

April 26, 2016

Via Federal Express/Electronic Mail

Todd Anthony Bianco, EFSB Coordinator
RI Energy Facilities Siting Board
89 Jefferson Blvd.
Warwick, RI 02888

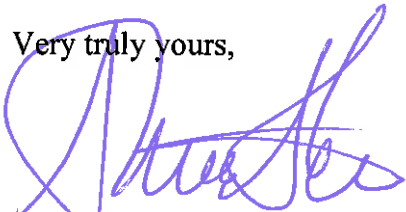
Re: Invenergy Docket No. SB-2015-06

Dear Mr. Bianco:

On behalf of Invenergy, enclosed please find an original and ten copies of Invenergy Thermal Development LLC's Responses to The Town of Burrillville's 4th Set of Data Requests.

Please let me know if you have any questions.

Very truly yours,



ALAN M. SHOER
ashoer@apslaw.com

Enclosures

C

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
ENERGY FACILITY SITING BOARD**

**IN RE:INVENERGY THERMAL DEVELOPMENT LLC :
APPLICATION TO CONSTRUCT AND :
OPERATE THE CLEAR RIVER ENERGY : SB-2015-06
CENTER, BURRILLVILLE, RHODE ISLAND :**

**INVENERGY THERMAL DEVELOPMENT LLC'S RESPONSES
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4-1. How much cut and fill of earthen material will be involved in this project?

RESPONSE 4-1: The cut and fill required for the Clear River Energy Center ("CREC") site is relatively neutral. Based on conceptual grading, approximately 80,000 cubic yards of cut and 85,000 cubic yards of fill are anticipated. Based on the geotechnical investigations conducted to date, much of the existing soil will be re-used.

RESPONDENT: John Niland, Invenergy Development LLC

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4-2. How much existing material is reusable on site, how much material must be trucked off site, and how much material will need to be brought onto the site?

RESPONSE 4-2: Based on the results of the geotechnical report, all excess material anticipated will be utilized on site as fill. Additional materials, such as crushed stone and gravel, are anticipated to be brought onto the site. The approximate amount of new material to be brought on the site is anticipated to be about 5,000 cubic yards.

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4-3. How many trucks will be traveling Town roads during construction of this project?

RESPONSE 4-3: Truck traffic during construction will vary depending on the phase of the project. The estimated number of trucks that will access the site for various phases of construction are listed below:

- A. Mobilization Phase: an average of 12 trucks per day.
- B. Underground Work Phase: an average of 15 trucks per day.
- C. Aboveground Work and Equipment Delivery Phase: an average of 15 trucks per day.
- D. Demobilization Phase: an average of 12 trucks per day.

Further details on the anticipated truck traffic are included in Section 6.8 of the EFSB Application. Invenergy Thermal Development LLC ("Invenergy") is having a traffic study prepared that will be provided to the Town of Burrillville when it is completed.

RESPONDENT: John Niland, Invenergy Thermal Development LLC
Maureen Chlebek, McMahon and Associates

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4-4. Is this a project where concrete foundations will be required to be done in a constant pour? If so, what are the volumes? (A constant pour means that trucks will be dumping and then returning to the concrete plant at a rate of one truck each way every twenty minutes on an average. As an example, utilizing a fleet of fifteen yard concrete trucks and a constant pour of 1,000 yards would consist of 66 truck trips both coming and going every twenty minutes. This 1,000 yard pour would be for a continuous period of 22 hours non-stop of trucks traveling through the village of Pascoag and along Wallum Lake Road which consists of a residential area.) How many times is this going to happen during the two separate proposed construction phases?

RESPONSE 4-4: Concrete foundations requiring constant pours are anticipated to occur four times for each of the two units and include: the HSRG foundation, CTG foundation, STG foundation and transformer foundation. Foundation will be designed to match the volume of concrete that can be hauled within the extended daily truck traffic window between 2:00 a.m. and 4:00 p.m. The balance of foundations can be staged placements and deliveries will occur during normal daylight hours (7:30 a.m. and 4:00 p.m.).

