 63, Subpart DDDDD, arsenic was developed from previous stack testing, and hydrogen chloride from the manufacturer of the boiler.

It should be noted that in addition to the above, in the final permit the Illinois EPA has established individual and total HAP limits.

34. Less stringent monitoring is proposed during startup and shutdown of the boiler. The previous permit required monitoring NOx emissions hourly and NOx was not allowed to exceed 38.0 lbs/hr. The Illinois EPA is now proposing not to have NOx monitoring during startup and shutdown, and NOx emissions would instead be monitored on a 24-hr average.

No changes are being made in the requirements for continuous monitoring of emissions from the boiler, which systems must continue to collect emission data for the boiler on a continuous basis. Changes have been made to the permit to provide consistency between the limits set as Best Available Control Technology (BACT) for NO_x, SO₂ and CO, for which continuous emission monitoring is conducted and which apply as a 24-hour average, so that the permitted emissions of the boiler for these pollutants are also limited on a 24-hour average. In addition, the provisions for NO_x and CO emissions during startup and shutdown of the boiler, when natural gas is also fired in the boiler, have been simplified. In particular, the former limit on hourly NO_x emissions during start-up and shutdown of the boiler was based on the maximum firing rate of the natural gas fired supplemental burners in the boiler without control of emissions by the SNCR, as the temperature of the flue gas during startup and shutdown would be below the temperature at which the SNCR would be effective.

35. What is the reason for the higher emission limitations for the boiler, compared to those in the original construction permit issued to Chewton Glen? The PM limitation for the boiler was raised from 26.6 to 26.9 tons per year. The emission limitations for SO₂, CO, NO_x and total hydrocarbons are also higher.

The slight difference in annual emission limitations noted by this comment occurred in 2000, when a construction permit was issued to New Heights Recovery and Power to take over the operation of the plant. The difference reflects a change in how the annual emission limitations for the boiler were set, starting from the same hourly limitations. For example, for particulate matter, the hourly emission limitation underlying both the annual limitation of 26.6 and 26.9 tons is 6.6 pounds per hour. However, the annual limitation for Chewton Glen was calculated based on maximum operation of the boiler 24 hours/day, 7 days/week and 48 weeks per year (or 8064 hours per year), to produce an annual limitation of 26.6 tons. The annual limitation for New Heights was recalculated based on a 93 percent capacity factor for the boiler (or maximum operation of the boiler for 8,147 hours per year, or 24 hours/day, 7 days per week and 48.5 weeks per year) to produce an annual limitation of 26.9 tons. The construction permit now being issued

to Geneva Energy for the restart of the plant continues the approach to the calculation of annual emission limitations in the more recent permit, as issued to New Heights.

36. There are limitations for emissions of arsenic and zinc from the boiler, but no limitations for the emissions of other heavy metals.

The limitations for zinc and arsenic are adequate to address the emissions of metals from the boiler, as these limitations serve to verify that the control train is effectively controlling emissions of metals. Geneva Energy is also required to test the emissions for additional metals, as the applicable USEPA Reference Test Method also provides data for others metals.

37. The draft permit would require emission testing for polycyclic aromatic hydrocarbons (PAHs) but there is not an emission limitation for PAHs.

The effective control of emissions of various organic materials is addressed by limitations on emissions of total hydrocarbons, accompanied by monitoring for emissions of carbon monoxide. Testing of emissions is still required to verify the actual levels of emissions of PAHs.

38. The draft permit has neither emission testing requirements or emission limitations for polychlorinated dioxins and furans. Emission tests at the Modesto Energy facility in California revealed these pollutants in the gas stream. The Illinois EPA has ignored emissions of dioxin/furans during the processing of this construction permit for the restart of the plant. This is important due to dioxin/furan being very toxic, even when emitted at very small rates.

The Illinois EPA has not ignored dioxin/furan emission in the permitting of the restart of this plant. Dioxin/furan emissions were tested during previous emission testing performed at the plant. While these compounds were present, they are present at low levels, as was also shown by testing at the Modesto Energy facility. Accordingly, further emission testing for dioxin/furans has not been required as part of the restart of the plant.

39. Even under the best of operations, there are far too many uncertainties about the amount of dioxin, lead, mercury and other hazardous air pollutants emitted by the combustion of tires, and far too many uncertainties about the health hazards of these emissions.

Combustion of waste tires as fuel in boilers and other appropriately designed combustion equipment is recognized by USEPA as an environmentally acceptable means to dispose of waste tires, which is preferable to landfilling or otherwise stockpiling waste tires.

40. The draft permit would allow compliance with the emission limitations for sulfur dioxide (SO₂) to be determined using 24-hour block averages. Running averages should be used to ensure the most strict compliance with the SO₂ limitations.

