

# Green Delaware

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Dear Ms. Vest and others:

These are Green Delaware's comments on the application of "Green Recovery Technologies" (hereinafter GRT) for a permit under the Delaware Coastal Zone Act (hereinafter CZA, or Act). We note that various documents have yet to be provided to us, or posted for general public availability. These include an "Environmental Permit Background Statement" and alleged correspondence regarding the sources of the "poultry waste to be processed.

## **Timing and procedural bias in favor of applicants**

First, we note that the DNREC has been interacting with the promoters of this project since at least February 18, 2014, when a "Regulatory Advisory Service" meeting was held. (Green Delaware has been objecting to the lack of public notice of these RAS meetings for many years.) A public hearing was held on October 22nd with the end of a public comment period set on Friday, October 31st and then extended to Friday, November 14th. Green Delaware has repeatedly requested information on this project from the DNREC and received the most recent packet of same on November 10, 2014. So, the applicants have had at least ten months to "sell" their proposal to state agencies and members of the public have very little time in which to respond. This is particularly disturbing when we see that information provided by the applicants and apparently accepted by the State is in numerous ways incomplete, obviously inaccurate, non-responsive, and otherwise defective.

Our sense is that the DNREC seems more interested in greasing the skids for projects that enforcing the CZA in good faith. As a small example, why are set comment deadlines for Fridays? It seems obvious that the state bureaucracy is for the most part not operating over weekends, while many citizen advocates will need to their work over (donated!) weekends. So why not set the deadlines for Mondays?

Thus, we are asking you to accept these comments slightly out-of-time, and to immediately provide the missing information and hold the record open until we are able to respond to it.

## **Sound criteria for deciding on permit issuance are absent.**

The DNREC should decide upon this permit based on the explicit wording of the Act, and NOT on the basis of regulations, or habits, that are not consistent with the Act.

The Coastal Zone Act is found at 7 Del. C. Chapter 70 and states:

*It is hereby determined that the coastal areas of Delaware are the most critical areas for the future of the State in terms of the quality of life in the State. It is, therefore, the declared public policy of the State to control the location, extent and type of industrial development in*

*Delaware's coastal areas. In so doing, the State can better protect the natural environment of its bay and coastal areas and safeguard their use primarily for recreation and tourism. Specifically, this chapter seeks to prohibit entirely the construction of new heavy industry in its coastal areas, which industry is determined to be incompatible with the protection of that natural environment in those areas. While it is the declared public policy of the State to encourage the introduction of new industry into Delaware, the protection of the environment, natural beauty and recreation potential of the State is also of great concern. In order to strike the correct balance between these 2 policies, careful planning based on a thorough understanding of Delaware's potential and the State's needs is required. Therefore, control of industrial development other than that of heavy industry in the coastal zone of Delaware through a permit system at the state level is called for. It is further determined that offshore bulk product transfer facilities represent a significant danger of pollution to the coastal zone and generate pressure for the construction of industrial plants in the coastal zone, which construction is declared to be against public policy. For these reasons, prohibition against bulk product transfer facilities in the coastal zone is deemed imperative.*

The "Regulations Governing Delaware's Coastal Zone" are found at Title 7, Delaware Administrative Code, 101, *et seq.* A PDF of these regulations is located at <http://www.dnrec.delaware.gov/Admin/CZA/Documents/Coastal%20Zone%20Act%20regulations.pdf>

It is notable that these Regulations were adopted in 1999, 28 years after the enactment of the Act. It is notable that the Coastal Zone Act was created to improve protection of Delaware's natural resources. The Regulations, on the other hand, were developed under control of a Governor whose agenda was to WEAKEN protections on behalf of industrial interests. Competent, independent, environmental advocates were excluded from a bogus "consensus" process, while industrial interests dominated. Thus, the Regulations begin with:

*"These regulations have been developed to accomplish two key goals. They have been designed to promote improvement of the environment within the Coastal Zone while also providing existing and new industries in Delaware's Coastal Zone with the flexibility necessary to stay competitive and to prosper-- all while adhering to the edicts and nuances of one of the most original and innovative environmental and land use statutes in the world."*

In Appendix C of the Regulations we read:

*"These regulations are designed to ensure environmental improvement in the Coastal Zone while at the same time providing industry with the needed flexibility to remain competitive in a global marketplace.*

