

Attachment 1

August Public hearings Sessions-
Translations including the List of the
Speakers, dated August 25, 2012, 1-4 PM,
AR IX.2 (pages 1-2, 13-19, and 89-94 only)

Public Hearing - PSD Permit – Energy Answers

LION’S CLUB OF ARECIBO

August 25, 2012 1:00PM-4:00PM

Transcription by: Aledawi Figueroa

Table of Contents

Participant	Page Number
José Font -----	3
Dr. Osvaldo Rosario López -----	13
Attorney Aleyda Centeno Rodríguez -----	20
Natalia Pagán Pérez (Natalia Arelys in transcription) -----	28
Javier Biaggi -----	22
Angel González Carrasquillo -----	40
Jessica Seiglie: -----	46
Carlos Mario García -----	51
Obed García -----	58
Waldemar N. Flores -----	62
Dr. Ibarra -----	69
Wilfredo Vélez -----	75
Eunice Santana -----	79
Wigberto Rivera -----	84

Mark Green -----	87
Oswaldo Rosario -----	89
Angel González -----	94
Carlos Mario García -----	98
Waldemar N. Flores -----	105
Attorney Aleyda Centeno -----	109

Ortega. If Dr. Ibarra is not present spent the second speaker is Dr. Osvaldo Rosario López, the next that follows Dr. Osvaldo Rosario López then Attorney Aleyda Centeno Rodriguez. When you hear the bell that means your allotted ten minutes have concluded. You will be shown a (3) minute and then a (1) minute. time warning on a laptop screen facing you when you have three (3) minutes and one (1) minute remaining. Please, I implore you: once you hear the bell, end your speech to make way for the next participant. If you continue to speak beyond your allotted time, we will have to turn off the microphone.

Doctor Osvaldo Rosario López

Dr. Osvaldo Rosario López: Well, good afternoon my name is Osvaldo Rosario López, as was said, I am a professor of environmental chemistry at the University of Puerto Rico in Rio Piedras. My presentation itself must take 25 to 30 minutes, but due to the time limitation I will summarize with the expectation of having a subsequent turn later. The first point, which I want to address related to the permission you want to grant this company, has to do with the material balance. As a chemist, I have always considered this concept, to be summarized by saying that if I burn 2,100 tons of

garbage I have to have at least 2,100 tons of product left to show for that incineration. In the case that as one incinerates, oxygen is pulled in from the air, around the burning, there will be even more mass at the end of the incineration process than at the start.

In the draft turned in to EPA by Energy Answers for the processing of their PSD permit, in Table One, where there is a list of all the contaminants estimated to be produced and their respective masses, estimated to be released during the year, according to Energy Answers. If from the product named in this table we subtract the oxygen that comes from the air that serves as a basis to take stock of the mass of the materials in question. We take that number - I will not go into all the numbers, I have them in writing in detail here in my written presentation, I will simply summarize - and that amount regulated matter we take into account the so-called biogenic CO₂ --- that -- the very fact that the EPA allows a company like Energy Answers to not count as a contaminant CO₂ is flabbergasting into and of itself -- as if the argument that the fact that this material is organic or natural somehow makes it less toxic -- as if the CO₂ would have a different effect just because it comes from that sort of natural material is insane -- but at any rate we will still allow for this in our

calculations. To this we also add the mass of the ashes left as waste – that appear in the proposal. This total is subtracted from the total amount of burned trash for the year.

What will be left will be a level of waste, not regulated and uncounted, not counted in the table nor in the table in the permit application, which lists ash in the amount of 321,000 tons of ash as waste or emissions. We are talking about 40 to 50 percent of the garbage that is scheduled for incineration is not accounted for in the ash product. Neither the EPA, nor Energy Answers know what will be the waste byproduct of the incineration of that unaccounted for garbage. I think the EPA must answer the following questions:

- What is the composition of these unregulated emissions?
- Where they're going to put these unaccounted for emissions coming out of that plant?
- What is the health risk presented Arcibo's people of these mystery byproducts?

I do not see how the EPA thinks it can issue a PSD permit without answering such fundamental questions about this project. And again, I have all these numbers in great detail. Mr. Steve Rivas dared to come to Arcibo in May, and I confronted him with that question, the

balance of matter and he dared to try to say that that amount was unaccounted for CO₂. As you can well see in the summary presentation I have just made here, there is a provision for the CO₂, and that mystery byproduct is quite clearly not CO₂. The great irony here is that this same Mr. Rivas is the one in charge of the office that assessed the application of PSD of Energy Answers.