The minor difference between block averaging on a 24-hour time frame and rolling averages on a 24-hour time frame does not warrant shifting the compliance time period for SO₂ from a block to a rolling average.

Best Available Control Technology (BACT)

41. This permit is not as protective as the permit for a very similar facility in Sterling, Connecticut, Exeter Energy. In the Exeter permit, there are many more pollutants that are regulated than in the permit for this plant. Most of those things that are regulated are hazardous air pollutants. The permit for the Exeter plant, for example, has emission limits for dioxins and furans, lead, mercury, cadmium oxide, aluminum metal and aluminum oxide, chromium, iron, nickel, and PCBs. This permit requires them to determine the amount of these pollutants in their emissions; however, there are no actual permit limits imposed for these most hazardous air pollutants. This permit is not as protective as this permit could be because it is not equivalent to the permit for the Exeter plant.

While the limits for additional pollutants in the permit for Exeter Energy facility superficially provides a permit that is more protective, the actual benefits of these limits is unclear. This is because that facility, like this plant, does not have specific control equipment that is targeted for those individual pollutants. It also relies on good combustion practices and add-on control for nitrogen oxides, particulate matter, sulfur dioxide, and other acid gases. The effectiveness of these devices can be addressed with limitations on select pollutants.

For example, zinc, while not a hazardous air pollutant, is an appropriate pollutant to address control of metals from the boiler. This is because zinc is specifically added to the rubber formulation in tires and, in the absence of appropriate controls for particulate matter emissions, would be emitted in relatively large amounts. As a consequence, measurement for zinc can be readily used to confirm the efficiency of the control train on the boiler for control of metals.

42. The draft permit would not be as protective for the community as the construction permit issued in 1999. One of the primary protections for the community is the provision in the permit for an Automatic Tire Feed Cutoff System (ATFCS). Under the 1999 permit, the trigger levels for this system were set at much more sensitive levels than they would be under this new permit. Under this permit, the boiler would be able to operate longer without complying with some of the operational and emission requirements that are imposed on it without that fuel feed being automatically cut off. That is a step backward. Changes to these trigger levels include shifting various trigger levels for the ATFCS to a 60-minute average rather than a 15-minute block average, shifting the trigger level for scrubbing flow to 2,800 rather than 4,500 gallons per minute, and shifting the trigger level for oxygen in the flue gas to 3.0 percent, rather than 7.0 percent.

The trigger levels for the ATFCS are being adjusted based on the operating experience with the boiler. Certain trigger levels for the ATFCS in the original permit may have contributed to difficulties with the historic operation with the boiler. While the ATFCS is a protection if the boiler or its control equipment is malfunctioning, it can be counterproductive if it interferes with

and disrupts operation of the boiler. With this in mind, the ability to adjust the trigger levels for the ATFCS was contemplated and specifically provided for as part of the original permit for the boiler.

In particular, the excess oxygen level in the exhaust gas required by the ATFCS in the original construction permit may have required the boiler to be operated in a regime where management of the airflow in the boiler was made more difficult than necessary, contributing to operational problems. It is significant that the permit for Exeter Energy, which was cited in other comments as a comparison to this plant, only requires a minimum of 3.0 percent oxygen in the flue gas and does not require an ATFCS. This construction permit adjusts the trigger level for the oxygen level for the ATFCS to 3.0 percent, the same level required of Exeter Energy.

Similarly, having various trigger levels for the ATFCS apply on a 15-minute average can trigger automatic tire feed cutoffs in circumstances where the proper operation of the boiler had already been reestablished. The longer averaging times for certain ATFCS triggers assures that operational control of the boiler has been lost when the ATFCS is triggered, so as to warrant the disruption in operation of the boiler that accompanies such an event.

Finally, Geneva Energy requested a change in the ATFC trigger level for scrubbant flow, since the previous trigger level was not based on a malfunction of the scrubber but instead reflected design data for the scrubber. A lower ATFCS trigger for scrubbant flow is still effective for identifying a failure of the scrubber. However, it does not require an interruption in operation of the boiler during a period of lower scrubbant flow if the boiler is still operating in compliance, as would occur during moderate or low load when the full design scrubbant flow is not required for compliance. With the trigger for the ATFCS for scrubbant flow set at 2,800 gallons per minute, the trigger levels for this ATFCS event relates to the scrubbant pumps' flow rate appropriate for such lower loads. In this regard, Geneva Energy did not request a change in the related ATFCS trigger for SO₂ concentration, 80 ppm, which is also monitored and directly relates to compliance.

43. The draft permit would not limit particulate matter emissions to a level that reflects the use of BACT. A baghouse is capable of reducing particulate emissions below 0.015 gr/dscf. A number of states have restricted particulate matter emissions from waste combustion facilities to 0.010 gr/dscf.