*1.2 In order to meet these two goals, a regulatory process comprised of regulatory exemptions, permitting requirements and offset provisions has been developed. This regulatory process has been designed so that each nonconforming use and new manufacturing uses can add new products, change existing products, increase production capacity, add new processes and modify existing processes or do any other activity so long as these activities are: 1) undertaken in a way that assures environmental improvement in the Coastal Zone; and 2) undertaken in such a way that they meet the six criteria outlined in the Coastal Zone Act."*

### *"3.0 Environmental Goals and Indicators*

*3.1 DNREC will develop within 12 months of the ratification of the Coastal Zone Act MOU, a set of Coastal Zone environmental goals and appropriate environmental indicators which will highlight the most significant environmental challenges to the Coastal Zone. The indicators will serve several important purposes. First, they will assist DNREC in developing a more accurate picture of the environmental quality of the Coastal Zone, and measuring trends in this quality over time. Second, they will assist DNREC and project applicants by providing a means for evaluating the potential impacts of proposed changes in facility operations and proposed offsets on the Coastal Zone environment."*

### *"4.0 Principles for Assessing an Application*

*4.1 Any negative environmental impact associated with a proposed project will have to be more than offset, thus assuring continuing improvement in the Coastal Zone environment. The Secretary will only grant Coastal Zone permits in those cases where the overall environmental impacts of the total application, both positive and negative, assure improvement in the quality of the environment in the Coastal Zone."*

But, the DNREC (1) has never developed the system of environmental indicators, and (2) has not required that *"4.1 Any negative environmental impact associated with a proposed project will have to be more than offset, thus assuring continuing improvement in the Coastal Zone environment."* Instead, the DNREC has typically allowed the applicants to claim that the project itself is the offset. Overall, it appears that the DNREC has implemented those parts of the Regulations beneficial to industrial applicants but not implemented those provisions beneficial to "environmental goals." The DNREC has never even established "environmental goals" for the Coastal Zone.

So, the Regulations were developed for a different purpose, indeed an opposite purpose, from the Act, and the DNREC has never implemented those aspects of the Regulations that could, in theory, provide protections to the Coastal Zone. This leaves us with no substantial guidance as to whether a particular permit should be issued, or denied.

An example of how this process has been implemented can be seen in the Peninsula Composting matter. The project was considered to be its own offset on a general theory that composting is environmentally superior to landfilling of organics. But, no investigation was conducted to determine whether landfilling of anything would actually be reduced, and severe environmental degradation, in the form of odors, occurred.

**The proposed location of the proposed GRT facility is within the Coastal Zone and subject to the Act and the Regulations.**

It appears that the facility has already been constructed, or mostly constructed. AT page 13 of GRT's March 26, 2014, APPLICATION FOR A COASTAL ZONE ACT STATUS DECISION, is stated: *"The existing structure has been gutted and refurbished with the process equipment and office space."*

This is a situation that has not to our knowledge previously arisen, at least in this egregious manner, in the 40-plus history of the Act. Many, including Green Delaware, have suspected that the applicants may have received some sort of improper assurances that the issuance of a permit was a foregone conclusion. As far as we know, explicit prohibitions against prior construction do not exist in the Coastal Zone permitting program but do exist in the air permitting program, where the installation of air pollution control equipment without a construction permit would be a violation. The DNREC should conduct a thorough investigation of whether violations have occurred. Regardless of whether violations have occurred, the prior construction suggests a disregard for Delaware laws and regulatory programs, and should weigh against the granting of any permits for GRT.

### **Status Decision on GRT**

Under the CZA, the Department first must make a "Status Decision" as to whether a proposed activity is categorically prohibited as "new heavy industry," or is potentially allowable by permit, as, for example, "manufacturing," or is unregulated by the Act. From the Act:

*(2) The Secretary of the Department of Natural Resources and Environmental Control shall hold a public hearing and may request further information of the applicant. The Secretary of the Department of Natural Resources and Environmental Control shall first determine whether the proposed use is, according to this chapter and regulations issued pursuant thereto:*

*a. A heavy industry use under Sec. 7003 of this title; [not allowed at all in the Coastal Zone]*