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4-5. Has Invenergy considered bringing a portable cement manufacturing plant onto the site to resolve the problem of trucking through the area? If not, why not?

RESPONSE 4-5: There is ample local supply of concrete. Use of a separate batch plant installed on site is not warranted. Only a relatively small amount of concrete is needed relative to a batch throughput capacity.

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4-6. The plans that were incorporated into the package consist of five sheets with no details. Please provide fully detailed plans.

RESPONSE 4-6: Site grading and stormwater detailed plans are in the process of being developed and will be provided as soon as they are completed which should be in four weeks. Other detailed plans associated with buildings, underground utilities and piping systems are prepared by the EPC construction contractor after detailed engineering has been completed. The EPC contractor has not yet been selected for this project. For power generation projects, additional detailed drawings are normally provided at the time the project applies for the local building permit. Detailed plans will be provided at that time.

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4-7. What is the volume of ammonia to be stored? What is the concentration level of the ammonia? What are the security plans and evacuation plans and procedures?

RESPONSE 4-7: 40,000 gallons of 19% aqueous ammonia will be stored in a single storage tank.

The project itself will be secured by razor wire fencing, a closed caption security camera system and 24/7 security personnel staffing.

An ammonia leak detection system will be installed that includes multiple monitors located at the perimeter of the storage tank containment area. If ammonia is detected, a common alarm signal will be triggered in the control system and will initiate an audible alarm (horn) and a red halogen strobe (beacon) located on top of the storage tank to notify plant personnel.

Since the ammonia to be used is 19% by weight, aqueous ammonia with a low release rate, security plans and evacuation plans are not required. This is the same type of system that Ocean State Power ("OSP") uses.

The Environmental Protection Agency ("EPA") only requires a Risk Management Plan for the storage of aqueous ammonia when the concentration is 20% or greater, because it does not consider aqueous ammonia stored at a concentration less than 20% to pose a public health risk upon release. Although the storage of aqueous ammonia at the CREC will not pose a threat to public health, Invenergy will work with local emergency response personnel to implement an emergency response procedure that is appropriate for the types of incidents that could potentially occur at the facility.

RESPONDENT: Mike Feinblatt, ESS Group, Inc.

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4-8. What is the volume of diesel fuel to be stored? Is this the volume required for the amount of time that the plant will be allowed to run on diesel fuel? Can the storage volume be reduced with trucking to the site in instances when the diesel is to be used? If not, why not?

RESPONSE 4-8: Approximately 2,000,000 gallons of ultra low sulfur diesel fuel ("ULSD") will be stored at the site which will allow one generating unit to operate at base load for 72 hours during a curtailment of natural gas availability. This volume was selected based on the reasonable worst case expected gas curtailment. If a gas curtailment is anticipated to extend beyond 72 hours, delivery of ULSD by trucks will be required to operate the plant beyond the 72 hour time frame.

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4-9. It appears that the site slopes upward from Wallum Lake Road at an approximate elevation of 560 towards the area of development to a high point elevation of 580 at the approximate center of the area of development and then down to the western most edge of the development at the edge of the wetland buffer. Is this correct?

RESPONSE 4-9: Yes that is correct.

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4-10. It appears that access to the site requires three separate wetland crossings and the perimeter of much of the site abuts directly to the wetland buffers. Is this correct?

RESPONSE 4-10: Yes, according to the current site plan, the access road will require three separate wetland crossings. However, the access road will follow an existing road which already crosses the wetlands at those locations.

Based on the current general arrangement and conceptual site grading plan, the existing wetland features described are correct. The site footprint has been designed to avoid wetlands and wetland buffer areas.

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4-11. Will independent environmental compliance monitoring be active on the site during construction hours throughout the construction process? Please explain in detail.