While the testing of the boiler has demonstrated achievement of a particulate matter emission rate that is less than 0.010 gr/dscf, the issuance of this permit to restart the plant does not provide an opportunity to revisit the BACT determination that was made for the boiler prior to its construction.

44. The draft permit would limit carbon monoxide (CO) concentrations to 200 ppm. Waste fired boilers have demonstrated the ability to meet CO levels of 50 ppm.

The trigger level for the ATFCS for CO, which is intended to require cutoff of tire feed in the event of a complete loss of good combustion practices, is set at 200 ppm, hourly average. However, as set prior to construction, the BACT limit for CO emissions from the boiler, which applies on a 24-hour average, is 0.1 lb/million Btu, which is equivalent to about 75 ppm.

45. The determination of Best Available Control Technology (BACT) is supposed to get more stringent over time.

This is true in a broad sense as applied to proposed projects over time, but is not correct as applied to a particular emission unit. As applied to a particular emission unit, the underlying intent of BACT is that stringent limits are set for the proposed unit prior to construction, so that those limits will be adequate for the life of the unit and will not have to be revised later.

46. The Illinois EPA took the original BACT determination for the boiler and simply plugged it into the permit for the restart of the plant. The Illinois EPA did not determine whether or not this plant actually meets 2005 BACT. There should be a new BACT determination for this plant just as there has to be a new construction permit for this plant.

This is not a new boiler and this is not a construction permit for a new boiler. This is a construction permit for restart of a boiler that is already constructed and has operated. These circumstances do not provide a basis to revisit the BACT determination originally made for the boiler. In addition, Geneva Energy has not requested any changes to the BACT requirements originally established for the boiler.

47. There should be a new BACT determination for this plant. The primary reason for this is because the weighing of factors includes good combustion practice and these practices are going to be dependent on the fact that the boiler burns whole tires, not shredded tires. This will be a fundamental change in the way this boiler is operated.

As already explained, the use of whole tires is not a fundamental change to the operation of the boiler, which was always designed to burn whole tires. It is also a step that should improve the performance of the boiler compared to current requirements. It is certainly not a change that requires BACT to be revisited now, either to set higher or lower emission limits for the boiler.

Modeling/Health Effects

48. In terms of the health of the public, what degree of safety is there involved in the amount of emissions from the plant?

Before directly responding to this question, it is important to acknowledge that consideration of safety or risk is matter of judgment. In the opinion of the Illinois EPA, the emissions from the plant do not pose a particular hazard or risk for public health, so that the public is protected with a fair degree of safety. This boiler is specifically designed to burn waste tires. The boiler is an enclosed combustion device designed to maintain high temperature with sufficient air for effective combustion. It is equipped with appropriate control devices to address the emissions of pollutants generated by the combustion process. With these control measures and the elevated stack, the emissions of the plant when considered by themselves do not have a significant impacts on air quality in the immediate vicinity of the plant.

The plant is one of the many sources that contributes incrementally to air quality in the greater Chicago area. In this regard, one should recognize the variety of initiatives that are underway both locally and nationally to improve air quality by reducing emissions from existing sources whose emissions can be more effectively controlled. For example, there is a federal regulatory initiative underway that lowers the sulfur content of diesel fuel, to reduce the emissions from all the buses, trucks, and other vehicles powered by diesel engines. As this initiative targets vehicle emissions, which occur at ground level, it is far more significant as it benefits public health than the impacts of the emissions of this plant with its elevated stack. These various initiatives and developments that improve air quality overshadow the emissions from this plant.

At the same time, the proper management of the waste tire fuel at this plant is clearly a concern. It is very important that the plant comply with applicable regulations and requirements, as well as undertake other appropriate actions, so that the potential for a fire is minimized; and that if a fire does occur, personnel at the plant, local firefighters, and the representatives of local communities are able to promptly and correctly respond to it.

49. There should be new modeling of plant emissions. The modeling should gauge how air emissions from this plant for the full range of pollutants, including hazardous air pollutants, are going to affect the communities within a few miles of the plant. The issuance of the permit is not warranted unless and until modeling studies show acceptable emissions profiles.

The Illinois EPA has reviewed the dispersion modeling previously conducted for the plant, which indicates that the emissions from the boiler would not have a significant impact on air quality for various air pollutants, including hazardous air pollutants. This modeling is adequate to address the impacts of the boiler, since permitted emissions are not changing.

50. The draft permit would allow the plant to burn whole tires. This is a new type of fuel for the boiler. This fuel source may alter a variety of critical parameters during the combustion of the tire fuel including the temperature it combusts at, boiler efficiency and emissions generated. A study needs to be performed to confirm what the emissions profile will be. The study should address the emission profile from a variety of whole and shredded tire mixes.