*b. A use allowable only by permit under Sec. 7004 of this title; or*

*c. A use requiring no action under this chapter. [not regulated by the CZA]*

The DNREC received an application for a status decision Dated March 26, 2014. This document contains many questionable responses. For example, item 6.2 (j), at page 12, states "*provide a detailed statement describing the proposed project's potential to pollute should equipment malfunction or human error occur ...*" in response, at page 14, GRT states "*The process has the appropriate checks and balances to avoid any releases. Should a release occur, there are internal HVAC controls to promptly remove any potentially hazardous emissions from the work area. The solvent use [sic] will evaporate after exposure to the air ....*" What this actually seems to say is that releases would be sucked out of the building and discharged to the outside air. This might help protect workers in the building but offers no protection against pollution of the outside air. In effect, the applicant responded to an "environmental" question with an "occupational health and safety" answer. Both, of course, are vitally important but they are the responsibility of different agencies and different sets of laws and regulations. The DNREC should not have proceeded with the Status Decision application until reasonable answers were given to all the questions in the application form.

Everyone seems to agree that the proposed project contains some but not all of the characteristics called

out in the ACT to identify prohibited "heavy industry." The Status Decision application acknowledges three of nine categories of equipment listed in the Act as characterizing heavy industry. Our own analysis would probably add a couple more. "All" is not required, but the decision becomes a judgement call and answers have varied over the years. A legal memo from Robert F. Phillips, Deputy Attorney General, concludes that the facility is not heavy industry, relying on the 2012 Delaware Supreme Court case of SIERRA CLUB CITIZENS COALITION INC v. TIDEWATER ENVIRONMENTAL SERVICES INC. The Delaware Supreme Court has been coming down hard against the environment and public participation. We are not lawyers but if this case is indeed governing case law, Phillips is probably right unless and until the General Assembly strengthens the Act. In any case, then-Secretary Collin O'Mara signed a decision on May 8, 2014, stating that the GRT would not be considered heavy industry but would require a permit.

A procedural problem is that public hearings are not held on status decisions. DNREC does take public comment on them, but makes little effort at publicity. (As opposed to fishing contests....?) So the Coastal Zone permitting process tends to be far down the road before people become aware of it.

### **Just what are we talking about here?**

The "feed material" and product streams are variously described as "Poultry Fines," "Solid format biomass consisting of protein supplement with associated fatty and mineral components," "Dehydrated poultry protein, bone, feathers, fatty and mineral components ...," "Dried poultry processing fines containing protein, oil and water," "... a previously rendered, conmingled [sic] stream of protein and lipids from the poultry processing industry," "Rendered Poultry Fat," "Chicken Fat," "Extracted DAF [dissolved air flotation?] Protein," "Extracted Chicken By-product Meal," "Dried Poultry Processing DAF sludge," "DAF Sludge," etc.

We think the feed material likely IS dissolved air flotation sludge from wastewater treatment plants associated with chicken slaughtering operations. The applicants describe the "appearance and odor" as "Dark, characteristic odor of enriched soil." Green Delaware feels the potential for noxious odors from this material is high.

The proposal is to process 4200 pounds per hour of this material on an operating schedule of 24 hours per day for 5 days per week. Thus, the total throughput could be on the order of 4200 lbs x 24 hours x 5 days/week x 52 weeks/year = 26,208,000 pounds per year processed. Actual throughput would probably be somewhat less due to holidays, maintenance shutdowns, etc. Thus, the stated throughput of some 22 million pounds seems reasonable. It is not clear that the claimed magnitude of truck traffic is consistent with these volumes.

Applicants offer no evidence of their own prior experience with this process, and no evidence that it has been successfully operated elsewhere at this scale.

There is no discussion of how "off spec" feed materials and products would be managed.

There is no discussion of maximum inventory of materials to be held on site, or the maximum "age" of such materials, although it seems to use that the "DAF sludge" is not "inert" as claimed and that odors might be expected to increase with time.

