DELAWARE STORAGE AND PIPELINE COMPANY
APPLICATION FOR A COASTAL ZONE PERMIT

PUBLIC HEARING
NOVEMBER 19, 2019

LIST OF EXHIBITS

Exhibit 1	FOIA Request for Confidentiality, dated and received October 9, 2019 and DNREC's approval
Exhibit 2	Application for a Coastal Zone Act (CZA) Permit, dated and received October 15, 2019
Exhibit 3	Secretary's Assessment Report, dated October 17, 2019, signed October 25, 2019
Exhibit 4	Public notice announcing the public hearing and receipt and availability of the CZA Permit application, The News Journal, dated October 30, 2019
Exhibit 5	Public notice announcing the public hearing and receipt and availability of the CZA Permit application, Delaware State News, dated October 30, 2019
Exhibit 6	Public notice announcing the public hearing and receipt and availability of the CZA Permit application, as emailed to the list of interested parties for Coastal Zone issues, dated October 30, 2019
Exhibit 7	Notice of public hearing as it appeared on DNREC's website on October 30, 2019
Exhibit 8	Notice of public hearing as it appeared on the Delaware Public Meeting Calendar on October 30, 2019
Exhibit 9	PowerPoint presentation given by Erin Wilson at the hearing on November 19, 2019

DUFFIELD
ASSOCIATES
Soil, Water & the Environment

EXHIBIT
tabbies #1

Duffield Associates, Inc.
5400 Limestone Road
Wilmington, DE 19808
Phone: 302.239.6634
Fax: 302.239.8485
duffnet.com

October 9, 2019

Erin Wilson
Division of Climate, Coastal and Energy
Delaware Coastal Programs
Delaware Department of Natural Resources
and Environmental Control
100 W. Water Street Suite 7B
Dover, DE 19904

Dear Ms. Wilson:

The purpose of this letter is to request confidentiality for a document that supports the Coastal Zone permit application of our client, Delaware Storage and Pipeline Company (DSPC). The document which our client is seeking to maintain as confidential is the proposed operating procedures for a system that will introduce additives to jet fuel at DSPC's bulk fuel facility located on Port Mahon Road, Kent County, Delaware. DSPC's facility provides jet fuel to Dover Air Force Base. DNREC's Coastal Zone status decision requires DSPC to seek a permit for the construction and operation of the additive system.

DNREC staff have requested that DSPC provide supporting documentation as part of the permit application to demonstrate that DSPC employees will have appropriate training in order to operate the system safely. The system that is being proposed in the permit application has been modeled after a similar additive system that a DSPC sister company operates and maintains in New Jersey. That system is also part of a bulk storage facility that provides jet fuel to McGuire Air Force Base. The proposed procedures were developed using the expertise of the sister company. As such, we are requesting that the draft systems operating procedures remain confidential pursuant to 29. Del. Code § 1002(l)(17)a.1., 2.for the purposes of national security.

(17) a. The following records, which, if copied or inspected, could jeopardize the security of any structure owned by the State or any of its political subdivisions, or could facilitate the planning of a terrorist attack, or could endanger the life or physical safety of an individual:

1. *Response procedures or plans prepared to prevent or respond to emergency situations, the disclosure of which would reveal vulnerability assessments, specific tactics, specific emergency procedures or specific security procedures.*

2. *Building plans, blueprints, schematic drawings, diagrams, operational manuals or other records of mass transit facilities, bridges, tunnels, emergency response facilities or structures, buildings where hazardous materials are used or stored, arenas, stadiums, waste and water systems, electric transmission lines and substations, high-pressure natural gas pipelines and compressor stations, and telecommunications networks facilities and switching equipment, the disclosure of which would reveal the building's or structure's internal layout, specific location, life, safety and support systems, structural elements, surveillance techniques, alarm or security*

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Soil, Water & the Environment

systems or technologies, operational and transportation plans or protocols, or personnel deployments.

The draft operating procedures have only been shared between DSPC, its sister company and as part of DSPC's contract with the U.S. Defense Logistics Agency (DLA). When DSPC submitted the procedures to DLA it did so with restrictions on disclosure and use of data.

Enclosed please find:

- Confidential copy and a public copy (with appropriate redactions) of the document.
- Notarized affidavit from DSPC President Charles Denault certifying that the proposed operating procedures are of a confidential nature.
- Portion of the DSPC proposal to DLA specifying how data may be used.

If DNREC determines that this information is not deemed to be confidential, we respectfully request that we be notified in a manner that will allow our client an opportunity to engage DNREC to explore issues prior to making the document available to the public.

We look forward to your timely decision on this matter and please contact us with any questions.

Very truly yours,

David Small
Director
Environmental Services

DS:mes
11713EC.1019-DSPC confidentiality request.LTR

Cc: Charles Denault

PUBLIC COPY
[redacted] **Additive Injector System Description and Proposed Operation**
May 2, 2017

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]
[redacted]
[redacted]

Affidavit

I, Charles Denault, President of Delaware Storage and Pipeline Company, certify that the Proposed Operating Procedures and site specific information for the jet fuel additive system that is proposed for our bulk facility and terminal near Dover, Delaware, is information of a confidential nature due to security concerns pursuant to 29. Del. Code § 1002(l)(17)a. 1., 2.

Charles Denault

President, Delaware Storage and Pipeline Company

October 9, 2019

State of NEW HAMPSHIRE

County of HILLSBOROUGH

This instrument was acknowledged before me this 9th day of October, 2019, by Charles Denault, President of Delaware Storage and Pipeline Company.

XXX Personally Known

(Seal)

Signature of Notary

Patricia Stark Rice

Name of Notary
Notary Public, State of New Hampshire

DELAWARE STORAGE AND PIPELINE CO.

SOLICITATION SPE600-17-R-0510 PORT MAHON

Attachment A
Dated May 2, 2017
Revision 1 - May 12, 2017
Revision 2 – May 18, 2017
Revision 3 – September 15, 2017
Revision 4 – September 20, 2017

This Attachment A, initially dated May 2, 2017 revised May 12, 2017 as a result of Amendment 0001, revised again May 18, 2017 as a result of Amendment 0002, and a third time on September 15, 2017 as the result of negotiations is an integral part of Delaware Storage and Pipeline Company's (Delaware) response to Solicitation Number SPE600-17-R-0510 , which includes Attachment 1, Attachment 2, and Attachment 3 Wage Determination 2015-4217 (Rev **1** dated 07/20/2016), Amendment 0001 effective May 1, 2017, Amendment 0002, and Amendment 0003 issued by the DLA Energy-FESBC, Fort Belvoir, VA for services and facilities to receive, store, and ship U.S. Government-owned fuel in Port Mahon, Delaware.

RESTRICTION ON DISCLOSURE AND USE OF DATA

This proposal or quotation includes data that shall not be disclosed outside the government and shall not be duplicated, used or disclosed--in whole or in part--for any purpose other than to evaluate this proposal or quotation. If, however, a contract is awarded to this offerer or quoter as a result of -- or in connection with -- the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction is contained in this proposal, Attachment A , its revisions, and all contract/ solicitation required facility manuals in their entirety, said restriction shall survive any resulting contract unless specified to the contrary in the resulting contract.

Contact Information:

Delaware Storage and Pipeline Company

Corporate address:

Attention: Charles A. Denault, President
400 Amherst St., Suite 405
Nashua, NH 03063

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL
89 KINGS HIGHWAY
DOVER, DELAWARE 19901

Office of the
Secretary

Phone: (302) 739-9000
Fax: (302) 739-6242

Mr. David Small
Duffield Associates
5400 Limestone Road
Wilmington, DE 19808

Dear Mr. ~~Small~~ Dave:

Please find attached, Confidentiality Determination Document number CZ-2019-001, notifying you of my determination regarding your request for confidential treatment of information submitted to the Department in a letter dated October 9, 2019. It has been determined that you have met the necessary criteria to substantiate your confidentiality request pursuant to Section 900 of 8 DE Admin. Code, "Policies and Procedures Regarding FOIA Requests" ("the Department's FOIA Policy") and 29 *Del. C.* Chapter 100. Therefore, the information identified as confidential in your October 9, 2019 letter will be afforded confidential status.

If you have any questions, please contact Erin Wilson with the Division Climate, Coastal, & Energy at (302) 739-9283.

Sincerely,

Shawn M. Garvin
Secretary

Enclosure

cc: Dayna Cobb, Division of Climate, Coastal, & Energy Director

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL
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DOVER, DELAWARE 19901

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CONFIDENTIALITY DETERMINATION DOCUMENT
CZ-2019-001

Re: Delaware Storage and Pipeline Company
October 9, 2019 Letter

Facts

On October 9, 2019, Delaware Storage and Pipeline Company ("DSPC") submitted a request for confidentiality in response to the Department's Coastal Zone Act ("CZA") Program request for information that would demonstrate the ability of the employees to properly and safely carry out the new proposed process changes outlined in an early iteration of an application for a Coastal Zone permit. The request for confidentiality was submitted in accordance with the requirements of the Department's Policies and Procedures Regarding FOIA Requests ("FOIA Policy"), 9 DE Admin. Code 900.

Findings

The CZA Program has determined that DSPC has successfully substantiated its request for confidentiality pursuant to the Department's FOIA Policy – specifically, on the basis that certain information as set forth in the October 9, 2019 letter is confidential for the purpose of national security (29 Del. C. §10002(1)(17)a.1.,2.).

Recommendation

Based upon the above findings, the CZA Program recommends that the information identified as confidential in the October 9, 2019 letter by DSPC, is deemed confidential and therefore exempt from public disclosure pursuant to FOIA Policy.

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL
89 KINGS HIGHWAY
DOVER, DELAWARE 19901

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Secretary

Phone: (302) 739-9000
Fax: (302) 739-6242

Determination

I hereby determine that Delaware Storage and Pipeline Company has successfully substantiated its request for confidentiality on information contained in the October 9, 2019 letter by meeting the necessary criteria according to the Delaware Freedom of Information Act and the Department's Policies and Procedures Regarding FOIA Requests. The information will be afforded confidential status on the basis that it meets the exemption from public disclosure provided by 29 Del. C. §10002(1)(17)a.1.,2.

November 8, 2019
Date

Shawn M. Garvin
Secretary

PUBLIC COPY

APPLICATION FOR A COASTAL ZONE ACT PERMIT

State of Delaware
Department of Natural Resources & Environmental Control
Office of the Secretary

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6. Process Diagram
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8. TANKS 4.0.9d Annual Emissions Results
9. Dice Flash 190 Tank Emission Calculations
10. Proposed Operations Procedure (Subject to FOIA Confidentiality)
11. Inspection Reports (DNREC, USCG, US DOT)
12. Environmental Offset Proposal Reduction Claim
13. Environmental Offset Proposal
14. Kent County Conservancy letter
15. Environmental Impact Offset Matrix
16. Facility Photos
17. Environmental Permit Background Statement

Permit Application Instructions

1. Complete all parts of the application. For sections which are not applicable to your project, do not leave blank; present a statement that clearly states why the section is not applicable to your project.

2. Because all applicants' projects are different, this word document template will provide you flexibility for needed space to answer the questions. Please insert additional lines for text where needed for your application. If appropriate, attach extra pages referencing each answer by the corresponding section and question number.

3. Submit eight complete hard copies of the permit application to:

   Office of the Secretary
   Department of Natural Resources & Environmental Control
   State of Delaware
   89 Kings Highway
   Dover, DE 19901

   In addition to the eight hard copies, submit a complete electronic "pdf" copy of the permit application and a copy of the Offset Matrix in Microsoft Word format on cd-rom.

4. Comply, if required, or as requested by the DNREC Secretary, with 7 Delaware Code, Chapter 79, Section 7902. If requested, but not completed, your application will not be considered administratively complete until this form is reviewed.

5. Be sure to include your permit application fee of $3,000; otherwise the application will not be considered administratively complete. Make checks payable to the "State of Delaware."

6. Be advised that the application for a Delaware Coastal Zone Act Permit is a public document, which may be displayed at DNREC offices, public libraries, and the web, among others. If this application requires you to place confidential information or data in the application to make it administratively complete, note the Delaware Freedom of Information Act (29 Delaware Code, Chapter 100) and DNREC's Freedom of Information Act Regulation, Section 6 (Requests for Confidentiality), for the proper procedure in requesting confidentiality.

Note: This application template was last revised by DNREC on January 30, 2008. Please discard any previous versions.

PART 1
CERTIFICATION BY APPLICANT

PLEASE SEE ATTACHMENT 1

Under the penalty of perjury pursuant to 11 Delaware Code §1221-1235, I hereby certify that all the information contained in this Delaware Coastal Zone Act Permit Application and in any attachments is true and complete to the best of my belief.

I hereby acknowledge that any falsification or withholding of information will be grounds for denial of a Coastal Zone Permit.

I also hereby acknowledge that all information in this application will be public information subject to the Delaware Freedom of Information Act, except for clearly identified proprietary information agreed to by the Secretary of the Department of Natural Resources & Environmental Control.

_____
Print Name of Applicant

_____
Signature of Applicant

_____
Title

_____
Date

PART 2

APPLICANT INFORMATION AND SITE IDENTIFICATION

2.1 **Identification of the applicant:**

Company Name: Delaware Storage and Pipeline Company
Address: 987 Port Mahon Road, Dover, DE 19901
Telephone: 302-736-1774
Fax: 302-734-2749

2.2 **Primary contact: Please list the name, phone number and email of a preferred contact within your company in case the DNREC needs to contact you regarding this permit application.**

Charles Denault, President
603-886-7300
C_denault@bartmgt.com

2.3 **Authorized agent (if any):**

Name: Duffield Associates
Address: 5400 Limestone Road, Wilmington, DE 19808
Telephone: 302-239-6634
Fax: 302-239-8485

If you have an authorized agent for this permit application process, provide written authorization from client for being the authorized agent.

Please see Attachment 2

2.4 Project property location (street address):

Delaware Storage and Pipeline Company (DSPC)
987 Port Mahon Road
Dover, Delaware 19901

2.5 In a separate attachment, provide a general map of appropriate scale to clearly show the project site.

Please see Attachments 3 and 4

2.6 Is the applicant claiming confidentiality in any section of their application?
YES
NO
If yes, see instructions on page 3.

PART 3

PROJECT SUMMARY

Provide a one-page summary describing the proposed project. Include a brief quantitative description of the anticipated environmental impacts, and how the Environmental Offset Proposal will "clearly and demonstrably" more than offset any negative impacts.

Overview

Delaware Storage and Pipeline Company (DSPC) is located at 987 Port Mahon Road, Dover, Delaware. The facility consists of a tank farm, pipeline and dock and serves as the sole provider of jet fuel for Dover Air Force Base, located in Kent County, Delaware. The facility and supporting infrastructure are located on four parcels totaling 46.94 acres. The facility is identified under the Coastal Zone Act Regulations as a non-conforming bulk product transfer facility. The proposed project will be located on the Tank Farm, which is comprised of two parcels totaling 27.6 acres. Attachment 3 identifies the pier where fuel is delivered in relation to the parcels on which the project will be located.

The Department of Defense (DOD) currently is using fuel that contains three additives for safety and operational purposes. The fuel delivered to and stored at DSPC contains these additives. DOD is now seeking the ability to purchase commercial jet fuel locally and on the spot market. As a result, these same additives will be blended into the delivered fuel at DSPC and other similar bulk facilities that supply fuel. DOD jet fuel contracts can vary from year to year among suppliers. This procedure change will allow DOD to bring consistency and cost effectiveness to its fuel delivery and handling systems by requiring that facilities such as DSPC have the equipment on site to add these products into their fuel delivery systems. This minor project will not result in major changes of the operations at the DSPC facility.

The jet fuel that currently is delivered to and stored at DSPC contains these additives:

- Icing inhibitor -- SDSFSII – diethlyene glycol monoethyl ether (Dice Flash 190)
- Anti-static agent -- SDS Stadis 450
- Corrosion inhibitor -- DCI 4A 5050

The jet fuel with additives allows it to meet North Atlantic Treaty Organization standards. Those standards are designed to enhance safety and operations. In addition to preventing jelling of fuels in extreme cold, the anti-icing agent also prevents the buildup of microbes in the fuel.

The anti-corrosion additive prevents the corrosion of internal components of metals that carry the jet fuel. The anti-corrosion protection also benefits the storage tanks, pipelines, filtration vats and pump stations. The anti-static additive

keeps the jet fuel stable, or as stable as possible for loading, off-loading, transportation and or handling uses, including at DSPC.

A pre-fabricated, double-walled, horizontal 12,000 gallon tank will be installed in the existing tank farm, surrounded by a containment berm, and used for storage of Dice Flash 190. The tank will be placed on a concrete foundation and above a 10 foot by 40 foot concrete pad. Dice Flash 190 is 99% diethylene glycol monomethyl ether, CAS 111-77-3. As shown on the safety data sheet, this material has a specific gravity of 1.021 and a vapor density of 4.16. As such, the liquid material is slightly denser than water, while its vapors are significantly denser than air.

A new 242-square foot (sq. ft.) metal building will be constructed in the existing tank farm area to hold separate 250- gallon metal totes for storage of the anti-static and the corrosion inhibitor, as well as other equipment. The anti-static agent and corrosion inhibitor will be delivered to the facility by truck in 55 gallon drums and transferred to the totes. The number of drums stored in the proposed metal building will vary but is not expected to exceed approximately 12 drums. No drums are expected to be stored outside or in other buildings. Additives will be transferred from drums to the totes through a closed pump and hose system. The additives in the totes will be fed though a closed injection line into the pipeline conveying jet fuel from the barge dock to the storage tanks. These additives will mix with the jet fuel flowing in the pipeline.

The Dice Flash 190 will be delivered via tanker truck (approximately 5,000 gallons). The additive will be offloaded from a tanker through a header by way of a flexible delivery hose. From the header, the Dice Flash 190 will be pumped to the 12,000 gallon storage tank through a dedicated pipeline. Air in the storage tank will be displaced by the denser Dice Flash 190. The displaced air will be discharged to the atmosphere through the tank vent. The denser Dice Flash 190 vapors, if any, should remain in the storage tank. The expected rate of Dice Flash 190 delivery is one tanker every eight weeks, but will vary depending on fuel usage at DAFB.

Environmental Impacts

No significant air emissions are expected, however calculations were performed to determine the impact of truck deliveries and Dice Flash 190 emissions from the storage tank. The physical properties of Dice Flash 190 are such that there are minimal, if any, emissions to the environment during tank filling. Emissions have been estimated at approximately 1.23 pounds per year including emissions from the tank during filling and emptying and during stagnant conditions within the tank. The injection of Dice Flash 190 into jet fuel will be made through a sealed pipeline. The Stadis 450 and DCI 4AA 5050 will be stored in sealed 55-gallon drums which will be housed in the metal building. The two additives will be transferred to 250-gallon totes in the building from which the additives will be injected, through a closed system, into the pipeline when jet fuel is transferred from barges to the storage tanks at the facility.

There will be de minimus air emissions associated with the delivery by truck of the three additives. It is estimated that a total of approximately 18 deliveries (six per additive) will occur on an annual basis. Delivery trucks will travel about two miles within the Coastal Zone per delivery from Route 9 in Little Creek to and from the facility on Port Mahon Road.

No wastewater discharges are expected. Activity associated with the project will not impact wetlands and no disruption to drainage is anticipated. There will be an additional 3,885 square feet of impervious cover created by the project through the construction of the concrete pads, vehicle access areas and new building. Stormwater will infiltrate on site around the structures. There is not expected to be an impact on area surface waters and no effect on threatened or endangered species.

Minor, temporary soil disturbance will occur in conjunction with tank and pipeline installation and building construction. The land disturbance area is expected to be less than 5,000 square feet.

DSPC is proposing an environmental offset for the minimal environmental impacts identified in this application. The offset focuses on reduction of air emissions. DSPC believes that there are minimal impacts associated with the project in part because the additives are already present in the fuel stored at the site. In addition, DSPC believes its past voluntary improvements in conjunction with the proposed environmental offset, provide more than an adequate environmental offset for the project.

PART 4

PROJECT PROPERTY RECORD AND EVIDENCE OF LOCAL ZONING AND PLANNING APPROVAL

PROJECT PROPERTY RECORD

4.1 Name and address of project premises owner(s) of record:

Charles Denault, President
603-886-7300
C_denault@bartmgt.com

4.2 Name and address of project premises equitable owner(s):

Charles Denault, President
603-886-7300
C_denault@bartmgt.com

4.3 Name and address of lessee(s):

There are no leases currently associated with the property. This topic is not applicable.

4.4 Is the project premises under option by permit applicant?

The project premises is not under option.

4.5 What is the present zoning of the land for this entire project site?

General Industrial (IG)

EVIDENCE OF LOCAL ZONING AND PLANNING APPROVAL

PLEASE SEE ATTACHMENT 5 – KENT ZONING VERIFICATION

This part is essential for a complete Coastal Zone Act Permit Application. No application will be considered administratively complete without it. While the applicant is strongly advised to use this form, the local zoning jurisdiction may utilize a different form or document to demonstrate "evidence of local zoning approval," provided such documents are signed and dated by the proper official.

PART 5

PROJECT OPERATIONS

5.1 **Describe the characteristics of the manufactured product <u>and</u> all the process and/or assembly operations utilized by the proposed project. Include in the description (use attachments if necessary):**

a. The raw materials, intermediate products, by-products and final products and characteristics of each. Review any materials' risk of carcinogenicity, toxicity, mutagenicity and/or the potential to contribute to the formation of smog. Provide material safety data sheets (MSDS) if available;

b. The step-by-step procedures or processes for manufacturing and/or assembling the product(s). Provide a flow diagram to illustrate procedures; Please See Attachment 6

c. The nature of the materials mentioned above in 4.1(a) as to whether or not the materials require special means of storage or handling;

d. List the machinery (new and/or existing) to be utilized by this project;

e. List any new buildings or other facilities to be utilized;

f. List the size and contents of any anticipated aboveground or underground storage tank systems that may be constructed or utilized in support of facility operations;

g. If this project represents an increase or decrease in production at an already existing facility, what will be the new rate of maximum production?

h. If this project represents a totally new facility at a new or existing site, what will be the maximum production rate?

PROJECT OPERATIONS

The icing inhibitor (SDSFSII – diethylene glycol monoethyl ether, also known as Dice Flash 190), anti-static agent (SDS Stadis 450), and corrosion inhibitor (DCI 4A 5050) are described in the Project Summary in Part 3 of this application. Safety Data Sheets for each of the three additives are provided as Attachment 7. Since the three additives, each in their own container, will be injected into the closed system jet fuel receipt line as the jet fueling is flowing, there is not expected to be an intermediate product between the separate additives and the final product. Since emissions are not expected during the transfer of the additives to the jet fuel, during Dice Flash 190 tank filling, or during the storage or

injection of Stadis 450 and DCI 4A 5050 through a closed system, there is not expected to be a contribution to the formation of smog.

See Dice Flash 190, SDS Stadis 450, and DCI 4A 5050 Safety Data Sheets in Attachment 7 for details regarding the carcinogenicity, toxicity, and mutagenicity.

The anti-static and corrosion inhibitor additives will be transported by truck in sealed, 55-gallon drums. The Dice Flash 190 will be delivered by an approximately 5,000 gallon tanker truck. The Dice Flash 190 additive will then be transferred into a 12,000 gallon tank by a header and flex delivery hose that will be connected to a pipeline. Each additive will be injected into the closed system receipt line as the receiving product flows into the final product tote. A process flow diagram is provided in Attachment 6.

There are eight bulk storage tanks that are all used for storing jet fuel mixed with additives. The tanks are equipped with fill height sensors that alert the operators if a tank is approaching an over-filled condition. The pipe from the dock to the storage terminal and from the storage terminal to Dover Air Force Base is equipped with leak detection monitoring. A new 242-square foot metal building will be constructed in the existing tank farm area to hold separate 250-gallon metal totes to hold the anti-static and corrosion inhibitor additives and other equipment. A pre-fabricated, double-walled, horizontal 12,000-gallon tank will be installed within a containment berm and will be used for storage of Dice Flash 190. The tank will be placed on a concrete foundation and above a 10-foot by 40-foot concrete pad. See Attachment 4, which includes the site grading plan, for more details about the location of the proposed and existing machinery. The amount of the anti-static and corrosive inhibitor stored at any given time in the new metal building will vary but is not expected to exceed approximately 12 drums. No drums containing additives are expected to be stored outside. Additive from the drums will be transferred to the totes via closed system pump and hose and from there injected into the pipeline through a closed system. The interior floor of the building will be concrete and include an elevated lip around the exterior perimeter to contain any release from the drums or totes. No additional buildings or other facilities will be utilized.

All three additives will be added through closed systems to the jet fuel as it is being transferred through pipeline from barges to storage tanks at the facility.

DSPC currently is handling jet fuel with the three additives mixed into it by the fuel supplier. The fuel is offloaded from barges, transported by pipeline and stored in above ground storage tanks at the existing DSPC facility. No new products, by products or intermediates are being introduced for use at the facility as a result of the project.

Jet fuel throughput is not expected to increase beyond historic ranges which are typically between 50,000 and 80,000 barrels per month. However, the use of jet fuel is dictated by the needs and mission requirements of the Dover Air Force Base. DSPC has no other client for the jet fuel stored at its facility. DSPC is not increasing the number of jet fuel storage tanks. The facility has not been part of any environmental clean-up programs.

5.2 Describe daily hours of plant operations and the number of operating shifts.

The plant operates 24 hours a day, 365 days a year and there is typically at least 1 person and up to 12 people onsite at all times.

5.3 **Provide a site plan of this project with:**

a. A north arrow;

b. A scale of not less than one inch to 200 feet;

c. Identity of the person responsible for the plan, including any licenses and their numbers;

d. The acreage of the applicant's entire property <u>and</u> acreage of the proposed project;

e. Property lines of entire property;

f. Lines designating the proposed project area for which application is being made, <u>clearly</u> <u>distinguished</u> from present facilities and operating areas (if any);

g. Existing and proposed roads, railroads, parking and loading areas, piers, wharfs, and other transportation facilities; (see Attachment 2, Sheet 1, Site/Grading Plan)

h. Existing water bodies and wetlands and proposed dredge and fill areas, and;

i. Existing and proposed drainage ways, gas, electric, sewer, water, roads, and other rights-of-way.

Please See Attachment 4

5.4 How many acres of land in total are required for this proposed project?

Existing/ currently utilized/ developed land: 27.6 acres.

New land: The facility is not acquiring additional land or expanding the existing footprint, but is instead utilizing the available lands currently

owned by DPSC. The disturbed area for the proposed project will be 4,635 square feet, including pervious surfaces. This is less than 5,000 square feet and therefore is exempt from sediment control and stormwater management requirements. Plans will include a note that the limit of disturbance must be met in order to comply with the 5,000 square foot limit.

5.5 Has the property been involved with a state or federal site cleanup program such as Superfund, Brownfields, HSCA Voluntary Cleanup Program, RCRA Corrective Action, Aboveground or Underground Storage Tank Cleanup Programs? If so please specify which program.

The property has not been involved with a state or federal site cleanup program.

5.6 With regards to environmental cleanup actions, has a Uniform Environmental Covenant, Final Plan of Remedial Action, or no further action letter been issued by the Department? If so are the planned construction activities consistent with the requirements or conditions stated in these documents?

A Uniform Environmental Covenant, a Final Plan of Remedial Action, or a no further action letter have not been imposed or issued because there have not been environmental cleanup actions at the property.

PART 6A

ENVIRONMENTAL IMPACTS

Air Quality

6.1 Describe project emissions (new, as well as any increase or decrease over current emissions) by type and amount under maximum operating conditions:

Pollutant	Existing Emissions		Net Increase/Decrease		New Total Emissions		Percent Change (compare tons/year)
	Lbs/day	*Tons/year*	*Lbs/day*	*Tons/year*	*Lbs/day*	*Tons/year*	
VOC	-	-	0.000236	0.0000431	0.000236	0.0000431	100%
THC	-	-	0.000239	0.0000437	0.000239	0.0000437	100%
CO	-	-	0.00124	0.000227	0.00124	0.000227	100%
NOx	-	-	0.00477	0.000871	0.00477	0.000871	100%
$PM_{2.5}$	-	-	0.000112	0.0000204	0.000112	0.0000204	100%
PM_{10}	-	-	0.000121	0.0000221	0.000121	0.0000221	100%
Dice Flash	-	-	0.00337	0.000615	0.00337	0.000615	100%

The table above shows the overall emissions from the trucks delivering the three additives within the coastal zone on an annual basis. The truck traffic will

increase by 18 total trips per year due to the delivery of additives to the site. This is a conservative assumption of six deliveries annually of each additive. The total pounds per day and tons per year of each additive was estimated by calculating the total distance a truck would travel within the coastal zone, which is approximately 1 mile. Each trip will therefore be 2 miles. The western boundary of the Coastal Zone in Little Creek is defined by Route 9. Therefore truck travel in the Coastal Zone is limited to the route from Route 9 to the facility on Port Mahon Road. The *Average In-Use Emissions from Heavy-Duty Trucks* by the EPA in 2008 estimates the grams of each pollutant per mile. Using an average speed of 25 miles per hour for each truck and assuming an idling time for the Dice Flash 190 truck of 1 hour and 30 minutes for the Stadis 450 and DCI 4AA 5050, a total hours per trip per day was calculated. Trucks delivering Dice Flash 190 will need to idle while offloading in order to operate an onboard pumping system and will do so pursuant to Section 5.5 of Delaware Air Regulation 1145. Any trucks delivering Stadis 450 and DCI 4AA 5050 that are 8,500 lbs. gross vehicle weight and otherwise regulated will be expected to comply with the state's anti-idling requirements in Delaware Air Regulation 1145.

In the mid-1990s the facility converted the type of jet fuel it handles and stores from JP-4 to JP-8. As a result, DNREC waived air permitting and reporting requirements. Air emissions derived from Dice Flash 190 were calculated by estimating the total emissions per year of ethanol amine and total xylenes (having a vapor pressure below and above Dice Flash 190, respectively) in the EPA's TANKS 4.0.9d model (see Attachment 8). Six turnover periods were assumed on the basis that six truck deliveries will occur annually, resulting in a throughput of 72,000 gallons per year of Dice Flash 190. The TANKS 4.0.9d model estimates the 'Working Loss,' representing the emissions during filling and emptying of the tank, as well as 'Breathing Loss,' representing the emissions when the tank is stagnant. The Dice Flash 190 total emissions per year were then interpolated using the known vapor pressure of Dice Flash 190, approximately 0.0025 psia (see Attachment 9). The total annual emissions of Dice Flash 190 are approximately 1.23 pounds per year, or 0.000615 tons per year. The annual air emissions appear to be de minimis. There do not appear to be significant air emissions during the injection of the additives into the jet fuel. The Stadis 450 and DCI 4AA 5050 will be stored in sealed 55-gallon drums which will be housed in the metal building. The two additives will be transferred to 250-gallon totes in the building from which the additives will be injected, through a closed system, into the pipeline when jet fuel is transferred from barges to the storage tanks at the facility.

6.2 Describe how the above emissions change in the event of a mechanical malfunction or human error.

In the event that a release does occur, the following pertinent information should be known regarding the three additives:

1. DCI Corrosion Inhibitor – vapor pressure not determined
2. Diethylene Glycol Monomethyl Ether – vapors: Heavier than air and may spread along floors; are combustible; can form explosive mixtures

with air when heated intensely; and can develop hazardous combustion gases or vapors in the event of fire.