The form of the waste tire fuel to the boiler should not impact the operation of the boiler as suggested by this comment, since whole tires and shredded tires are both waste tires. It certainly will not effect the operation of the boiler so as to allow different emissions profiles to be created, as suggested by this comment.

51. Do the ambient air quality standards in Illinois take into account that children's health is often more affected by pollution than the health of adults?

Children's health is considered by USEPA when establishing ambient air quality standards. In general, these standards are established to protect sensitive populations, including children, as well as the elderly and individuals suffering from respiratory disease. If the standards were simply set to protect the health of adults, they would not be as stringent.

52. What would happen then to the health of the children who live near this plant if there was a big tire fire?

The health of children and other nearby residents should not be affected by a major tire fire. The plant must maintain a contingency plan working with the local fire departments and emergency responders. To protect children and others living near the plant in the unfortunate event that a major tire fire occurred, nearby residents would be required to temporarily evacuate the area and others living downwind in the area would be requested to evacuate or stay indoors.

53. The asthma rate in Ford Heights went up 100 percent because of this plant. The hospitals were full of asthma patients.

Any changes in the asthma rates in Ford Heights should not simply be attributed to the operation of the plant. Asthma rates are rising across the country. While the exact causes of this increase are not known, changes in lifestyle, the design of homes and schools, and a variety of other factors are suspected causes. This increase can also be attributed to increased awareness of asthma, with better identification of asthmatic individuals and more care given to medical treatment of asthma. However, air quality cannot be held accountable for the increase in asthma rates because air quality has been improving during this same period.

54. Has the Illinois EPA conducted a study concerning the rates of asthma, ovarian cancer rate or prostate cancer in Ford Heights?

The Illinois EPA does not conduct public health studies as part of the air pollution control permitting process. There are several reasons for this. One reason is that permitting is conducted using the ambient air quality standards as the appropriate reference point to protect the public from the health effects of air pollution. Another key reason is that public health studies for small populations and short periods of time cannot be related back to the emissions of individual sources. In any case, the statistical data collected by the Cook County Department of Public Health in the period from 2000 to 2002 suggests that residents of Ford Heights have similar or lower rates of cancer and chronic obstructive lung disease than the residents of the Suburban Cook County area.

55. Why doesn't the Illinois EPA have information on the prevailing wind directions in the vicinity of the plant?

Information on "prevailing wind direction" is not maintained by the Illinois EPA because analyses of air quality impacts, which are performed with computerized dispersion modeling, use detailed meteorological data compiled by the National Weather Service. These analyses address the complete range of wind direction, wind speed, and mixing conditions in an area, not just the impacts during the so-called prevailing winds.

Environmental Justice

56. The Illinois EPA should analyze the environmental justice implications of the proposed permit. This analysis must be conducted by the Illinois EPA prior to making a final decision on issuance of the permit as, when the plant was previously in operation, it had a substantial, adverse, and disproportionate impact on a minority population. Specifically, there was a pattern of noncompliance during the previous operation of the plant; there are emissions of hazardous air pollutants, which are not subject to limitations; there is not a more protective up-to-date BACT determination; and, there is not modeling of actual plant impacts.

The Illinois EPA acknowledges that the community near the plant has a higher than statewide average of minority and low-income individuals. Contrary to the comment, the permit was drafted to be protective of public health and environment, with considerations given to the area in which the plant will be located. Furthermore, air quality impact modeling and analysis demonstrates that emissions from the plant do not indicate any apparent adverse air quality impacts from plant emissions. The specific comments used to support the allegation of a substantial, adverse, and disproportionate impact on a minority population have been specifically addressed in detail elsewhere in the responsiveness summary.

The permitting and regulation of this plant demonstrate Illinois EPA's commitment to tightly regulating the source. Under Illinois law, the boiler is subject to BACT, even though the plant is not a major source and BACT would not be required under federal law. The permit for restart of the plant retains the limitations originally established for the boiler on appropriate pollutants to assure that the emissions from the boiler are effectively controlled. The permit for the restart of the boiler also authorizes changes to the operation of the plant that are expected to improve the performance of the boiler with respect to those limitations. The permit also requires thorough testing of emissions of the boiler following restart of the plant to confirm proper operation. To further oversee operation of the boiler, the permit includes additional requirements for periodic testing of emissions of particulate matter, hydrogen chloride and metals during the period before a Clean Air Act Permit Program (CAAPP) Permit is processed and issued for the plant. Lastly, the permit requires the use of a bag leak detection system on the baghouse controlling particulate matter emissions from the boiler. This will provide additional operational information for the baghouse to confirm proper functioning and to assure that plant personnel to undertake timely maintenance.