RESPONSE 4-11: Invenergy will retain the services of a qualified environmental firm to monitor environmental compliance over the duration of CREC construction. Invenergy will also require its construction contractor to monitor environmental compliance throughout CREC construction. The environmental monitor will be on-site during construction activities that could result in environmental impacts, such as during the soil excavation stage. The environmental monitor will be responsible for ensuring that the CREC construction activities comply with all applicable local, state and federal regulations and guidance, as well as all relevant project permits and approvals. The environmental monitor will have the authority to stop any construction activities which pose a potential risk to the environment and to require the implementation of additional preventive measures or mitigation before such activities can resume. Invenergy will work closely with the environmental monitor and the construction contractor to ensure that all CREC construction activities will be conducted in a safe, environmentally responsible and compliant manner.

RESPONDENT: John Niland, Invenergy Thermal Development LLC
Mike Feinblatt, ESS Group, Inc.

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4-12. It appears that storm water detention pond #1 is located within a limited upland area surrounded by wetlands. Is this correct? It appears that this location could cause damage to the surrounding wetlands. Could the detention pond be relocated to a more suitable location? If not, why not?

RESPONSE 4-12: CREC will require a "Permit to Alter Freshwater Wetlands" from the Rhode Island Department of Environmental Management ("RIDEM") and an "Individual Permit" from the United States Army Corps of Engineers ("ACOE") for its proposed wetland impacts. In order to receive these approvals, Invenergy will be required to demonstrate to RIDEM and the ACOE that CREC's wetland impacts have been avoided and minimized to the maximum extent practicable. For each proposed wetland impact, Invenergy will be required to present an alternative analysis demonstrating that all other feasible project alternatives would result in greater impacts. These permits from RIDEM and the ACOE will be issued only if the regulatory agencies are satisfied that Invenergy has fully assessed all feasible alternatives and that the wetlands' impact has been avoided and minimized. Invenergy will also be required to propose mitigation for all CREC wetland impacts in accordance with the ACOE guidelines.

Based on the current general arrangement and conceptual site grading plan, the described location of the stormwater management pond is correct. To reduce aquatic resource impacts, alternate locations for the stormwater management ponds have been evaluated. To the maximum extent practicable, the current plan minimized the wetland impacts.

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4-13. It appears that the site entrance at Wallum Lake Road is down gradient of the project. Is this correct? Could additional storm water storage be required at the entrance to prevent storm water flows from being increased onto Wallum Lake Road?

RESPONSE 4-13: The current stormwater plan includes stormwater management "Best Management Practices" along the proposed access road to mitigate increased flowrates in accordance with Rhode Island Department of Environmental Management regulations. Additional stormwater attenuation at the site entrance to Wallum Lake Road is not anticipated at this time.

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4-14. It appears that the "construction laydown" area abuts against wetland buffers. Is this correct? Exactly what is going to be stored within this area? Please explain in detail your proposal for protection of the wetlands in this area, considering the materials being stored.

RESPONSE 4-14: The proposed onsite construction laydown area is roughly 9 acres and abuts the wetland buffers. The laydown area will be used for construction parking and to store the materials needed to construct the facility which could include fabricated equipment components, equipment skids, pipes, wires and cables, conduits, raceway, etc. There may be provisions for covered storage of more delicate components. The area may also be used for staging fabrication and assembly of equipment and structures to improve construction efficiency. Also, the area may be used for parking construction equipment and vehicles. The engineering, procurement and construction ("EPC") contractor will be required to have in place a Spill Prevention, Control, and Countermeasure ("SPCC") plan which will require secondary containment around temporary fuel storage areas.

Invenergy will be required to obtain a Rhode Island Pollutant Discharge Elimination System ("RIPDES") Construction General Permit from RIDEM prior to commencing with any construction activities. The RIPDES Construction General Permit prohibits the discharge of pollutants into waters of the State and requires best management practices for soil, runoff, and erosion control as described in the Rhode Island Soil Erosion and Sediment Control Handbook. To be covered under this permit, a Stormwater Management Plan must be developed, incorporating the minimum standards of the Rhode Island Stormwater Design and Installation Standards Manual. A Soil Erosion, Runoff, and Sediment Control Plan will also be required. The RIPDES Construction General Permit Application for the CREC and the required plans require the implementation of best management practices to fully protect the surrounding wetland areas at the site during construction activities.