3. Stadis 450: Solvent vapors may form explosive mixtures with air. Vapors are heavier than air and may spread near ground to sources of ignition. Vapors may travel considerable distance to source of ignition and flash back.

The relative vapor density of Diethylene glycol monomethyl ether is 4.14 and the vapor density of Stadis 450 is >3 while air is approximately 1. The vapor pressure of DCI Corrosion Inhibitor is listed as not determined on the SDS. Since the vapors of Diethylene glycol monomethyl ether and Stadis 450, are heavier than air, they will collect along the ground surface as is stated in the SDS.

According to Safety Data Sheets, both anti-static agent SDS Stadis 450 and Corrosion inhibitor DCI 4A 5050 are toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment should a major equipment malfunction or human error occur.

In the event that a release does occur, operations should cease immediately. The Delaware Natural Resources and Environmental Control (DNREC) should be contacted as well as an Environmental Professional for emergency spills.

The additives will be stored in containers that have secondary containment. The additives, if released from primary containment, should not enter the open environment.

6.3 Describe any pollution control measures to be utilized to control emissions to the levels cited above in 5.1.

Since any emissions are beneath regulated threshold under normal operating conditions, control measures are not being considered. Secondary containment is being provided to minimize the potential for releases of stored additives to the open environment.

6.4 Show evidence that applicant has, or will have, the ability to maintain and utilize this equipment listed in 5.3 in a consistently proper and efficient manner. (For example, provide college transcripts and/or records of training courses and summary of experience with this pollution control equipment of person(s) responsible for pollution control equipment, and/or provide copies of contracts with pollution control firms to be responsible for maintaining and utilizing this equipment.)

The facility has been operating at the site since it began operations in 1960. Equipment installed as part of this project is expected to be regularly maintained per manufacturer's recommendations. In addition, staff will monitor equipment operations while jet fuel is offloaded from barges. Staff will monitor as additives are injected into the fuel as the fuel

is transferred to tanks for storage. The tanks are equipped with fill height sensors that alert the operators if a tank is being over-filled. The pipelines from the dock to the terminal and from the terminal to the base are equipped with leak detection monitoring. The terminal functions under a highly detailed standard operating procedures (SOP), and Quality Assurance/Quality Control (QA/QC), which is Defense Logistics Agency (DLA) approved and monitors. DLA has an onsite representative who ensures that DPSC operates the contract in accordance with both the contractual requirements as well as in accordance with the approved QA/QC plan. There is fire protection equipment and there are booms kept onsite at the tank farm and at the dock in case of an emergency.

Staff training is ongoing, but there are no specific certifications required beyond the OSHA training that allows staff workers to respond to oil spills. The system that is being proposed in this application has been modeled after a similar additive system that a sister company operates and maintains in New Jersey. That system is also part of a bulk storage facility that provides jet fuel to McGuire Air Force Base. Operators of the system proposed for the Port Mahon facility will have the benefit of experience in operating the New Jersey system which has been in operation since 2015. A copy of the proposed operating procedures for the Delaware system is included as Attachment 10 (pending FOIA confidentiality determination). The proposed procedures were developed using the expertise of the sister company. The Applicant has requested that the systems operating procedures remain confidential pursuant to 29. Del. Code § 1002(l)(17)a.2. for the purposes of national security. The procedures will be modified once the system is installed to reflect any specific field adjustments required during installation.

DNREC inspects the site annually. The Coast Guard also inspects the site often, with both announced and unannounced inspections, along with an annual audit. The U.S. Department of Transportation inspects the site bi-annually, and the Environmental Protection Agency (EPA) also inspects the site though not on a regular schedule. Copies of inspection reports from DNREC, the U.S. Coast Guard and the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration are included in Attachment 11.

Water Quality

6.5 Describe wastewater discharge (new, as well as any increase or decrease over current discharge levels) due to project operations:

Pollutant	Current Discharge Concentration (ppm)	New or Changed Discharge Concentration (ppm)	Current Discharge		Net Increase/Decrease		New Total Emissions	
			Lbs/day	*Tons/year*	*Lbs/day*	*Tons/year*	*Lbs/day*	*Tons/year*

There is no wastewater discharge from the project and no impacts to water quality are expected from the project. There is no point-source wastewater discharge to surface waters or wetlands.

6.6 Describe the current method of employee sanitary wastewater disposal and any proposed changes to that system due to this proposed project.

The facility currently is served by an on-site wastewater disposal system. No modifications to the system are needed as a result of the project. There is no process wastewater generated by the proposed project.

6.7 Identify the number, location, and name of receiving water outfall(s) of any and all <u>process wastewater</u> discharge (new or current) affected by this proposed project. Provide NPDES Permit Numbers for each discharge affected.

N/A

6.8 If any effluent is discharged into a public sewer system, is there any pretreatment program? If so, describe the program.

N/A

6.9 Stormwater:

a. Identify the number, location, and name of receiving waters of <u>stormwater</u> discharges. Provide permit number for each discharge.

There are no permitted stormwater discharges associated with the project. The disturbance area of the project is 4,635 square feet and therefore the project is exempt from sediment control and post-construction stormwater management requirements.

b. Describe the sources of stormwater run-off (roofs, storage piles, parking lots, etc.).

Stormwater run-off will be generated by the addition of the metal storage building, concrete pads and asphalt turning area. Total additional impervious surface is expected to be 3,885 square feet. The stormwater is contained, infiltrates soils and the project will not change the run-off.

c. **Describe the amount of stormwater run-off increase over current levels that will result from the proposed project.**
The future impervious area is expected to be 3,885 square feet. Based on an average annual precipitation of 46.1 inches, the future impervious area is expected to generate approximately 112,000 gallons of stormwater per year. However, the stormwater run-off will infiltrate within the containment areas and will not be collected, pumped, and discharged.

d. Describe any pollutants likely to be in the stormwater.
No pollutants are expected in stormwater runoff.

e. Describe any pollution control device(s) or management technique(s) to be used to reduce the amount of stormwater generated, and devices to improve the quality of the stormwater run-off prior to discharge.
N/A

f. Describe any new or improved stormwater drainage system required to safely carry off stormwater without flooding project site or neighboring areas down gradient.
N/A

6.10 Will this project use a new water intake device, or increase the use (flow) from an existing intake device?
YES
NO

If yes, state:

a. the volume of water to be withdrawn, and;

b. describe what will be done to prevent entrainment and/or entrapment of aquatic life by the intake device.

6.11 Will this proposed project result in a thermal discharge of water, or an increase in the flow or temperature of a current thermal discharge?
YES
NO

If yes, state:

a. The volume of the new flow or increase from the existing thermal discharge, both in flow and amount of heat;

b. How warm will the water be when it is discharged into a receiving waterway, discharge canal, or ditch, and what will be the difference in discharge temperature and ambient temperature (delta

T) at various seasons of the year after all cooling water mechanisms have been applied to the hot water?

c. The equipment and/or management techniques that will be used to reduce the thermal load of the discharge water.

6.12 Will any proposed new discharge or change in existing discharge cause, or have potential to cause, or contribute to, the exceedance of applicable criteria appearing in the "State of Delaware Surface Water Quality Standards"?

YES
NO

If yes, explain:

6.13 Describe any oils discharged to surface waters due to this proposed project.

N/A

6.14 Describe any settleable or floating solid wastes discharged to surface waters due to this project.

N/A

6.15 Show evidence that the applicant has, or will have, the ability to maintain and utilize any water pollution control equipment listed in questions 5.5 through 5.14 in a consistently proper and efficient manner. (For example, provide operator license numbers, college transcripts and/or training courses and summary of prior experience with this pollution control equipment of person(s) responsible for pollution control equipment, and/or provide copies of contracts with pollution control firms.)

N/A

6.16 Estimate the amount of water to be used for each specified purpose including cooling water. State daily and maximum water use in the unit of gallons per day for each purpose and source of water. State if water use will vary with the seasons, time of day, or other factors.

N/A

6.17 Identify the source of water needed for the proposed project, including potable water supplies.

N/A

6.18 Are wells going to be used?

YES
NO

If yes:

a. Identify the aquifer to be pumped and the depth, size and pumping capacity of the wells.

b. Has a permit been applied for to do this?

c. How close is the proposed well(s) to any well(s) on adjacent lands?

Solid Waste

6.19 Will this project result in the generation of any solid waste?

YES
NO

If yes, describe each type and volume of any solid waste (including biowastes) generated by this project, and the means used to transport, store, and dispose of the waste(s).

The 55-gallon drums used for transportation and storage of the anti-corrosive and anti-static additives will be removed and disposed of offsite. Any solid waste resulting from project construction will be disposed of at an appropriately permitted facility.

6.20 Will there be any on-site recycling, re-use, or reclamation of solid wastes generated by this project?

YES
NO

If yes, describe:

6.21 Will any waste material generated by this project be destroyed on-site?

YES
NO

If yes, how will that be done?

Hazardous Waste

6.22 Will this proposed project result in the generation of any hazardous waste as defined by the "Delaware Regulations Governing Hazardous Waste"?

YES
NO

If yes, identify each hazardous waste, its amount, and how it is generated:

6.23 Describe the transport of any hazardous waste and list the permitted hazardous waste haulers that will be utilized.

There will be no hazardous waste generated by this project.

6.24 Will the proposed project cause the applicant to store, treat, and/or dispose of hazardous waste?

YES
NO

If yes, describe:

6.25 Does the applicant currently generate any hazardous waste at this site?

YES
NO

If yes, describe:

Habitat Protection

6.26 What is the current use of the land that is to be used for the proposed project?

General Industrial

6.27 Will the proposed project result in the loss of any wetland habitat?
YES
NO

If yes, describe:

6.28 Will any wastewater and/or stormwater be discharged into a wetland?
YES
NO

If yes, will the discharge water be of the same salinity as the receiving wetlands?

6.29 Will the proposed project result in the loss of any undisturbed natural habitat or public use of tidal waters?
YES
NO

If yes, how many acres?

6.30 Do threatened or endangered species (as defined by the DNREC and/or the Federal Endangered Species Act) exist at the site of the proposed project, or immediately adjacent to it?
YES
NO

If yes, list each species:

- Red knot (threatened); migratory and not here year-round

6.31 Will this proposed project have any effect on these threatened or endangered species (as defined by the DNREC and/or the Federal Endangered Species Act).
YES
NO

The facility has been in operation since 1960. This permit application proposes the addition of an enclosed building that will hold two, 250-gallon totes and the addition of one, 12,000-gallon tank at the Company's tank farm located approximately one mile from the Delaware Bay. Red Knot populations feed on horseshoe crab eggs along the Delaware Bay shoreline during the spring migration. During current and historic operations of the tank farm, the operations have not been known to

interfere with horseshoe crab breeding areas, and therefore, the project is not expected to have an effect on the migration of the red knots. There are no critical habitats known to exist at this property.

If yes, explain:

6.32 What assurances can be made that no threatened or endangered species exist on the proposed project site?

Because of the site's proximity to the Delaware Bay, the red knot, a threatened, migratory bird species, may occasionally visit the property during their spring migration through Delaware. Red knots are not known to nest onsite.

6.33 Describe any filling, dredging, or draining that may affect nearby wetlands or waterways.

There is no filling, dredging or draining of the property associated with the project that may affect nearby wetlands or waterways.

6.34 If dredging is proposed, how much will occur and where will the dredged materials go for disposal?

No dredging is proposed at the site.

Other Environmental Effects

6.35 Describe any noticeable effects of the proposed project site including: heat, glare, noise, vibration, radiation, electromagnetic interference, odors, and other effects.

There is not expected to be noise from the facility or odors generated from the additive storage and delivery systems. The improvements that are planned are in keeping with the existing general industrial zoning for the site and the existing infrastructure of the tank farm. No changes to the local aesthetic quality are anticipated.

6.36 Describe what will be done to minimize and monitor such effects.

No effects are anticipated that would need to be minimized or require monitoring.

6.37 Describe any effect this proposed project will have on public access to tidal waters.

There is no impact on public access to tidal waters expected from the project.

6.38 Provide a thorough scenario of the proposed project's potential to pollute should a major equipment malfunction or human error occur, including a description of backup controls, backup power, and safety provisions planned for this project to minimize any such accidents.

The 12,000-gallon aboveground storage tank (AST) will be double-walled to minimize the potential for a release and will be registered under Delaware's Aboveground Storage Tank regulations. The tank will be installed on a concrete foundation and will be located above a 10-foot by 40-foot concrete slab to assist in leak detection and minimize the volume of product potentially escaping to surrounding soils and groundwater in the event of a release. All piping will be located above ground to allow for regular inspections and prompt identification of leaks or spills. The proposed AST and building area are contained by a secondary containment berm in case of release. The AST will also be equipped with an air dryer using a highly efficient desiccant material to extract moisture and prevent moisture from entering the tank. The Safety Data Sheet for Diethylene Glycol Monoethyl Ether states that the product is not classified as environmentally hazardous and that there is no known data on mobility in soil.

The totes and drums that will contain anti-static and corrosion inhibitor will be stored and utilized in the metal building which will be constructed with a raised concrete berm around the perimeter of the concrete slab floor, as well as a lip on the concrete floor, to contain a release. The liquid flow pumps operate on the gravity flow of product through the lines and do not require any electricity or any backup power. Between one and 12

personnel are on site continuously depending on operations. These staff members operate and monitor equipment during filling of the ASTs and during barge offloading. The Spill Prevention, Control, and Countermeasure (SPCC) and Facility Response Plan (FRP) will be updated to reflect the installation of the 12,000 gallon stage tank, the totes and the drums. Tier II reporting will be updated to include the additives.

Changes in air emissions in the event of a major mechanical malfunction or human error are discussed in Section 6.39 below.

6.39 Describe how the air, water, solid and hazardous waste streams, emissions, or discharge change in the event of a major mechanical malfunction or human error.

The relative vapor density of Diethylene glycol monomethyl ether is 4.14 and the vapor density of Stadis 450 is >3 while air is approximately 1. The vapor pressure of DCI Corrosion Inhibitor is listed as not determined on the SDS. Since the vapors of Diethylene glycol monomethyl ether and Stadis 450, are heavier than air, they will collect along the ground surface as is stated in the SDS. In the event that a release does occur, operations should cease immediately. The Delaware Natural Resources and Environmental Control (DNREC) should be contacted as well as an Environmental Professional for emergency spills.

While the secondary containment systems that will be in use where the additives are stored should minimize the potential for these substances to enter the aquatic environment, spill response measures should aim to the cleanup substances entering groundwater or surface water.

PART 6B

ENVIRONMENTAL OFFSET PROPOSAL REDUCTION CLAIM

Is applicant claiming the right to have a reduced offset proposal due to past voluntary improvements as defined in the "Regulations Governing Delaware's Coastal Zone"?

YES
NO

If yes, provide an attachment to the application presenting sufficient tangible documentation to support your claim.

Please See Attachment 12

PART 6C

ENVIRONMENTAL OFFSET PROPOSAL

DSPC is proposing an environmental offset for the minimal environmental impacts identified in this application (Attachment 13). DSPC believes that there are minimal impacts associated with the project in part because the additives are already present in the fuel stored at the site. DSPC believes the proposed environmental offset described in Attachment 13 more than offsets the impacts from the project. In addition, DSPC believes its past voluntary improvements described in Attachment 12, in combination with the proposed environmental offset provide more than an adequate environmental offset for the project.

If the applicant or the Department finds that an Environmental Offset Proposal is required, the proposed offset project shall include all the information needed to clearly establish:

A. A qualitative and quantitative description of how the offset project will "*clearly and demonstrably"* more than offset the negative impacts from the proposed project.

B. How and in what period of time the offset project will be carried out.

C. What the environmental benefits will be and when they will be achieved.

D. What scientific evidence there is concerning the efficacy of the offset project in producing its intended results.

E. How the success or failure of the offset project will be measured in both the short and long term.

F. What, if any, negative impacts are associated with the offset project.

G. How the offset will impact the attainment of the Department's environmental goals for the Coastal Zone and the environmental indicators used to assess long-term environmental quality within the Coastal Zone.

Additional Offset Proposal Information for the Applicant

1. The offset proposals must "*clearly and demonstrably*"[1] more than offset any new pollution from the applicant's proposed project. The applicant can claim (with documentation) evidence of past voluntary environmental investments (as defined in the Regulations) implemented prior to the time of application. Where the Department concurs with the applicant that such has occurred, the positive environmental improvement of the offset proposal against the new negative impact can be somewhat reduced.

2. The applicant must complete the Coastal Zone Environmental Impact Offset Matrix. This matrix can be found on the CZA web page (http://www.dnrec.delaware.gov/Admin/CZA/CZAHome.htm, or by clicking on this link. On page one, the applicant must list all environmental impacts in the column labeled "Describe Environmental Impacts." In the column to the immediate right, the applicant should reference the page number of the application or attachment which documents each impact listed. In the "Describe Environmental Offset Proposal" column, applicant must state what action is offsetting the impact. The offset action shall be referenced by page number in the column to the right to show how the offset will work. The applicant shall not utilize the far right column. *Please ensure the matrix is complete, detailed, and as specific as possible, given the allotted space. Also, thoroughly proof-read to ensure there are no spelling or grammatical errors.* The applicant must submit a completed matrix both in hardcopy and electronic form.

   PLEASE SEE ATTACHMENT 15

3. Please note: the entire offset proposal, including the matrix, shall be available to the public, as well as the evidence of past voluntary environmental enhancements.

[1] For purposes of this requirement, the DNREC will interpret the phrase "clearly and demonstrably" to mean an offset proposal that is obviously so beneficial without detailed technical argument or debate. The positive environmental benefits must be obviously more beneficial to the environment than the new pollution that minimal technical review is required by the Department and the public to confirm such. The total project must have a positive environmental impact. The burden of proof is on the applicant.

PART 7

ECONOMIC EFFECTS

Construction

7.1 Estimate the total number of workers for project construction and the number to be hired in Delaware.

The building, tank foundations and tank slab will require concrete workers and a steel building assembly team. The piping work will employ a few welders for approximately 8 weeks. Construction of the building, foundations, slab and piping systems is expected to last for approximately 8 weeks.

7.2 Estimate the weekly construction payroll.

Welders will likely be approximately $8,000 per week, the concrete and building installers will likely be an additional $8,000 per week.

7.3 Estimate the value of construction supplies and services to be purchased in Delaware.

The value of construction supplies and services will be approximately $250,000.

7.4 State the expected dates of construction initiation and completion.

Construction is expected to be initiated approximately 3 months following the issuance of a permit with completion anticipated within 12 months after construction begins.

7.5 Estimate the economic impact from the loss of natural habitat, or any adverse economic effects from degraded water or air quality from the project on individuals who are directly or indirectly dependent on that habitat or air or water quality (e.g. commercial fishermen, waterfowl guides, trappers, fishing guides, charter or head boat operators, and bait and tackle dealers).

N/A

Operations

7.6 State the number of new employees to be hired as a direct result of this proposed project and how many of them will be existing Delaware residents and how many will be transferred in from other states.

No new employees will be hired as a direct result of the proposed project.

7.7 If employment attributable to the proposed project will vary on a seasonal or periodic basis, explain the variation and estimate the number of employees involved.

Does not apply to this project.

7.8 Estimate the percent distribution of annual wages and salaries (based on regular working hours) for employees attributable to this project:

N/A

Wage/salary	Percent of employees
<$10,000	
$10,000-14,999	
$15,000-24,999	
$25,000-34,999	
$35,000-49,999	
$50,000-64,999	
$65,000-74,999	
$75,000-99,999	
>$100,000	

Does not apply to this project.

7.9 Estimate the annual taxes to be paid in Delaware attributable to this proposed project:

State personal income taxes:	$
State corporate income taxes	$
County and school district taxes:	$
Municipal taxes:	$

Does not apply to this project.

PART 8

SUPPORTING FACILITIES REQUIREMENTS

Describe the number and type of new supporting facilities and services that will be required as a result of the proposed project, including, but not limited to:

a. Roads
b. Bridges
c. Piers and/or docks
d. Railroads
e. Microwave towers
f. Special fire protection services not now available
g. Traffic signals
h. Sewer expansion
i. Energy related facilities expansion
j. Pipelines

There are no off-site supporting facilities and services that will be required as a result of the construction and operations associated with the project. On-site improvements include the following as described in this application:

- Construction of a 242 square foot building;
- Placement of a 12,000-gallon, double-walled, above ground storage tank and associated concrete pad and piping;
- Addition of a concrete pad for tank truck parking during unloading of jet fuel additives; and
- Addition of an asphalt area to allow enhanced access to the site.

PART 9

AESTHETIC EFFECTS

9.1 Describe whether the proposed project will be located on a site readily visible from a public road, residential area, public park, or other public meeting place (such as schools or cultural centers).

The proposed project will add a small building and one above ground storage tank to the existing facility that includes eight above ground storage tanks, a small number of smaller storage tanks for temporary storage of wastewater or used oils, an administrative office, and several operational buildings. The facility has been in operation at the site since 1960. The existing facility is visible from Port Mahon Road (see photos in Attachment 15).

9.2 Is the project site location within a half mile of a place of historic or scenic value?

The project site is located within a half mile of the State of Delaware Little Creek Wildlife Area and approximately one mile from the Delaware Bay shoreline.

9.3 Describe any planned attempt to make the proposed facility aesthetically compatible with its neighboring land uses. Include schematic plans and/or drawings of the proposed project after it is complete, including any landscaping and screening.

There are no current plans for landscaping or screening due to the isolated nature of the site and surrounding vegetation.

PART 10

EFFECTS ON NEIGHBORING LAND USES

10.1 How close is the nearest year-round residence to the site of this proposed project?

The closest year-round residence to the site of this proposed project is approximately 1,110 feet away.

10.2 Will this proposed project interfere with the public's use of existing public or private recreational facilities or resources?

No. The facility has been in operation since 1960 and the public has been and is expected to continue to able to utilize adjoining and nearby public/private lands and facilities.

10.3 Will the proposed project utilize or interfere with agricultural areas?

No. Nearby agricultural lands and operations will not be affected by the project.

10.4 Is there any possibility that the proposed project could interfere with a nearby existing business, commercial or manufacturing use?

In the event of a "worst-case" scenario where the entire contents of the 12,000 gallon above ground tank spilled, the environmental impacts would not be expected to interfere with nearby existing businesses, commercial or manufacturing uses.

END OF APPLICATION

ATTACHMENTS TO FOLLOW

ATTACHMENT 1
CERTIFICATION BY APPLICANT

PART 1

CERTIFICATION BY APPLICANT

Under the penalty of perjury pursuant to 11 Delaware Code §1221-1235, I hereby certify that all the information contained in this Delaware Coastal Zone Act Permit Application and in any attachments is true and complete to the best of my belief.

I hereby acknowledge that any falsification or withholding of information will be grounds for denial of a Coastal Zone Permit.

I also hereby acknowledge that all information in this application will be public information subject to the Delaware Freedom of Information Act, except for clearly identified proprietary information agreed to by the Secretary of the Department of Natural Resources & Environmental Control.

Delaware Storage and Pipeline Co.
Print Name of Applicant

Signature of Applicant

CHARLES A. DENAULT
PRESIDENT
Title

5-22-2019
Date

ATTACHMENT 2
AUTHORIZED AGENT

Delaware Storage and Pipeline Company

Terminal
P.O. Box 313
Dover, De. 19903
03063
Tel 302-736-1774
Fax 302-734-2749

Main Office
400 Amherst Street, Suite 405
Nashua, New Hampshire

Tel 603-886-7300
Fax 603-880-7176

February 15, 2019

David Small
Duffield Associates, Inc
5400 Limestone Rd.
Wilmington, De 19808

Re: Coastal Zone Permit Application
Agent Authorization

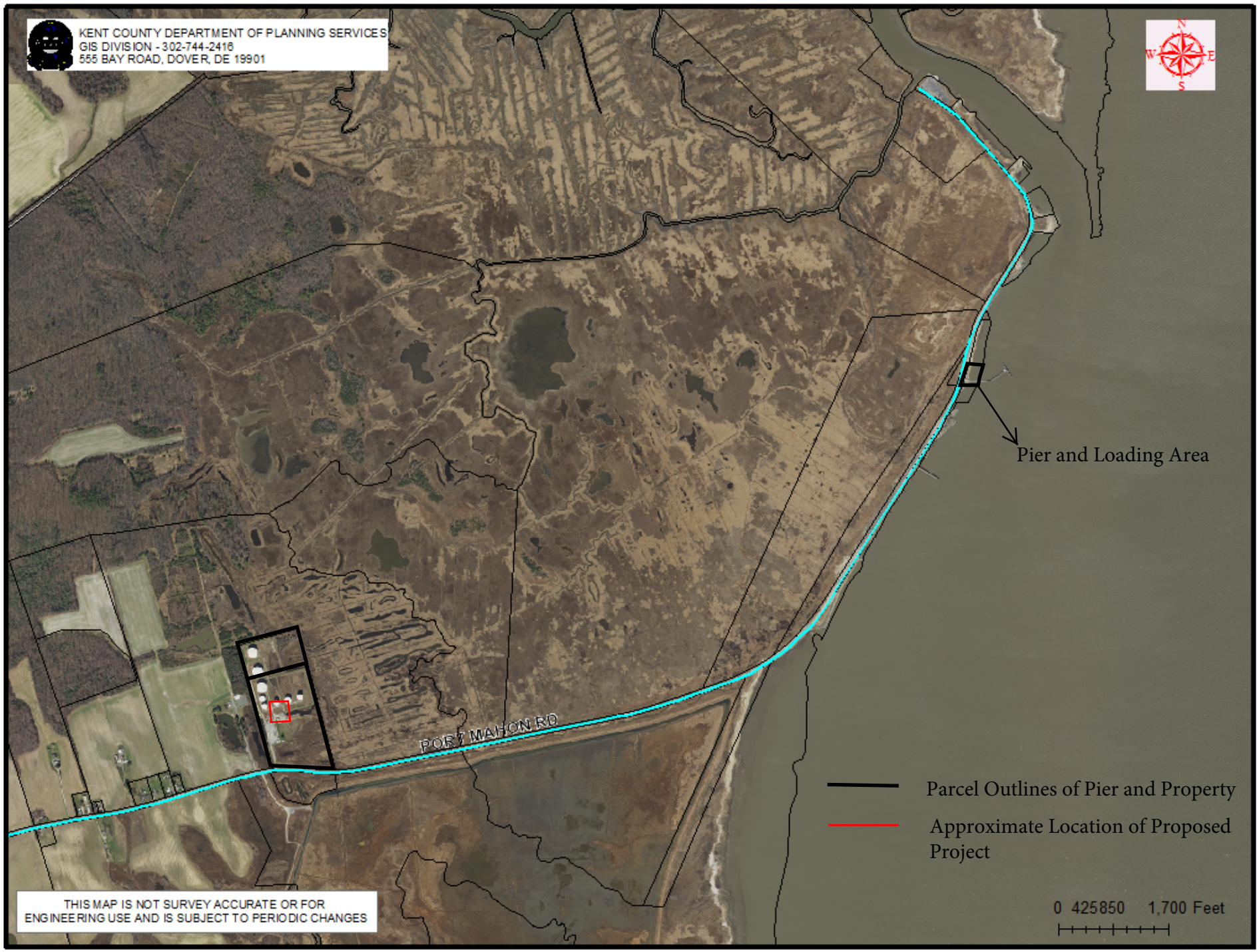
Dear David,

This letter authorizes Duffield Associates Inc. to act as our agent with DNREC on matters relating to our CZA permit application for the proposed Delaware and Storage and Pipeline Co Port Mahon project.

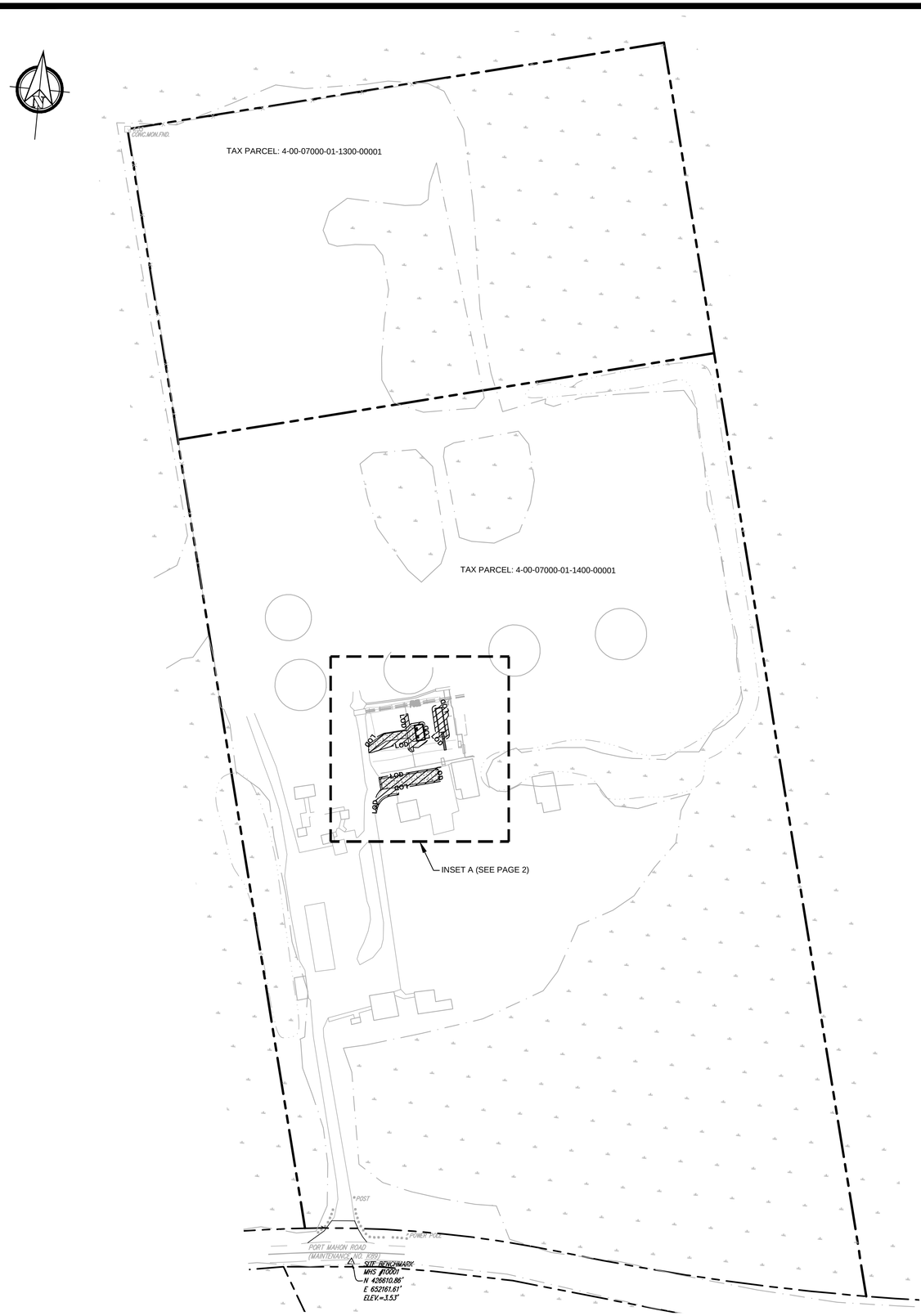
Sincerely,

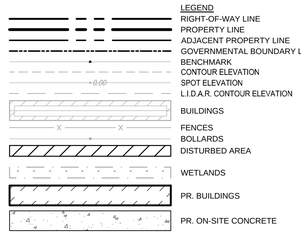
Charles Denault
President

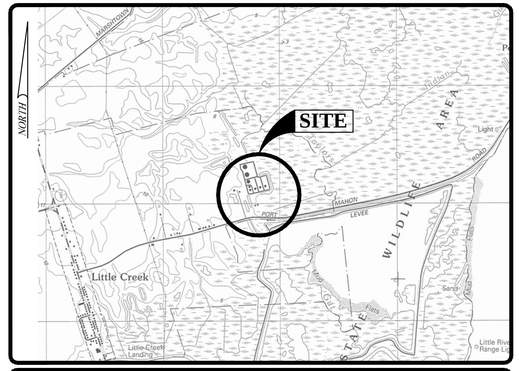
ATTACHMENT 3
FACILITY LOCATOR MAP


KENT COUNTY DEPARTMENT OF PLANNING SERVICES
GIS DIVISION - 302-744-2416
555 BAY ROAD, DOVER, DE 19901
N
W
E
S
Pier and Loading Area
PORT MAHON RD
Parcel Outlines of Pier and Property
Approximate Location of Proposed Project
THIS MAP IS NOT SURVEY ACCURATE OR FOR ENGINEERING USE AND IS SUBJECT TO PERIODIC CHANGES
0 425850 1,700 Feet

ATTACHMENT 4
PROJECT SITE PLAN







MAP: USGS QUAD MAP
LITTLE CREEK, DEL. 1993

LOCATION MAP

SCALE: 1" = 2000'

SITE DATA:

1. APPLICATION NO:
2. TAX PARCEL NO: 4-00-07000-01-1400-00001
3. SOURCE OF TITLE: DEED BOOK C, RECORD 23, PAGE 19
4. PROPERTY OWNER: DELAWARE STORAGE AND PIPELINE COMPANY
   997 PORT MAHON ROAD
   LITTLE CREEK, DE 19961
5. PROPERTY ADDRESS: 997 PORT MAHON ROAD
   LITTLE CREEK, DE 19961
6. ENGINEER: DUFFIELD ASSOCIATES, INC.
   5400 LIMESTONE ROAD
   WILMINGTON, DE 19808
7. ZONING: IG
8. SITE ACREAGE:

	4-00-07000-01-1400-00001	4-00-07000-01-1300-00001
	20.338 AC±	7.330 AC ±
TOTAL ACREAGE:	27.668 AC±	

9. BENCHMARK: SHOWN
10. BEARING REFERENCE: NAD 83, DELAWARE STATE PLANE
11. VERTICAL DATUM: NAVD 88
12. SITE USE: EXISTING - ABOVEGROUND FUEL STORAGE TANK
    PROPOSED - ABOVEGROUND FUEL STORAGE TANK
13. AREAS:

PROPOSED BUILDING:	242 SF (0.006 AC±)
PROPOSED IMPERVIOUS:	3,885 SF (0.089 AC±)
TOTAL	4,127 SF (0.095 AC±)

14. BULK STANDARDS:

	IG
MINIMUM LOT SIZE:	2.0 AC
MINIMUM LOT WIDTH:	150'
MINIMUM STREET YARD:	75'
MINIMUM SIDE YARD (NON-RESIDENTIAL USE):	50'
MINIMUM REAR YARD (NON-RESIDENTIAL USE):	75'
MINIMUM LANDSCAPE BUFFER:	15'
MAXIMUM BUILDING HEIGHT (NON-RESIDENTIAL USE):	70'

15. PARKING RATIONALE: ABOVEGROUND STORAGE FACILITY
    NO SPACE UP TO 2,000 SQUARE FEET @ 242 SF
    = 0 SPACES REQUIRED, 0 SPACES PROVIDED
16. WATER SUPPLY: PRIVATE WELL
17. SEWER SUPPLY: PRIVATE SEPTIC
18. DISTURBANCE AREA: 4,813 SF ± (LESS THAN 5,000 SF THEREFORE EXEMPT FROM SEDIMENT CONTROL AND STORMWATER MANAGEMENT REQUIREMENTS.)