With respect to management of waste tires, the management of whole waste tires is specifically addressed in Illinois by 35 IAC Part 848. This permit retains the requirements original established for the management of shredded tires at the plant, which effectively require that Geneva Energy manage shredded waste tires in the same manner as whole waste tires.

57. This is a very poor area that already suffers from many of society's ills. Please do not add more pollution.

The Illinois EPA does not have the authority to determine the location of any emission source. Local land use planning and zoning authority determine where industrial, commercial, and residential development occurs in an area.

Local Siting Approval

58. Are waste tires burned at this plant considered fuel or waste?

Depending on the circumstances, waste tires can be treated as either solid waste or fuel or, in some cases, as both fuel and solid waste. As waste tires are burned in the boiler at this plant, the material is considered a fuel for purposes of air pollution control. As tire material is received and stored at the plant, the material is considered waste for purposes of managing waste. This is why the handling and storage of the tires are subject to 35 IAC Part 848.

59. When this plant was proposed, it was not subject to local siting approval by the Village of Ford Heights because the plant was to be a power plant. Now that Geneva Energy is planning to use whole tires, which are a solid waste, the plant should have to obtain local siting approval as a pollution control facility.

The use of whole waste tires as fuel in the boiler does not trigger a requirement for local siting approval for the plant. Whether local siting approval is required hinges on whether the use of whole waste tires would make the plant a “pollution control facility.” In fact, the use of whole tires in the boiler does not change the status of the plant.

The definition of a pollution control facility, not whether the tire material is or is not a waste, determines whether a waste tire storage facility is subject to local siting approval. The definition of a pollution control facility specifically exempts facilities “...used for the collection, storage or processing of waste tires...” from being pollution control facilities (Section 3.32(a)(9) of the Environmental Protection Act). Accordingly, the plant’s status with respect to local siting approval is not affected by whether waste tires are handled whole or shredded. Moreover, while the plant previously did not burn whole tires in the boiler, it did previously handle whole waste tires, receiving whole waste tires, storing whole tires in trailers at the site, and diverting some whole tires from processing at the site for potential sale and use on vehicles.

60. Does the number of waste tires at a proposed waste tire storage facility or how close it would be to a residential area affect whether the facility would be subject local siting approval under state law, as well as appropriate zoning and other local requirements?

The size and location of a proposed waste tire storage facility would not change the status of the facility under current law for local siting approval. Such a facility would still be subject to applicable reviews and approvals from the Illinois EPA, such as the air pollution control permit and Bureau of Land review that this plant is obtaining prior to resuming operations. Zoning and other such questions should be directed to local officials.

61. Does the Illinois EPA assume that there are no risks involved with this plant since it is not defined as a pollution control facility?

The Illinois EPA fully understands that there are environmental risks involved in the storage of waste tires. This is why this construction permit and the previous permits for the plant include

requirements that restrict the storage of shredded tire fuel, which is outside the coverage of 35 IAC Part 848. This is also why the Illinois EPA administers a used tire management program for waste tire storage facilities in Illinois, including this plant, and why 35 IAC Part 848 was originally adopted.

More generally, the existence or nature of the risks associated with a proposed facility is not related to whether the facility qualifies as a pollution control facility. Similarly, the existence or nature of the risks associated with a proposed facility is not a relevant factor in determining whether a proposed facility should be considered a pollution control facility under Illinois law.

62. Why was Ford Heights picked to be the location of this plant?

The role of the Illinois EPA is to review proposals and assure that they comply with applicable requirements and that they are properly controlled. The Illinois EPA does not select the sites of sources and does not know why Ford Heights was selected as the site for this plant.

63. The plant is close to the residents and the school. Has the Illinois EPA measured how close this plant is to schools, day-care centers and residential areas and what is the standard safe distance from those areas?

The Illinois EPA protects air quality at the point of maximum impact, be that a school, a home, a park or industrial facility. The applicable ambient air quality standards do not change based on the nature of the land-use at the point of impact. Effectively, dispersion modeling is conducted as if there is a day-care center, or a school or a retirement home located at the point of maximum impact, irrespective of the actual activities at that point. The specific distance has not been measured.

Enforcement

64. When this plant operated before, Illinois EPA inspectors were out here a couple times a month. This is because the boiler violated its permit hundreds of times during the three years that it operated. Virtually every meaningful permit term and condition that was contained in that construction permit was violated. What is going to be different for the boiler, that it will not have the same violations?

It is important to recognize that the boiler operated in compliance for the vast majority of time that it operated. Because multiple operating parameters of the boiler and the emissions of multiple pollutants from the boiler are separately limited, a violation does not mean that the boiler operated without any control of emissions. Violations typically involved a single pollutant and/or the associated operating limitation related to that pollutant, for a limited duration while the boiler complied with other requirements. Reductions in the frequency of noncompliance also occurred over time, as various improvements were made to the features of the boiler and the operating procedures for the boiler. Geneva Energy now has requested authorization for two further changes in the operation of the boiler, i.e., the ability to use whole tires and adjustments

to the trigger levels for the automatic tire feed cutoff system, that should further improve the performance record of the boiler.