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4-15. The site appears to be creating a large amount of impervious space. Is this correct? Please explain the site's storm water management plan. Has a storm water report been done? If so, please provide a copy. Will the detention basins handle a one hundred year storm event? Is the site going to comply with best management practices?

RESPONSE 4-15: Based on the current general arrangement and conceptual site grading plan, impervious areas are anticipated. The stormwater management plan is currently being developed and will comply with RIDEM regulations including best management practices, including complying with the 100-year, 24-hour stormwater attenuation criteria. A copy of the stormwater report will be provided upon completion.

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4-16. It appears that the set of plans includes nothing about waste water being transported off of the site by means of a sewer ejection force main line to a point of gravity flow (somewhere in the village of Pascoag) to the Town of Burrillville Sewage Treatment Plant. It appears that this waste water is going to have more concentrated amounts of contaminates than what is pumped out of the ground from the existing contaminated aquifer. Is this correct? This contaminated wastewater will run through the Town of Burrillville Sewer Lines. What is being done to insure that the wastewater will not leach into the soils surrounding the lines that it flows through?

RESPONSE 4-16: The well water drawn for plant use will first be treated with granulated carbon at the well head to remove organic contaminants to levels below drinking water standards. The treated water will be pumped to the plant and stored in an onsite storage tank and then pumped to different systems of the plant as needed. As the organic contaminants will be removed prior to use at the plant, the wastewater discharged from the plant will only concentrate any contaminants that are present in the water as its received from the treatment system. The CREC will meet the limits required to discharge to the sanitary sewer system.
The wastewater from the CREC which will be sent to the Burrillville Wastewater Treatment Facility ("BWWTF") and will comply with the EPA Categorical Effluent Standards for a Steam Electric Generating Facility without the need for additional pre-treatment. Invenergy will apply for an Industrial Wastewater Discharge Permit from the BWWTF, which includes effluent discharge limits to ensure that the CREC wastewaters will not adversely impact the BWWTF or the receiving water body. Initially and on an ongoing basis, sampling of the CREC wastewater discharge is necessary to ensure that the effluent limits established in the permit are being met.

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4-17. Does the Burrillville Sewage Treatment Plant have the technology to properly treat this waste water or is it going to be dumping contaminates into the river? If it will be dumping without treatment, will this further contaminate the land all the way to Narragansett Bay? Please explain.

RESPONSE 4-17: The BWWTF has the technology to properly treat the CREC wastewater stream. Invenergy will apply for an Industrial Wastewater Discharge Permit from the BWWTF, which includes effluent discharge limits to ensure that the CREC wastewaters will not adversely impact the BWWTF or the receiving water body. Both initially and on an ongoing basis, sampling of the CREC wastewater discharge is necessary to ensure that the effluent limits established in the permit are being met.

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4-21. What is the method of replenishment of the aquifer?

RESPONSE 4-21: Infiltration from precipitation is the primary method of replenishment or recharge to the aquifer serving the existing PUD wellfield (Well #3A). Additional recharge may also be provided from groundwater discharges from Individual Sewage Disposal Systems ("ISDSs") associated with residential, commercial and/or industrial land uses. Given the distance of the well from the Pascoag River and the Clear River, it is unlikely that any significant recharge is provided from these surface water bodies.

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4-24. What polluting materials are expected to be maintained on hand at the facility? Are there Material Safety Data Sheets available for these items? If so, please provide them.

RESPONSE 4-24: The following commodities will be stored at the site in relatively large quantities:

- A. Ultra-Low Sulfur Diesel fuel oil for plant operation
- B. 19% Aqueous Ammonia for the HRSG SCR

The following chemicals will be stored in relatively small quantities (e.g. 400 gallon totes).