### **Concerns regarding use of extraction solvent**

The Application states in Part 3 that *"A small quantity of liquified flammable gas is used as a solvent to separate the protein fraction from the lipid fraction. This is done in a nitrogen-blanketed environment to prevent process upsets. The solvent is run in a closed, full cycle system with a full solvent recovery process embedded."* Later in the application it is revealed that the solvent is dimethyl ether (DME) which would be stored in a 1000 gallon above ground tank. DME has a vapor pressure such that it is a gas at room temperatures and pressures (boiling point -11 degree F.) . It is flammable within wide limits. It's vapor density compared to air is 1.6. This means that vapors are heavier than air and would tend to collect in low spots and could spread widely. Thus, one can think of this material as having physical properties somewhat like propane or butane. There are significant hazards involved in using such a material in a manufacturing process. These hazards might be managed, but the statements by GRT raise questions regarding whether these hazards are adequately understood.

The literature on lipid extraction is very extensive in regard to both analytical methods and high-volume production methods. A wide variety of solvents have been used. Available alternatives involve use of supercritical carbon dioxide or water rather than organic solvents. Applicants have not provided a realistic evaluation of process hazards or alternatives considered. Applicants submissions are frequently untruthful, contradictory, confusing, and couched in obtuse language. It is not clear that GRT understands the true nature of the hazards to workers and the environment of the process they are proposing. The DNREC should require a meaningful evaluation of process hazards and alternatives and an explanation of how the GRT proposal was chosen. For example, what would be the worst-case consequences of a rupture of the proposed 1000 gallon DME tank?

However, it is very doubtful if any process would be appropriate in the Delaware Coastal Zone, given the stated intent of the Act to reserve the Coastal Zone *"... primarily for recreation and tourism."*

### **Ozone**

DME is a reactive volatile organic compound (VOC) and thus an ozone precursor. NO<sub>x</sub>, to be emitted by the proposed facility, is also an ozone precursor. In fact, the two major categories of ozone precursors are VOCs and NO<sub>x</sub>. These two "cook up" in the atmosphere to generate ground level ozone. Delaware is a "non-attainment" area for ozone. The USEPA is expected to propose lowering the ozone National Ambient Air Quality Standards. Thus, the potential of the GRT proposal to

contribute to ozone formation and ozone concentrations in excess of present and future National Ambient Air Quality Standards should be fully evaluated.

### **Health damaging air pollutants and "nuisance" emissions**

The facility would have a gas fired boiler that would emit particulate matter including "PM2.5" and unregulated but harmful ultrafine particles. Particulate emissions are not disclosed in the application, but require disclosure and consideration to meet the requirements of the CZA. Other emissions are likely from "fugitive" sources including leaks in process equipment, dust and fumes from material transfer into and out of containers, road dust and vehicle emissions associated with movement into and out of the facility of some 22 million pounds per year of materials, etc. Total annual air emissions projected by GRT are about 22,000 pounds per year, but these are just from the gas-fired boiler and do not include process emissions, implausibly claimed to be zero. A credible estimate of total air emissions is needed.

### **Excessive movement of materials**

While documentation is lacking, it appears that sludge from chicken slaughtering plants in Delaware and several other states would be hauled to South Carolina--facility unspecified?--for dewatering, and then hauled to Delaware for separation into a "protein" stream and a "lipid" (oil) stream. Where these two product streams would go is unstated. It seems illogical to haul these materials to South Carolina for partial processing and then to Delaware to finish the job. Why not also put the separation plant in South Carolina? Are there undisclosed reasons why the facility would not be welcome there? Or, why not do all the processing in Delaware (but NOT in the Coastal Zone)?

### **Arrogance and secrecy**

In response to questions about nitrogen emissions (we think they are talking here about gaseous elemental nitrogen, N<sub>2</sub>, not nitrogen compounds such as "NO<sub>x</sub>."), GRT official Ken Klaubsch responded:

*"... how GRT achieves separation of solvent from nitrogen is highly proprietary and we do not want to publicly document or disseminate our solution. The methodology is not currently under patent protection and GRT holds this and other related information as closely guarded trade secrets. This is the core of our intellectual property and we are not going to disclose in writing how we do this. The best case would be a general explanation over the phone or in person to someone with DNREC that has a PhD or equivalent degree that can fully comprehend our explanation...."*

However, the DNREC has procedures for protecting confidential business information and we see no indication that these procedures have been invoked.