80' 0 80' 160'
DRAWING SCALE 1" = 80'

DUFFIELD ASSOCIATES
Soil, Water & the Environment
5400 LIMESTONE ROAD
WILMINGTON, DE 19808-1232
TEL: 302.239.6634
FAX 302.239.8485
OFFICES IN DELAWARE, MARYLAND, PENNSYLVANIA AND NEW JERSEY
WEB: HTTP://DUFFNET.COM
E-MAIL: DUFFIELD@DUFFNET.COM

CHECKED BY:
DESIGNED BY: DRAWN BY: JTO
FILE NAME: Com1713EC-C2A

No.	REVISION	CHK'D BY DATE

PRELIMINARY
NOT FOR
CONSTRUCTION

OWNER: DELAWARE STORAGE & PIPELINE
997 PORT MAHON ROAD
LITTLE CREEK, DE. 19961
PHONE: (302) 736-1774

COASTAL ZONE PERMIT APPLICATION
OVERALL SITE
DSPC TANK FARM
997 PORT MAHON ROAD
LC LITTLE CREEK HUNDRED ~ KENT COUNTY ~ DELAWARE

DATE: 13 NOVEMBER 2018
SCALE: 1" = 80'
PROJECT NO. 11713.EC
SHEET: 1 (OF 2)

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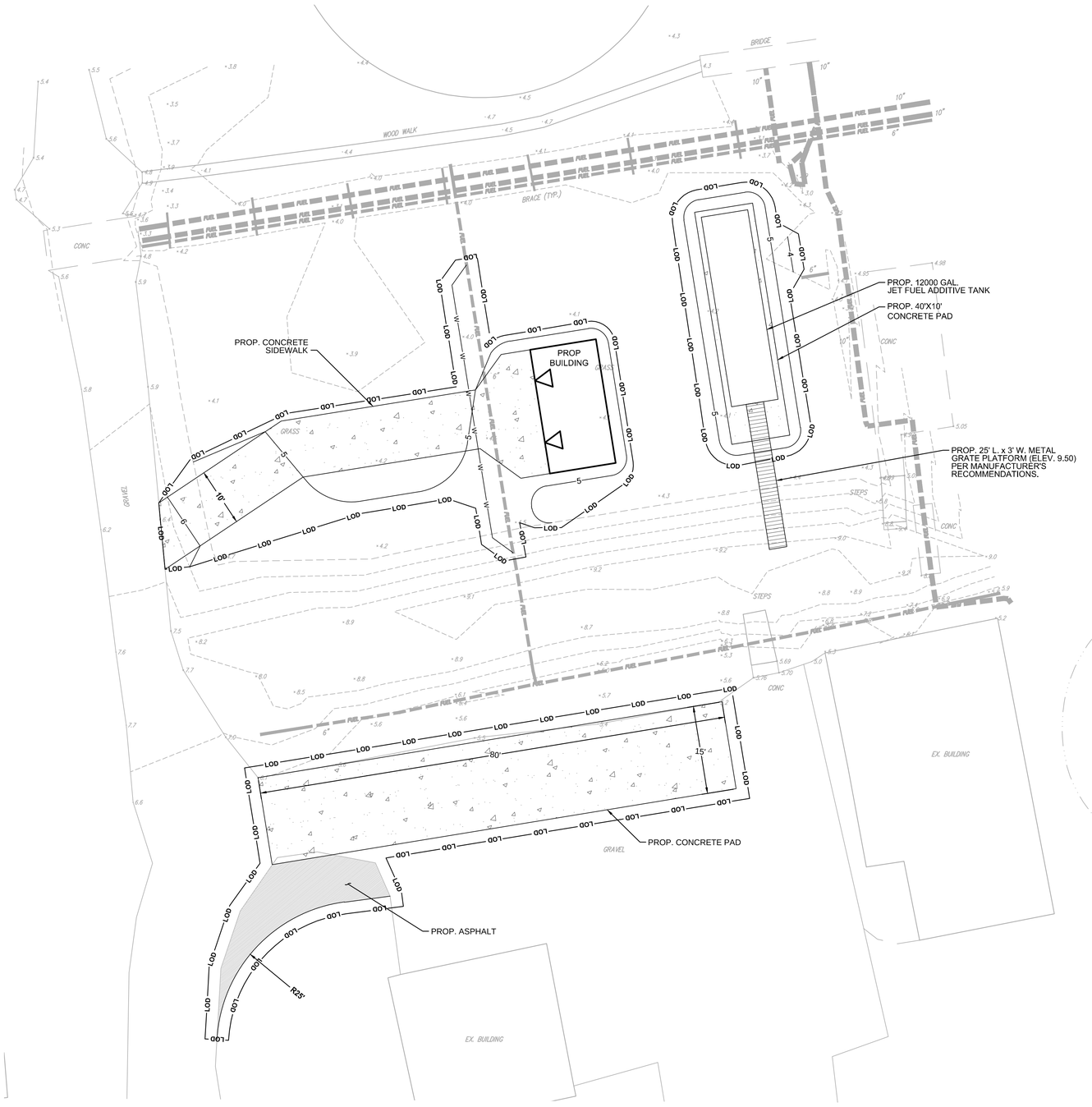

DETAIL: INSET A

SCALE: 1" = 10'

LEGEND
- CONTOUR ELEVATION
- SPOT ELEVATION
- L.I.D.A.R. CONTOUR ELEVATION
- BUILDINGS
- FENCES
- BOLLARDS
- WETLANDS
- PR. CONTOUR ELEVATION
- PR. BUILDINGS
- PR. ON-SITE CONCRETE
- PR. ASPHALT
- WATER MAIN

10' 0 10' 20'
DRAWING SCALE 1" = 10'

DUFFIELD ASSOCIATES
Soil, Water & the Environment
5400 LIMESTONE ROAD
WILMINGTON, DE 19808-1232
TEL: 302.239.6634
FAX 302.239.8485
OFFICES IN DELAWARE, MARYLAND, PENNSYLVANIA AND NEW JERSEY
WEB: HTTP://DUFFNET.COM
E-MAIL: DUFFIELD@DUFFNET.COM

CHECKED BY:
DESIGNED BY:
DRAWN BY: JIL/JTO
FILE NAME: Com11713EC-CZA

No.	REVISION	CHK'D BY / DATE

PRELIMINARY NOT FOR CONSTRUCTION

OWNER: DELAWARE STORAGE & PIPELINE
997 PORT MAHON ROAD
LITTLE CREEK, DE. 19961
PHONE: (302) 736-1774

COASTAL ZONE PERMIT APPLICATION
SITE/GRADING PLAN
DSPC TANK FARM
997 PORT MAHON ROAD
LC LITTLE CREEK HUNDRED ~ KENT COUNTY ~ DELAWARE

DATE: 13 NOVEMBER 2018
SCALE: 1" = 10'
PROJECT NO. 11713.EC
SHEET: 2 (OF 2)

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ATTACHMENT 5
EVIDENCE OF LOCAL ZONING AND PLANNING APPROVAL

Kent County

Department of Planning Services

Division of Planning

Sarah E. Keifer, AICP
Director of Planning Services

Mary Ellen Gray, AICP
Division Head

Phone: 302/744-2471
FAX: 302/736-2128

AFFIDAVIT OF MAILING

BE IT REMEMBERED, that on this **31** day of **January, 2019, Jason Berry**, the deponent, personally appeared before me, **Nancy L. Thompson,** the subscriber, a Notary Public for the State of Delaware and County of Kent, who being duly sworn according to law, did depose and say that he is employed by the Kent County Department of Planning Services, Dover, Delaware, and that on this date she did deposit in the Kent County Complex mail room, 555 Bay Road, Dover, Delaware, the attached Notice of Decisions.

APPLICATION: A-18-35

APPLICANT: Duffield Associates, Inc.
5400 Limestone Road
Wilmington, DE 19808

OWNER: Delaware Storage and Pipeline Co.
P.O. Box 313
Dover, DE 19903

Jason Berry, Planning Supervisor

SWORN TO AND SUBSCRIBED BEFORE ME the day and year aforesaid.

Nancy L. Thomp
NOTARY PUBLIC
State of Delaware, County of Kent

NANCY L. THOMPSON
MY COMMISSION EXPIRES
NOTARY PUBLIC
03/16/2022
STATE OF DELAWARE

KENT COUNTY COMPLEX
555 Bay Road
Dover, DE 19901
(Handicapped Accessible)

Kent County

Department of Planning Services

Division of Planning

SARAH E. KEIFER, AICP
Director of Planning Services

KRISTOPHER S. CONNELLY, AICP
Assistant Director of Planning Services

Phone: 302/744-2471
FAX: 302/736-2128

NOTICE OF DECISION

APPLICATION: A-18-35

APPLICANT: Duffield Associates, Inc.
5400 Limestone Rd.
Wilmington, DE 19808

OWNER: Delaware Storage and Pipeline Company
P.O. Box 313
Dover, DE 19903

PROPERTY LOCATION: 997 Port Mahon Rd., Little Creek, DE 19961

DATE FILED: October 31, 2018

DATE OF PUBLIC HEARING & DECISION: December 20, 2018

MEMBERS PRESENT: Temple Carter, Vice-Chairperson
Delbert W. Mills, Jr.
James Saunders
Brauncy Jenkins
John E. Foltz, Jr.
Brian Cusick

NATURE OF REQUEST:

A-18-35 Duffield Assoc. (Owner: Delaware Storage and Pipeline Company) seek a 25% expansion of a legal non-conforming use to enable the expansion of a fuel additive tank **(§205-218 of the Kent County Code).** The property is located on the north side of Port Mahon Rd. (Co. Rd. 89), approx. 1 mile east of Main St. (Co. Rd. 16), east of Little Creek. Levy Court District: 3rd. Zoning District: IG. **Tax Map No. LC-00-070.00-01-14.00-000**

The applicant is requesting the variance to enable an expansion of a legal nonconforming fuel storage facility by 5% by constructing 300 sq. ft. of building and equipment and a 12,000 gallon jet fuel additive tank. The current site has 5,934 sq. ft. of buildings.

SUMMARY OF EVIDENCE

1. The subject site is zoned IG (General Industrial District). The Comprehensive Plan recommends that this area be utilized for industrial purposes.

2. The subject site is 20.338± acres in size and is currently improved with ten buildings and six tanks that function as part of the storage facility.

3. Mark Dunkle, attorney representing the applicant, spoke in favor of the application.

4. He stated that he agrees with the staff's recommendation.

5. He stated that this site serves the Dover Air Force Base.

6. Charles Deno, president of Delaware Storage and Pipeline, spoke in favor of the application.

7. He stated their company is a defense logistics agency that provides jet fuel to the air force base.

8. The goal of these structures is to store fuel additives from local sources and mix them on-site. The new additives help the planes fly higher, faster, and more efficiently.

9. This increase will only add 5% to their total building area.

10. They will not need more fuel to be stored on site.

11. Their company provides 100% of the fuel to the air force base, so these structures are required to continue that service.

FINDINGS OF FACT & CONCLUSIONS OF LAW

Analysis of the four factors set forth in Board of Adjustment of New Castle County v. Kwik-Check Realty, Inc., 389 A.2d 1289, 1291 (Del. 1978), supports the granting of a modification to the requested variance.

(1) **The proposed extension or enlargement does not change to less restricted and more intense use:** As shown on Exhibit A, the subject site is zoned IG (General Industrial District). Petroleum Refining is a Potentially Hazardous Use in the IG (General Industrial District). The proposed structures are keeping within the nature of the activity that is already occurring on site and the applicant has stated these changes are to meet the current requirements of the Dover Air Force Base.

(2) **The extension or enlargement does not exceed 25% of the gross square footage in use at the time of the creation of the nonconformity**: The proposed additions to the site at this time only amount to a 5% increase in the structures and uses that currently exist on the site.

(3) **The extension or enlargement will not violate the height or coverage regulations for the district:** The maximum height in the IG zoning district is 70 ft. and the maximum lot coverage is 50%. The applicant has shown compliance on the plot plan with these provisions.

(4) **The enlargement or extension would not adversely affect adjacent properties, traffic patterns or the surrounding neighborhood:** The enlargement will not adversely impact the adjacent property owners since all adjacent land is owned by the State of Delaware and the closest private resident is located approx. 0.25 miles to the west. In addition, this request will not increase the amount of traffic accessing the site.

DECISION: On a motion made by Mr. Saunders and seconded by Mr. Jenkins, the Board of Adjustment voted unanimously to grant APPROVAL of application A-18-35, thus granting a 5% expansion of a legal non-conforming use as shown on Exhibit B, attached hereto. The support of this motion was based on staff recommendation, testimony given, that there is no negative impact to adjacent property owners, and that it's a modest increase.

NOTES:

1. The applicant is advised that a Building Permit shall be obtained prior to the commencement of construction. For more information, contact the Division of Planning at (302) 744-2471 or Department of Inspections and Enforcement at (302) 744-2451 between 8:00 a.m. and 5:00 p.m.

2. The variance will expire after **ONE YEAR** if no application for subdivision is commenced within that period of time.

KENT COUNTY BOARD OF ADJUSTMENT

A Temple Carter

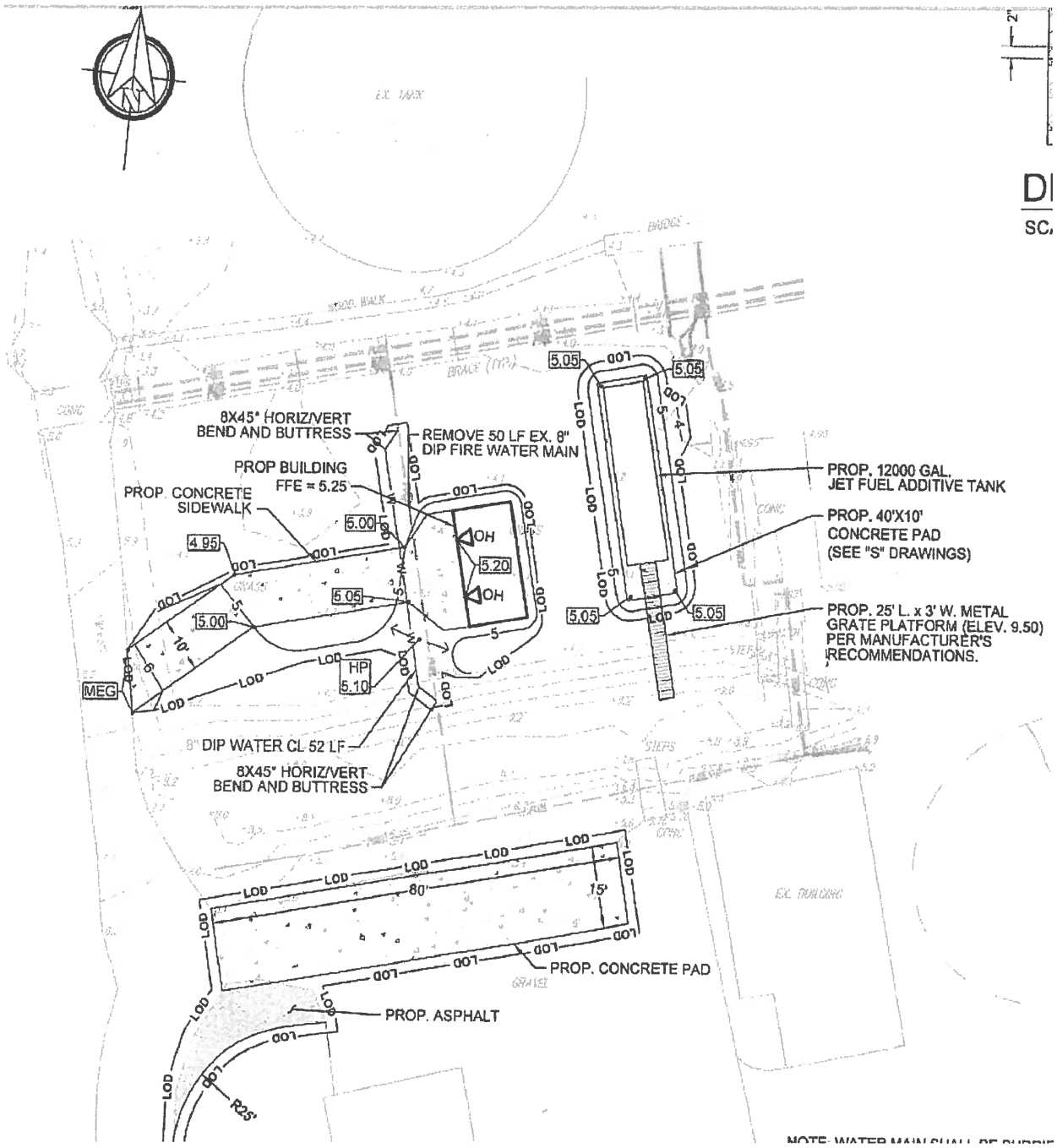
TEMPLE CARTER, Vice Chairperson **DECISION FILED:** Jan 17, **2019**

Exhibit B

Application: A-18-35

Duffield Assoc., Inc. (Delaware Storage and Pipeline Company)

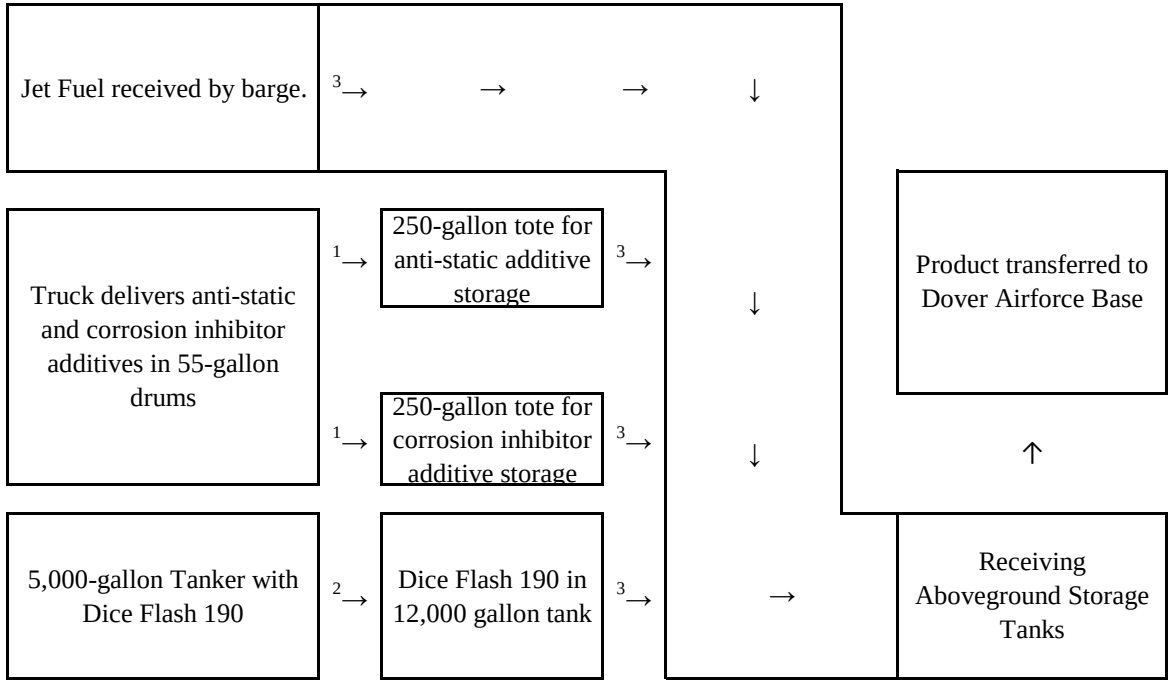
25% expansion of a legal non-conforming use
to enable the expansion of a fuel additive tank



PLOT PLAN

ATTACHMENT 6
PROCESS DIAGRAM

1. Anti-static and anit-corrosive additives will be sotred in 55-gallon drums housed in a metal building and injected into the jet fuel through 250-gallon totes.
2. Dice Flash 190 transferred via header and flex delivery hose connected to a pipeline. Air from within the tank displaced by heavier Dice Flash 190 and discharged from the tank through an atmospheric vent while liquid and vapors remain in the tank.
3. All three additives will be injected into the closed system receipt line as the receiving product is flowing. Injection will be by a fluid-powered injector, which is gravity fed.



DATE: 11/2018	**Process Flow Diagram**	DRAWN BY: JLF	DUFFIELD ASSOCIATES Soil, Water & the Environment
PROJECT NO: 11713.EC	Delaware Storage and Pipeline Company	CHECKED BY: DS	5400 LIMESTONE ROAD WILMINGTON, DE 19808-1232 TEL. (302)239-6634 FAX (302)239-8485
SHEET: FIGURE 1	Little Creek~Kent County~Delaware	FILE: 11713EC.Process_Flow_Diagram.xlxs	OFFICES IN PENNSYLVANIA, SOUTHERN DELAWARE, MARYLAND AND NEW

ATTACHMENT 7
SAFETY DATA SHEETS

SAFETY DATA SHEET
STADIS (R) 450

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

PRODUCT NAME: STADIS (R) 450

PART No.: *PSST450

IN-HOUSE No.: Petroleum Specialties

APPLICATIONS: Antistatic additive for use in distillate fuels.

SUPPLIER:
The Associated Octel Company Limited
PO Box 17
Ellesmere Port
Cheshire CH65 4HF ENGLAND
Tel: +44 (0)151-355-3611
Fax: +44 (0)151-356-2349

CONTACT PERSON:
CHINA: +86 10 6800 1019
ENGLAND: +44 (0)151-355-3611
FRANCE: +33 (0)2.32.64.35.35
GERMANY: +49 (0)2325-9800
ITALY: +39 02 93 30 94 1
SINGAPORE: +65 6336 6286
SOUTH AFRICA: +27 21 701 5340 / 5906
SWEDEN: +46 54 67 0450

EMERGENCY TELEPHONES: (24 hour): +44 (0)151 355 3611

2. COMPOSITION/INFORMATION ON INGREDIENTS

NAME			CONTENT
CAS No.:	**EINECS Nr.:**	**CLASSIFICATION**	
TOLUENE			30-60 %
108-88-3	203-625-9	Xn ,F R-11, 38, 48/20, 63, 65, 67 Rep3	
SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC			10-30 %
64742-94-5	265-198-5	Xn ,N R-51/53, 65, 66, 67	
DINONYLNAPHTHYLSULPHONIC ACID			10-30 %
25322-17-2	246-841-9	Xn R-22, 36/38	
TRADE SECRET POLYMER CONTAINING SULPHUR			10-30 %
		- Not classified.	
TRADE SECRET POLYMER CONTAINING NITROGEN			5-10 %
		- Not classified.	
PROPAN-2-OL			1-5 %
67-63-0	200-661-7	Xi ,F R-11, 36, 67	
NAPHTHALENE			1-5 %
91-20-3	202-049-5	Xn ,N R-22, 40, 50/53 Carc3	

The Full Text for all R-Phrases are Displayed in Section 16

COMPOSITION COMMENTS: Preparation.

3. HAZARDS IDENTIFICATION

Highly flammable. Irritating to eyes and skin. Limited evidence of a carcinogenic effect. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Possible risk of harm to the unborn child. Harmful: may cause lung damage if swallowed. Vapours may cause drowsiness and dizziness.

4. FIRST AID MEASURES

GENERAL: CAUTION! First aid personnel must be aware of own risk during rescue!

INHALATION: Move the exposed person to fresh air at once. When breathing is difficult, properly trained personnel may assist affected person by administering 100% oxygen. Keep the affected person warm and at rest. Get prompt medical attention. If breathing stops, provide artificial respiration.

INGESTION: DO NOT induce vomiting. Get medical attention immediately. Immediately rinse mouth and provide fresh air.

SKIN: Wash off promptly and flush contaminated skin with water. Promptly remove clothing if soaked through and flush skin with water. Get medical attention if irritation persists after washing.

EYES: Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Foam. Water spray, fog or mist. Small fires: Carbon dioxide (CO2). Dry chemicals, sand, dolomite etc.

SPECIAL FIRE FIGHTING PROCEDURES: Use water to keep fire exposed containers cool and disperse vapours. Keep run-off water out of sewers and water sources. Dike for water control. Avoid water in straight hose stream; will scatter and spread fire.

UNUSUAL FIRE & EXPLOSION HAZARDS: HIGHLY FLAMMABLE! Solvent vapours may form explosive mixtures with air. Vapours are heavier than air and may spread near ground to sources of ignition. May travel considerable distance to source of ignition and flash back.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTION IN SPILL: Wear suitable protective clothing, gloves and eye/face protection.

PRECAUTIONS TO PROTECT ENVIRONMENT: Do not empty into drains; dispose of this material and its container at hazardous or special waste collection point.

SPILL CLEANUP METHODS: Stop leak if possible without risk. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Provide ventilation and confine spill. Do not allow runoff to sewer. Clean-up personnel should use respiratory and/or liquid contact protection. Collect with absorbent, non-combustible material into suitable containers. Dike far ahead of larger spills for later disposal. Ventilate well, stop flow of gas or liquid if possible. Remove ignition sources. Do not allow chemical to enter confined spaces such as sewers due to explosion risk. Sewers designed to preclude formation of explosive concentrations of vapour may be permitted. Spillage may be stored as chemical waste in approved area. PERSONAL PROTECTION. Avoid contact with skin or inhalation of spillage, dust or vapour. Wear necessary protective equipment.

7. HANDLING AND STORAGE

USAGE PRECAUTIONS: Keep away from heat, sparks and open flame. Eliminate all sources of ignition. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Do not use in confined spaces without adequate ventilation and/or respirator. Storage tanks and other containers must be grounded. Avoid spilling, skin and eye contact. Wear full protective clothing for prolonged exposure and/or high concentrations.

STORAGE PRECAUTIONS: Keep in cool, dry, ventilated storage and closed containers. Ground container and transfer equipment to eliminate static electric sparks. Flammable/combustible - Keep away from oxidizers, heat and flames.

STORAGE CRITERIA: Flammable liquid storage.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

INGREDIENT NAME:	CAS No.:	STD	LT EXP 8 Hrs	ST EXP 15 Min
TOLUENE	108-88-3	OES	50 ppm(Sk)	150 ppm(Sk)
SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC	64742-94-5	SUP	300 mg/m3	
PROPAN-2-OL	67-63-0	OES	400 ppm	500 ppm
NAPHTHALENE	91-20-3	EU	10 ppm	15 (IHL) ppm

INGREDIENT COMMENTS: OES = Occupational Exposure Standard.
SUP = Supplier´s recommendation.
EU = Indicative Values according to Commission Directive 91/322/EEC.

PROTECTIVE EQUIPMENT:

PROCESS CONDITIONS: Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station.

VENTILATION: Provide adequate general and local exhaust ventilation.

RESPIRATORS: Seek advice from supervision on the company respiratory protection standard. If ventilation is insufficient, suitable respiratory protection must be provided. Respiratory protection must be used if air concentration exceeds acceptable level. FILTER. Gas cartridge (organic substances).

PROTECTIVE GLOVES: Nitrile. Viton rubber (fluor rubber). Resistant material.

EYE PROTECTION: Wear splash-proof eye goggles to prevent any possibility of eye contact.

OTHER PROTECTION: Wear appropriate clothing to prevent reasonably probable skin contact. Wear air-supplied mask in confined areas.

HYGIENIC WORK PRACTICES: Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly with soap & water if skin becomes contaminated. DO NOT SMOKE IN WORK AREA!

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Mobile.

COLOUR: Dark. Amber.

ODOUR/TASTE: Aromatic.