- A. Amine/Ammonia product(s) for cycle chemistry control
- B. Acid, caustic, anti-scalant, and sodium bisulfite for water treatment (reverse osmosis system)

Other products include: lube oil, glycol.

Representative Material Safety Data Sheets for these products are provided as **Exhibit 1**.

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4-25. What is the capacity and structure of the retaining dike around the fuel tanks?

RESPONSE 4-25: The fuel oil storage secondary containment berm (dike) will be designed and installed in accordance with National Fire Protection Agency ("NFPA") 30 (22.11.2.1 through 22.11.2.8) and local environmental regulations. It will be sized to hold the full volume of one storage tank (1,000,000 gallons).

The structure of the containment berm will consist of compacted engineered fill placed at a slope not steeper than 2:1 and sized to exceed the volume of the tank inside the berm as required by code. The berm and containment area will be covered with an impermeable synthetic liner.

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4-26. What Hazmat capabilities will be in place at the plant?

RESPONSE 4-26: Please see 4-24 for a list of commodities and chemicals that will be stored at the plant. The Hazmat plans are as follows:

- A. Diesel Oil - dike around the storage tank, double wall underground pipe and lined membrane around the oil delivery truck unloading station. These design features will contain oil spills. The area around the fuel oil storage tanks will also have a foam-based fire suppression systems designed to protect the fuel oil-based hazards and meet applicable NFPA codes and standards.
- B. Aqueous ammonia - the tank will be contained in a concrete containment area sized to hold the contents of the tank.
- C. Chemicals - all chemical totes will be placed in a concrete containment curb with a corner sump. The associated chemical feed pumps will also be stored in the containment area. This design feature will contain any chemical spills. Any potential spill will be collected in the corner sump and pumped out for disposal.

CREC facility personnel will receive training and certification from the Occupational Safety & Health Administration ("OSHA") pertaining to their specific job responsibilities. In accordance with OSHA guidelines, facility personnel with the responsibility to handle chemicals on-site will be trained in the areas of safe storage and handling. These individuals will also receive OSHA training for applicable appropriate emergency responses. All visitors to the facility will be required to undergo a safety orientation to ensure a basic understanding of the facility and its safety and emergency response procedures. Invenergy will also work with local emergency responders to ensure that the proper Hazmat procedures are in place at all times at the facility and that all local, state and federal safety regulations and guidance are adhered to at all times.

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**IN RE: INVENERGY THERMAL DEVELOPMENT LLC :
APPLICATION TO CONSTRUCT AND :
OPERATE THE CLEAR RIVER ENERGY : SB-2015-06
CENTER, BURRILLVILLE, RHODE ISLAND :**

**INVENERGY THERMAL DEVELOPMENT LLC'S RESPONSES
TO THE TOWN OF BURRILLVILLE'S 4TH SET OF DATA REQUESTS**

4-27. At production, will a constant replenishment of the bump strip be necessary?

RESPONSE 4-27: We are not certain what is meant by a "bump strip," please clarify.

RESPONDENT: John Niland, Invenergy Thermal Development LLC

DATE: April 27, 2016

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4-28. With Invenergy being committed to renewable power production, would Invenergy be willing to repair existing dams and construct a mini power producing facility utilizing a water wheel versus a water turbine so as to maintain the cultural heritage of the town? (Burrillville is an old mill town and water wheel power was the mainstay of its founding.)

RESPONSE 4-28: Invenergy does not have any experience with hydro-electric facilities. Our understanding is that the town conducted a study examining the possibility of putting a small hydro-electric plant adjacent to the dam in the center of town and that study concluded that the hydro-electric unit would not produce significant power. The decreased water flow would cause the dam to be dry (i.e. less water over the dam) for longer periods of time which was not acceptable.

RESPONDENT: John Niland, Invenergy Thermal Development LLC

DATE: April 27, 2016

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4-29. Both solar and wind power production are variable or of limited production use. However, the streams flow 24 hours per day and only slow down during the dry season. The old water wheel system was strong enough to power a full size textile mill. A water wheel should be able to turn a 15 to 20 Kw generator. Do you agree?