65. If burning shredded waste tires contributed to the historic operational problems with the boiler and therefore the previous compliance problems, why is Geneva Energy asking for permission to continue to combust shredded tires as well at its convenience?

As explained above, the boiler can and did routinely operate in compliance while burning shredded tires. As such the Illinois EPA does not have a basis to deny Geneva Energy's request to operate the boiler with both whole and shredded waste tires, which it has explained is desirable for operational flexibility.

66. How often will the Illinois EPA inspect this plant?

The frequency of inspection will depend on the successful operation of the plant. In 2003, Illinois EPA Bureau of Air inspectors were at the plant approximately every other month. Prior to that when the plant had been having operational difficulties; BOA inspectors were at the plant several times a month. The Illinois EPA's Bureau of Land Used Tire Program will also perform inspections of the tire management at the plant at least once every three months. If the inspector(s) has any problems or concerns the inspections may become more frequent as needed to address these issues.

67. The Illinois EPA lacks the funding and manpower to conduct proper surveillance of pollution sources.

The Illinois EPA's funding and manpower is adequate for the surveillance of significant sources.

68. Does the Illinois EPA have a remote monitoring device at one of its offices to monitor the plant?

The Illinois EPA does not have remote access to monitoring information for the plant. The Illinois EPA reviews collected monitoring data on a periodic basis.

69. How many violations will the plant be allowed to have within a month or a time allowed period before it is shut down?

If any violations occur at this plant, each violation will be looked at on a case-by-case basis with emphasis on correcting any problems that may have occurred. The Illinois EPA does not set a limit on the number of violations, but instead reviews each violation and its severity and cause before determining corrective actions that need to be made.

70. In the past, the plant was not run properly. The public has no assurance that it is going to be better with Geneva Energy.

Geneva Energy will be making a number of improvements and enhancements that should improve the overall performance of the plant.

71. Every night when the plant was operating, you could smell an odor in the air from the plant. Will I be able to smell emissions coming from this plant in the future?

You should not be able to smell emissions coming from the plant. If you are affected by an noxious odor coming from the plant in the future, please immediately notify Geneva Energy and the Illinois EPA, so as to allow an investigation to be initiated and corrective action to be undertaken at the plant if it is responsible.

72. The emissions that come out of the stack come down in Ford Heights and people have to wash their cars sometimes three times a day. People's gardens are also affected.

Problems with dust accumulations on cars are most commonly associated with traffic on unpaved parking lots and poorly maintained roads and from agricultural activity. There are also much more likely causes for people having problems with their gardens than this plant.

73. The trucks coming in and out of the plant carried debris into the street causing the street in front of the plant to become dirty and slick every time there was rain or snow.

If this is observed in the future, please notify Geneva Energy and the Illinois EPA. Under applicable air pollution control regulations, Geneva Energy must implement a program to reduce and control road dust at the plant. This program would also serve to prevent the carry out of road dust and debris from the plant onto public roadways. The conditions identified in this comment would indicate inadequacy of the current fugitive dust program and the need for amendment or failure to implement some aspect of the program. In either case, investigation and corrective action are required.

74. Does the Illinois EPA have the authority to close a facility that is causing public health issues?

Under Section 43 of the Environmental Protection Act, the Illinois EPA has the authority to request that the prosecutorial authority seek an immediate injunction to halt any discharge or any other activity causing or contributing to danger in circumstance of substantial danger to the environment or to the public health of persons.

Other General Questions

75. When the plant was operating before, I saw rats at the plant. Will the plant do anything to control rodents?

The Illinois EPA is not aware of any problems with rodents during the past operations of the plant. If there is a problem with rodents in the future, it should be reported to Geneva Energy, the Illinois EPA, and the local public health department, so that corrective actions can be taken and independently confirmed.

76. There are more sensible uses for waste tires than burning them for fuel. For example, there is demonstrated effectiveness of the addition of crumb rubber to improve asphalt road paving. There is progress in the recovery of ingredients from discarded tires and their reuse in new rubber products. Also, strides are continually being made in the production of more durable tires with longer lives. These developments hold the promise of reducing the need for to burn waste tires.

As this comment states, there are options for recycling waste tires into new products, such as rubber matting, ground cover for playgrounds, and use as an additive in asphalt paving. However, these options currently are not sufficient to dispose of all of the waste tires that are being generated. Since waste tires have a heat content approaching that of fuel oil, they are certainly a viable fuel in a large boiler. In addition, it is much preferred to promptly dispose of waste tires as fuel, rather than allowing them to continue to accumulate in storage piles, where they pose an ongoing risk to public health and welfare.