## **Response to comments of the League of Women Voters of Delaware**

The League of Women Voters of Delaware apparently accepted an invitation to visit the (already constructed) facility and was sold on the project. For example, the League states (the comments are unsigned) *"We learned that the operation has been tested at a laboratory in Houston at 50% capacity, assuring us that the process is viable."* This is a naive statement, at best. The fact that "the process was tested" does not tell us anything without a detailed report on what was actually done and the results than ensued.

Similarly, the League concludes that *"... there does not appear to be a potential for odor escaping into the neighborhood."* This statement seems to be unjustified, unless the League considered the effects of upsets, leaks, power failures, equipment cleaning, and so on.

The League states *"Even without a full understanding of the DEDO offsets, we conclude that the harmful effect of sending five tons of NOx into the atmosphere (apparently the League thinks, incorrectly, that NOx is the only air pollutant to be emitted) is dwarfed by the successful re-use of thousands of tons of poultry waste that would otherwise be spread onto farms and super load our waterways with unnecessary organic material."* But no information is in the record regarding the present use of the proposed feed materials--sludge. Even if the proposed process would constitute a higher and better use of the sludge, it is not clear that such an operation is justified or legal in the Delaware Coastal Zone.

The League states *"The League of Women Voters of Delaware would like to see the GRT technology widely used to convert a large amount of chicken waste separated into useful biodiesel fuel and protein for aquaculture, as GRT proposes."* Green Delaware disagrees with this statement in several ways, including (1) it is foolish to say that the technology should be "widely used" when it has not been commercially demonstrated, (2) the GRT application does not include production of biodiesel, and (3) GRT does not state that the projected use of the "protein" stream is for aquaculture. We note that a previous effort to locate a biodiesel production facility in the Coastal Zone was objected to and withdrawn. The facility was subsequently constructed elsewhere in Delaware and was ultimately shut down.

The League does correctly note the failure of the application and DNREC review of same to adequately evaluate potential problems with the proposed use of dimethyl ether (DME).

The League also correctly notes that *"The offset purchase is not clearly explained to the public ...."*

Peggy Schultz of the League sent an email with concerns to the DNREC. Kevin Coyle of the DNREC passed these on to GRT and it's consultants saying *"Please see the following e-mail from Peggy Schultz with the League of Women Voters. I have highlighted her concerns in pink ... These are the types of questions/concerns you should be prepared to address at the public hearing. You may also want to*

*reach out before the public hearing."* Subsequently, GRT official Dan Emery wrote to the League: *"Congratulations to the LWVDE for being by far the most articulate group we have interacted with. You will notice the comments from our friends at the Sierra Club they do not wish to be confused by facts. Now we have a much deeper understanding of the trials and tribulations of your group...."*

This is sadly typical of the "part of the problem" role played by the League in Delaware, which was complicit in adoption of the "regulations" which have done so much to pull the teeth of the CZA. Conniving with the applicant, conniving with the DNREC, offering token objections....

### **Comments from the Delaware Chapter of the Sierra Club**

Green Delaware is in general agreement with these comments (also unsigned and undated). Sierra notes that

*"The very fact that all the processing equipment was constructed within the building before a Coastal Zone Permit was obtained is of concern because the Regulations seem to describe a process in which a series of checks should ensure that all steps in the process are carried out in a specified order."*

Sierra also correctly notes:

*"finally, the 'Certification by Applicant' signed by the Chief Technical Officer of GRT clearly states that, under penalty of perjury, that all the information contained in the application is true and complete. There are many cases in which the answers do not meet these criteria. One example is on p. 7 where, asked about environmental impacts to the air, the response given is that greenhouse gas emissions 'are limited to oxides of sulfur and nitrogen'. This statement is not true, as shown by an answer in the first attachment, where it is reported that several tons of carbon dioxide and smaller amounts of methane along with other ghg's [sic] will also be emitted. ... It is disturbing that the Secretary found this application satisfactory in view of such inaccurate or incomplete answers."*

Sierra also notes the inadequate consideration of the DME solvent, asks for a 30 day continuation of the comment period, and concludes *"At that time, if all the answers and comments made tonight have not been answered in a satisfactory way, and those answers provided to the public in a timely and transparent way, we request that this application be denied."*

### **Jim Black at work**

Jim Black, [formerly associated with the Sierra Club](#) and once listed as chapter chair, has a long history of conniving with polluters. He was a promoter of Peninsula Composting, of "The Data Center," and of various incinerator schemes, and has this to say to GRT official Dan Emery: *"...Coralie didn't come on*