RESPONSE 4-29: As stated in the previous response, Invenergy's understanding is that the Town of Burrillville has already studied the feasibility of putting a small hydro-electric plant in the Town and determined that it was not cost effective.

RESPONDENT: John Niland, Invenergy Thermal Development LLC

DATE: April 27, 2016

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4-30. Is there available sound generating equipment or a machine that can demonstrate the 45 decibel sound level?

RESPONSE 4-30: Invenergy provided a demonstration of the various sound levels at the two open houses we have conducted and will do so again at future planned open houses for the public.

RESPONDENT: John Niland, Invenergy Thermal Development LLC

DATE: April 27, 2016

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4-31. Will the pumping or compressor stations on the pipe line have a condensate knock out system that separates the condensate from the gas? If not, why not?

RESPONSE 4-31: Yes, the fuel gas will be processed to remove entrained condensate and moisture.

RESPONDENT: John Niland, Invenergy Thermal Development LLC

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4-32. Will the plant itself have a knock out system? If not, why not?

RESPONSE 4-32: Yes, equipment will be installed to remove entrained condensate and moisture from the fuel gas.

RESPONDENT: John Niland, Invenenergy Thermal Development LLC

DATE: April 27, 2016

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4-33. What will happen to any of the condensates that are separated from the gas? Please explain.

RESPONSE 4-33: The condensate that is removed from the fuel gas will be collected in storage tanks. The liquid in these tanks will be periodically pumped into trucks for off-site disposal.

RESPONDENT: John Niland, Invenergy Thermal Development LLC

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4-34. Will the condensate be treated at the plant or returned to the gas pumping station in double walled pipe systems? Please explain.

RESPONSE 4-34: The condensate removed from fuel gas and collected in the storage tank will be removed periodically by a vacuum truck and disposed of by a qualified contractor to an off-site location.

RESPONDENT: John Niland, Invenergy Thermal Development LLC

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4-35. Were any other towns investigated as locations to build the plant? Please explain

RESPONSE 4-35: Yes, Invenergy examined several sites in RI, MA and CT. The criteria used to evaluate a site are as follows:

- Proper zoning;
- Available land area;
- Proximity to gas pipeline infrastructure;
- Proximity to electric infrastructure.

Sites in CT were ruled out because CT is not in the SEMA/RI zone where new capacity was deemed to be needed by ISO NE. The Town of Burrillville was selected because the site met all of the above-listed criteria. There were other industrial sites examined, however either the gas or electric infrastructure or both could not support the plant with significant upgrades. Generally, new power projects need to be located on the main gas pipeline (which is why there are other projects being proposed in the region in both CT and MA within close proximity to the Burrillville site).

RESPONDENT: John Niland, Invenergy Thermal Development LLC

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4-36. Are there any other "Brown" areas in the state that could accommodate the plant?

RESPONSE 4-36: *See response to Data Question 4-35.*

RESPONDENT: John Niland, Invenenergy Thermal Development LLC

DATE: April 27, 2016

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4-37. Please explain your proposal for what will be done if the plant is in violation of Town Ordinances, especially as it relates to noise, water, air, and property devaluation.

RESPONSE 4-37: In the unlikely event that it is determined that the facility is in violation of any Burrillville Town Ordinances, Invenergy will work with the Town to resolve and correct the violation as expeditiously as possible. Invenergy does not believe that there will be any property devaluation. That being said, Invenergy is prepared to offer abutters a property value guarantee agreement should property devaluation result from building the CREC project.

RESPONDENT: John Niland, Invenergy Thermal Development LCC

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4-38. Please provide the contingency plans for catastrophic or emergency events.

RESPONSE 4-38: As required by OSHA and other local, state and federal regulatory agencies, CREC emergency response procedures will be established. Invenergy will coordinate the development of these emergency response procedures with local authorities such as EMT, Police and Fire Department services so these organizations can provide local experience and input to the final emergency response procedures employed at the CREC facility.