BOILING POINT (°C, interval): 90 **Pressure:** 760 mmHg

DENSITY/SPECIFIC GRAVITY (g/ml): 0.920 **Temperature (°C):** 15

VAPOUR DENSITY (air=1):	> 3		
VAPOUR PRESSURE:	~ 2 kPa	**Temperature (°C):**	25
VISCOSITY (interval):	~ 7 cSt	**Temperature (°C):**	40
SOLUBILITY DESCRIPTION:	Slightly soluble in water.		
FLASH POINT (°C):	6	**Method:**	CC (Closed cup).
AUTO IGNITION TEMP. (°C):	440		
FLAMMABILITY LIMIT - LOWER(%):	0.6		
FLAMMABILITY LIMIT - UPPER(%):	7.1		

10. STABILITY AND REACTIVITY

STABILITY:	Normally stable.
CONDITIONS TO AVOID:	Avoid heat, flames and other sources of ignition.
HAZARDOUS DECOMP. PRODUCTS:	Oxides of: Carbon. Sulphur. Nitrogen.

11. TOXICOLOGICAL INFORMATION

Toxicological data	Acute toxicity. LD50. Oral. Rat. 9,000 mg/kg
	Acute toxicity. LD50. Skin. Rabbit. > 200 mg/kg
INHALATION:	High concentrations of vapours may irritate respiratory system and lead to headache, fatigue, nausea and vomiting.
INGESTION:	Harmful: may cause lung damage if swallowed.
SKIN:	Acts as a defatting agent on skin. May cause cracking of skin, and eczema.
EYES:	Visual disturbances, incl. blurred vision.
MEDICAL CONSIDERATIONS:	Risk of chemical pneumonia after aspiration. Avoid vomiting and normal rinse of stomach because of risk of aspiration.

Component	**TOLUENE**
Toxicological data	Acute toxicity. LD50. Oral. Rat. 636 mg/kg
	Acute toxicity. LD50. Skin. Rabbit. 12,124 mg/kg
	Acute toxicity. LDLo. Oral. Human. 50 mg/kg
	Acute toxicity. LC50. 1 hour. Inhalation. Rat. > 26,700 ppm
Carcinogenicity	IARC Int. Agency for Cancer Research.
Reproduction toxicity	May cause adverse reproductive effects.
Component	**SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC**
Toxicological data	Acute toxicity. LD50. Oral. >2,000 mg/kg
	Acute toxicity. LD50. Skin. >2,000 mg/kg
	Acute toxicity. LC50. 4 hours. Inhalation. >5 mg/l
	Sensitization. Skin. Guinea pig. Negative.
Component	**PROPAN-2-OL**

Toxicological data	Acute toxicity. LD50. Oral. Rat. 4,700 mg/kg
	Acute toxicity. LD50. Skin. 12,900 mg/kg
	Acute toxicity. LC50. 4 hours. Inhalation. Rat. 16,000 ppm
Carcinogenicity	Consolidated carcinogen list. IARC Group 3 - Not classifiable.
Component	**NAPHTHALENE**
Toxicological data	Acute toxicity. LDLo. Oral. Human. 100 mg/kg Child (RTECS)
	Acute toxicity. LD50. Oral. Rat. 490 mg/kg (RTECS)
	Acute toxicity. LD50. Skin. Rat. > 2,500 mg/kg (RTECS)
	Acute toxicity. LD50. Oral. Mouse. 533 mg/kg
	Acute toxicity. LD50. Skin. Rabbit. > 20,000 mg/kg
Carcinogenicity	IARC Animal Carcinogen List.

12. ECOLOGICAL INFORMATION

WATER HAZARD CLASSIFICATION: 2

Component	**TOLUENE**
Ecotoxicological data	
	Acute toxicity. LC50 96 hours fish 7.3-22.8 mg/l
	Bioaccumulation. Bio-concentration factor, BCF. fish 13.2
Partition coefficient (log Pow)	2.69
Component	**SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC**
Ecotoxicological data	
	Acute toxicity. fish 1<LC/EC/IC50 <=10 mg/l
	Acute toxicity. Daphnia 1<LC/EC/IC50 <=10 mg/l
	Acute toxicity. algae 1<LC/EC/IC50 <=10 mg/l
	Biodegradability. Biological oxygen demand, BOD. 52% (CEFIC)
	Bioaccumulation. Bio-concentration factor, BCF. <100 (CONCAWE)
Partition coefficient (log Pow)	>3.8 - 4.8
Component	**PROPAN-2-OL**
Ecotoxicological data	
	Acute toxicity. fish 42.5 - 240 mg/l TLm (24-96hr)
Partition coefficient (log Pow)	-0.16 - 0.28
Component	**NAPHTHALENE**
Ecotoxicological data	
	Acute toxicity. LC50 96 hours fish 1.37 - 3.8 mg/l
LC 50, 96 Hrs, Fish mg/l:	1.37 - 3.8
Partition coefficient (log Pow)	3.01 - 3.45

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: Recover and reclaim or recycle, if practical. Empty containers must not be burned because of explosion hazard. Environmental manager must be informed of all major spillages. Do not allow runoff to sewer, waterway or ground. Contact specialist disposal companies. Dispose of in accordance with Local Authority requirements.

14. TRANSPORT INFORMATION

LABEL FOR CONVEYANCE:

UN No. ROAD:	1993
UK ROAD PACK GR.:	II
ADR CLASS No.:	3
ADR CLASS:	Class 3: Flammable liquids.
ADR PACK GR.	II
HAZARD No. (ADR):	33 Highly flammable liquid (flash-point below 23°C).
ADR CLASSIFICATION CODE	F1
ADR LABEL No.:	3
HAZCHEM CODE:	3YE
CEFIC TEC(R) No.:	30GF1-I+II
PROPER SHIPPING NAME I:	FLAMMABLE LIQUID, N.O.S. (Toluene, Isopropanol)
PROPER SHIPPING NAME II:	FLAMMABLE LIQUID, N.O.S. (Toluene, Isopropanol)
ROAD TRANSPORT NOTES:	640D
RID CLASS No.:	3
RID PACK GR.	II
UN No. SEA:	1993
IMDG CLASS:	3
IMDG PACK GR.:	II
EmS No.:	F-E, S-E
MARINE POLLUTANT:	No.
UN No., AIR:	1993
ICAO CLASS:	3
AIR PACK GR.:	II

15. REGULATORY INFORMATION

LABEL FOR SUPPLY:

RISK PHRASES:

R-11 Highly flammable.
R-36/38 Irritating to eyes and skin.
R-40 Limited evidence of a carcinogenic effect.
R-48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R-51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R-63 Possible risk of harm to the unborn child.
R-65 Harmful: may cause lung damage if swallowed.
R-67 Vapours may cause drowsiness and dizziness.

SAFETY PHRASES:

S-9 Keep container in a well-ventilated place.
S-16 Keep away from sources of ignition - No Smoking.
S-26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S-36/37 Wear suitable protective clothing and gloves.
S-60 This material and its container must be disposed of as hazardous waste.
S-62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

UK REGULATORY REFERENCES:

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002, Statutory Instrument 2002 No. 1689. (CHIP 3)

EU DIRECTIVES:

Directive 1999/45/EC
Directive 2001/58/EC
Directive 2001/59/EC
Directive 2001/60/EC
Directive 2004/73/EC

APPROVED CODE OF PRACTICE:

Safety Data Sheets for Substances and Preparations L62.

GUIDANCE NOTES:

Occupational Exposure Limits EH40.
Introduction to Local Exhaust Ventilation HS(G)37.

16. OTHER INFORMATION

USER NOTES:

NATIONAL INVENTORY STATUS:
EINECS/ELINCS (EC): All components listed or exempt.

REVISION COMMENTS:

See Section: 2, 3, 15,

ISSUED BY:

Paul N Roberts
The Associated Octel Company Limited,
PO Box 17, Ellesmere Port,
Cheshire CH65 4HF ENGLAND
Telephone: +44 (0)151 355 3611

REVISION DATE:

2004-09-15

REV. No./REPL. SDS GENERATED:

4 / 2003-12-11

SDS No.:

10547

SAFETY DATA SHEET STATUS:

Approved.

PRINTING DATE:

2004-10-21

R-PHRASES (Full Text):

R-11 Highly flammable. R-36 Irritating to eyes. R-67 Vapours may cause drowsiness and

dizziness. R-51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R-65 Harmful: may cause lung damage if swallowed. R-66 Repeated exposure may cause skin dryness or cracking. R-22 Harmful if swallowed. R-40 Limited evidence of a carcinogenic effect. R-50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Not classified. R-36/38 Irritating to eyes and skin. R-38 Irritating to skin. R-48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation. R-63 Possible risk of harm to the unborn child.

DISCLAIMER:

The data given here is based on current knowledge and experience. This Safety Data Sheet describes the product in terms of safety requirements and does not signify any warranty with regard to the products properties.

Safety Data Sheet

Printing date 02/19/2016 **Version Number 1.3** **Reviewed on 02/19/2016**

*

1 Identification

Product identifier

Trade name: ***DCI***

SDS ID Number: 1475

Relevant identified uses of the substance or mixture, and uses advised against
Specialty construction product. Not intended for other uses

Details of the supplier of the safety data sheet

Manufacturer/Supplier:
GCP Applied Technologies
62 Whittemore Avenue
Cambridge, MA 02140 USA

GCP Canada, Inc.
294 Clements Road W.
Ajax, Ontario L1S 3C6 Canada

Information department:

Environmental Health & Safety
USA: +1-617-876-1400 (24 hours)
+1-800-354-5414 (8AM - 5PM) Not functional within Massachusetts
CAN: 1-905-683-8561 (24 hours)

Transport Emergency: Chemtrec +1-800-424-9300 (24 hours)

*

2 Hazard(s) identification

Classification of the substance or mixture

Harmful if swallowed.
Causes serious eye irritation.

Label elements: The product is classified and labeled according to the Globally Harmonized System (GHS)

Hazard pictograms

GHS07

Warning

Hazard statements
Harmful if swallowed.
Causes serious eye irritation.
Precautionary statements
Wash thoroughly after handling.
Wear eye protection / face protection.
Do not eat, drink or smoke when using this product.

(Cont. on page 2)

Safety Data Sheet

Trade name: *DCI*

(Cont. from page 1)

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

NFPA ratings (scale 0 - 4)

Health = 2
Fire = 1
Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = *2
Flammability = 1
Reactivity = 0

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

*
3 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with additional nonhazardous ingredients.

Hazardous components:		
13780-06-8	Calcium nitrite	30-50%
10124-37-5	Calcium nitrate	1.0-2.0%

Additional information: For the wording of the listed hazard phrases refer to section 16.

*
4 First-aid measures

Description of first aid measures

General information: Get medical advice/attention if you feel unwell.

After inhalation: Take affected persons into fresh air and keep quiet.

After skin contact: If skin irritation continues, consult a doctor.

After eye contact:

Rinse opened eye for several minutes under running water.

Rinse cautiously with water for several minutes.

Seek immediate medical advice.

After swallowing:

Wash out mouth with water

Rinse mouth.

Do not induce vomiting; immediately call for medical help.

Never give anything by mouth to an unconscious person.

(Cont. on page 3)

Safety Data Sheet

Trade name: *DCI*

(Cont. from page 2)

Information for doctor:

Most important symptoms and effects, both acute and delayed Irritating to eyes.

Indication of any immediate medical attention and special treatment needed
No further relevant information available.

*

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents:

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

This material, if dried to a solid powder-like form, will become an oxidizer, which may provide oxygen to combustible materials.

Special hazards arising from the substance or mixture No further relevant information available.

Advice for firefighters

Protective equipment: Wear self-contained respiratory protective device.

Additional information Collect contaminated fire fighting water separately. It must not enter the sewage system.

*

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Use respiratory protective device against the effects of fumes/dust/aerosol.

Avoid contact with eyes.

Environmental precautions:

Inform respective authorities in case of seepage into water course or sewage system.

Methods and material for containment and cleaning up:

Contain and/or absorb spill with inert material (i.e. sand, vermiculite) then place in a suitable container.

Sweep up spilled product into receptacles.

Dispose contaminated material as waste according to section 13 of the SDS.

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

*

7 Handling and storage

Handling:

Precautions for safe handling

Open and handle receptacle with care.

(Cont. on page 4)

Safety Data Sheet

Trade name: *DCI*

(Cont. from page 3)

Prevent formation of aerosols.
Avoid contact with eyes, skin and clothing.
Do not take internally.
Practice good personal hygiene to avoid ingestion.
Use only with adequate ventilation.
Wash clothing before reuse.
FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

Ensure good interior ventilation.

Do not mix directly with acidic materials. Do not mix directly with other admixtures. Hazardous gas may form.

Store in original containers.

Avoid contact with eyes.

Information about protection against explosions and fires: Protect from heat.

Conditions for safe storage, including any incompatibilities

Storage:

Information about storage in one common storage facility: Protect from heat.

Further information about storage conditions:

Protect from heat and direct sunlight.

Keep receptacle tightly sealed.

Protect from frost.

Store in cool, dry conditions in well sealed original receptacles.

Specific end use(s) No further relevant information available.

*

8 Exposure controls/personal protection

Additional information about design of technical systems: No further data; see item 7.

Control parameters

Components with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Avoid contact with the eyes and skin.

The usual precautionary measures for handling chemicals should be followed.

Do not add amines to this product. Cancer-causing nitrosamines may be formed. Direct contact with other admixtures, washwater and any other material causing the pH to fall below specification can result in the formation of NOx gas creating a hazardous situation. Nitric oxide (NO) is a colorless, ordorless gas. Nitrogen dioxide (NO2) is a reddish-brown gas with a highly pungent, bleach-like odor. Exposure can cause irritation to eyes and respiratory system and effect the central nervous and cardiovascular systems. Severe overexposure can be fatal. This hazard does not exist when mixed with other admixtures in concrete.

Breathing equipment:
Respiratory protection is not normally required. However, a chemical cartridge respirator with organic vapor cartridge and a prefilter for dusts/mists is required at or above the applicable exposure limits (consult exposure

(Cont. on page 5)

Safety Data Sheet

Trade name: *DCI*

(Cont. from page 4)

guidelines). If no limits exist, use an approved respirator whenever a vapor or mist is generated or if respiratory irritation occurs. Supplied air respirator (SCBA) is required at exposure levels above the capabilities of a chemical cartridge respirator.

Protection of hands:
Gloves should be worn to prevent skin contact and should be impermeable and resistant to the product.
Rubber or other impervious gloves should be worn to prevent skin contact.

Material of gloves
Gloves should be worn to prevent skin contact and should be impermeable and resistant to the product.

Eye protection:

Safety glasses with side shield protection.

Safety glasses with side shields should be worn to prevent contact due to splashing. Under high vapor mist concentrations, tightly sealed goggles should be worn.

A face shield should also be worn if there is potential exposure to splash or spray.

Body protection:

Protective work clothing

Use personal protective equipment as required.

Take off contaminated clothing.

*

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information	
Appearance:	
Form:	Liquid
Color:	According to product specification
Odor:	Characteristic
Odor threshold:	Not determined.
pH-value (~) at 20 °C (68 °F):	9
Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
Flash point:	Not applicable.
Flammability (solid, gaseous):	Not applicable.
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
VOC Content (max):	Not determined.
Vapor pressure:	Not determined.

(Cont. on page 6)

Safety Data Sheet

Trade name: *DCI*

(Cont. from page 5)

Density: (~)	Not determined.
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Molecular weight	Not applicable.
Other information	No further relevant information available.

*

10 Stability and reactivity

Reactivity Stable under normal conditions.

Chemical stability

Thermal decomposition: No decomposition if used according to specifications.

Possibility of hazardous reactions

While not classified as oxidising, if allowed to dry out and come into contact with combustible material, this product may cause fire.

Conditions to avoid No further relevant information available.

Incompatible materials:

Avoid direct contact with other admixtures and any other material which could cause the pH of this product to fall below 8.0. Those conditions can result in the formation of Nitrogen oxide (NO, NO2) gas, creating a hazardous situation.

Hazardous decomposition products:

Carbon monoxide and carbon dioxide

Nitrogen oxides

Additional information: See section 7 for information on handling, storage and conditions to be avoided.

*

11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values relevant for classification:		
13780-06-8 Calcium nitrite		
Oral	LD50	283 mg/kg (rat)
10124-37-5 Calcium nitrate		
Oral	LD50	302 mg/kg (rat)

Primary irritant effect:

on the skin: No irritating effect expected

(Cont. on page 7)

Safety Data Sheet

Trade name: *DCI*

(Cont. from page 6)

on the eye: Irritating to eyes.

inhalation: No irritating effect expected

Ingestion: Harmful if swallowed.

Additional toxicological information:

Carcinogenic categories

IARC (International Agency for Research on Cancer) Human Carcinogenicity: Group 1- Positive, Group 2A- Probable, Group 2B- Possible, Group 3- Not Classifiable
None of the ingredients is listed.
NTP (National Toxicology Program) K–Known to be carcinogenic, R–May reasonably be anticipated to be carcinogenic
None of the ingredients is listed.
OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

*

12 Ecological information

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.

Behavior in environmental systems:

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

Additional ecological information:

General notes: Danger to drinking water if even small quantities leak into the ground.

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

Other adverse effects No further relevant information available.

*

13 Disposal considerations

Waste treatment methods Comply with Federal, State and local regulations.

Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

(Cont. on page 8)

Safety Data Sheet

Trade name: *DCI*

(Cont. from page 7)

*

14 Transport information

UN-Number
DOT, ADR, ADN, IMDG, IATA Not applicable.

UN proper shipping name
DOT, ADR, ADN, IMDG, IATA Not applicable.

Transport hazard class(es)

DOT, ADR, ADN, IMDG, IATA
Class Not applicable.

Packing group
DOT, ADR, IMDG, IATA Not applicable.

Environmental hazards:
Marine pollutant: No

Special precautions for user Not applicable.

Transport/Additional information: Not classified as a dangerous good for transport by road, rail or air.

DOT
Remarks: Not Regulated.

UN "Model Regulation": Not applicable.

*

15 Regulatory information

SARA (Superfund Amendments and Reauthorization Act)

Section 302/304 (extremely hazardous substances):
None of the ingredients is listed.

Section 313 Reportable Ingredients (Chemicals present below reporting threshold are exempt):

10124-37-5	Calcium nitrate	2.0%

SARA Section 312/Tier I & II Hazard Categories:

Health Immediate (acute)	Yes
Health Delayed (chronic)	No
Flammable	No
Reactive	No
Pressure	No

North America Chemical Inventory Status

TSCA (Toxic Substances Control Act - United States):
All ingredients are listed or exempt from listing unless otherwise noted below.

CEPA (Canadian DSL):
All ingredients are listed or exempt from listing unless otherwise noted below.

Right to Know Ingredient Disclosure

7732-18-5	Water

California Proposition 65

Chemicals known to cause cancer:
None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:
None of the ingredients is listed.

(Cont. on page 9)

Safety Data Sheet

Trade name: *DCI*

(Cont. from page 8)

Chemicals known to cause reproductive toxicity for males:
None of the ingredients is listed.

Chemicals known to cause developmental toxicity:
None of the ingredients is listed.

Carcinogenicity Categories

EPA (Environmental Protection Agency)
None of the ingredients is listed.

TLV-ACGIH (THE American Conference of Governmental Industrial Hygienists)
Human Carcinogen - A1 Confirmed, A2 Suspected, A3 Unknown Relevance, A4 Not Classifiable
None of the ingredients is listed.

NIOSH-Cancer (National Institute for Occupational Safety and Health)
None of the ingredients is listed.

Volatile Organic Compounds (VOC) reported per the Emission Standards.
If no g/L value is provided this product is not subject to above standard.

*
16 Other information

The data included herein are presented in accordance with various environment, health and safety regulations. It is the responsibility of a recipient of the data to remain currently informed on chemical hazard information, to design and update its own program and to comply with all national, federal, state and local laws and regulations applicable to safety, occupational health, right-to-know and environmental protection.

Department issuing SDS:

GCP Applied Technologies
62 Whittemore Avenue
Cambridge, MA 02140 USA
USA: +1-617-876-1400 (24 hours)
+1-800-354-5414

Date of preparation / last revision 02/19/2016 / 1.2

The first date of preparation 03/15/2012

Number of revision times and the latest revision date 1.3 / 02/19/2016

MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 08/23/2013 Version 1.1

SECTION 1.Identification

Product identifier

Product number	803128
Product name	Diethylene glycol monomethyl ether for synthesis

Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Chemical for synthesis

Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821, United States of America | General Inquiries: +1-978-715-4321 | Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)
Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2. Hazards identification

GHS Classification

Reproductive toxicity, Category 2, H361d

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard pictograms

Signal Word

Warning

Hazard Statements

H361d Suspected of damaging the unborn child.

Precautionary Statements

P281 Use personal protective equipment as required.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

OSHA Hazards

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR

1910.1200).

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Formula	$HOCH_2CH_2OCH_2CH_2OCH_3$	$C_5H_{12}O_3$ (Hill)
CAS-No.	111-77-3	
Molar mass	120.15 g/mol	

Hazardous ingredients

Chemical Name (Concentration)
CAS-No.
Diethylene glycol monomethyl ether (>= 90 % - <= 100 %)
111-77-3

SECTION 4. First aid measures

Description of first-aid measures

Inhalation
After inhalation: fresh air. Call in physician.

Skin contact
After skin contact: wash off with plenty of water. Remove contaminated clothing. Consult a physician.

Eye contact
After eye contact: rinse out with plenty of water. Call in ophthalmologist.

Ingestion
After swallowing: immediately make victim drink water (two glasses at most). Subsequently administer: activated charcoal (20 - 40 g in 10% slurry). Consult a physician.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

irritant effects, Cough, Shortness of breath, narcosis, cardiovascular disorders, CNS disorders

Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
Water, Foam, Carbon dioxide (CO2), Dry powder

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Combustible.
Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.
Development of hazardous combustion gases or vapors possible in the event of fire.

Advice for firefighters

Special protective equipment for fire-fighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information
Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

SECTION 7. Handling and storage

Precautions for safe handling

Observe label precautions.

Conditions for safe storage, including any incompatibilities

Tightly closed.

Store at +15°C to +25°C (+59°F to +77°F).

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Contains no substances with occupational exposure limit values.

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures
Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

Eye/face protection
Safety glasses

Hand protection
Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment:
protective clothing

Respiratory protection
required when vapors/aerosols are generated.
Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9. Physical and chemical properties

Physical state	liquid
Color	colorless
Odor	ether-like
Odor Threshold	No information available.
pH	4 - 7 at 200 g/l 68 °F (20 °C)
Melting point	-65 °C
Boiling point/boiling range	374 - 385 °F (190 - 196 °C) at 1,013 hPa
Flash point	196 °F (91 °C) Method: DIN 51758
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	1.6 %(V)
Upper explosion limit	18.1 %(V)
Vapor pressure	ca.0.3 hPa at 68 °F (20 °C)
Relative vapor density	4.14

Relative density	1.018 - 1.022 g/cm³ at 68 °F (20 °C) DIN 51757
Water solubility	at 68 °F (20 °C) soluble
Partition coefficient: n-octanol/water	log Pow: -0.68 (experimental) (IUCLID) Bioaccumulation is not expected (log Pow <1).
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	3.9 mPa.s at 68 °F (20 °C)
Explosive properties	Not classified as explosive.
Ignition temperature	419 °F (215 °C) Method: DIN 51794

SECTION 10. Stability and reactivity

Reactivity
Forms explosive mixtures with air on intense heating.

Chemical stability
Reacts with air to form peroxides.

Possibility of hazardous reactions
Generates dangerous gases or fumes in contact with:

Aluminum, Light metals

Exothermic reaction with:

bases, Strong oxidizing agents, chlorosulfonic acid, fuming sulfuric acid

Risk of ignition or formation of inflammable gases or vapors with:

calcium hypochlorite

Conditions to avoid
Strong heating.
A range from approx. 15 Kelvin below the flash point is to be rated as critical.

Incompatible materials
Aluminum, rubber, various plastics, Copper, Light metals

Hazardous decomposition products
Peroxides

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure
Inhalation, Eye contact, Skin contact

Acute oral toxicity
LD50 rat: ca. 6,500 mg/kg (IUCLID)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute dermal toxicity
LD50 rat: ca. 6,450 mg/kg
(IUCLID)

absorption

Skin irritation
rabbit
Result: No irritation
(IUCLID)

Eye irritation
rabbit
Result: No eye irritation
(IUCLID)

Sensitization
Human experience
Result: negative
(IUCLID)

Sensitization test: guinea pig
Result: negative
Method: OECD Test Guideline 406

Genotoxicity in vitro
Ames test
Salmonella typhimurium
Result: negative
Method: OECD Test Guideline 471

CMR effects
Teratogenicity:
Suspected of damaging the unborn child.

Specific target organ systemic toxicity - single exposure
The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard
Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information

Systemic effects:
After absorption of large quantities:
CNS disorders, narcosis, cardiovascular disorders
Toxic effect on:
Liver, Kidney
Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity

Toxicity to fish
LC50 Lepomis macrochirus (Bluegill sunfish): 7,500 mg/l; 96 h (IUCLID)

Toxicity to daphnia and other aquatic invertebrates
EC50 Daphnia magna (Water flea): > 500 mg/l; 48 h (IUCLID)

Toxicity to algae
IC50 Desmodesmus subspicatus (green algae): > 500 mg/l; 72 h (IUCLID)

Toxicity to bacteria
EC50 Pseudomonas putida: > 10,000 mg/l; 17 h (IUCLID)

Persistence and degradability

Biodegradability
100 %; 7 d
OECD Test Guideline 302B
Readily eliminated from water

Bioaccumulative potential

Partition coefficient: n-octanol/water
log Pow: -0.68
(experimental)
(IUCLID) Bioaccumulation is not expected (log Pow <1).

Mobility in soil

No information available.

Additional ecological information
Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

Not classified as dangerous in the meaning of transport regulations.

Air transport (IATA)

Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. Regulatory information

United States of America

OSHA Hazards

Combustible Liquid
Teratogen

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

SARA 311/312 Hazards

Fire Hazard
Chronic Health Hazard

SARA 313

The following components are subject to reporting levels established by SARA Title III, Section 313:

Ingredients

Diethylene glycol monomethyl ether	111-77-3

SARA 302

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

DEA List I

Not listed

DEA List II

Not listed

US State Regulations

Massachusetts Right To Know

Ingredients

Diethylene glycol monomethyl ether

Pennsylvania Right To Know

Ingredients

Diethylene glycol monomethyl ether

New Jersey Right To Know

Ingredients

Diethylene glycol monomethyl ether

California Prop 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status

TSCA:	All components of the product are listed in the TSCA-inventory.
DSL:	All components of this product are on the Canadian DSL.

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

Full text of H-Statements referred to under sections 2 and 3.

H361d	Suspected of damaging the unborn child.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Revision Date08/23/2013

ATTACHMENT 8
TANKS 4.0.9D
ANNUAL EMISSIONS
RESULTS

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	De-Icer Tank
City:	Wilmington
State:	Delaware
Company:	Duffield Associates
Type of Tank:	Horizontal Tank
Description:	Diethylene glycol monomethyl ether

Tank Dimensions

Shell Length (ft):	40.00
Diameter (ft):	10.00
Volume (gallons):	12,000.00
Turnovers:	6.00
Net Throughput(gal/yr):	72,000.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Wilmington, Delaware (Avg Atmospheric Pressure = 14.72 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

De-Icer Tank - Horizontal Tank
Wilmington, Delaware

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Ethanolamine (mono-)	Jan	44.66	40.96	48.36	54.20	0.0010	0.0008	0.0012	61.0900			61.09	Option 2: A=7.456, B=1577.67, C=173.37
Ethanolamine (mono-)	Feb	46.25	42.09	50.41	54.20	0.0011	0.0008	0.0014	61.0900			61.09	Option 2: A=7.456, B=1577.67, C=173.37
Ethanolamine (mono-)	Mar	50.76	45.87	55.65	54.20	0.0014	0.0011	0.0019	61.0900			61.09	Option 2: A=7.456, B=1577.67, C=173.37
Ethanolamine (mono-)	Apr	55.41	49.82	61.01	54.20	0.0019	0.0014	0.0026	61.0900			61.09	Option 2: A=7.456, B=1577.67, C=173.37
Ethanolamine (mono-)	May	60.28	54.42	66.14	54.20	0.0025	0.0018	0.0035	61.0900			61.09	Option 2: A=7.456, B=1577.67, C=173.37
Ethanolamine (mono-)	Jun	64.47	58.55	70.39	54.20	0.0032	0.0023	0.0044	61.0900			61.09	Option 2: A=7.456, B=1577.67, C=173.37
Ethanolamine (mono-)	Jul	66.54	60.91	72.16	54.20	0.0035	0.0026	0.0048	61.0900			61.09	Option 2: A=7.456, B=1577.67, C=173.37
Ethanolamine (mono-)	Aug	65.68	60.34	71.01	54.20	0.0034	0.0025	0.0045	61.0900			61.09	Option 2: A=7.456, B=1577.67, C=173.37
Ethanolamine (mono-)	Sep	62.12	56.95	67.29	54.20	0.0028	0.0021	0.0037	61.0900			61.09	Option 2: A=7.456, B=1577.67, C=173.37
Ethanolamine (mono-)	Oct	56.46	51.46	61.47	54.20	0.0020	0.0015	0.0027	61.0900			61.09	Option 2: A=7.456, B=1577.67, C=173.37
Ethanolamine (mono-)	Nov	51.63	47.48	55.79	54.20	0.0015	0.0012	0.0019	61.0900			61.09	Option 2: A=7.456, B=1577.67, C=173.37
Ethanolamine (mono-)	Dec	46.83	43.23	50.42	54.20	0.0011	0.0009	0.0014	61.0900			61.09	Option 2: A=7.456, B=1577.67, C=173.37