*the tour with us so she doesn't have the advantage of first hand knowledge. She is mistaken on several points. Please take a look at her comments so that you can fully address them. If it would be possible to bring her to your facility Monday before the hearing I think you could save yourselves some grief ... Coralie also serves on the Delaware Sierra Club's Conservation Committee and I think some of her comments came from there." Thanks. Jim Black."*

### **Objectionable lobbying from the Delaware Economic Development Office (DEDO)**

An email from Jeff Stone of DEDO states:

*"DEDO wants to assist this high technology advanced manufacturing company that is going to create upwards of 30 well compensated jobs here in Delaware. ... At our meeting we were informed that the only impediments to starting operations were a Delmarva Power connection that is to be completed today ... and the issuance of the Coastal Zone Permit.*

*Please advise me if there are any other DNREC issues that could further delay the start of operation once DEDO grants the ERC's [bogus Emission Reduction Credits]. How long will it take to issue the final permit? ... DEDO is anxious that any additional delays in allowing this firm to get operational be minimized or avoided all together."*

Green Delaware has documented similar interference with the DNREC in "The Data Center" case and others. It's probably common.

### **Credibility and reliability of the applicants**

As noted, the DNREC has not provided Green Delaware with GRT's "Background Statement," but information developed by Mark Martell of the Delaware Audubon Society is revealing. We incorporate Audubon's comments in full.

Audubon concludes:

*"In summary, Delaware Audubon Society requests that DNREC reject the Coastal Zone Permit for Green Recovery Technologies along multiple grounds -- lack of business history, lack of business acumen, lack of significant investment, limitation of personal risk, distance to raw materials, closeness to environmental justice communities, and perceptions of back door dealings by the government given the so-called "gamble" by the angel investors on operating floor expansion, equipment acquisition and local government permitting, before obtaining the Coastal Zone Act Permit from DNREC."*

### **Green Delaware's conclusions: Should GRT receive a CZA permit?**

The CZA Regulations, as implemented, or not, by the DNREC, offer little meaningful guidance as to the issuance, or not, of specific permits.

The Act, on the other hand, clearly states that the objective is to "...better protect the natural

*environment of its bay and coastal areas and safeguard their use primarily for recreation and tourism." and "... the construction of industrial plants in the coastal zone ... is declared to be against public policy."*

If the criteria is "environmental improvement" in the Delaware Coastal Zone, GRT clearly does not offer or promise that. Rather, some degree of harm would ensue.

The facility as apparently been constructed in advance of receiving a permit.

The proposal does not "clean up" an existing operation.

It does not reduce any other forms of negative environmental impact in the Delaware Coastal Zone. If we assume for the sake of discussion that the proposed facility would lead to improved management of poultry industry wastes – a claim that has not been documented -- this improvement would occur in North Carolina, or in Southern Delaware or Maryland, or elsewhere, not in the Delaware Coastal Zone.

The proposal admittedly would increase emissions of air pollutants in the Delaware Coastal Zone. These would be "offset," if at all, in some vague, perhaps fictitious, fashion. Thus, the only reasonable conclusion is that the facility would have a negative impact on the Coastal Zone, though the magnitude of that negative impact is not entirely clear.

There are no apparent factors that would necessitate or support location of the proposed facility in the Coastal Zone. It is not coastal or water dependent. It is not near sources of feed materials or markets for the manufactured product. Location near poultry industry activities and/or animal food mills would seem more logical.

The proposed process is not commercially demonstrated and has not been shown to be environmentally preferable.

Process hazards do not seem to have been reviewed realistically.

The application materials are filled with factual errors, false statements, grammatical errors, and obtuse language.

The lobbying for the GRT project by the DEDO, and the apparent connivance of DNREC staff with GRT to "sell" the project to the League of Women Voters and perhaps other NGOs, raises questions regarding the integrity of the process.

**Bottom line:**

Green Delaware does not oppose further processing of wastewater treatment sludge from poultry

slaughtering operations. It is possible that such could be desirable.

But the GRT application has innumerable fatal defects. The DNREC should deny the request CZA permit.

If these comments raise any questions please contact us.

Respectfully submitted,

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Green Delaware