This same Mr. Rivas stands before the people and says that this incinerator utilizes technology so modern that there is no possible way that in using it Energy Answers could possibly violate pollutant emission limits. The truth is that this technology is not so modern and not so new. It has been known to us since the 1970s. It is a similar technology as that found in the catalytic of automobiles, but on a larger scale. The metals in question vary, and some of the designs vary, but it's the same technology. This technology has been in operation for more than forty-odd years, so it is well known what are its problems and limitations and where it will potentially fail. This technology works reasonably well when the fuel is homogeneous, not when there is a diverse mix of fuel, with as much chemical diversity as solid waste. Among the ways the technology has proven likely to fail, all of these failures and their causes are well documented - and

about all this there are dozens of references in the literature, as a scientist I document what I say - the literature is well documented as to how the technology fails.

Types of Failures:

One is that their filters get clogged. The fabric filter called "bag houses" that Energy Answers proposes to put in front of these **Selective Catalytic Reduction** modules – as they are called – are easily clogged and break down. The catalytic are well not protected by these filters cloth or "bag houses". Because of the failure of these bags, there will be a lack of electrostatic precipitators required to efficiently filter out fine particulate so they do not reach these catalysts, and you will get fine particulate. Those fine particulates cover the porosities of these catalysts.

Furthermore, these Catalytic filters need the injection of ammonia to convert nitrogen oxides to nitrogen. But that ammonia, which is injected into the flow through these catalysts, will also react with a number of other substances such as sulfur oxides, halogenated materials, producing a fine particulate - PSD calls this condensed fine particles – which also cause clogs and release fine particulate into the environment beyond what is permitted by law. So sure are we

and Energy Answers that this will happen that Energy Answers is asking the EPA, and the EPA is considering granting, a dispensation to emit fine particles above usual regulated limits. One use of these catalysts is to reduce the oxidation of nitrogen, but otherwise it will lead to the violation of the fine particles regulations. As if the condensed fine particulate would not come out to the environment and also harm the population.

Another way this technology fails is that these catalysts poison themselves. Substances in the complexity of emissions exiting these incinerators react irreversibly, bind to the catalytic metals, and become poisonous to the technology itself and disable it so that it cannot perform its function well because the complexity of the fuel it is burning. The irony is that once deactivated, these sites, rather than serving to reduce oxidized nitrogen to nitrogen actually pull out the ammonia and oxidize it into nitrogen oxide. So these catalytic fail and this is well documented. It is a problem to use this technology in burning solid waste. In the letter dated February 6, 2012, Mr. Mark Green writes Steven Rivas recognizing they were wrong on the number of times that they will have to turn off and on the plant during the year. He is wrong by 100% he admits to

the EPA, and asks EPA to amend its original repair requests to add for more repair time. He asks EPA for permission to shut down the facility for scheduled maintenance 32 times annually rather than the originally requested 16 times a year. The problem with this is that when you shut down and cool these Catalytic it takes five to six hours to warm them up and turn them back on, and in the meantime, the system will be in violation of a number of parameters and regulations. Energy Answers asks again for a waiver so that the number of contaminants can exceed limits during this period. I have a number of other points that I hope to bring up and enter into the record, when I get another turn later on in these hearings. Those include problems associated with the classification of the material they seek to burn and problems with controlling the contaminants released from the material they burn.

José Font: Thank you very much Dr. Rosario.

(Applause)

José Font: The next time slot will go to Attorney Aleyda Centeno Rodríguez. The person following her will be Mrs. Mirna Conty.

So I wanted to make sure it's clear that we're not taking anyone's time away from this event today, tomorrow or on Monday. Thank you very much.

Jose Font: Thank you. Of those registered to present in this day, all have had the opportunity to speak, so let's use the remaining time to provide additional time to those so people who had indicated.

Therefore, I have five people who have expressed the desire to have additional time. We are going to grant to each of these five people seven minutes and then that will conclude the hearings, the first section of views today. So the first turn of the day it's up to Mr. Osvaldo Rosario.

Osvaldo Rosario: Thanks for the additional time. In my first intervention had to summarize large outlining a set of points Now, I hope to elaborate. At that moment I expressed concern about the large amount of emission to be released into the air from the incinerator, such emissions, which are not regulated and not counted. Because of this lack of measurement it is not known what the materials' risk is posed to population. I've gone through all the numbers to reach that amount, was not something I took off the cuff. I took into careful account the data presented

in Table No. (1) of the draft PSD permit. In that table regulated materials listed. As I indicated at the beginning of the hearing, but now in more detail, to each of them to be a product of oxidation burning in resting oxygen-oxygen mass - mass reported to be emitted. Why? Because oxygen in burning air comes from an incinerator, it is not in the initial material.