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

De-Icer Tank - Horizontal Tank
Wilmington, Delaware

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Standing Losses (lb):	0.0176	0.0199	0.0342	0.0496	0.0698	0.0850	0.0922	0.0832	0.0647	0.0479	0.0289	0.0192
Vapor Space Volume (cu ft):	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144
Vapor Density (lb/cu ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vapor Space Expansion Factor:	0.0253	0.0288	0.0343	0.0395	0.0411	0.0412	0.0388	0.0367	0.0356	0.0348	0.0285	0.0243
Vented Vapor Saturation Factor:	0.9997	0.9997	0.9996	0.9995	0.9993	0.9992	0.9991	0.9991	0.9993	0.9995	0.9996	0.9997
Tank Vapor Space Volume:												
Vapor Space Volume (cu ft):	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144
Tank Diameter (ft):	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000
Effective Diameter (ft):	22.5733	22.5733	22.5733	22.5733	22.5733	22.5733	22.5733	22.5733	22.5733	22.5733	22.5733	22.5733
Vapor Space Outage (ft):	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000
Tank Shell Length (ft):	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000
Vapor Density												
Vapor Density (lb/cu ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vapor Molecular Weight (lb/lb-mole):	61.0900	61.0900	61.0900	61.0900	61.0900	61.0900	61.0900	61.0900	61.0900	61.0900	61.0900	61.0900
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0010	0.0011	0.0014	0.0019	0.0025	0.0032	0.0035	0.0034	0.0028	0.0020	0.0015	0.0011
Daily Avg. Liquid Surface Temp. (deg. R):	504.3308	505.9173	510.4279	515.0848	519.9516	524.1435	526.2072	525.3452	521.7911	516.1313	511.3045	506.4965
Daily Average Ambient Temp. (deg. F):	30.5500	33.3500	42.6000	52.2000	62.5500	71.5000	76.3500	75.0000	67.9500	56.1500	46.2500	35.7500
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731
Liquid Bulk Temperature (deg. R):	513.8733	513.8733	513.8733	513.8733	513.8733	513.8733	513.8733	513.8733	513.8733	513.8733	513.8733	513.8733
Tank Paint Solar Absorptance (Shell):	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	644.0581	908.0267	1,236.0839	1,558.4302	1,791.3064	1,980.3993	1,928.0498	1,728.4870	1,391.8635	1,043.5010	692.9177	553.0016
Vapor Space Expansion Factor												
Vapor Space Expansion Factor:	0.0253	0.0288	0.0343	0.0395	0.0411	0.0412	0.0388	0.0367	0.0356	0.0348	0.0285	0.0243
Daily Vapor Temperature Range (deg. R):	14.8017	16.6342	19.5638	22.3941	23.4306	23.6827	22.4975	21.3316	20.6653	20.0151	16.6183	14.3683
Daily Vapor Pressure Range (psia):	0.0005	0.0006	0.0009	0.0012	0.0017	0.0021	0.0022	0.0020	0.0016	0.0012	0.0008	0.0005
Breather Vent Press. Setting Range(psia):	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0010	0.0011	0.0014	0.0019	0.0025	0.0032	0.0035	0.0034	0.0028	0.0020	0.0015	0.0011
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0008	0.0008	0.0011	0.0014	0.0018	0.0023	0.0026	0.0025	0.0021	0.0015	0.0012	0.0009
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0012	0.0014	0.0019	0.0026	0.0035	0.0044	0.0048	0.0045	0.0037	0.0027	0.0019	0.0014
Daily Avg. Liquid Surface Temp. (deg R):	504.3308	505.9173	510.4279	515.0848	519.9516	524.1435	526.2072	525.3452	521.7911	516.1313	511.3045	506.4965
Daily Min. Liquid Surface Temp. (deg R):	500.6304	501.7588	505.5370	509.4863	514.0939	518.2229	520.5829	520.0123	516.6248	511.1275	507.1499	502.9045
Daily Max. Liquid Surface Temp. (deg R):	508.0313	510.0759	515.3189	520.6834	525.8092	530.0642	531.8316	530.6781	526.9575	521.1351	515.4590	510.0886
Daily Ambient Temp. Range (deg. R):	16.3000	17.1000	19.0000	20.8000	20.7000	19.8000	18.5000	18.2000	19.5000	20.9000	18.5000	16.3000
Vented Vapor Saturation Factor												
Vented Vapor Saturation Factor:	0.9997	0.9997	0.9996	0.9995	0.9993	0.9992	0.9991	0.9991	0.9993	0.9995	0.9996	0.9997
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0010	0.0011	0.0014	0.0019	0.0025	0.0032	0.0035	0.0034	0.0028	0.0020	0.0015	0.0011
Vapor Space Outage (ft):	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000
Working Losses (lb):	0.0087	0.0096	0.0126	0.0165	0.0218	0.0276	0.0309	0.0295	0.0242	0.0176	0.0132	0.0099
Vapor Molecular Weight (lb/lb-mole):	61.0900	61.0900	61.0900	61.0900	61.0900	61.0900	61.0900	61.0900	61.0900	61.0900	61.0900	61.0900
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0010	0.0011	0.0014	0.0019	0.0025	0.0032	0.0035	0.0034	0.0028	0.0020	0.0015	0.0011
Net Throughput (gal/mo.):	6,000.0000	6,000.0000	6,000.0000	6,000.0000	6,000.0000	6,000.0000	6,000.0000	6,000.0000	6,000.0000	6,000.0000	6,000.0000	6,000.0000
Annual Turnovers:	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000
Turnover Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Tank Diameter (ft):	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000
Working Loss Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	0.0263	0.0295	0.0467	0.0661	0.0917	0.1126	0.1231	0.1127	0.0890	0.0654	0.0421	0.0292

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

De-Icer Tank - Horizontal Tank
Wilmington, Delaware

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Ethanolamine (mono-)	0.22	0.61	0.83

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	De-Icer Tank
City:	Wilmington
State:	Delaware
Company:	Duffield Associates
Type of Tank:	Horizontal Tank
Description:	Diethylene glycol monomethyl ether

Tank Dimensions

Shell Length (ft):	40.00
Diameter (ft):	10.00
Volume (gallons):	12,000.00
Turnovers:	6.00
Net Throughput(gal/yr):	72,000.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Wilmington, Delaware (Avg Atmospheric Pressure = 14.72 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

De-Icer Tank - Horizontal Tank
Wilmington, Delaware

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Xylenes (mixed isomers)	Jan	44.66	40.96	48.36	54.20	0.0516	0.0448	0.0593	106.1700			106.17	Option 2: A=7.009, B=1462.266, C=215.11
Xylenes (mixed isomers)	Feb	46.25	42.09	50.41	54.20	0.0548	0.0468	0.0640	106.1700			106.17	Option 2: A=7.009, B=1462.266, C=215.11
Xylenes (mixed isomers)	Mar	50.76	45.87	55.65	54.20	0.0648	0.0540	0.0774	106.1700			106.17	Option 2: A=7.009, B=1462.266, C=215.11
Xylenes (mixed isomers)	Apr	55.41	49.82	61.01	54.20	0.0768	0.0626	0.0936	106.1700			106.17	Option 2: A=7.009, B=1462.266, C=215.11
Xylenes (mixed isomers)	May	60.28	54.42	66.14	54.20	0.0913	0.0741	0.1118	106.1700			106.17	Option 2: A=7.009, B=1462.266, C=215.11
Xylenes (mixed isomers)	Jun	64.47	58.55	70.39	54.20	0.1056	0.0859	0.1291	106.1700			106.17	Option 2: A=7.009, B=1462.266, C=215.11
Xylenes (mixed isomers)	Jul	66.54	60.91	72.16	54.20	0.1133	0.0933	0.1369	106.1700			106.17	Option 2: A=7.009, B=1462.266, C=215.11
Xylenes (mixed isomers)	Aug	65.68	60.34	71.01	54.20	0.1100	0.0915	0.1318	106.1700			106.17	Option 2: A=7.009, B=1462.266, C=215.11
Xylenes (mixed isomers)	Sep	62.12	56.95	67.29	54.20	0.0973	0.0811	0.1163	106.1700			106.17	Option 2: A=7.009, B=1462.266, C=215.11
Xylenes (mixed isomers)	Oct	56.46	51.46	61.47	54.20	0.0797	0.0665	0.0951	106.1700			106.17	Option 2: A=7.009, B=1462.266, C=215.11
Xylenes (mixed isomers)	Nov	51.63	47.48	55.79	54.20	0.0669	0.0574	0.0778	106.1700			106.17	Option 2: A=7.009, B=1462.266, C=215.11
Xylenes (mixed isomers)	Dec	46.83	43.23	50.42	54.20	0.0560	0.0489	0.0640	106.1700			106.17	Option 2: A=7.009, B=1462.266, C=215.11

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

De-Icer Tank - Horizontal Tank
Wilmington, Delaware

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Standing Losses (lb):	1.6267	1.7735	2.7455	3.6008	4.5799	5.1253	5.3420	4.9032	4.0937	3.4009	2.2768	1.6926
Vapor Space Volume (cu ft):	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144
Vapor Density (lb/cu ft):	0.0010	0.0011	0.0013	0.0015	0.0017	0.0020	0.0021	0.0021	0.0018	0.0015	0.0013	0.0011
Vapor Space Expansion Factor:	0.0262	0.0300	0.0358	0.0415	0.0435	0.0440	0.0416	0.0393	0.0379	0.0366	0.0298	0.0253
Vented Vapor Saturation Factor:	0.9865	0.9857	0.9831	0.9801	0.9764	0.9728	0.9708	0.9717	0.9749	0.9793	0.9826	0.9854
Tank Vapor Space Volume:												
Vapor Space Volume (cu ft):	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144	2,001.0144
Tank Diameter (ft):	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000
Effective Diameter (ft):	22.5733	22.5733	22.5733	22.5733	22.5733	22.5733	22.5733	22.5733	22.5733	22.5733	22.5733	22.5733
Vapor Space Outage (ft):	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000
Tank Shell Length (ft):	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000
Vapor Density												
Vapor Density (lb/cu ft):	0.0010	0.0011	0.0013	0.0015	0.0017	0.0020	0.0021	0.0021	0.0018	0.0015	0.0013	0.0011
Vapor Molecular Weight (lb/lb-mole):	106.1700	106.1700	106.1700	106.1700	106.1700	106.1700	106.1700	106.1700	106.1700	106.1700	106.1700	106.1700
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0516	0.0548	0.0648	0.0768	0.0913	0.1056	0.1133	0.1100	0.0973	0.0797	0.0669	0.0560
Daily Avg. Liquid Surface Temp. (deg. R):	504.3308	505.9173	510.4279	515.0848	519.9516	524.1435	526.2072	525.3452	521.7911	516.1313	511.3045	506.4965
Daily Average Ambient Temp. (deg. F):	30.5500	33.3500	42.6000	52.2000	62.5500	71.5000	76.3500	75.0000	67.9500	56.1500	46.2500	35.7500
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731
Liquid Bulk Temperature (deg. R):	513.8733	513.8733	513.8733	513.8733	513.8733	513.8733	513.8733	513.8733	513.8733	513.8733	513.8733	513.8733
Tank Paint Solar Absorptance (Shell):	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	644.0581	908.0267	1,236.0839	1,558.4302	1,791.3064	1,980.3993	1,928.0498	1,728.4870	1,391.8635	1,043.5010	692.9177	553.0016
Vapor Space Expansion Factor												
Vapor Space Expansion Factor:	0.0262	0.0300	0.0358	0.0415	0.0435	0.0440	0.0416	0.0393	0.0379	0.0366	0.0298	0.0253
Daily Vapor Temperature Range (deg. R):	14.8017	16.6342	19.5638	22.3941	23.4306	23.6827	22.4975	21.3316	20.6653	20.0151	16.6183	14.3683
Daily Vapor Pressure Range (psia):	0.0145	0.0172	0.0234	0.0310	0.0377	0.0432	0.0436	0.0403	0.0351	0.0286	0.0204	0.0151
Breather Vent Press. Setting Range(psia):	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0516	0.0548	0.0648	0.0768	0.0913	0.1056	0.1133	0.1100	0.0973	0.0797	0.0669	0.0560
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0448	0.0468	0.0540	0.0626	0.0741	0.0859	0.0933	0.0915	0.0811	0.0665	0.0574	0.0489
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0593	0.0640	0.0774	0.0936	0.1118	0.1291	0.1369	0.1318	0.1163	0.0951	0.0778	0.0640
Daily Avg. Liquid Surface Temp. (deg R):	504.3308	505.9173	510.4279	515.0848	519.9516	524.1435	526.2072	525.3452	521.7911	516.1313	511.3045	506.4965
Daily Min. Liquid Surface Temp. (deg R):	500.6304	501.7588	505.5370	509.4863	514.0939	518.2229	520.5829	520.0123	516.6248	511.1275	507.1499	502.9045
Daily Max. Liquid Surface Temp. (deg R):	508.0313	510.0759	515.3189	520.6834	525.8092	530.0642	531.8316	530.6781	526.9575	521.1351	515.4590	510.0886
Daily Ambient Temp. Range (deg. R):	16.3000	17.1000	19.0000	20.8000	20.7000	19.8000	18.5000	18.2000	19.5000	20.9000	18.5000	16.3000
Vented Vapor Saturation Factor												
Vented Vapor Saturation Factor:	0.9865	0.9857	0.9831	0.9801	0.9764	0.9728	0.9708	0.9717	0.9749	0.9793	0.9826	0.9854
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0516	0.0548	0.0648	0.0768	0.0913	0.1056	0.1133	0.1100	0.0973	0.0797	0.0669	0.0560
Vapor Space Outage (ft):	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000
Working Losses (lb):	0.7830	0.8313	0.9832	1.1646	1.3844	1.6015	1.7188	1.6689	1.4763	1.2091	1.0153	0.8496
Vapor Molecular Weight (lb/lb-mole):	106.1700	106.1700	106.1700	106.1700	106.1700	106.1700	106.1700	106.1700	106.1700	106.1700	106.1700	106.1700
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0516	0.0548	0.0648	0.0768	0.0913	0.1056	0.1133	0.1100	0.0973	0.0797	0.0669	0.0560
Net Throughput (gal/mo.):	6,000.0000	6,000.0000	6,000.0000	6,000.0000	6,000.0000	6,000.0000	6,000.0000	6,000.0000	6,000.0000	6,000.0000	6,000.0000	6,000.0000
Annual Turnovers:	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000
Turnover Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Tank Diameter (ft):	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000	10.0000
Working Loss Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	2.4097	2.6049	3.7287	4.7654	5.9643	6.7268	7.0607	6.5722	5.5700	4.6100	3.2921	2.5423

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

De-Icer Tank - Horizontal Tank
Wilmington, Delaware

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Xylenes (mixed isomers)	14.69	41.16	55.85

ATTACHMENT 9
DICE FLASH 190 TANK EMISSION CALCULATIONS

DUFFIELD ASSOCIATES, INC.
5400 Limestone Road
WILMINGTON, DELAWARE 19808
Phone (302) 239-6634 Fax (302) 239-8485

PROJECT NO. 11713EC NAME DSPC- CZA Permit App.
RE DEGME Tank Emissions
SHEET NO. 1 OF 1
CALCULATED BY JLF DATE 5/17/19
CHECKED BY MRB DATE 5/21/19

Known:

Vapor Pressure (V.P.) of DEGME = 0.13 mm Hg = 0.0025 psia
EPA Tank Emissions Program, TANKS 4.09d, estimated pounds per year of emissions from tank for ethanol amine (mono-) and total xylenes assuming:

* Tank is Horizontal
* Dimensions: shell length = 40ft Diameter = 10 ft.
* Volume: 12,000 gallons.
* Turnovers: 6
* Net Throughput: 72,000 gallons/year.
* Tank Not Heated Tank or Underground.
* Paint Color/shade: White/White in Good condition
* Breather vent settings: Vacuum: -0.03psig ; Pressure: 0.03 psig

Results:	Losses (lbs/year) Working Loss	Breathing Loss	(lbs/year) Total Emissions
ethanol amine (mono-)	0.22	0.61	0.83
total xylenes (mixed isomers)	14.69	41.16	55.85

assuming a linear relationship between compounds and V.P.'s, we can interpolate to find total emissions at V.P. $_{DEGME}$ = 0.0025 psia where,

$x_1 \rightarrow$ V.P. $_{ethanolamine}$ = 0.002 psia $x_2 \rightarrow$ V.P. $_{xylene,total}$ = 0.07 psia m = slope = $\frac{\Delta y}{\Delta x}$

$y_1 \rightarrow$ Total Emissions ethanol amine = 0.83 lbs/yr. $y_2 \rightarrow$ Total Emissions total xylenes = 55.85 lbs/yr.

$$m = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{55.85 - 0.83}{0.07 - 0.002} = \frac{55.02}{0.068} = 809.12$$

$y = mx + b$ $y = 809.12x + b$

@ (0.002, 0.83) $b = 0.83 - (809.12)(0.002)$

$b = -0.788$

$y = 809.12x - 0.788$

@ x_3 = V.P. $_{DEGME}$ = 0.0025 psia, $y = 809.12(0.0025) - 0.788$

$y = 1.23$ lbs/year

∴ DEGME emits ~ 1.23 lbs/year ✓

ATTACHMENT 10
PROPOSED OPERATIONS PROCEDURE
(Subject to FOIA Confidentiality)

ATTACHMENT 11
INSPECTION REPORTS

U.S. DEPARTMENT OF HOMELAND SECURITY
U.S. COAST GUARD
CG-835 (Rev. 03-10)

Vessel/Facility Inspection Requirements

Date of Inspection	COTP/OCMI Zone		
28 SEP 2017	SECTOR DELBAY		
Vessel/Facility Name	**ON/FIN**	**Inspection Type**	
DELAWARE STORAGE & PIPELINE	DSP	105 - SECURITY	
You must inform the inspecting officer when the following item(s) have been corrected:		ANNUAL	
Description 33CFR 105 - SECURITY	**Cite**	**Due Date**	
NO DEFICIENCIES			

Vessel/Facility Representative: (*print*) C-REGORY SCHWARTZMILLER	Sign
USCG Inspector: (*print*) Alfred Perez, MSTR	Sign
Phone 302-644-1909	Email MSDLEWES@USCG.MIL

U.S. DEPARTMENT OF HOMELAND SECURITY
U.S. COAST GUARD
CG-835 (Rev. 03-10)

Vessel/Facility Inspection Requirements

Date of Inspection	COTP/OCMI Zone
28Sep17	Sec Del Bay

Vessel/Facility Name	ON/FIN	Inspection Type
Delaware Storage + Pier	DSP	154 - Safety - Annual

You must inform the inspecting officer when the following item(s) have been corrected:

Description	Cite	Due Date
33 CFR PART 154 SAFETY		
No Deficiencies		

Vessel/Facility Representative: (print) Gregory Schwartzmiller	Sign
USCG Inspector: (print) Alfred Perez, MSTC	Sign
Phone 302-644-1909	Email MSDLewes@USCG.MIL

DEPARTMENT OF HOMELAND SECURITY
U.S. Coast Guard

FACILITY INSPECTION REQUIREMENTS

1. Date of Inspection	2. COTP Zone/Unit	3. MISLE Activity Number	4. FIN
17 OCT 18	SECDELBAY / MSD LEWES		DSP

5. Facility Name	6. Inspection Type
DELAWARE SIORAGE & PIPE	105 ANNUAL INSPECTION

Contact the inspecting officer to verify compliance when the following item(s) have been corrected:

Description	Cite	Due Date
NO DEFICIENCES	33 CFR 105	

Facility Representative: *(print)*	Signature:
Greg Schwartzmiller, FSO	
USCG Inspector: *(print)*	**Signature:**
MARK CAMPANALE	
Phone:	**Email:**

CG-835F (04/18)

DEPARTMENT OF HOMELAND SECURITY
U.S. Coast Guard

FACILITY INSPECTION REQUIREMENTS

1 Date of Inspection	2. COTP Zone/Unit	3. MISLE Activity Number	4. FIN
17 Oct 18	Sec Del Bay / MSD - Lewes		DSP

5. Facility Name	6. Inspection Type
Delaware Storage + Pipe	154 Annual INSPECTION

Contact the inspecting officer to verify compliance when the following item(s) have been corrected:

Description	Cite	Due Date
33 CFR 154		
No Deficiencies		

Facility Representative: *(print)* Greg Schwartzmiller, FSO	Signature:
USCG Inspector: *(print)* Freddy Perez, MST2	Signature:
Phone:	Email:

CG-835F (04/18)

DEPARTMENT OF HOMELAND SECURITY
U.S. Coast Guard

FACILITY INSPECTION REQUIREMENTS

1. Date of Inspection	2. COTP Zone/Unit	3. MISLE Activity Number	4. FIN
26Jun18	MSD Lewes		DSP

5. Facility Name	6. Inspection Type
Delaware Storage + Pipeline	SSC-105

Contact the inspecting officer to verify compliance when the following item(s) have been corrected:

Description	Cite	Due Date
33CFR PART 105 Compliance Spot ck		
No Deficiencies		

Facility Representative: *(print)* Gregory L. Schwartzmiller	Signature:
USCG Inspector: *(print)* Freddy Perez	Signature: MST2
Phone: 302-644-1909	Email: MSDLewes@uscg.mil

CG-835F (04/18)

29 MAR 19

DEPARTMENT OF HOMELAND SECURITY
U.S. Coast Guard

FACILITY INSPECTION REQUIREMENTS

1. Date of Inspection	2. COTP Zone/Unit	3. MISLE Activity Number	4. FIN
29 Mar 19	Sec Del Bay		DSP

5. Facility Name: Delaware storage & pipeline

6. Inspection Type: 105 Security Spot Check

Contact the inspecting officer to verify compliance when the following item(s) have been corrected:

Description	Cite	Due Date
33 CFR Part 105 Compliance		
No deficiencies		

Facility Representative: *(print)* Greg Schwartzmiller	Signature:
CG Inspector: *(print)* Freddy Perez	Signature: MST2
Phone: 302-644-1409	Email: MSDLewes@uscg.mil

CG-835F (04/18)

Reset

29 MAR 19

DEPARTMENT OF HOMELAND SECURITY
U.S. Coast Guard
FACILITY INSPECTION REQUIREMENTS

1. Date of Inspection	2. COTP Zone/Unit	3. MISLE Activity Number	4. FIN
29 Mar 19	Sec Del Bay		DSP

Facility Name: Delaware storage + pipeline

6. Inspection Type: 154 Spot Check

Contact the inspecting officer to verify compliance when the following item(s) have been corrected:

Description	Cite	Due Date
33CFR Part 154 Compliance		
No deficiencies		

Facility Representative: *(print)* Greg Schwartzmiller	Signature:
CG Inspector: *(print)* Freddy Perez	Signature: MST
Phone: 302-644-1909	Email: MSDLewes@uscg.mil

CG-835F (04/18)

Reset

4 JAN 19

U.S. DEPARTMENT OF HOMELAND SECURITY U.S. COAST GUARD CG-5562B (03-03)	**POLLUTION PREVENTION COMPLIANCE REPORT**	DATE/TIME: 4 JAN 19 / 0923 MISLE CASE NO.

USCG CAPTAIN OF THE PORT			USCG COMPLIANCE TEAM				
LOCATION/WATERWAY: DEL PIPE / DELAWARE BAY	OPS	BULK LIQUID: JET A	TYPE: OILP	QTY BBLS: 15,000	BULK LIQUID	TYPE	QTY BBLS

LOADING VESSEL OR FAC.	VIN/CG OR FIN/LID	FL	SVC	LPOC/NPOC	PERSON IN CHARGE	LICENSE OR MMD
DEL PIPE						

OFF-LOADING VSL OR FAC.	VIN/CS OR FIN/LID	FL	SVC	LPOC/NPOC	PERSON IN CHARGE	LICENSE OR MMD
DOUBLE SKIN 208						

COMPLIANCE: Y=YES, N=NO, C=CORRECTED ON SPOT

REQUIREMENT *(Italics: 46 CFR)*	33 CFR / *46 CFR*	LOADING VESSEL OR FACILITY Y	N	C	DATE TO CORRECT/NOTES	OFF-LOADING VESSEL OR FACILITY Y	N	C	DATE TO CORRECT/NOTES
Suspend Transfer? (Discharge/Pollution, No Advance Notice, *Lighting/Fire 35.35-40*)	156.125, 118 *151.45-4(f)*		N				N		
Warning Signs/Signals 151.45-2(e), 153.963/955	*35.30-1*	Y				Y			
Moorings	156.120(a)	Y				Y			
Draft Marks & Loadlines	*32.05, 42.07*	–	–	–	N/A	Y			
Lighting Sufficient per 154.570 and 155.790	156.120(y),(z)	Y				Y			
Person in Charge(PIC): In Immediate Vicinity, [1] Immediately Available, Property Supervising	156.120(s),(t) 156.160	Y				Y			
PIC: Designation and Qualification [2] (License, MMD, etc)	154.710, 730 155.700, 710	Y				Y			
PIC Not Exceeding Limitations	156.115	Y				Y			
Personnel: Sufficient [3]	156.120(u)(1)	Y				Y			
Personnel: Capable / Unimpaired [4]	*35.05-20/25*	Y				Y			
Cargo Authorization / Info [5]	30.25-1	Y				Y			
Declaration of Inspection / Inspection [6]	156.150	Y				Y			
Communication & No Language Barrier	156.120(q),(v)	Y				Y			
Pre-Transfer Conference and Agreement [7]	156.120(w),(x)	Y				Y			
Ops Manual/Transfer Procedures Available	156.120(t), (u)(2)	Y				Y			
Emergency Shutdowns: 154.550, 155.780 [8]	156.120(r)	–	–	–	N/A	Y			
Hose/Loading Arms:Length, Support, Alignment	156.120(b)(c)(d)	–	–	–	N/A	Y			
Connections: Fixed, Proper, Leak Free [9]	156.120(g),(k),(p)	Y				Y			
Blanked off Unused Parts	156.120(e),(f)	Y				Y			
Hoses/Loading Arms: Design Stds, Markings [10]	156.120(j)	–	–	–	N/A	Y			
Condition of Transfer Equipment & Hose [11]	156.170, 120(i)	Y				Y			
Containments: Required Capacity, Drained	156.120(n)	Y				Y			
Drains and Scuppers / Ovbd Discharges Closed	156.120(o)(h)	Y				Y			
Fires, Smoking, Etc. (153.975(m))	*35.30-5*	Y				Y			
Tank Openings / Flame Screens [12]	*35.30-10*	–	–	–	N/A	Y			
Cargo Tank Venting & Flamescreens [13]	*32.55-20/25*	–	–	–	N/A	Y			
Firefighting (Table 151.05, 151.30, 153.406)	*34.05, 34.10*	Y				Y			
Pollution Response Plans	154.1025 155.1025	Y				Y			
Discharge Equipment: Accessible / Deployed	156.120(m)	Y				Y			
Haz. Liquid Requirements (T/S: 153 Table 1)	*Table 151.05*	Y				Y			

COPY 2 – PERSON IN CHARGE

OTHER REQUIREMENTS	CFR CITE	SUBJECT
1. PERSON IN CHARGE	46 CFR 151.45-4	BARGES, BULK LIQUID HAZMAT
	46 CFR 153.957(a)	SHIPS, BULK LIQUID HAZMAT
	46 CFR 153.1102-1132	SHIPS HANDLING NLS
	33 CFR 156.120(aa)	VAPOR COLLECTION OPERATION
	33 CFR 156.120(l)	FACILITY MONITORING DEVICES, IF REQUIRED
2. QUALIFICATIONS	46 CFR 31.15-1	MANNED TANK VESSELS
	46 CFR 35.35-1(b)	UNMANNED TANK VESSELS
	46 CFR 151.45-1(a)	BARGES, BULK LIQID HAZMAT
	46 CFR 153.957(b)	SHIPS, BULK LIQUID HAZMAT
3. PERSONNEL	46 CFR 35.05-15	WATCHMAN
	46 CFR 35.35-1(a)	CARGO HANDLING
	46 CFR 151.45-3	MANNING OF BARGES
	46 CFR 151.45-4(a)	CARGO HANDLING
4. FITNESS, ILLNESS, ALCOHOL, DRUGS	46 CFR 151.45-8	
	46 CFR 153.936	
5. CARGO AUTH/INFO	33 CFR 130.3	CERTIFICATION OF FINANCIAL RESPONSIBILITY (46 USC 3715)
	46 CFR 151.01-15	UNMANNED CARGOES
	46 CFR 151.04-1	COI
	46 CFR 151.45-7	SHIPPING PAPERS
	46 CFR 153 SUBPART C	COI, COC, COF, REGULATIONS, CARGO RECORD BOOK
		PIPING PLAN, CERTIFICATE OF INHIBITION, CERTIFICATE OF STABILIZATION
6. PRE-TRANSFER INSPECTION & PREPARATION	46 CFR 35.35-20	
	46 CFR 151.45-4(d)	
7. PRE-TRANSFER CONFERENCE	46 CFR 153.975	
	46 CFR 153.968	
8. EMERGENCY SHUTDOWNS	46 CFR 32.50-35	TANK VSLS WITH PUMPS ON WX DECK
	46 CFR 153.296	
9. CONNECTIONS	46 CFR 35.35, 15	
	46 CFR 151.45-4(c)	
	46 CFR 153.972	
10. HOSES, PIPING, & LOADING ARMS	46 CFR 151.20-1	TRANSFER PIPING STANDARDS
	46 CFR 151.20-15	CARGO HOSE DESIGN STANDARDS, TESTING & MARKING
	46 CFR 153.294	MARKING OF CARGO PIPING SYSTEMS
	46 CFR 153.972	CARGO HOSE DESIGN STANDARDS & MARKINGS
	46 CFR 153.940	CARGO HOSE DESIGN STANDARDS & MARKINGS
11. CONDITIONS OF TRANSFER HOSE	46 CFR 153.940	PHYSICAL CONDITION OF CARGO EQUIPMENT & HOSE
12. TANK OPENINGS & FLAME SCREENS	46 CFR 151.45-2(c)	
	46 CFR 153.935	
13. TANK VENTING & FLAME SCREENS	46 CFR TABLE 151.05	
	46 CFR 151.15-5, 151.15-6	
	46 CFR 153.350 – 153.372	

ADDITIONAL COMMENTS/NARRATIVE

No deficiencies

Freddy Pena. MSTZ

COMPLIANCE OFFICER

John H Love Jr.

PIC: LOADING

EMAIL:

Luther Dana Bea

PIC: OFF-LOADING

EMAIL:

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL
DIVISION OF WASTE AND
HAZARDOUS SUBSTANCES

TANK MANAGEMENT SECTION
391 LUKENS DRIVE
NEW CASTLE, DE 19720
TELEPHONE: (302) 395-2500
FAX: (302)395-2555
WWW.DNREC.DELAWARE.GOV\TANKS

April 19, 2018

Mr. George Steady
Delaware Storage and Pipeline Company
PO Box 313
Dover, Delaware 19903

COPY

FACILITY: Delaware Storage and Pipeline Company
987 Port Mahon Road
Dover, DE 19901

Facility ID: 6-000101
File Code: 02

SUBJECT: April 2018 Compliance Inspection and Inspection Closure

Dear Mr. Steady:

The Delaware Department of Natural Resources and Environmental Control Tank Management Section (DNREC-TMS) conducted a compliance inspection at the above referenced facility on April 12, 2018.

This facility is required to comply with Title 7, Delaware Code Chapter 60, Delaware's Environmental Control (Ch. 60), Title 7 Delaware Code Chapter 74A, The Jeffrey Davis Aboveground Storage Tank Act (Ch. 74A), and DE Admin. Code 1352 State of Delaware *Regulations Governing Aboveground Storage Tanks* (the AST Regulations).

As a result of the compliance inspection, the DNREC-TMS determined that this facility is in compliance with Ch. 60, Ch. 74A, and the AST Regulations. Your next DNREC-TMS compliance inspection is due in April 2023.

Although you may currently be in compliance, proper notification must be submitted to the DNREC-TMS if there is a significant change in the information presented on the original AST registration form including change of address, change of tank ownership, change in tank status, change in product stored, removal, permanent closure in place, or out of service.

Be advised that this letter does not absolve you from responsibility for the correction of violation(s) which may be discovered by any authorized officer of the Department of Natural Resources and Environmental Control Tank Management Section during future inspections.

If you have any questions regarding this matter, please contact me at (302)395-2500. Your effort toward the protection of Delaware's environment are greatly appreciated.

Sincerely,

Kimberly M. Gould

Kimberly M. Gould
Environmental Scientist III
Tank Management Section

BAF:KMG\jmv
KMG2018-015

cc: Michelle Denault – Delaware Storage and Pipeline Company

Delaware's good nature depends on you!

U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety Administration**

1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

August 26, 2014

George Steady
Terminal Manager
Delaware Storage and Pipeline Company
P.O. Box 313
Dover, DE 19901

RE: LETTER OF CORRECTION: Delaware Storage and Pipeline Company ICP Sequence Number: 2389, June 26, 2014

Dear Mr. Steady:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) has received and reviewed Delaware Storage and Pipeline Company's oil spill response plan for the Integrated Contingency Plan dated June 26, 2014. We conclude that the Plan does not comply with PHMSA's regulations concerning onshore oil pipelines found at 49 Code of Federal Regulations (CFR) Part 194.