Relationship to the Village of Ford Heights

77. What are the economic advantages and benefits for the Village of Ford Heights in having this plant start back up?

Geneva Energy has stated that the most direct economic advantage to the Village is that the plant will significantly contribute to the Village's tax base. It would likely be the largest taxpayer in the Village, significantly increasing the Village's income from real estate taxes. It would also likely be the largest water customer of the Village; the largest business in the Village; and the largest employer in the Village, providing jobs to individuals within the community and also nearby communities."

The economic advantages from a plant do not factor into the Illinois EPA's permitting decisions, which are based on the environmental aspects of a plant.

78. Has Geneva Energy asked for tax abatement from the Village of Ford Heights?

Geneva Energy has stated that it is not asking for any subsidies, including tax abatement, from the Village of Ford Heights.

79. Is Geneva Energy going to pay the water bills that the former owner of the plant, New Heights did not pay?

Geneva Energy has stated that the unpaid water bills were the responsibility of the former owner of the plant, were discharged in bankruptcy court and would not be paid by Geneva Energy. Geneva Energy will pay for the water that it uses at the plant.

80. There is a very real possibility that a fire could be set accidentally or by vandals. The police and fire departments in Ford Heights are not prepared to provide the security to prevent vandalism or to fight fires at the plant.

Geneva Energy has the primary responsibility for security at the plant and must take appropriate steps to secure the site. Geneva Energy has discussed its Tire Storage Plans and Contingency Plans with the Village of Ford Heights and is working in conjunction with local fire departments and the Illinois EPA Used Tire Program to store waste tires safely and to be prepared to properly respond in the event of an emergency situation. To this end, Geneva Energy has invited firefighters from the Village and neighboring communities to participate in on-site drills, as well as training for plant personnel.

81. Is Geneva Energy going to buy the Village of Ford Heights new fire fighting equipment?

Geneva Energy has stated that it hopes the various tax revenues generated from the re-opening of the plant will be used to improve the community, whether through the purchase of new fire equipment by the Village or improvements at the local schools.

82. How many jobs will be filled by local residents? What is the hiring process to obtain employment with the plant? Will employees to technical positions have to have technical backgrounds and if so will Geneva Energy provide training to local residents so that they can be hired for technical positions at the plant?

Geneva Energy has stated that it must hire qualified personnel to operate the plant, which means skilled and experienced personnel are needed for many positions. If local residents have the qualifications and positions are available, Geneva Energy will give local residents consideration for employment. To that end, Geneva Energy stated that it placed employment advertisements in the Chicago Tribune, on the Internet and with the Village of Ford Heights. It has hired 16 people from southern Cook County. It is in the process of providing technical training to these personnel.

83. Will Geneva Energy hire women to prominent positions at the plant?

Geneva Energy has stated that it has a strict policy of nondiscrimination, with women working at the plant in both administrative and technical jobs.

84. What fire protection plan does Geneva Energy have? If there is a fire at the plant, does the Village of Ford Heights have enough equipment and water pressure to put out the fire? Will Ford Heights call the surrounding villages for help?

Geneva Energy has an internal water protection system that is not dependent on the Village water system, with a 500,000-gallon water storage tank on site. This tank connects to a fire hydrant loop consisting of 18 hydrants throughout the site with 12 hydrants around the outside storage area. Geneva Energy also has a three-tiered fire pump system in place to help fight any fire at the plant. If electric power to the plant is interrupted, the emergency diesel engine generators can supply electricity to the fire pumps. Finally, if these units are unavailable, there is a reserve diesel engine driven fire pump.

It is the Illinois EPA's understanding that in the event were a fire at the plant, firefighters from South Chicago Heights, the Village of Ford Heights and other surrounding communities would respond as a matter of normal routine.

85. When the plant previously operated, the water pressure in the Village of Ford Heights was affected negatively.

The operation of the plant should not affect the water pressure in the Village. Geneva Energy should be able to manage the timing and amount of water withdrawals to avoid placing stress on the water supply system. Geneva Energy has also stated that is investigating improvements at the plant to reduce water consumption through water re-use projects.

86. I hope that nearby residents have chances to tour the plant, so that they can learn more about the plant.

Geneva Energy stated that it hopes to develop opportunities for members of the community to visit the plant once the plant is operational and the safety measures needed for site visits by the public have been developed and implemented.

87. Has Geneva Energy established a board of community members to monitor what goes on at the plant? Does it have a host agreement with the Village of Ford Heights?

Geneva Energy plans on making a presentation to the Ford Heights Planning Board. Geneva Energy also plans on joining the regional community action participation group that meets in the area. Geneva Energy has stated that it would continue to expand its community contact. Also Geneva Energy has met with local community leaders regularly to discuss how the facility can work with and help the local community. Geneva Energy currently does not have a host agreement with the Village of Ford Heights.