After this exercise with each of the pollutants, took in account the biogenic CO₂, as I mentioned, a credit given to the EPA incineration industry, which need not be counted for purposes of contamination. The way I took it into account, as neither Energy Answers and the EPA says the amount of biogenic CO₂ to be generated by this project, was doubling the amount of carbon in the CO₂ they are reporting as an emission. Probably the biogenic CO₂ is going to be much less than this figure. So that assumption will benefit Energy Answers since more than half of the material to be burned is not biogenic material, using their own numbers. Also I calculated the amount of ash to be formed using a percent favorable also to Energy Answers. I used a figure of twenty-five percent (25%). That gives a total of five hundred twenty seven (527) tons per day, when they themselves have reported four-odd, but as the number of them

varies depending on what you read I gave this additional margin.

Despite each of these bands for Energy Answers, taking the Energy answers preferred numbers there still remain approximately 321,000 tons of material unaccounted for. This is say that the balance of what they say enters the incinerator and what comes out regulated by the chimney, and what remains inside or around as residual ash, after taking all this into account, there still remains unknown or unaccounted for an amount of material which is equal to 40% to 50% of the original material burned. It is not known what this material is, not known where it will end, therefore do not know the risk posed the population of Arecibo. There is no way a permit is deserved by this company when there is still such a high percentage of emissions unidentified and with no known impact. It would be irresponsible to grant a permit without understanding this large potential risk posed to the population. Furthermore, I want to highlight the failure of so-called catalytic systems, which have been highlighted by Mr. Steven Rivas as infallible. Such systems, again, are designed to operate with homogeneous fuels, such as diesel. When I'm burning complex material, with literally dozens of variety of chemicals elements in them, as is the case when burning the variety of substances in

solid waste, they will form a series of products that will interfere with these catalysts, which will in turn stop operating as assumed as a result. And that is well documented in the literature. Therefore the numbers listed in Table 1 of the draft

PSD application are not reliable because part of the efficient operation of such catalyst is known to fail, they become clogged, they are poisoned with substances such as CO₂, halogens, heavy metals, which are known to be contained in the material they plan to burn.

In addition, it is wrong for Energy Answers to ask for waivers for plant shut downs and even more wrong for EPA to grant these waivers. Precisely because it is known that these catalysts will fail and these waivers are sure to be utilized to the real detriment of the community. It is anticipated to be violating parameters nitrogen oxides, ammonia carbon monoxide (which is powered) and fine particulate. Because there will be periods when these incinerators are turned off and then turned back on, these catalysts will not be operated under optimal conditions. And Energy Answers has requested waivers for repairs they anticipate needing to make as much as 32 times per year, according to the same Mark Green, indicates that Mr. Rivas. What are the implications for

health of that? It is not yet clear. But worse, it seems clear from original data that even Energy Answers did not realize the plant would need to be shut down so many times for maintenance and clogging issues. That throws further doubt whether they will know how they will deal along with these plants. I quote from the Energy Answers draft, in which the company agrees to remove any material that can be recycled such waste. If you do that, there is no viable material left for the incinerator to work well and efficiently. This promise is clearly a lie. These materials will not be recycled; they will be burned to keep the incinerator running.

The EPA should be required to remove the verbiage of the draft permission, which is a lie. It's not right. Finally, the vast majority, almost 75% of the material to be burned in the incinerator, they call supplementary fuels, are nothing complementary, account for nearly three quarters of the fuel, are the principal fuel. The complementary here come to make municipal waste. And here we see that this is a hoax present plant as a solution to municipal waste, because if a business to burn other materials: not produced in such quantities in this area and I have no doubt that will be import from outside Puerto Rico. Arecibo does not deserve to be

exposed to imported pollutants to the emission of the garbage they have brought in to burn from elsewhere.

Jose Font: Thank you. Next turn belongs to Mr. Angel Gonzalez. Followed by Mr. Angel Gonzalez will be Mr. Carlos Mario Garcia. 7 minutes for Doctor Gonzalez.

Angel Gonzalez: Thanks again. Following my presentation. The EPA is authorizing the incinerator of Arecibo to release into the air 4.07 tons of dioxins and furans. Given the uncertainty that exists about the dose of dioxin that may precipitate human disease how EPA talk RFDO (Acceptable maximum oral dose) of 7×10^{-10} mg x kilo per day? It is known that dioxins are persistent and accumulated by successive exposures to the substance and are related to multiple health conditions in people. What action will EPA take action to prevent multiple exposures of the people to the emissions blown out from the incinerator's chimney? It is known that dioxins are related to cancer, IQ deficits, impaired sexual development, birth defects, damage to the immune system's defense against diseases similar to what occurs in AIDS, conduct disorders and diabetes mellitus. If you do not make a preoperative assessment of the area and people around incinerator before it begins operating to