We have identified deficiencies in the Plan that need correcting. These corrections should be addressed as highlighted in the NEEDED ACTION section and submitted to PHMSA within thirty (30) days from the date of this letter. If you are unable to address these issues within that time, you may request an extension via mail or to the email address listed below.

Should you have any questions or concerns, please contact me at (202) 366-4595 or by email at PHMSA.OPA90@dot.gov. Please include the sequence number and your PHMSA Operator Identification Number on any future correspondence.

Sincerely,

David K. Lehman, Director
Emergency Support and Security Division
Office of Pipeline Safety

Attachment: Action Needed on Response Plan Sequence #2389

cc: PHMSA Eastern Region
Charles Denault, President, Interstate Storage and Pipeline Corporation, 400 Amherst Street Ste. 405, Nashua, NH 03063

Action Needed on Response Plan Sequence #2389

References to RSPA

The Research and Special Programs Administration was disestablished in 2005, when the Pipeline and Hazardous Materials Safety Administration was created.

Finding: RSPA is referenced throughout the Plan.

NEEDED ACTION: Amend the Plan to address the current agency's name, PHMSA.

Review and Update Procedures

49 CFR § 194.121(a)(1) states, "For substantial harm plans, an operator shall resubmit its response plan to Office of Pipeline Safety (OPS) every 5 years from the last submission date."

Finding: The Plan states that a letter may be sent in lieu of a current plan for the 5 year review submission.

NEEDED ACTION: Amend the Plan to appropriately provide a plan review and update procedures that state a plan will be resubmitted every 5 years from the last submission date as required by 49 CFR § 194.121(a)(1).

Worst Case Discharge Determination Methodology

49 CFR § 194.105(a) states, "Each operator shall determine the worst case discharge for each of its response zones and provide the methodology, including calculations, used to arrive at the volume."

The methodology referenced in the regulation above includes the comparison of the three volumes of Worst Case Discharge sources: pipeline, breakout tank, and maximum historic discharge.

Finding: The Plan does not include any breakout tanks in the worst case discharge methodology.

NEEDED ACTION: Amend the Plan to provide a comprehensive worst case discharge determination methodology, as required by 49 CFR § 194.105(a). If there are no breakout tanks covered under the Plan, you must affirmatively state this.

Alternative Response Strategies

49 CFR § 194.107(b)(1) states, "As a minimum to be consistent with the NCP a facility response plan must:... (iii) Identify the procedures to obtain any required Federal and State permissions for using alternative response strategies such as in-situ burning and dispersants as provided for in the applicable ACPs [Area Contingency Plans]."

Finding: The Plans lists dispersants on the Equipment List; however it does not identify the procedures for obtaining permission to use alternative response strategies.

NEEDED ACTION: Amend the Plan to identify procedures for obtaining permission to use alternative response strategies or affirmatively state that they will not be used and remove the dispersants listed on the Equipment List.

Evidence of Contract

49 CFR § 194.115(a) states, "Each operator shall identify and ensure, by contract or other approved means, the resources necessary to remove, to the maximum extent practicable, a worst case discharge and to mitigate or prevent a substantial threat of a worst case discharge."

Finding: The Plan states Miller Environmental Group is the primary Oil Spill Response Organization (OSRO); however, there is no evidence of a contract with this OSRO.

NEEDED ACTION: Amend the Plan to provide evidence of a contract with Miller Environmental Group, as required above.

Training Records

49 CFR § 194.117(b) states, "Each operator shall maintain a training record for each individual that has been trained as required by this section. These records must be maintained...as long as the individual is assigned duties under the response plan..."

Finding: The Plan incorrectly states in Vol. III, Annex 5, that records will be maintained for a minimum of three years.

NEEDED ACTION: Amend the Plan to clearly state the DOT retention records requirement; specifically that all training records shall be maintained as long as the individual is assigned duties under the response plan.

U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety Administration**

1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

October 14, 2014

George Steady
Terminal Manager
Delaware Storage and Pipeline Company
P.O. Box 313
Dover, DE 19901

RE: Review of Substantial Harm Plan: Delaware Storage and Pipeline Company ICP Sequence Number: 2389, September 15, 2014

Dear Mr. Steady:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) has received and reviewed Delaware Storage and Pipeline Company's amended oil spill response plan for the Integrated Contingency Plan, dated September 15, 2014. We conclude that the Plan complies with PHMSA's regulations concerning onshore oil pipelines found at 49 Code of Federal Regulations (CFR) Part 194.

You must revise and resubmit a Response Plan for review by **September 18, 2019**. If discrepancies are found during PHMSA inspections or if new or different operating conditions or information would substantially affect the implementation of this plan, you will be required to resubmit a revised plan. See 49 CFR § 194.121(b).

Should you have any questions or concerns, please contact me at (202) 366-4595 or by email at PHMSA.OPA90@dot.gov. Please include the sequence number and your PHMSA Operator Identification Number on any future correspondence.

Sincerely,

David K. Lehman

David K. Lehman, Director
Emergency Support and Security Division
Office of Pipeline Safety

cc: PHMSA Eastern Region
Charles Denault, President, Interstate Storage and Pipeline Corporation, 400 Amherst Street Ste. 405, Nashua, NH 03063

U.S. Department
of Transportation

**Pipeline and
Hazardous Materials
Safety Administration**

840 Bear Tavern Road, Suite 300
West Trenton, NJ 08628
609.771.7800

NOTICE OF AMENDMENT

OVERNIGHT EXPRESS DELIVERY

May 6, 2019

Charles Denault
President
Delaware Storage and Pipeline Company
400 Amherst Street, Suite 202
Nashua, NH 03063

CPF 1-2019-6007M

Dear Mr. Denault:

From August 7 - August 11, 2017, representatives from the Pipeline and Hazardous Materials Safety Administration (PHMSA), pursuant to Chapter 601 of 49 United States Code (U.S.C.), performed an inspection of Delaware Storage and Pipeline Company's (Delaware SPC) Dover AFB Pipeline system located in Delaware.

On the basis of the inspection, PHMSA has identified the apparent inadequacy found within Delaware SPC's plans or procedures, as described below:

1. **§ 195.402 Procedure manual for operations, maintenance, and emergencies.**

   (c) *Maintenance and normal operations.* The manual required by paragraph (a) of this section must include procedures for the following to provide safety during maintenance and normal operations:

   (3) Operating, maintaining, and repairing the pipeline system in accordance with each of the requirements of this subpart and subpart H of this part.

Delaware SPC's procedures for normal operations and maintenance were inadequate. Specifically, Delaware SPC's corrosion control procedures did not include a requirement that supervisors maintain a thorough knowledge of the corrosion control procedures

for which they are responsible for insuring compliance, or a process for verifying such knowledge, as required by § 195.555.

Section 195.555 states:

> You must require and verify that supervisors maintain a thorough knowledge of that portion of the corrosion control procedures established under § 195.402(c)(3) for which they are responsible for insuring compliance.

During the inspection, Delaware SPC's operations and maintenance procedures were reviewed, and determined to not contain any provisions for complying with § 195.555.

Response to this Notice

This Notice is provided pursuant to 49 U.S.C. § 60108(a) and 49 C.F.R. § 190.206. Enclosed as part of this Notice is a document entitled *Response Options for Pipeline Operators in Compliance Proceedings*. Please refer to this document and note the response options. Be advised that all material you submit in response to this enforcement action is subject to being made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment under 5 U.S.C. 552(b), along with the complete original document you must provide a second copy of the document with the portions you believe qualify for confidential treatment redacted and an explanation of why you believe the redacted information qualifies for confidential treatment under 5 U.S.C. 552(b).

Following the receipt of this Notice, you have 30 days to submit written comments, revised procedures, or a request for a hearing under §190.211. If you do not respond within 30 days of receipt of this Notice, this constitutes a waiver of your right to contest the allegations in this Notice and authorizes the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to you and to issue an Order Directing Amendment. If your plans or procedures are found inadequate as alleged in this Notice, you may be ordered to amend your plans or procedures to correct the inadequacies (49 C.F.R. § 190.206). If you are not contesting this Notice, we propose that you submit your amended procedures to my office within 60 days of receipt of this Notice. This period may be extended by written request for good cause. Once the inadequacies identified herein have been addressed in your amended procedures, this enforcement action will be closed.

It is requested (not mandated) that Delaware Storage and Pipeline Company maintain documentation of the safety improvement costs associated with fulfilling this Notice of Amendment (preparation/revision of plans, procedures) and submit the total to Robert Burrough, Director, PHMSA Eastern Region, 840 Bear Tavern Road, Suite 300, West Trenton, NJ 08628. Please refer to **CPF 1-2019-6007M** on each document you submit, and whenever possible provide a signed PDF copy in electronic format. Smaller files may be emailed to robert.burrough@dot.gov. Larger files should be sent on USB flash drive accompanied by the original paper copy to the Eastern Region Office.

Additionally, if you choose to respond to this (or any other case), please ensure that any response letter pertains solely to one CPF case number.

Sincerely,

Robert Burrough
Director, Eastern Region
Pipeline and Hazardous Materials Safety Administration

Enclosures: *Response Options for Pipeline Operators in Compliance Proceedings*

U.S. Department
Of Transportation
Pipeline and
Hazardous Materials
Safety Administration

840 Bear Tavern Road, Suite 300
West Trenton, NJ 08628
609.771.7800

OVERNIGHT EXPRESS DELIVERY

July 11, 2019

Mr. Charles Denault
President
Delaware Storage and Pipeline Co.
400 Amherst Street, Suite 405
Nashua, NH 03063

CPF 1-2019-6007M

Dear Mr. Denault:

From August 7 - August 11, 2017, representatives from the Pipeline and Hazardous Materials Safety Administration (PHMSA), pursuant to Chapter 601 of 49 United States Code (U.S.C.), performed an inspection of Delaware Storage and Pipeline Company's (Delaware SPC) Dover AFB Pipeline system located in Delaware.

As a result of the inspection, Delaware SPC was issued a Notice of Amendment on May 6, 2019, which proposed amendment of your procedures.

Delaware SPC submitted its amended procedures on May 16, 2019. My staff reviewed the amended procedures, and it appears that the inadequacies outlined in this Notice of Amendment have been corrected.

This letter is to inform you no further action is necessary, and this case is now closed. Thank you for your cooperation.

Sincerely,

Robert Burrough
Director, Eastern Region
Pipeline and Hazardous Materials Safety Administration

U.S. Department of Homeland Security
United States Coast Guard

Commander
United States Coast Guard
Sector Delaware Bay

1 Washington Avenue
Philadelphia, PA 19147
Phone: (215) 271-4800

16480
OCT 1 1 2018

GEORGE STEADY
DELAWARE STORAGE & PIPELINE
PORT MAHON ROAD
LITTLE CREEK, DE 19961

Dear Mr. Steady,

On September 27, 2018, Sector Delaware Bay and Marine Safety Detachment (MSD) Lewes personnel conducted a Government Initiated Unannounced Exercise (GIUE) on your facility. The purpose of this GIUE was to test the Facility Response Plan (FRP) notification and response capabilities for an average most probable discharge (AMPD) in accordance with 33 Code of Federal Regulations (C.F.R.) § 154.1055(b). The GIUE Team determined that the exercise was unsatisfactory.

Deficiencies

1. Cite: 33 C.F.R. § 154.1045 (c)(2): Oil recovery and oil recovery storage capacity should be available on scene within two hours.

Sector Delaware Bay recommends that you conduct an immediate reevaluation of your listed Oil Spill Response Organization (OSRO) as listed in your FRP. This could include a meeting with your current provider to discuss their failure to meet your contracted GIUE objectives/standards. While the planning standard is two hours for a good practice response, during the GIUE the OSRO was not able to meet a three hour standard to provide a vacuum truck and skimmer to meet the AMPD scenario.

The USCG GIUE team lead found the facility's efforts to deploy boom as adequate. The facility may count this exercise as a successful boom deployment drill for purposes of recordkeeping under the FRP.

You may be subject to another Coast Guard GIUE at any time, in accordance with 33 C.F.R. § 154.1055. Please contact MSD Lewes at (302) 644-1909 or by email at msdlewes@uscg.mil should you have any questions.

Sincerely,

S. E. ANDERSON
Captain, U. S. Coast Guard
Captain of the Port

ATTACHMENT 12
ENVIRONMENTAL OFFSET PROPOSAL REDUCTION CLAIM

Part 6B
Environmental Offset Proposal Reduction Claim

The Coastal Zone Act Regulations provide for an applicant to seek a reduced offset proposal due to past voluntary improvements.

According to the regulation "Voluntary Improvements" means improvements, for example, in emissions reductions, habitat creation and spill prevention -- provided that each is definite and measurable and which were made by a facility without any federal or state requirement to do so.'

The regulation goes on to state that "All applicants, are required to more than offset the negative impacts of the project or activity that is the subject of the application for a Coastal Zone permit. Applicants who have undertaken past voluntary improvements may be required to provide less of an offset than applicants without a similar record of past achievements."

Delaware Storage and Pipeline Company (DSPC) partnered with the State of Delaware in 1998 to preserve approximately 500 acres of lands adjoining property owned and managed by the Delaware Department of Natural Resources and Environmental Control's (DNREC) Division of Fish and Wildlife. The action was part of a settlement reached in 2001 after three individuals (Ross Claimants) filed an escheat action through quitclaim deed in Delaware Chancery Court claiming ownership of the property in 1993 (C.A. No. 1221-K 1993). DSPC had claimed ownership of the property (Map # 4-00-070.00-01-05.00-000) for more than 40 years, having acquired it as part of the lands originally obtained by DSPC to construct and operate the facility. DSPC maintained the property as open space and wildlife habitat during that time.

Following the filing, DSPC and the State of Delaware joined to contest the deed filed by the Ross Claimants. Chancery Court found that "no person or entity, including the State of Delaware, has a better or more superior claim to the Land than Delaware Storage and Pipeline Company" and awarded the property to DSPC (order attached). As part of an agreement between DSPC and the State (attached), the parcel was to remain in "an open and natural state." DSPC maintained a 50-foot right –of -way for the operation, maintenance and repair of its pipeline that was located on the property adjacent to Port Mahon Road. Subsequently, a settlement was reached among the State of Delaware, DSPC and the Ross Claimants. The claimants were given $12,000, including legal costs ($5000 was provided by the State of Delaware and $7000 from DSPC). DSPC then transferred ownership of the parcel to the State of Delaware at no cost (parcel identified in attached figure).

The land is now managed as part of the Little Creek Wildlife area. The parcel includes frontage on Port Mahon Road and the Delaware Bay. It is bordered on the north by Kelly's Gut, a tributary of the Mahon River and lands managed by the U.S. Department of Interior as part of the Bombay Hook National Wildlife Refuge. The parcel is otherwise surrounded by lands also managed by DNREC Division of Fish and Wildlife. Collectively this assemblage of upland and wetland along the Delaware Bay serve as internationally recognized habitat of significance for migratory shorebirds, wading birds and waterfowl as part of the Atlantic Flyway. The property is shown as part of this attachment.

DSPC believes that its past actions in maintaining the property in an open and natural state and its voluntary improvements in partnering with the State to settle with the Ross Claimants and transfer the property to State at no charge more than offset any negative environmental impact from the proposed jet fuel additive project and that no additional offset is needed.

IN THE COURT OF CHANCERY OF THE STATE OF DELAWARE

IN AND FOR KENT COUNTY

WILLIAM M. REMINGTON, State Escheator. Plaintiff	)	
v.	)	C.A. No. 1221-K 1993
ALICE HESS, GEORGE ROSS and EDWARD D. HUGHES, Defendants	)	

ORDER

AND NOW, this 11TH day of May, 2001, the Court having considered the record in this matter, including, without limitation, the Stipulation of Agreed Facts and Appendix thereto ("Stipulation") and the Settlement Agreement dated March 15, 2001 and filed in this action, and having reviewed the Master's Report dated April 19, 2001, and having found as follows:

1. This proceeding commenced in 1993 to escheat certain real property described in the Stipulation and identified on the Kent County real property tax assessment records as Tax Parcel No. LC 70-01-5.00 ("Land"), and currently listing the owner as "Owner Unknown" on said tax assessment records.

2. Notice of the filing of the action by publication, by posting the Land and by notice sent to individuals is adequate.

3. Richard E. Simpson and Anthony Johnson have no interest in or to the Land.

4. A claim filed by Mary Sue Ross on behalf of herself and her relatives (collectively, the "Ross Claimants") has been disposed of by agreement of the parties.

5. The claim filed by Delaware Storage & Pipeline Company, the basis for which is set forth in the Stipulation is superior to the claim of the State, the basis for which is set forth in the Stipulation.

6. No person or entity, including the State, has a better or more superior claim to the Land than Delaware Storage & Pipeline Company, and, having considered the settlement proposed by the State and Delaware Storage & Pipeline Company, including the stipulated factual record and exhibits submitted therewith, there exists a sufficient factual and legal basis to approve the settlement proposed by the parties and to find that Delaware Storage & Pipeline Company has good fee simple marketable title in and to the Land based upon the facts and circumstances of this case and the Doctrine of Presumed or Lost Grant.

IT IS HEREBY ORDERED as follows:

a. The Ross Claimants, Richard E. Simpson and Anthony Johnson have no legal or equitable interest in or to the Land whatsoever; and

b. The request by the State Escheator to escheat the Land to the State of Delaware is hereby denied in accordance with the Settlement Agreement dated March 15, 2001 by and between the State Escheator and Delaware Storage & Pipeline Company; and

c. Title to the Land is hereby vested in Delaware Storage & Pipeline Company; and

d. The Settlement Agreement dated May 5, 1998, by and between the State of Delaware by and through William M. Remington, State Escheator and Delaware Storage &

Pipeline Company is hereby approved and in accordance with the terms thereof, the title to the Land presently vested in Delaware Storage & Pipeline Company shall be transferred to the State of Delaware with an easement reserved by Delaware Storage & Pipeline Company for the operation and maintenance of its pipeline; and

e. A certified copy of this Order shall be recorded in the Office of the Recorder of Deeds in and for Kent County.

Jack B. Jacobs

The Honorable Jack B. Jacobs
Vice Chancellor

SETTLEMENT AGREEMENT

Delaware Storage and Pipeline Company ("DSPC") and the State Escheator and the State of Delaware (collectively "State") agree as follows:

1. This agreement is to settle the parties' claims as to each other in Remington v. Hess, Del. Ch., C.A. No. 1221-K, and to establish a cooperative relationship in quieting the title to the lands in question of approximately 500 acres, to the parties' mutual benefit. The intent of this agreement is to ultimately vest title to the lands in question with the State, with an easement in favor of DSPC for the perpetual operation of its pipeline on the lands in questions, the details of which are set forth herein. The parties shall execute all appropriate documents, and take all other action necessary to effectuate the intent of this agreement. In the event any provision of this agreement is determined to be unenforceable, the parties agree to cooperate with each other to promote the original purposes and intent of this agreement.

2. DSPC and the State shall continue to use their best efforts to prosecute their respective claims to the lands in questions, and shall cooperate in presenting these claims.

3. If fee simple title to part or all of the lands in question shall come to be vested in the State, by Court Order or by any other means other than by operation of paragraph 4 below and other than by purchase at approximately market value, the State shall immediately after notification of such vesting convey all its right, title, and interest in such lands to DSPC.

4. If fee simple title to part or all of the lands in question shall come to be vested in DSPC, by Court Order, through operation of paragraph 3 above, or by any other

means other than by purchase at approximately market value, DSPC shall immediately convey all its right, title, and interest in such lands to the State, subject to the reservation of rights and to an easement, as set forth in Exhibit A (attached).

5. Specific Performance is an appropriate remedy for breach of this Agreement.

6. Each party has relied upon the advice of its own counsel in entering into this agreement and not on any representations of the other party or its counsel. This document contains the entire terms of the parties' agreement and may not be modified except by a writing executed by both parties.

7. This agreement shall be interpreted under Delaware law.

8. In the event that DSPC shall convey its interest in and to the lands in question to the State pursuant hereto, DSPC shall have the right to erect a sign, at its sole expense and subject to applicable laws, statutes, ordinances and regulations, indicating the contribution of such lands to the State by DSPC. The design and content of such sign shall be determined by DSPC and shall be subject to the approval of the State, which approval shall not be unreasonably withheld, but in no event shall the square footage of the face of the sign exceed 32 square feet. DSPC shall at all times maintain such sign in good condition, at its sole expense.

Date: May 4, 1998

C. A. DeNault President
Delaware Pipeline and Storage Company

Date: 5/5/98

Julianne E. Hammond, Esquire
Blank, Rome, Comisky & McCauley

ATTORNEY FOR DELAWARE STORAGE
AND PIPELINE COMPANY

Date: 1/7/97

William M. Remington
State Escheator

Date: 1/14/97

J. Patrick Hurley, Deputy Attorney General
David L. Ormond, Jr., Deputy Attorney General

ATTORNEYS FOR THE STATE OF
DELAWARE AND THE STATE ESCHEATOR

DLO:rsw\B\226-28.wp
93-F-29

EXHIBIT A

This conveyance shall be subject to the condition that the Premises shall at all times be preserved in its open and natural state, without any improvements whatsoever, except for duck blinds, and except any improvements which may be approved by Grantor [DSPC] in its sole and absolute discretion. Any violation of this condition shall cause the property to revert to the Grantor. As used herein, the term "Grantor" shall include Delaware Storage and Pipeline Company, Grantor herein, and its respective successors, assigns, and successors in interest and the term "Grantee" shall include the State of Delaware, Grantee herein, and its respective successors, assigns, and successors in interest.

Grantor's right of reverter for violation of the condition that the Premises shall be preserved in its open and natural state is subject to the qualification that after notification of any violation of this condition, Grantee shall have a reasonable time to substantially restore the Premises to its original, open, and natural state, and if so restored, the premises shall not revert to Grantor.

This conveyance shall also be subject to the Grantor's right of reverter for any willful or knowing breach or willful or knowing default by Grantee with respect to the easement reserved herein by Grantor.

RESERVATION OF EASEMENT:

1. Grantor hereby reserves for itself, its successors, assigns, and successors in interest, an easement for the pipeline existing on the Premises as of the date hereof,

which easement shall include sufficient land, together with rights of ingress and egress, to enter upon same for any necessary operation, construction, installation, maintenance, removal, replacement, alteration or repair of or to the pipeline so that Grantor will be able to continue its operation. As used in this reservation of easement, "sufficient land" shall mean the lesser of (a) fifty feet on either side of the pipeline or (b) the distance from the public road running generally parallel to the pipeline to an imaginary line being fifty feet on the opposite side of the pipeline. Any action taken pursuant to this paragraph is subject to all applicable law, and this paragraph shall not be construed to require DNREC or any other regulatory entity to issue any permit or give any regulatory approval.

2. Grantor hereby reserves for itself, its successors, assigns and successors in interest an easement for and the right to construct, install, operate, maintain, replace, remove, alter and/or repair a pump station and/or an additional pipeline, subject to all applicable regulations, statutes, laws or ordinances. Such pipeline shall be located within the easement area set forth in Paragraph 1 hereof. The location of said pump station, together with sufficient land to construct, install, operate, maintain, replace, remove, alter and/or repair said pump station shall be determined by Grantor and shall be subject to the approval of Grantee, which approval shall not be unreasonably withheld. If Grantor and Grantee cannot agree upon the location of said pump station, Grantor shall have the right to locate same within one hundred feet of any point on the pipeline. Any action taken pursuant to this paragraph is subject to all applicable law, and this paragraph shall not be construed to require DNREC or any other regulatory entity to issue any permit or give

any regulatory approval. A condition precedent to Grantor's rights under this paragraph is approval or permitting by all governmental entities having jurisdiction over Grantor's intended actions and construction. Grantee, for itself, its successors, assigns and successors in title, and solely in its capacity as owner of the above-described property and not in any regulatory capacity, by accepting the deed to the above-described property, shall be deemed to have consented to the additional pipeline and pump station.

3. Grantor shall, upon completion of any operation, construction, installation, maintenance, removal, replacement, alteration or repair of or to the pipeline or the pump station, restore the land to substantially the same condition as existed prior to said activities.

4. Grantee shall and hereby does release Grantor from any claims for damage or injury to the Premises, and/or to Grantee's ownership interest in and to the Premises, resulting from any spills, or other escape of substances from the pipeline, and its associated facilities, including the pump station, provided that this release does not apply to or compromise any civil, criminal, or administrative penalties levied by the State of Delaware, for its own part or by and through the Department of Natural Resources and Environmental Control, or any successor thereto, nor does this release apply to any liability for remediation or clean-up, or the costs thereof, required or authorized by law. It is the parties' intention to release any claim which Grantee may have by virtue of its ownership of the Premises, but such release shall not affect any penalties or requirements

for remediation or clean-up which may be imposed by the State of Delaware pursuant to its environmental protection laws.

5. The easement reserved herein shall be a permanent, perpetual easement which shall bind and run with the Premises and shall accrue to the benefit of and be binding on Grantor and Grantee.

6. As used in this Deed and Reservation of Easement, the term "Grantor" shall include Delaware Storage and Pipeline Company, Grantor herein, and its respective successors, assigns, and successors in interest; and the term "Grantee" shall include the State of Delaware, Grantee herein, and its respective successors, assigns, and successors in interest.

7. Any waiver of any breach or default with respect to the easement reserved herein or any failure by either Grantor or Grantee to insist upon strict performance of the terms hereof shall not be deemed a waiver of any other breach or default whether or not of the same or similar nature, or the right thereafter to insist upon strict performance.

8. Grantee is signing this Deed and Reservation of Easement for the purpose of acknowledging its agreement in and to the terms hereof.

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93-F-29

SETTLEMENT AGREEMENT

Mary Sue Ross, George Newley Ross, Charles B. Ross, Sr., and Frank H. Ross, claimants in Remington v. Hess et al., C.A. No. 1221-K, grandchildren of George Ross (b. 6/19/1860, d. 7/27/35), and any other heirs or relatives that may have a claim ("Ross Claimants"), William M. Remington, Escheator, State of Delaware ("State"), and Delaware Storage and Pipeline Company, a corporation of the State of Delaware ("DSPC"), hereby agree as follows :

1. The Ross Claimants release and withdraw any and all claims to the real property at issue in Remington v. Hess, including but not limited to approximately one hundred and seventy seven and three quarter (177 3/4) acres of real property acquired by George Ross from Hugh and Josephine Mulligan in Deed Record Book F, Volume 8, Page 337 in the records of the Office of the Recorder of Deeds in and for Kent County and more particularly described in the Quitclaim Deed attached to this Settlement Agreement. The Ross Claimants release and withdraw any and all claims arising from or relating to such real property at issue in Remington v. Hess, including but not limited to any claims or causes of action against the State and DSPC for any relief.

2. The Ross Claimants shall execute a Quitclaim Deed in the same form as the Quitclaim Deed attached to this Settlement Agreement. The Quitclaim Deed shall be received by the State within 30 days of complete execution of this Settlement Agreement by all parties. The State shall duly record the Quitclaim Deed at such time as the State and DSPC shall mutually agree.

3. Within 15 days of receipt of the Quitclaim Deed as provided above, DSPC shall pay to the Ross Claimants the sum of seven thousand dollars ($7,000), payable to Schmittinger & Rodriquez, P.A.

4. Within 15 days of receipt of the Quitclaim Deed as provided in paragraph 1 above, the State shall pay to the Ross Claimants the sum of five thousand dollars ($5,000), payable to

Schmittinger & Rodriquez, P.A. These funds may be drawn from any State of Delaware agency account at its discretion.

5. The Ross Claimants agree to cooperate with DSPC and the State in quieting title to the real property in question in Remington v. Hess, and in otherwise settling and confirming title in DSPC, the State, or both, as DSPC and the State may decide and request.

6. Specific performance is an appropriate remedy for breach of this Settlement Agreement by the Ross Claimants.

7. Each party has relied upon the advice of its own counsel in entering into this Settlement Agreement not upon any representations of any other party's counsel. This document contains the entire terms of the parties' agreement and may not be modified except by a writing executed by all parties.

8. This Settlement Agreement shall be interpreted under Delaware law.

Date: 1/8/2001

Charles Denault
Delaware Storage and Pipeline Company

Date: 1/11/01

Julianne E. Hammond, Esquire
Blank, Rome, Comisky & McCauley, L.L.P.
Attorneys for Delaware Storage and Pipeline Company

Date: 1/10/01

J. Patrick Hurley, Deputy Attorney General
David L. Ormond, Jr., Deputy Attorney General
Attorneys for the State of Delaware and State Escheator

Date: 1-10-2001

William M. Remington

Date: 1-3-01

Mary Sue Ross

Date: _____

George V. Ross

Date: 1-3-01

Charles B. Ross, Sr.

Date: 1-3-01

Frank H. Ross

Date: 1-4-01

Frederick A. Townsend, Esquire
Schmittinger & Rodriquez, P.A.
Attorneys for the Ross Claimants

DLO/mcm/C/384-24.wpd

No Lien or Title Search Made or Requested

Tax Parcel #LC 70-01-5.00

Prepared By:
Schmittinger and Rodriquez, P.A.
414 S. State Street
Dover, DE 19901

THIS QUITCLAIM DEED, Made This 4th day of January in the year two thousand and one (2001)

BETWEEN, MARY SUE ROSS, GEORGE V. ROSS, CHARLES B. ROSS, SR., AND FRANK H. ROSS, Grantors,

- AND -

THE STATE OF DELAWARE, Grantee

Witnesseth, That the said Grantor, for and in consideration of the sum of One Dollar ($1.00) lawful money of the United States of America, the receipt whereof is hereby acknowledged, remises, releases, grants, conveys, and quitclaims unto the said Grantees, all of their rights, titles, and interests, including but not limited to the tenements, hereditaments, and appurtenances, the rents, issues and profits, and any, every and all right, title and interest after-acquired through and by operation of law, if any, in and to:

ALL that certain tract, piece or parcel of land situated in Little Creek Hundred, Kent County, lying on the west side of County Road No. 89 (Port Mahon Road), and also shown as parcels C and D on a plot of land recorded in Orphans Court Plot Book 4 at page 134, and being the same land and premises which were conveyed unto George Ross by deed of Hugh and Josephine Mulligan, dated June 27, 1899, and of record in the Kent County Recorder of Deeds Office at Dover, Delaware, in Deed Book F, Volume 8, Page 337.

Grantee's Address is: State Escheator's Office, Carvel State Office Building, 8th Floor, 820 N. French Street, Wilmington, DE, 19801

IN WITNESS WHEREOF, the said Grantors hereunto set their hands and seals, the day and year aforesaid.

SIGNED, SEALED AND DELIVERED IN THE PRESENCE OF

Mary Sue Ross (SEAL)
MARY SUE ROSS

STATE OF DELAWARE *
* **SS:**
COUNTY OF KENT *

BE IT REMEMBERED, That on this 3rd day of January in the year two thousand and one (2001) personally came before me the subscriber, a Notary Public in and for the State and County aforesaid, MARY SUE ROSS, party to this Indenture, known to me personally to be such, and she acknowledged this Indenture to be her Act and Deed.

GIVEN under my Hand and Seal of office, the day and year aforesaid.

Fred A. Townsend III
Notary Public
FRED A. TOWNSEND III
Delaware Attorney at Law with
Power to act as Notary Public
per 29 Del. C § 4323 (a) (3)

SIGNED, SEALED AND DELIVERED IN THE PRESENCE OF

George V. Ross (SEAL)
GEORGE V. ROSS

STATE OF DELAWARE *
* **SS:**
COUNTY OF KENT *

BE IT REMEMBERED, That on this 4th day of January in the year two thousand and one (2001) personally came before me the subscriber, a Notary Public in and for the State and County aforesaid, GEORGE V. ROSS, party to this Indenture, known to me personally to be such, and she acknowledged this Indenture to be her Act and Deed.