RESPONDENT: John Niland, Invenergy Thermal Development LLC

DATE: April 27, 2016

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4-39. Please provide the disaster recovery plans.

RESPONSE 4-39: As required by local, state, and federal regulations, CREC emergency response plans will be established. Invenenergy will coordinate the development of these disaster recovery plans with local authorities to provide local experience and input to the final emergency response plans employed at the CREC facility.

RESPONDENT: John Niland, Invenenergy Thermal Development LLC

DATE: April 27, 2016

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4-40. During construction, will travel on truck routes or to abutting homes be restricted during certain times of day?

RESPONSE 4-40: The project has planned for truck deliveries to be scheduled between the hours of 7:00 a.m. and 4:00 p.m., Monday through Friday. Invenergy is not requesting any travel restrictions for abutting homes.

RESPONDENT: John Niland, Invenergy Thermal Development LLC

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4-41. What can the company do, or has it done in the past in regards to its energy projects, to mitigate noise, sight, and air disturbances?

RESPONSE 4-41: All Invenergy projects are designed to meet all applicable ordinances and regulations related to noise, sight and air. The CREC has been designed with extensive noise mitigation to meet the A-weighted noise limit in the Burrillville Town Ordinance at the nearest residences. The CREC has been sited to minimize visual impacts by maintaining surrounding wooded buffer areas. As detailed in Section 6.12 of Invenergy's EFSB Application, less than one percent of the five-mile area surrounding the facility will be able to see it. The CREC has been designed with state-of-the-art emission controls and will comply with all applicable local, state and federal air pollution control regulations and air quality standards during its operation.

RESPONDENT: John Niland, Invenergy Thermal Development LLC

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4-42. What, if any, community based programs has the company instituted regarding energy use/consumption/incentives to mitigate local impacts?

RESPONSE 4-42: Invenergy is an Electric Wholesale Generator ("EWG") and the sale of the project's electricity is governed by the Federal Energy Regulatory Commission ("FERC"). Invenergy is prohibited from selling power on a retail basis to consumers and cannot participate in retail or consumer level programs as suggested in the question. Due to the project's very high efficiency, power can be produced at a lower cost than any other plant in New England.

RESPONDENT: John Niland, Invenergy Thermal Development LLC

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4-45. You state that H-rated General Electric engines are the highest efficiency in the Nation. Does that mean they are the best in terms of air quality? Do other engines exist that burn cleaner?

RESPONSE 4-45: Yes, this is the most efficient way to produce electric power using a fossil fuel. The emissions of pollutants from a combustion turbine are proportional to the amount of fuel burned. The GE 7HA.02 combustion turbine has a low heat rate and burns less fuel to produce a megawatt of power than any other turbine commercially available at this time. When the turbine is used in a combined cycle application (i.e. with a heat recovery steam generator and steam turbine), it will generate fewer emissions than any other means for producing electric power using a fossil fuel.

RESPONDENT: John Niland, Invenergy Thermal Development LLC

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4-46. What has been Ocean State Power's air emissions, by pollutant type as reported to the EPA, over the past ten years and how does that compare to what Invenergy projects for the Clear River Energy Center during its first ten years of operations.

RESPONSE 4-46: Ocean State Power's average nitrogen oxides (NOx) and carbon dioxide (CO2) emission rates over the past ten years, as reported to the EPA, have been 0.39 (NOx) and 1,458 (CO2) pounds per megawatt-hour (lb/MW-hr), respectively. (EPA CEMS data with hourly production data can be found at <https://ampd.epa.gov/ampd/>.) The average NOx and CO2 emission rates from the CREC will be approximately 0.046 and 781 lb/MW-hr, respectively. For each MW-hr of power produced, the CREC will emit approximately one eighth (1/8) of the NOx emissions and approximately one half (1/2) of the CO2 emissions that OSP has emitted on average over the past ten years. Although OSP is not required to report its emissions of other pollutants to the EPA, the CO2 emission rate of the CREC will be substantially lower than the emission rate from OSP on a lb/MW-hr basis, as these emissions are generally proportional to the amount of fuel fired. Because CREC is more efficient, it will burn approximately one-third (1/3) less fuel as OSP to produce the same amount of power.