88. What other communities have a plant like this, located very close to schools and residents?

There are several electric generating facilities and other types of manufacturing facilities in Illinois located in or near residential areas. There are emissions of regulated pollutants from these facilities that are permitted by the Illinois EPA.

89. Have there been studies done on the Exeter Energy facility in Connecticut to evaluate the impacts from long-term exposure to emissions?

This question should be directed to the Connecticut Department of Environmental Protection.

Public Involvement

90. The community was not notified of the public hearing until the day of the hearing. If the Illinois EPA wants community participation in the hearing, the community should have been notified at least a week earlier.

The Illinois EPA provided notice of the comment period and public hearing well in advance of the hearing on September 7. Advertisements announcing the hearing were published in the Chicago Heights Star on July 24, 31, and August 7, 2005. Advertisements also ran in the Daily Southtown on August 29 and September 5, 2005. Notices were also sent directly to local elected officials, people who have asked to be on the Illinois EPA's list to be notified of comment periods and hearings on draft permits, and people who attended the last public hearing concerning this plant.

91. What difference does tonight's public hearing make? Is this already a final deal?

The proposed permit during the public hearing process is for public review and comment prior to any final decision on the proposed permit. Comments received during the hearing and public comment period are reviewed and given consideration prior to a final permit decision

92. Is there a toll-free phone number for people to submit complaints to the Illinois EPA?

Yes. Complaints can be made on the Illinois EPA's toll-free Environmental Helpline, 1-888-372-1996. Complaints may also be submitted online at <http://www.epa.state.il.us/pollution-complaint/>. Finally, complaints may be directed to the Illinois EPA's Regional Office for the greater Chicago area, by telephone at 847/294-4000, or in writing to:

Illinois EPA – Bureau of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

93. Are public complaints taken seriously, or are they just dismissed?

The Illinois EPA takes all pollution complaints seriously and investigates pollution complaints.

CHANGES BETWEEN THE ISSUED PERMIT AND THE DRAFT PERMIT

Condition 1.2.1 and Attachment 2: This condition addressing the federal Acid Rain Program now references the application for an Acid Rain Permit submitted by Geneva Energy, rather than an issued Acid Rain Permit. Until action is taken on this application, it is binding on and governs Geneva Energy, requiring that it comply with applicable requirement of the Acid Rain Program. A copy of this application is included as Attachment 2 of the permit.

Conditions 1.3.1 and 1.5(b): Additional requirements are placed on the plant generally addressing emissions of individual and combined hazardous air pollutants (HAPs), to further confirm that the plant is not a major source of emissions for HAPs.

Condition 2.1.6-1: The limitations on arsenic emissions from the boiler are set at 0.02 lb/hr and 0.082 tons/yr, rather than 0.25 lb/hr and 1.03 tons/year.

Condition 2.1.7(a)(ii) and (iii): In this condition for emission testing of the boiler, additional provisions for “periodic” emissions testing of the boiler are imposed to address the period until a Clean Air Act Permit Program (CAAPP) permit is issued for the plant. Additional testing for emissions of particulate matter, hydrogen chloride, and metals is required approximately one year after the initial comprehensive emission tests required as part of the resumption of operation of the plant. Thereafter, testing for these pollutants must be conducted in either approximately one year or two years, depending upon whether the particulate matter emissions from the preceding test are more than or less than half the applicable BACT limit.

Condition 2.1.8(f): A condition has been added to the monitoring requirements for the boiler requiring installation and use of a Bag Leak Detection System on the baghouse.

Condition 2.2.5(a): This condition addressing storage of whole tires at the facility has been developed to allow storage of tires in moveable “cages,” as well as transport trailers.

Condition 2.2.10: Requirements for reporting of fires at the plant, other than fires that are part of on-site fire fighting training, have been further developed with requirements for immediate notification of a fire followed by prompt submittal of a detailed written report.

Conditions 2.4.2 and 2.4.5 and Attachment 1: These conditions for engines at the plant now also address the smaller diesel engine that powers one of the emergency water pumps at the plant that is part of the fire protection system. This change has also resulted in a revision to Attachment 1, which summarizes the plant’s permitted emissions.

FOR ADDITIONAL INFORMATION

Questions about the public comment period and permit decision should be directed to:

Bradley Frost, Community Relations Coordinator
Illinois Environmental Protection Agency
Office of Community Relations
1021 North Grand Avenue, East
P.O. Box 19506
Springfield, Illinois 62794-9506

217-782-7027 Desk line
217-782-9143 TDD
217-524-5023 Facsimile

brad.frost@epa.state.il.us