GIVEN under my Hand and Seal of office, the day and year aforesaid.

Fred A. Townsend III

Notary Public
FRED A. TOWNSEND III
Delaware Attorney at Law with
Power to act as Notary Public
per 29 Del. C § 4323 (a) (3)

SIGNED, SEALED AND DELIVERED
IN THE PRESENCE OF

Alice T. Ross

Charles B. Ross Sr. (SEAL)
CHARLES B. ROSS, SR.

STATE OF DELAWARE *
* **SS:**
COUNTY OF KENT *

BE IT REMEMBERED, That on this 3rd day of January in the year two thousand and one (2001) personally came before me the subscriber, a Notary Public in and for the State and County aforesaid, CHARLES B. ROSS, SR., party to this Indenture, known to me personally to be such, and she acknowledged this Indenture to be her Act and Deed.

GIVEN under my Hand and Seal of office, the day and year aforesaid.

Fred A. Townsend III

FRED A. TOWNSEND III
Delaware Attorney at Law with
Power to act as Notary Public
per 29 Del. C § 4323 (a) (3)

Notary Public

SIGNED, SEALED AND DELIVERED IN THE PRESENCE OF

_____ _____ (SEAL)
FRANK H. ROSS

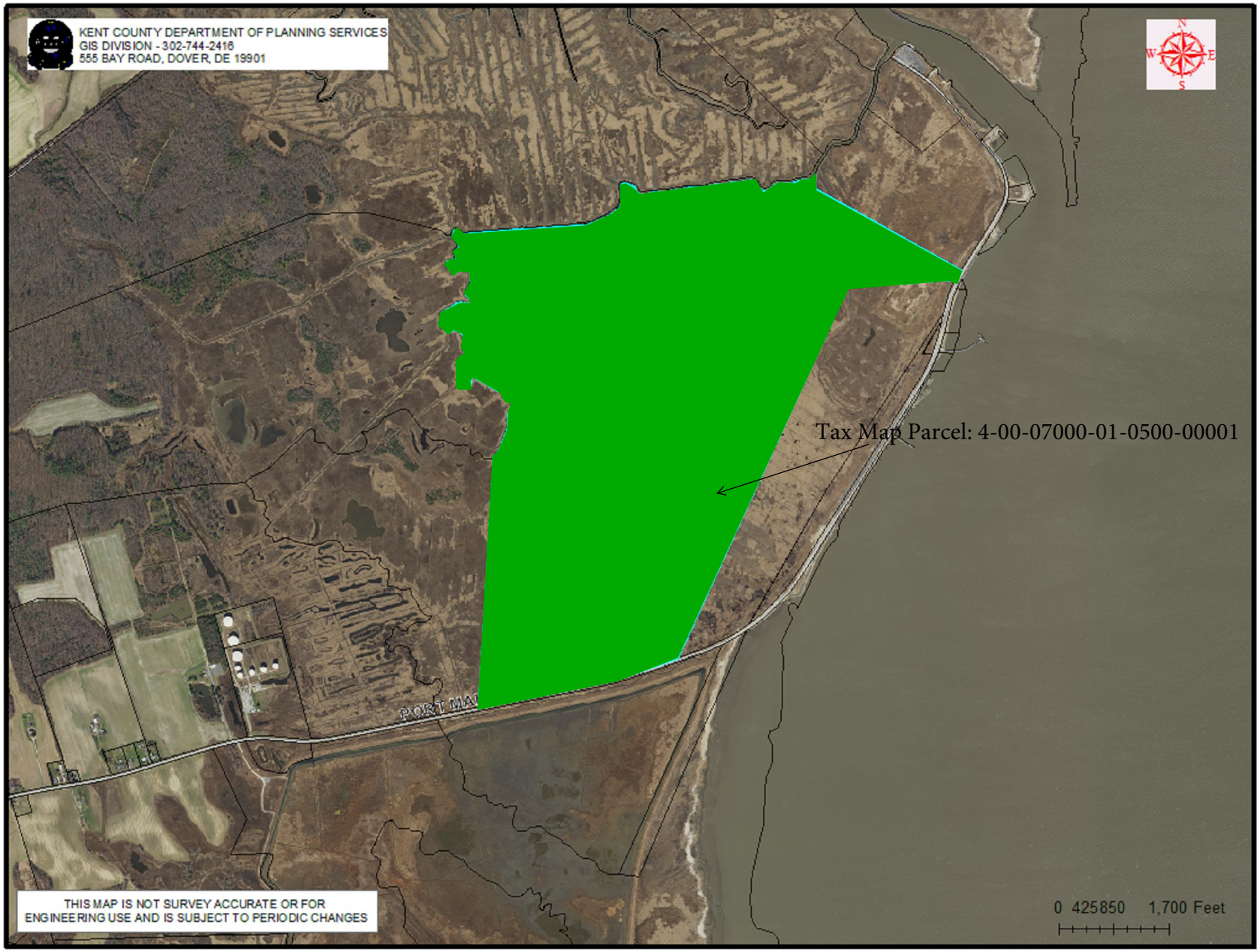
STATE OF DELAWARE *
* **SS:**
COUNTY OF KENT *

BE IT REMEMBERED, That on this 3rd day of January in the year two thousand and one (2001) personally came before me the subscriber, a Notary Public in and for the State and County aforesaid, FRANK H. ROSS, party to this Indenture, known to me personally to be such, and she acknowledged this Indenture to be her Act and Deed.

GIVEN under my Hand and Seal of office, the day and year aforesaid.

_____
Notary Public
FRED A. TOWNSEND III
Delaware Attorney at Law with
Power to act as Notary Public
per 29 Del. C § 4323 (a) (3)

Lands Transferred from DPSC to State of Delaware



ATTACHMENT 13
ENVIRONMENTAL OFFSET PROPOSAL

ENVIRONMENTAL OFFSET PROPOSAL

The project will have minimal environmental impacts as a result of the construction and operation of infrastructure required to introduce three additives to jet fuel stored at the facility. The additives are a deicer, anti-static and anticorrosive that are currently in the jet fuel when it is delivered to the facility. In order to achieve more cost efficient and operational flexibility, the Department of Defense is requiring all of its bulk fuel storage facilities to be equipped with the infrastructure capable of adding the products on site.

The minimal environmental impacts from the project are in the areas of air emissions, stormwater runoff generated from the addition of impervious surface at the site and potentially a small amount of solid waste from construction activities associated with the addition of a new building and storage tank installation.

Air emissions derive from two potential sources; diesel exhaust emissions from trucks delivering the additives and de minimis emissions from the filling of the 12,000 gallon above ground storage tank with the deicer. Emissions associated with tank filling are estimated at less than one pound per year due to the physical properties of the deicer. Total emissions from truck exhaust are estimated at .0012273 tons per year or approximately 2.46 pounds per year. Tank emissions are estimated at approximately 1.23 pounds per year.

The addition of 3,885 square feet of impervious cover (concrete pads, metal building and vehicle access) is anticipated to generate an additional 112,000 gallons of stormwater annually. Stormwater runoff, however, will infiltrate within the adjacent areas and will not be collected, pumped or discharged to surface water or groundwater.

Any solid waste created as a result of the construction of the project will be collected, transported and disposed of at an appropriately permitted facility. Empty containers of anti-static and anti-corrosive additives will be removed and also disposed of appropriately.

In considering how to determine the value of any offset proposal, DSPC looked to other environmental and regulatory programs in Delaware that include market-based opportunities to comply with offset requirements. These include the State Stormwater Management and Air Quality Management programs. While the Stormwater Management regulations provide a framework and methodology for determining the financial value of stormwater that is not able to infiltrate via a stormwater management structure, the DSPC project is not subject to regulatory requirements due to it's small footprint (under 5,000 square feet of land disturbance) and stormwater is expected to infiltrate within the project area.

Delaware's air regulations establish a mechanism to create market-based elements for emission reductions of volatile organic compounds (VOCs) and nitrogen oxides (NO_x) As a result, the Delaware Division of Small Business and Tourism has historically served as a source of available air emission reduction credits for facilities that would like to initiate or expand operations and need to meet required offsets for new air emissions. Currently the Division is offering nitrogen oxide credits for sale at a rate of 5 tons (minimum) for $5,000. Assuming that 1 ton of emissions is valued at $1000 and applying that value to the combined emissions estimated

from the project, the financial value of the total air emissions would be approximately $1.25 annually.

Although the regulations require that any proposal more than offset environmental impacts, and DNREC's preference is to offset impacts within the same media, the minimal impacts and different media that may be impacted by the project have led DSPC to propose a single offset for the combined potential impacts with a focus on air quality.

Due to the minimal environmental impacts of the project, the location of the facility and its proximity to environmentally significant wetlands and forests that serve as valuable habitat for numerous bird species and other wildlife, DSPC is proposing a one-time donation of $1,000 to the Kent County Conservancy toward its efforts to preserve and enhance habitat in Kent County, the Coastal Zone and Delaware's Bayshore.

Kent County Conservancy, Inc., is a volunteer-based, 501(c)(3) non-profit corporation comprised of conservationists and citizens focused on strategically acquiring & protecting lands within Delaware's Kent County that have important rural & urban heritage resources. DSPC's donation will be made within 30 days of permit issuance. The Kent County Conservancy has agreed to accept the donation, if awarded, and pledged to use the funds for a conservation project in the Coastal Zone of Kent County (please see attachment 14).

The science of valuing ecosystem services continues to be refined but it is well established that there are significant benefits that accrue to our water and air quality from the conservation of open space and forest lands in particular. Studies range from estimates of the global benefit of ecosystem services to local benefits such as those identified in *Return on Environment, the Economic Value of Protected Open Space in Chester County, Pennsylvania* (May 2019). The report acknowledges that ecosystems services are often overlooked but these "include replenishing water supply, water quality improvement, mitigation of flooding and stormwater impacts, wildlife habitat, air pollution removal, and carbon sequestration and storage. It should be noted that some types of landscapes are more valuable than others for a particular type of benefit: air pollution removal and carbon sequestration are primarily a function of tree cover, and wetlands and riparian forests are major drivers of water supply, water quality, and flood mitigation benefits."

In determining the ecosystem services benefit from a donation to the Kent County Conservancy, an assumption was made that funds made available to the Conservancy would be used to acquire an interest in forest lands located within the Coastal Zone. Subsequently, the preservation of those lands would result in an air quality benefit to more than offset the impact of an estimated 3.69 pounds per year of combined emissions from the proposed new storage tank that will contain jet fuel deicer and exhaust emissions from trucks delivering the additives to the facility.

The methodology utilized to quantify the environmental offset required that the benefit to air quality from forest land be determined. The basis for that comes from *The Ecosystem Service of Forests Improving Air Quality: A Literature Review (Rice)* which reviewed a number of sources that quantified the removal capacity in grams of air pollution per square meter of forests per year. The review developed the mean removal rates for SO2, NO2, O3, Co and PM based on studies that utilized

models which accounted for variations in the capacity of forests to remove air pollutants such as geographic location of the forests (urban or rural).

Pollutant	**Estimated Mean Removal Rate (g/m2/year)**
SO2	1.05
NO2	1.36
O3	3.97
CO	.305
PM	4.96
TOTAL	11.645

The next step was to determine the amount of forest land that would need to be preserved to more than offset the 3.69 pounds of annual estimated air emissions that will result from the proposed project. Using values from the Rice study, the total estimated mean removal rate for pollutants is 11.645 g/m2/year for the five pollutants. Converting square meters to acres and grams to pounds along with associated calculations determine that the total removal of pollutants per acre per year is approximately 103.9 pounds.

Because the DSPC proposes to offset the air emissions through a monetary donation to the Kent County Conservancy, financial valuation of forestland was established. According to the Delaware Department of Agriculture (DDA), the Forestland Preservation Program was recently reactivated through state appropriations and began accepting applications from landowners to voluntarily sell their forests' development rights. The program acquires development rights through the placement of a conservation easement on the property while the landowner retains fee simple ownership. Three forested properties were selected this year to purchase the development rights – two in Kent County and one in Sussex County. A forested parcel's total development rights value is determined by an appraisal and then the landowner submits a bid as to how much of that value they are willing to discount and still sell the development rights. For instance, if the development rights are appraised at $100,000 and the owner is willing to accept $40,000, then that is a 60% discount. The DDA does not disclose individual landowner's bid discounts; however, the average discount for all farms and forests selected for easement purchase this year was approximately 66 percent.

For the purpose of determining value, the two Kent County parcels were used in this analysis. According to DDA, the development rights value (after discounting) for one parcel (Property 1) was $1,934.52/acre and the other (Property 2) was $502.96/acre. Therefore the full development rights value of Property 1 is $5,687.49/acre while Property 2 is $1,479.30/acre (using the average discount of 66%). It is assumed that an acquisition by the Conservancy of a conservation easement on forestland in Kent County would be based on 100% value. The average per acre 100% value of the two properties is $3,583.40.

Any environmental offset must more than offset any negative environmental impacts, in this case 3.69 pounds of air emissions. A benchmark offset of 1.3 to 1 has been used in past Coastal Zone

permit application as a demonstration of meeting the standard. Based on the methodology presented here, DSPC is proposing a $1,000 donation to the Kent County Conservancy for the purpose of acquiring the development rights to approximately .28 acres of forestland which would result in the removal of an estimated 29 pounds of air pollutants which is approximately 7.8 times greater than the 3.69 pounds of total air emissions expected from the project. The donation would likely be used as partial funding for the acquisition of a larger parcel of land than .28 acres. DSPC believes that this donation alone, utilized to acquire development rights on forest land in the Coastal Zone, more than offsets the impacts from the proposed project.

In addition, DSPC has submitted an Environmental Offset Proposal Reduction Claim that it believes more than offsets any negative environmental impacts from the project as a result of the company's 2001 donation of approximately 500 acres of land to the State of Delaware (Part 6B, Attachment 10 of this application). The property adjoins public lands owned and managed by DNREC's Division of Fish and Wildlife (Little Creek Wildlife Area) and the U.S. Department of Interior (Bombay Hook National Wildlife Refuge).

ATTACHMENT 14
KENT COUNTY CONSERVANCY LETTER

KENT COUNTY CONSERVANCY

"Preserving our past, protecting our future."

426 S. State St.
Dover, Delaware 19901
302-678-1175

August 15, 2019

Ms. Erin Wilson
Delaware Coastal Zone Act Program
Department of Natural Resources and Environmental Control
100 West Water Street, Suite 5A
Dover, Delaware 19904

Dear Ms. Wilson:

I am writing about the Coastal Zone Act permit application for the Delaware Storage and Pipeline Company project at Port Mahon. The Kent County Conservancy understands that a donation to our organization may be a provision of the permit that is ultimately issued.

We are a 501(c)(3) non-profit organization dedicated to preserving open space in central Delaware. If we receive this contribution, it would be dedicated to land conservation within the designated Coastal Zone in Kent County. We are prepared to place the funds in a restricted account to be used for our next project there.

We welcome the opportunity to be a partner in conserving natural resources along Delaware's coast. If you have any questions for us, I can be reached at chazz18@verizon.net or 302-678-1175.

Sincerely,

Charles A. Salkin, Chair
Land Conservation Committee

Cc: Gerald I. Street, President

ATTACHMENT 15
ENVIRONMENTAL
IMPACT OFFSET MATRIX

COASTAL ZONE ENVIRONMENTAL IMPACT OFFSET MATRIX

Applicant:
Project:
CZA Offset Review Reference: (DNREC Only)

Application Date:
Amendments:
Offset Review Date: (DNREC Use Only)
Matrix Amended:

ENVIRONMENTAL IMPACTS	**(Applicant's Use) DESCRIBE ENVIRONMENTAL IMPACTS**	**PAGE NO.**	**(Applicant's Use) DESCRIBE ENVIRONMENTAL OFFSET PROPOSAL**[1]	**PAGE NO.**	(DNREC Use Only) **OFFSET SUFFICIENCY Yes, No or N/A**
Air Quality (Applicant to List Below by Parameter) Diethylene glycol monomethyl ether	No significant air emissions are expected. The physical properties of Dice Flash 190 are such that there are minimal, if any, emissions to the environment during tank filling. Emissions would be estimated at approximately 1.23 pounds annually.	14	DSPC has submitted an Environmental Offset Proposal and an Offset Proposal Reduction Claim. Due to the minimal environmental impacts of the project, the location of the facility and its proximity to environmentally significant wetlands and forests that that serve as valuable habitat for numerous bird species and other wildlife, DSPC is proposing a one-time donation of $1,000 to the Kent County Conservancy toward its efforts to preserve and enhance habitat in Kent County, the Coastal Zone and Delaware's Bayshore. This donation would be used to protect forestland in the Coastal Zone that would offset minor air emissions and other deminimis impacts from the project. In addition, the company is seeking consideration of its 2001 donation of land to the State of Delaware. The property adjoins public lands owned and managed by DNREC's Division of Fish and Wildlife and the U.S. Department of Interior Bombay Hook National Wildlife Refuge.	Attachments 8, 9, 12,13,14	
Air Quality (Diesel engine emissions associated with truck delivery of additives)	Emissions from truck exhaust are estimated at .0012273 tons or 2.46 pounds per year within the Coastal Zone.	14	DSPC has submitted an Environmental Offset Proposal and an Offset Proposal Reduction Claim. Due to the minimal environmental impacts of the project, the location of the facility and its proximity to environmentally significant wetlands and forests that serve as valuable habitat for numerous bird species and other wildlife, DSPC is proposing a one-time donation of $1,000 to the Kent County Conservancy toward its efforts to preserve and enhance habitat in Kent County, the Coastal Zone and Delaware's Bayshore. The donation would be used to protect forestland in the Coastal Zone that would offset minor air emissions and other deminimis impacts from the project. In addition, the company is seeking consideration of its 2001 donation of land to the State of Delaware. The property adjoins public lands owned and managed by DNREC's Division of Fish and Wildlife and the U.S. Department of Interior Bombay Hook National Wildlife Refuge.	Attachments 8,9, 12, 13, 14	
Water Quality	N/A				
Surface	N/A				
Groundwater	N/A				
Water Quantity	The addition of 3,885 square feet of impervious cover (concrete pads, metal building and vehicle access) is expected to generate an additional 112,000 gallons of stormwater annually. The stormwater runoff, however, will no increase as a result of the project as it will infiltrate within the adjacent areas and will not be collected, pumped or discharged.	17	DSPC has submitted an Environmental Offset Proposal and an Offset Proposal Reduction Claim. Due to the minimal environmental impacts of the project, the location of the facility and its proximity to environmentally significant wetlands and forests that serve as valuable habitat for numerous bird species and other wildlife, DSPC is proposing a one-time donation of $1,000 to the Kent County Conservancy toward its efforts to preserve and enhance habitat in Kent County, the Coastal Zone and Delaware's Bayshore. The donation would be used to protect forestland in the Coastal Zone that would offset minor air emissions and other deminimis impacts from the project. In addition, the company is seeking consideration of its 2001 donation of land to the State of Delaware. The property adjoins public lands owned and managed by DNREC's Division of Fish and Wildlife and the U.S. Department of Interior Bombay Hook National Wildlife Refuge.	Attachments 12,13, 14	
Surface	N/A				
Groundwater	N/A				
Water Use For:	N/A				
Processing	N/A/				
Cooling	N/A				
Effluent Removal	N/A				
Solid Waste	Any solid waste created as a result of the construction of the project will be collected, transported and disposed of at an appropriately permitted facility. Empty 55 gallon drums containing anti-static and anti-corrosive additives will be removed and also disposed of appropriately.	21	DSPC has submitted an Environmental Offset Proposal and an Offset Proposal Reduction Claim. Due to the minimal environmental impacts of the project, the location of the facility and its proximity to environmentally significant wetlands and forests that serve as valuable habitat for numerous bird species and other wildlife, DSPC is proposing a one-time donation of $1,000 to the Kent County Conservancy toward its efforts to preserve and enhance habitat in Kent County, the Coastal Zone and Delaware's Bayshore. The donation would be used to protect forestland in the Coastal Zone that would offset minor air emissions and other deminimis impacts from the project. In addition, the company is seeking consideration of its 2001 donation of land to the State of Delaware. The property adjoins public lands owned and managed by DNREC's Division of Fish and Wildlife and the U.S. Department of Interior Bombay Hook National Wildlife Refuge.	Attachments 12,13, 14	
Hazardous Waste	N/A				
Habitat	N/A				
Wetlands	N/A				
Flora Fauna	N/A				
Drainage/Flood Control	N/A				
Erosion[2]	N/A				
Land Use Effects	N/A				
Glare	N/A				
Heat	N/A				
Noise	N/A				
Odors	N/A				
Vibration	N/A				
Radiation	N/A				
Electro-Magnetic Interference	N/A				
Other Effects	N/A				

COASTAL ZONE ENVIRONMENTAL IMPACT OFFSET MATRIX

Applicant:
Project:
CZA Offset Review Reference: (DNREC Only)

Application Date:
Amendments:
Offset Review Date: (DNREC Use Only)
Matrix Amended:

ENVIRONMENTAL IMPACTS	**(Applicant's Use)** **DESCRIBE ENVIRONMENTAL IMPACTS**	**PAGE NO.**	**(Applicant's Use)** **DESCRIBE ENVIRONMENTAL OFFSET PROPOSAL**[1]	**PAGE NO.**	(DNREC Use Only) **OFFSET SUFFICIENCY Yes, No or N/A**
Threatened & Endangered Species	The project location is near the Delaware Bay shore which is an area utilized by migratory shorebirds including the Red Knot which is listed as a threatened species. The project will not impact wetlands or shoreline and although birds may visit the property they are not known to nest in the area. The birds have continued to utilize the Port Mahon area while the facility has operated continuously since 1960.	22	~~DSPC has submitted an Environmental Offset Proposal and an Offset Proposal Reduction Claim. Due to~~ the minimal environmental impacts of the project, the location of the facility and its proximity to environmentally significant wetlands and forests that serve as valuable habitat for numerous bird species and other wildlife, DSPC is proposing a one-time donation of $1,000 to the Kent County Conservancy ~~toward its efforts to preserve and enhance habitat in Kent County, the Coastal Zone and Delaware's Bayshore. The donation would be used to protect forestland in the Coastal Zone that would offset minor air emissions and other deminimis impacts from the project. In addition, the company is seeking consideration~~ of its 2001 donation of land to the State of Delaware. The property adjoins public lands owned and managed by DNREC's Division of Fish and Wildlife and the U.S. Department of Interior Bombay Hook National Wildlife Refuge.	Attachment 12, 13, 14	
Impacts From:	N/A				
Raw Material	N/A				
Intermediate Products	N/A				
By-Products	N/A				
Final Products	N/A				

1 See paragraph I.1.b in "Secretary Assessment"

Rev. – 03/05/04

2 Construction and normal operation

ATTACHMENT 16
FACILITY PHOTOS

DOCK

VIEW FROM ROAD (1)

VIEW FROM ROAD 2

ATTACHMENT 17
BACKGROUND STATEMENT

DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL ("DNREC")

ENVIRONMENTAL PERMIT APPLICATION BACKGROUND STATEMENT

Pursuant to 7 Del. C. Chapter 79

FILING STATUS:

This Background Statement is being filed with DNREC because:

☒ 1. It is an initial application for a new permit (or permits) and the applicant or applicant company has not held a permit issued by DNREC for a period of 5 or more years [See 7 Del. C. § 7902(a) and (b)];

☐ 2. It is required on an annual basis because the applicant or applicant company has been designated a chronic violator pursuant to 7 Del. C. § 7904 [See 7 Del. C. § 7902(a)(7) and (b)(2)]; or

☐ 3. It is required on an annual basis as the applicant or applicant company has been found guilty, pled guilty or no contest to any crime involving violation of environmental standards which resulted in serious physical injury or serious harm to the environment as defined in 7 Del. C. § 7902(c) [See 7 Del. C. § 7902(a)(7) and (b)(2)].

APPLICANT OR APPLICANT COMPANY'S NAME OR COMPANY'S NAME FILING STATEMENT	Delaware Storage and Pipeline Company
DATE OF APPLICATION OR DATE OF STATEMENT	9/11/2019
PERMIT(S) BEING APPLIED FOR OR STATEMENT FOR FILING STATUSES 2 OR 3	☒ **Permit Type(s)** New Coastal Zone Act Permit ☐ **Statement for filing Statuses 2 or 3—If filing under these statuses, attach a statement of the date of designation as Chronic Violator or the date of Conviction/Plea.**
OTHER DNREC PERMITS HELD	☐ **N/A – No other permits held with DNREC** ☒ **List of all DNREC permits currently held with dates of issuance and expiration attached.** Aboveground Storage Tank Registrations attached

ENVIRONMENTAL PERMIT APPLICATION BACKGROUND STATEMENT

Please note: Companies filing statements pursuant to Chapter 79 have the right to identify information to be afforded confidential status pursuant to 7 Del. C. § 7903(b) and the requirements set forth in Section 6, "Requests for Confidentiality" of the DNREC *Freedom of Information Act Regulation*.

PROVIDING ALL OF THE INFORMATION REQUESTED IN THIS FORM SATISFIES THE REQUIREMENTS OF 7 DEL. C. CHAPTER 79 ("ENVIRONMENTAL PERMIT APPLICATION BACKGROUND STATEMENT") UNLESS THE DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL ("DNREC") OR THE DELAWARE DEPARTMENT OF JUSTICE DETERMINES THAT ADDITIONAL SUBMISSIONS ARE NECESSARY. FAILURE TO PROVIDE THE INFORMATION REQUESTED OR PROVIDING ERRONEOUS INFORMATION IS GROUNDS FOR DENYING OR REVOKING AN ENVIRONMENTAL PERMIT/APPROVAL/LICENSE, AND FOR CIVIL AND/OR CRIMINAL PENALTIES.

A. **(Authority – 7 Del. C. § 7902(a)(1&2) & § 7905)** Attach a complete list (full names) of all current members of the applicant company's board of directors, all current corporate officers, all persons owning more than 20% of the applicant's stock or other resources, all subsidiary/affiliated companies with type of business performed, street addresses, all parent companies with addresses, all companies with which the applicant's company shares two or more members of the board of directors, and the name(s) of the person(s) serving as the applicant's local chief operating officer(s) with respect to each facility covered by the permit in question or for the statement required for filing Statuses 2 or 3. [Note: For companies that do not have a *facility* located in Delaware, no listing for the local chief operating officer(s) is required].

- ☒ Information attached
- ☐ Information attached, except for local chief operating officer as there is no facility located in the State of Delaware.

B. **(Authority - 7 Del. C. § 7905)** Please check one of the following selections below, showing type of ownership for the applicant or applicant/statement company:

☐	Proprietorship	List the state, county, book record and page number where the certificate is found (Attach hereto).
☐	Partnership	List the state, county, book record and page number where the certificate is found (Attach hereto).
☒	Corporation (LLCs included)	List the city, state, date of incorporation, corporation file number, current corporate standing, registered agent, and address of the registered agent (Attach hereto).
☐	Municipality	
☐	Public Institution/ Government Agency	
☐	Other	_____

C. **(Authority - 7 Del. C. § 7902(a)(3) & § 7905)** Have any of the following been issued to or agreed to by the applicant or applicant/statement company, any employee, person, entity, or subsidiary/affiliated company, specified in response to Item A, for violation of any environmental statute, regulation, permit, license, approval, or order, regardless of the state in which it occurred, during the five years prior to the date of this application/statement

OFFENSE	YES	NO
Notice of Violation(s)	x	
Administrative Order(s)		
Administrative Penalty(ies)		
Civil Action(s)		
Civil Penalty(ies)		
Civil and/or Administrative Settlement Agreement(s)		
Permit/License/Approval Revocation		
Arrest(s)		
Conviction(s)		
Criminal Penalty(ies)		
Criminal Plea Bargain		

D. **(Authority - 7 Del. C. § 7902(a)(3), (a)(4) & § 7905)** If you answered "yes" to any of the actions listed in Item C above for the applicant or applicant company or any other person identified in Item A, attach a description of the incidents or events leading to the issuance of each action, regardless of the state in which it occurred, for the 5 years prior to the date of the statement, and the disposition of each action, what state the action/offense occurred in, and any actions that have been taken to correct the violations that led to such enforcement action.

☐ N/A

☒ Information attached

E. **(Authority - 7 Del. C. § 7902(a)(5) & § 7905)** Attach a description of any felony or other criminal conviction for a crime involving harm to the environment or violation of environmental standards of any person or entity identified in Item A above that resulted in a fine greater than $1,000 or a sentence longer than 7 days, regardless of whether such fine or sentence was suspended.

☒ N/A

☐ Description attached

F. **(Authority - 7 Del. C. § 7902(a)(6) & § 7905)** Attach copies of any and all settlements of environmental claims involving the applicant, associated with actions identified in response to Item D above, whether or not such settlements were based on agreements where the applicant did not admit liability for the action.

☒ N/A

☐ Information attached

Items for Filing Statuses 2 or 3 Only

G. **(Authority - 7 Del. C. § 7902(a)(7) and § 7905)** If the applicant or applicant/statement company has been found guilty, pled guilty or no contest, to any crime involving violation of environmental standards which resulted in serious physical injury or serious harm to the environment attach a summary of the events involved and a copy of the disposition of the action (*See 7 Del. C. § 7902(c) for definitions of "serious physical injury" or "serious harm to the environment" before answering this question.*)

☒ N/A

☐ Yes – Information Attached.

H. **(Authority - 7 Del. C. § 7902(a)(8))** – If the applicant or applicant/statement company has been designated a chronic violator under 7 Del. C. § 7904, a detailed written report from an independent inspector who has inspected the applicant's premises for the purpose of detecting potential safety and environmental hazards to employees and the surrounding community. The Secretary may waive the duty to submit a detailed written report upon a showing of good cause by the applicant. A showing by the applicant that the acts which caused it to be designated as a chronic violator did not jeopardize public health shall constitute "good cause" under this paragraph.

I. **(Authority - 7 Del. C. § 7902(a)(7))** – If the applicant or applicant/statement company has been designated a chronic violation under § 7904 of this Title, ***OR*** has been found guilty or pled no contest to any crime involving violation of environmental standards which resulted in serious physical injury or serious harm to the environment, a statement made under oath by the applicant or applicant/statement company's local chief operating officer with respect to the facilities covered by the permit, stating that: (a) disclosures made by the applicant/reporting company under federal and state environmental statutes and regulations during the preceding calendar year have been, to the chief operating officer's knowledge, complete and accurate, and (b) that the facility has implemented policies, programs, procedures, standards or systems reasonably designated, in light of the size, scope, and nature of facility operations to detect deter and promptly correct any noncompliance with state environmental statutes and regulations. The statement filed pursuant to this paragraph shall include an acknowledgement by the affiant that intentionally false statements submitted in compliance with this paragraph constitute criminal perjury as defined at 11 Del. C. §§1221-1222.

STATE OF DELAWARE – DEPT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

ENVIRONMENTAL PERMIT BACKGROUND STATEMENT

CERTIFICATION

I HEREBY CERTIFY THAT I HAVE READ THE PRECEEDING SUBMISSION, HAVE PROVIDED ALL OF THE INFORMATION REQUESTED, AND THAT ALL OF THE INFORMATION PROVIDED IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Charles Denault — DATE: 9-11-2019

SIGNATURE—APPLICANT OR
OFFICER OF APPLICANT / STATEMENT COMPANY

NAME: Charles Denault

TITLE: President

COMPANY NAME: Delaware Storage & Pipeline Co.