RESPONDENT: Mike Feinblatt, ESS Group, Inc.

DATE: April 27, 2016

INVENERGY THERMAL DEVELOPMENT LLC
By its Attorneys,

/s/ Alan M. Shoer

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Dated: April 27, 2016

CERTIFICATE OF SERVICE

I hereby certify that on April 27, 2016, I delivered a true copy of the foregoing responses to the Energy Facilities Siting Board via electronic mail to the parties on the attached service list.

/s/ Alan M. Shoer

EXHIBIT 1

Product Name: MOBIL DTE 732
Revision Date: 16 Mar 2015
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SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: MOBIL DTE 732
Product Description: Base Oil and Additives
Product Code: 201560302015, 607200-00, 97AS85
Intended Use: Turbine oil

COMPANY IDENTIFICATION

Supplier: EXXON MOBIL CORPORATION
22777 Springwoods Village Parkway
Spring, TX. 77389 USA
24 Hour Health Emergency 609-737-4411
Transportation Emergency Phone 800-424-9300 or 703-527-3887 CHEMTREC
Product Technical Information 800-662-4525
MSDS Internet Address <http://www.exxon.com>, <http://www.mobil.com>

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard Information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

No significant hazards.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

No significant hazards.

NFPA Hazard ID:	Health: 0	Flammability: 1	Reactivity: 0
HMIS Hazard ID:	Health: 0	Flammability: 1	Reactivity: 0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

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SECTION 3	COMPOSITION / INFORMATION ON INGREDIENTS
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This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
ALKYL PHENOL		0.1 - < 1%	H400(M factor 1), H410(M factor 1)
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	64742-54-7	10 - < 20%	H304

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4	FIRST AID MEASURES
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INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5	FIRE FIGHTING MEASURES
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EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

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FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Sulfur oxides, Aldehydes, Oxides of carbon, Incomplete combustion products, Smoke, Fume

FLAMMABILITY PROPERTIES

Flash Point [Method]: >215°C (419°F) [ASTM D-92]

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0

Autoignition Temperature: N/D

SECTION 6

ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7	HANDLING AND STORAGE
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HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabelled containers. Keep away from incompatible materials.

SECTION 8	EXPOSURE CONTROLS / PERSONAL PROTECTION
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EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	Inhalable fraction.	TWA	5 mg/m ³		N/A	ACGIH
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	Mist.	TWA	5 mg/m ³		N/A	ACGIH

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
 No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications,

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handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9

PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid

Color: Amber

Odor: Characteristic

Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.86

Flammability (Solid, Gas): N/A

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Flash Point [Method]: >215°C (419°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 31.5 cSt (31.5 mm²/sec) at 40 °C | 5.7 cSt (5.7 mm²/sec) at 100°C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -18°C (0°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10	STABILITY AND REACTIVITY
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REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11	TOXICOLOGICAL INFORMATION
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INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	

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Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

OTHER INFORMATION

Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

The following ingredients are cited on the lists below: None.

-REGULATORY LISTS SEARCHED-

1 = NTP CARC
 2 = NTP SUS

3 = IARC 1
 4 = IARC 2A

5 = IARC 2B
 6 = OSHA CARC

SECTION 12	ECOLOGICAL INFORMATION
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The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

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Biodegradation:

Base oil component – Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component – Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13

DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. **DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.**

SECTION 14

TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

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AIR (IATA): Not Regulated for Air Transport

SECTION 15	REGULATORY INFORMATION
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OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS, IECSC, KECI, PICCS, TSCA

EPCRA SECTION 302: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16	OTHER INFORMATION
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N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):

H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1

H400: Very toxic to aquatic life; Acute Env Tox, Cat 1

H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Updates made in accordance with implementation of GHS requirements.



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