ADDRESS: P.O. Box 313

Dover, DE 19901

TELEPHONE: 603-886-7300

FAX NUMBER: 603-880-7176

REGISTERED AGENT NAME: Delaware Enterprises, Inc.

ADDRESS: 3500 So. Dupont Hway, Dover, DE 19901

TELEPHONE: 302-531-0855

FAX NUMBER: 302-531-3150

SWORN TO AND SUBSCRIBED

BEFORE ME THIS 11th **DAY OF**

September, 2019.

Adrien Stark Rice
NOTARY PUBLIC SIGNATURE (SEAL)

PATRICIA STARK RICE
PRINTED NAME OF NOTARY PUBLIC

New Hampshire / Hillsborough
STATE / COUNTY

MY COMMISSION EXPIRES ON: 09/05/2023

PATRICIA STARK RICE
MY COMMISSION EXPIRES SEPT. 5, 2023
NOTARY PUBLIC
NEW HAMPSHIRE

jmb:20-24.doc/Rev. 8/2

DNREC Permit Application Statement

Applicant: Delaware Storage and Pipeline Co.

Incorporated September 1962

Corporate File # 588805

Currently in good standing

Registered Agent: Delaware Enterprises, Inc., 3500 South Dupont Hwy, Dover, De. 19901

President, Treasurer, Sole Director: Charles Denault

Secretary: Patricia Rice

Affiliated Companies:

Fitzhenry-Guptill Holding Company, Inc. (Parent), P.O. Box 313, Dover, De. 19901

Corporate Office: 400 Amherst St., Ste 405, Nashua, NH 03063

Owns Delaware Storage and Pipeline Co. and Interstate Storage and Pipeline Corp.

Sister Corporation: Interstate Storage and Pipeline Corporation, 1715 Burlington-Jacksonville Rd., Bordentown, NJ 08505.

Business: Bulk storage facility located in Jacksonville, NJ.

Davidson Holdings, Inc., P.O. Box 313, Dover, de 19901 – owns Fitzhenry-Guptill Holding Company, Inc.

Charles Denault, President is the Chief Operating Officer.

Greg Schwartmiller is the Terminal Manager.

INVOICE

Monday, December 17, 2018

INVOICE # 6-00042260

FACILITY # 6-000101

BILL TO

Delaware Storage and Pipeline Company
Suite 202
400 Amherst Street
Nashua, NH, 03063

Delaware Storage and Pipeline Company
987 Port Mahon Road
Dover, DE, 19901

REMIT TO

DNREC / FISCAL MANAGEMENT
Tank Management Section/AST
97 Commerce Way, Suite 106
Dover, DE, 19904

ATTN: ABOVEGOUND STORAGE TANK FEES

First Billing

Pursuant to 7 Del. Code, Section 7413A, Owners and Operators of Aboveground Storage Tanks (ASTs) are required to pay an annual registration fee on or before February 1 of each calendar year. All ASTs currently In Service or temporarily Out Of Service are required to pay the annual registration fee. ASTs properly Removed or Permanently Closed before February 1, including completed Site Assessments, will not be subject to annual registration fees. In accordance with 7 Del. Code, Section 7413A, annual registration fees not received on or before February 1 are subject to a late charge equal to 10% of the total fee.

Pursuant to 7 Del. Code, Section 6003, Stage I and Stage II vapor recovery operating permits are subject to a fee of $75.00 per operating permit. Only AST(s) currently In Service are required to pay the Stage I and/or Stage II permit fee(s).

Please call the Tank Management Section at (302) 395-2500 with any questions.

For / Date	TYPE	TRANSACTION	AMOUNT
2019	Tank Fee	Annual Fee for Tank 1 - Jet Fuel (1164951)	750.00
2019	Tank Fee	Annual Fee for Tank 2 - Jet Fuel (1177424)	750.00
2019	Tank Fee	Annual Fee for Tank 3 - Jet Fuel (1180257)	750.00
2019	Tank Fee	Annual Fee for Tank 4 - Jet Fuel (1177162)	750.00
2019	Tank Fee	Annual Fee for Tank 5 - Jet Fuel (3738045)	750.00
2019	Tank Fee	Annual Fee for Tank 6 - Jet Fuel (3734885)	750.00
2019	Tank Fee	Annual Fee for Tank 7 - Jet Fuel (3743474)	750.00
2019	Tank Fee	Annual Fee for Tank 8 - Jet Fuel (925854)	750.00
			6,000.00

PAYMENT DUE BY --> 2/1/2019

BALANCE TO PAY --> $6,000.00

ENTERED FEB 2 1 2019

ONLINE PAYMENT CODE: 377F2-E45H9

PAID 1-9-2019 CHK. USA

PLEASE MAKE CHECK PAYABLE TO: State of Delaware.

*Please include **Facility # and Invoice #** on Check. **Keep one copy of the Invoice and return one with your payment.***

Payments can be made online at https://apps.dnrec.state.de.us/DNRECBilling.

Summary Description of Incidents/Events

For Environmental Permit Application Background Statement

Section D

Delaware Storage and Pipeline Company

The Delaware Storage and Pipeline Company identified three incidents in the past five years where the Delaware facility received notice of potential non-compliance for administrative issues. Two of the findings were from the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (USDOT PHMSA) and one was from the U.S. Coast Guard (USCG).

A summary of those findings and responses follow. Agency letters that identify the potential issues and follow up correspondence and actions that confirm the facility corrected issues identified are included with this package. In all cases DSPC responded to the items in a timely manner and the issues identified have been addressed.

1) August 26, 2014 – Letter of Correction from USDOT PHMSA identifying deficiencies in the company's Integrated Contingency Plan regarding name of agency, worst case discharge determination methodology, alternative response strategies, evidence of contract and records retention.

   October 14, 2014 – Letter acknowledging that USDOT PHMSA reviewed the amended Plan and that the Plan is in compliance with Federal regulations.

2) May 6, 2019 – Notice of Amendment from USDOT PHMSA regarding Procedures Manual for operation, maintenance and emergencies.

   July 11, 2019 – Letter from USDOT PHMSA stating that staff had reviewed amended procedures and that inadequacies had been corrected.

3) Letter from USCG identifying deficiency in Facility Response Plan regarding the response time of DSPC's Oil Spill Response Organization (OSRO) during a Government Initiated Unannounced Exercise.

   As recommended in the letter, DSPC did engage its OSRO in follow-up discussions. The OSRO assured DSPC that its performance as part of an unannounced exercise was an internal administrative issue that is now resolved and it is prepared to respond according to the plan.

U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety Administration**

1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

August 26, 2014

George Steady
Terminal Manager
Delaware Storage and Pipeline Company
P.O. Box 313
Dover, DE 19901

RE: LETTER OF CORRECTION: Delaware Storage and Pipeline Company ICP Sequence Number: 2389, June 26, 2014

Dear Mr. Steady:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) has received and reviewed Delaware Storage and Pipeline Company's oil spill response plan for the Integrated Contingency Plan dated June 26, 2014. We conclude that the Plan does not comply with PHMSA's regulations concerning onshore oil pipelines found at 49 Code of Federal Regulations (CFR) Part 194.

We have identified deficiencies in the Plan that need correcting. These corrections should be addressed as highlighted in the NEEDED ACTION section and submitted to PHMSA within thirty (30) days from the date of this letter. If you are unable to address these issues within that time, you may request an extension via mail or to the email address listed below.

Should you have any questions or concerns, please contact me at (202) 366-4595 or by email at PHMSA.OPA90@dot.gov. Please include the sequence number and your PHMSA Operator Identification Number on any future correspondence.

Sincerely,

David K. Lehman, Director
Emergency Support and Security Division
Office of Pipeline Safety

Attachment: Action Needed on Response Plan Sequence #2389

cc: PHMSA Eastern Region
Charles Denault, President, Interstate Storage and Pipeline Corporation, 400 Amherst Street Ste. 405, Nashua, NH 03063

References to RSPA

The Research and Special Programs Administration was disestablished in 2005, when the Pipeline and Hazardous Materials Safety Administration was created.

Finding: RSPA is referenced throughout the Plan.

NEEDED ACTION: Amend the Plan to address the current agency's name, PHMSA.

Review and Update Procedures

49 CFR § 194.121(a)(1) states, "For substantial harm plans, an operator shall resubmit its response plan to Office of Pipeline Safety (OPS) every 5 years from the last submission date."

Finding: The Plan states that a letter may be sent in lieu of a current plan for the 5 year review submission.

NEEDED ACTION: Amend the Plan to appropriately provide a plan review and update procedures that state a plan will be resubmitted every 5 years from the last submission date as required by 49 CFR § 194.121(a)(1).

Worst Case Discharge Determination Methodology

49 CFR § 194.105(a) states, "Each operator shall determine the worst case discharge for each of its response zones and provide the methodology, including calculations, used to arrive at the volume."

The methodology referenced in the regulation above includes the comparison of the three volumes of Worst Case Discharge sources: pipeline, breakout tank, and maximum historic discharge.

Finding: The Plan does not include any breakout tanks in the worst case discharge methodology.

NEEDED ACTION: Amend the Plan to provide a comprehensive worst case discharge determination methodology, as required by 49 CFR § 194.105(a). If there are no breakout tanks covered under the Plan, you must affirmatively state this.

Alternative Response Strategies

49 CFR § 194.107(b)(1) states, "As a minimum to be consistent with the NCP a facility response plan must:... (iii) Identify the procedures to obtain any required Federal and State permissions for using alternative response strategies such as in-situ burning and dispersants as provided for in the applicable ACPs [Area Contingency Plans]."

Finding: The Plans lists dispersants on the Equipment List; however it does not identify the procedures for obtaining permission to use alternative response strategies.

NEEDED ACTION: Amend the Plan to identify procedures for obtaining permission to use alternative response strategies or affirmatively state that they will not be used and remove the dispersants listed on the Equipment List.

Evidence of Contract

49 CFR § 194.115(a) states, "Each operator shall identify and ensure, by contract or other approved means, the resources necessary to remove, to the maximum extent practicable, a worst case discharge and to mitigate or prevent a substantial threat of a worst case discharge."

Finding: The Plan states Miller Environmental Group is the primary Oil Spill Response Organization (OSRO); however, there is no evidence of a contract with this OSRO.

NEEDED ACTION: Amend the Plan to provide evidence of a contract with Miller Environmental Group, as required above.

Training Records

49 CFR § 194.117(b) states, "Each operator shall maintain a training record for each individual that has been trained as required by this section. These records must be maintained...as long as the individual is assigned duties under the response plan..."

Finding: The Plan incorrectly states in Vol. III, Annex 5, that records will be maintained for a minimum of three years.

NEEDED ACTION: Amend the Plan to clearly state the DOT retention records requirement; specifically that all training records shall be maintained as long as the individual is assigned duties under the response plan.

U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety Administration**

1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

October 14, 2014

George Steady
Terminal Manager
Delaware Storage and Pipeline Company
P.O. Box 313
Dover, DE 19901

RE: Review of Substantial Harm Plan: Delaware Storage and Pipeline Company ICP Seqnence Number: 2389, September 15, 2014

Dear Mr. Steady:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) has received and reviewed Delaware Storage and Pipeline Company's amended oil spill response plan for the Integrated Contingency Plan, dated September 15, 2014. We conclude that the Plan complies with PHMSA's regulations concerning onshore oil pipelines found at 49 Code of Federal Regulations (CFR) Part 194.

You must revise and resubmit a Response Plan for review by **September 18, 2019**. If discrepancies are found during PHMSA inspections or if new or different operating conditions or information would substantially affect the implementation of this plan, you will be required to resubmit a revised plan. See 49 CFR § 194.121(b).

Should you have any questions or concerns, please contact me at (202) 366-4595 or by email at PHMSA.OPA90@dot.gov. Please include the sequence number and your PHMSA Operator Identification Number on any future correspondence.

Sincerely,

David K. Lehman

David K. Lehman, Director
Emergency Support and Security Division
Office of Pipeline Safety

cc: PHMSA Eastern Region
Charles Denault, President, Interstate Storage and Pipeline Corporation, 400 Amherst Street Ste. 405, Nashua, NH 03063

U.S. Department
of Transportation

**Pipeline and
Hazardous Materials
Safety Administration**

840 Bear Tavern Road, Suite 300
West Trenton, NJ 08628
609.771.7800

NOTICE OF AMENDMENT

OVERNIGHT EXPRESS DELIVERY

May 6, 2019

Charles Denault
President
Delaware Storage and Pipeline Company
400 Amherst Street, Suite 202
Nashua, NH 03063

CPF 1-2019-6007M

Dear Mr. Denault:

From August 7 - August 11, 2017, representatives from the Pipeline and Hazardous Materials Safety Administration (PHMSA), pursuant to Chapter 601 of 49 United States Code (U.S.C.), performed an inspection of Delaware Storage and Pipeline Company's (Delaware SPC) Dover AFB Pipeline system located in Delaware.

On the basis of the inspection, PHMSA has identified the apparent inadequacy found within Delaware SPC's plans or procedures, as described below:

1. **§ 195.402 Procedure manual for operations, maintenance, and emergencies.**

   (c) *Maintenance and normal operations.* The manual required by paragraph (a) of this section must include procedures for the following to provide safety during maintenance and normal operations:

   (3) Operating, maintaining, and repairing the pipeline system in accordance with each of the requirements of this subpart and subpart H of this part.

Delaware SPC's procedures for normal operations and maintenance were inadequate. Specifically, Delaware SPC's corrosion control procedures did not include a requirement that supervisors maintain a thorough knowledge of the corrosion control procedures

for which they are responsible for insuring compliance, or a process for verifying such knowledge, as required by § 195.555.

Section 195.555 states:

> You must require and verify that supervisors maintain a thorough knowledge of that portion of the corrosion control procedures established under § 195.402(c)(3) for which they are responsible for insuring compliance.

During the inspection, Delaware SPC's operations and maintenance procedures were reviewed, and determined to not contain any provisions for complying with § 195.555.

Response to this Notice

This Notice is provided pursuant to 49 U.S.C. § 60108(a) and 49 C.F.R. § 190.206. Enclosed as part of this Notice is a document entitled *Response Options for Pipeline Operators in Compliance Proceedings*. Please refer to this document and note the response options. Be advised that all material you submit in response to this enforcement action is subject to being made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment under 5 U.S.C. 552(b), along with the complete original document you must provide a second copy of the document with the portions you believe qualify for confidential treatment redacted and an explanation of why you believe the redacted information qualifies for confidential treatment under 5 U.S.C. 552(b).

Following the receipt of this Notice, you have 30 days to submit written comments, revised procedures, or a request for a hearing under §190.211. If you do not respond within 30 days of receipt of this Notice, this constitutes a waiver of your right to contest the allegations in this Notice and authorizes the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to you and to issue an Order Directing Amendment. If your plans or procedures are found inadequate as alleged in this Notice, you may be ordered to amend your plans or procedures to correct the inadequacies (49 C.F.R. § 190.206). If you are not contesting this Notice, we propose that you submit your amended procedures to my office within 60 days of receipt of this Notice. This period may be extended by written request for good cause. Once the inadequacies identified herein have been addressed in your amended procedures, this enforcement action will be closed.

It is requested (not mandated) that Delaware Storage and Pipeline Company maintain documentation of the safety improvement costs associated with fulfilling this Notice of Amendment (preparation/revision of plans, procedures) and submit the total to Robert Burrough, Director, PHMSA Eastern Region, 840 Bear Tavern Road, Suite 300, West Trenton, NJ 08628. Please refer to **CPF 1-2019-6007M** on each document you submit, and whenever possible provide a signed PDF copy in electronic format. Smaller files may be emailed to robert.burrough@dot.gov. Larger files should be sent on USB flash drive accompanied by the original paper copy to the Eastern Region Office.

Additionally, if you choose to respond to this (or any other case), please ensure that any response letter pertains solely to one CPF case number.

Sincerely,

Robert Burrough
Director, Eastern Region
Pipeline and Hazardous Materials Safety Administration

Enclosures: *Response Options for Pipeline Operators in Compliance Proceedings*

U.S. Department
Of Transportation
Pipeline and
Hazardous Materials
Safety Administration

840 Bear Tavern Road, Suite 300
West Trenton, NJ 08628
609.771.7800

OVERNIGHT EXPRESS DELIVERY

July 11, 2019

Mr. Charles Denault
President
Delaware Storage and Pipeline Co.
400 Amherst Street, Suite 405
Nashua, NH 03063

CPF 1-2019-6007M

Dear Mr. Denault:

From August 7 - August 11, 2017, representatives from the Pipeline and Hazardous Materials Safety Administration (PHMSA), pursuant to Chapter 601 of 49 United States Code (U.S.C.), performed an inspection of Delaware Storage and Pipeline Company's (Delaware SPC) Dover AFB Pipeline system located in Delaware.

As a result of the inspection, Delaware SPC was issued a Notice of Amendment on May 6, 2019, which proposed amendment of your procedures.

Delaware SPC submitted its amended procedures on May 16, 2019. My staff reviewed the amended procedures, and it appears that the inadequacies outlined in this Notice of Amendment have been corrected.

This letter is to inform you no further action is necessary, and this case is now closed. Thank you for your cooperation.

Sincerely,

Robert Burrough
Director, Eastern Region
Pipeline and Hazardous Materials Safety Administration

U.S. Department of Homeland Security

United States Coast Guard

Commander
United States Coast Guard
Sector Delaware Bay

1 Washington Avenue
Philadelphia, PA 19147
Phone: (215) 271-4800

16480

OCT 11 2018

GEORGE STEADY
DELAWARE STORAGE & PIPELINE
PORT MAHON ROAD
LITTLE CREEK, DE 19961

Dear Mr. Steady,

On September 27, 2018, Sector Delaware Bay and Marine Safety Detachment (MSD) Lewes personnel conducted a Government Initiated Unannounced Exercise (GIUE) on your facility. The purpose of this GIUE was to test the Facility Response Plan (FRP) notification and response capabilities for an average most probable discharge (AMPD) in accordance with 33 Code of Federal Regulations (C.F.R.) § 154.1055(b). The GIUE Team determined that the exercise was unsatisfactory.

Deficiencies

1. Cite: 33 C.F.R. § 154.1045 (c)(2): Oil recovery and oil recovery storage capacity should be available on scene within two hours.

Sector Delaware Bay recommends that you conduct an immediate reevaluation of your listed Oil Spill Response Organization (OSRO) as listed in your FRP. This could include a meeting with your current provider to discuss their failure to meet your contracted GIUE objectives/standards. While the planning standard is two hours for a good practice response, during the GIUE the OSRO was not able to meet a three hour standard to provide a vacuum truck and skimmer to meet the AMPD scenario.

The USCG GIUE team lead found the facility's efforts to deploy boom as adequate. The facility may count this exercise as a successful boom deployment drill for purposes of recordkeeping under the FRP.

You may be subject to another Coast Guard GIUE at any time, in accordance with 33 C.F.R. § 154.1055. Please contact MSD Lewes at (302) 644-1909 or by email at msdlewes@uscg.mil should you have any questions.

Sincerely,

S. E. ANDERSON
Captain, U. S. Coast Guard
Captain of the Port

SECRETARY'S ASSESSMENT REPORT OF A COASTAL ZONE ACT PERMIT APPLICATION

Re: CZA-437P
Delaware Storage and Pipeline Company
Jet Fuel Additive Project
987 Port Mahon Rd, Dover, DE 19901

October 17, 2019

INTRODUCTION

Under §8.3.4 of the Regulations Governing Delaware's Coastal Zone (Regulations), the Secretary of the Department of Natural Resources and Environmental Control (Department) shall provide a written assessment of any application for a Coastal Zone Act Permit, including the proposed project's likely impact on the six criteria listed in §8.1, as well as a preliminary determination of the sufficiency of the offset project under §9.0. The completion of this assessment acknowledges the application submitted by Delaware Storage and Pipeline Company as administratively complete. The fact that the Department considers the application to be administratively complete does not constitute the Department's position as to whether a permit should be issued or denied. That decision will be made after a public hearing is held and any comments are reviewed.

PROPOSED PROJECT OVERVIEW

Delaware Storage and Pipeline Company (DSPC) serves as the sole provider of jet fuel for Dover Air Force Base (Base) and is seeking the ability to blend three jet fuel additives (an anti-static agent, corrosion inhibitor, and icing inhibitor) onsite. These additives have historically been blended prior to delivery. The U.S. Department of Defense is looking to bring consistency and cost-effectiveness to its fuel delivery and handling systems by requiring facilities to have the equipment onsite to add these products into their fuel delivery systems. All of the additive products exist within the jet fuel that is currently delivered to the Base and are regulated to meet North Atlantic Treaty Organization standards to enhance safety and operations.

DSPC has been operating since 1960 and is included as a heavy industry use that was in operation on June 28, 1971 and, therefore, grandfathered as a non-conforming use under the Coastal Zone Act (CZA). No CZA permits for this site exist presently. In 2018, DSPC submitted a request for a status decision (CZA Project 434SD) and was notified that their proposed activity would require a CZA permit.

The proposed process would require DSPC to construct a 242-square-foot building to hold two separate 250-gallon metal totes for storage of the anti-static agent and corrosion inhibitor. They also plan to use a 12,000-gallon horizontal tank to store the icing inhibitor. Both of these additions would be constructed within an existing tank farm on the property.

The anti-static agent and corrosion inhibitor are proposed to be delivered to the facility in 55-gallon drums and transferred to the totes using a valve injection system, where they would be fed into the pipeline conveying jet fuel from the barge dock to the storage tanks. The icing inhibitor would be delivered via tanker truck, approximately 5,000 gallons at a time, and then offloaded from a tanker and pumped into the 12,000-gallon storage tank through a dedicated pipeline.

This proposed process is modeled after a similar process which is currently in place at a sister company serving McGuire Air Force Base in New Jersey. Expertise from the sister company informed procedure development and details regarding operations and monitoring are included in the application. The applicant believes this information demonstrates that DSPC employees will have appropriate training to safely operate the system. However, because releasing these records could jeopardize the security of the sites, they request that the operations documentation remain confidential.

Additionally, facility inspection reports by the U.S. Coast Guard, DNREC Division of Waste and Hazardous Substances' Tank Management Section, and U.S. Department of Transportation were included in the application. In circumstances where there were inspection items that were not in compliance, documentation is provided showing the corrective actions taken by DSPC. This information demonstrates the applicant's ability to operate safely.

APPLICATION ASSESSMENT

Section 8.3.2 of the Regulations requires consideration of an application's effect on the six criteria of 7 *Del. C.* Ch. 70:

1. Direct and cumulative environmental impacts
2. Economic effects
3. Aesthetic effects
4. Number and type of supporting facilities and their anticipated impacts
5. Effect on neighboring land uses
6. Compatibility with county and municipal comprehensive plans

1. DIRECT AND CUMULATIVE ENVIRONMENTAL IMPACTS

AIR EMISSIONS

The proposed project will result in de minimis air emissions associated with the delivery by truck of the three additives. There will be an estimated 18 deliveries annually with diesel trucks traveling approximately two miles within the Coastal Zone per delivery at an assumed speed limit of 25 miles per hour. The applicant estimated emissions using the *Average In-Use Emissions from Heavy-Duty Trucks* (EPA 2008) to calculate the grams of each pollutant per mile. From this information, total pounds per day and tons per year were calculated, as shown in the table below.

Pollutant	Existing Emissions		Net Increase/Decrease		New Total Emissions		Percent Change (compare tons/year)
	Lbs/day	*Tons/year*	*Lbs/day*	*Tons/year*	*Lbs/day*	*Tons/year*	
VOC	-	-	0.000236	0.0000431	0.000236	0.0000431	100%
THC	-	-	0.000239	0.0000437	0.000239	0.0000437	100%
CO	-	-	0.00124	0.000227	0.00124	0.000227	100%
NOx	-	-	0.00477	0.000871	0.00477	0.000871	100%
PM2.5	-	-	0.000112	0.0000204	0.000112	0.0000204	100%
PM10	-	-	0.000121	0.0000221	0.000121	0.0000221	100%
Dice Flash	-	-	0.00337	0.000615	0.00337	0.000615	100%
Total			**0.010088**	**0.0018423**	**0.010088**	**0.0018423**	

Idling time for the truck delivering the icing inhibitor was assumed to be one hour and the anti-static agent and corrosion inhibitor trucks were assumed to be 30 minutes. However, anti-idling regulations prevent "on-road heavy-duty vehicles with a gross vehicle weight rating of greater than 8,500 pounds" from idling for more than three minutes, unless the operation is listed as an exemption. The icing inhibitor truck must run in order to operate a pump which transfers the additive from the tanker to the designated 12,000-gallon horizontal tank. This activity falls under 7 DE Admin. Code §1145 Subsection 5.5,"Any vehicle using auxiliary power for equipment to perform the intended operation of the vehicle, including, by way of example, a power take off generator for any utility truck..." The trucks delivering the anti-static agent and corrosion-inhibitor, however, do not require a power source to unload the 55-gallon drums. They do not fall under this exemption, nor any other exemption listed, and are subject to the regulations stated above. This also means that the information provided represents an over-estimation of what should be expected during normal operations in the absence of the two trucks idling.

The applicant estimates air emissions from the icing inhibitor to be approximately 1.23 pounds per year (0.000615 tons per year), which includes times of filling and emptying as well as stagnant conditions. Total emissions per year were interpolated using the icing inhibitor's known vapor pressure and referencing the EPA's TANKS 4.0.9d model for emissions of ethanol amine and total xylenes, which have vapor pressures below and above that of the icing inhibitor, respectively. These emissions added to those associated with the truck traffic amount to approximately 3.68 pounds per year (0.001842 tons per year).

The anti-static agent and corrosion inhibitor will be stored in sealed containers in a metal building and injected into the fuel through a closed system.

WATER USE AND DISCHARGE

The proposed change in operation will not result in changes in water use and water discharge to surface waters.

STORMWATER

The proposed construction is less than 5,000 square feet of impervious surface and is not subject to regulatory requirements for stormwater management under 7 DE Admin. Code 5101 §1.4.2. Stormwater will infiltrate onsite around the structures.

LAND EROSION

The proposed project site is small and flat. Building construction and tank and pipeline installation will result in minor, temporary soil disturbance.

SOLID AND HAZARDOUS WASTE

Any solid waste created as a result of the construction of the project will be collected, transported, and disposed of at an appropriate facility. Empty containers of anti-static and anti-corrosive additives will be removed and disposed of appropriately.

There will be no generation of hazardous waste.

WETLANDS OR HABITAT FOR FLORA AND FAUNA

Wetlands exist within the land parcel, but none exist within the proposed construction area. Wetlands will not be impacted by project activities. The maps of the site (attached) using State Wetlands 1988 and 2007 data show that the portion of the site designated for the proposed activity does not contain wetland habitat.

No other habitats for flora and fauna exist in the proximate area.

GLARE, HEAT, NOISE, VIBRATION, RADIATION, ELECTROMAGNETIC INTERFERENCE, OBNOXIOUS ODORS

The project is in keeping with the existing general industrial zoning for the site and the existing infrastructure of the tank farm. The proposed activity will be similar to existing activity.

THREATENED OR ENDANGERED SPECIES

The project location is close to the Delaware Bay, where migratory shorebirds, like the red knot, stopover in the spring and fall. The red knot is listed as a threatened species, but the project will not impact the shoreline and the birds are not known to nest on the project site.

2. ECONOMIC EFFECTS

Short-term employment opportunities will be created during the estimated 8-week construction period of the project. Welders are estimated to make $8,000 per week and concrete and building installers are estimated to make $8,000 per week.

No new employees will be hired at the site as a result of this project.

There are no expected economic impacts due to environmental degradation, as impacts are de minimis.

3. AESTHETIC EFFECTS

The existing facility has been in operation since 1960 and includes several storage tanks and operational buildings which are visible from Port Mahon Rd. The proposed project will add one storage tank and one small building. These are consistent with the current aesthetics.

The project location is close to Little Creek Wildlife Area and the Delaware Bay.

4. NUMBER AND TYPE OF SUPPORTING FACILITIES IMPACTS

No changes to supporting facilities are proposed.

5. EFFECT ON NEIGHBORING LAND USES

The closest residence is approximately 1,110 feet away from the project location. The facility does not interfere with a person's ability to access recreational facilities or resources.

In the event of a "worst-case" scenario where the entire contents of the 12,000-gallon tank spilled, the environmental impacts would not be expected to interfere with nearby existing businesses, commercial, or manufacturing uses. This kind of scenario could conceivably impact recreational access to Port Mahon.

6. COMPATIBILITY WITH COUNTY AND MUNICIPAL COMPREHENSIVE PLANS

In the findings of the Kent County Board of Adjustment, dated January 31, 2019, the proposed addition to the site amounts to approximately 5% increase in the structures and uses that currently exist at that site. The proposed plan was not found to have an adverse impact on adjacent properties.

OFFSET PROPOSAL

Section 9.1.1 of the Regulations states that offset proposals must "more than offset the negative environmental impact associated with the proposed project of activity requiring a permit."

As indicated by the assessment, the negative environmental impacts of the proposed project under normal operating conditions consist solely of de minimis increased air emissions. Under the Coastal Zone Program, all negative impacts require an offset, independent of any rules or regulations that have a threshold for permitting.

DSPC proposes a one-time donation to Kent County Conservancy of $1,000 for the purpose of land conservation within the designated Coastal Zone in Kent County. In determining a sufficient offset proposal, DSPC looked to other DNREC regulatory programs to quantify this donation in terms of air quality benefits.

First, market-based incentives exist for emission reductions of volatile organic compounds (VOCs) and nitrogen oxides (NOx). Delaware Division of Small Business is currently offering VOC and NOx credits for sale at a rate of five tons for $5,000. Applying this rate to estimated emissions from the proposed project, the annual value would be $1.25. Therefore, $1,000 could purchase emission reduction credits for 800 years of site operation.

DSPC also identified methodology from *The Ecosystem Service of Forests Improving Air Quality: A Literature Review* (Rice 2015) to quantify the estimated mean removal rate of sulfur dioxide, nitrogen dioxide, ozone, carbon monoxide, and particulate matter by forest areas. This review examined 33 studies to determine a range of pollutant removal rates for these five pollutants to establish the mean removal rate for each. In total, the review estimates that 11.645 g/m^2 of the pollutants are removed by forests annually. This equates to 103.9 lbs/acre annually.

Next, DSPC coordinated with the Delaware Department of Agriculture to determine the monetary value of an acre of forestland. The Forestland Preservation Program acquires properties as conservation easements at a discounted price determined by the property owners (with an average of a 66% discount). Two Kent County properties recently acquired through the Program averaged a value of $1,218.74 per acre, factoring in the discounted sale. Assuming the average discount was applied to the purchases, the average of the two properties at 100% value would be $3,583.40 per acre. Therefore, it can be assumed that a $1,000 donation could purchase 0.28 acres of forestland.

If Kent Conservation District can use the $1,000 donation for a conservation easement of 0.28 acres, this equates to approximately 29 lbs/acre of pollutant removal annually. Using this methodology, DSPC can clearly and demonstrably show the sufficiency of their offset proposal.

SUFFICIENCY STATEMENT AND CONCLUSION

The application by DSPC addresses the questions of the permit application form and the six criteria required to be reviewed under 7 *Del. C.* §7004. The applicant proposes an offset in the form of a one-time donation of $1,000 for land conservation.

This application for a CZA Permit, including supplemental information, has been reviewed by DNREC to determine its completeness. After a thorough review of the application, the Department considers this application to be administratively complete and sufficient for proceeding to public hearing.

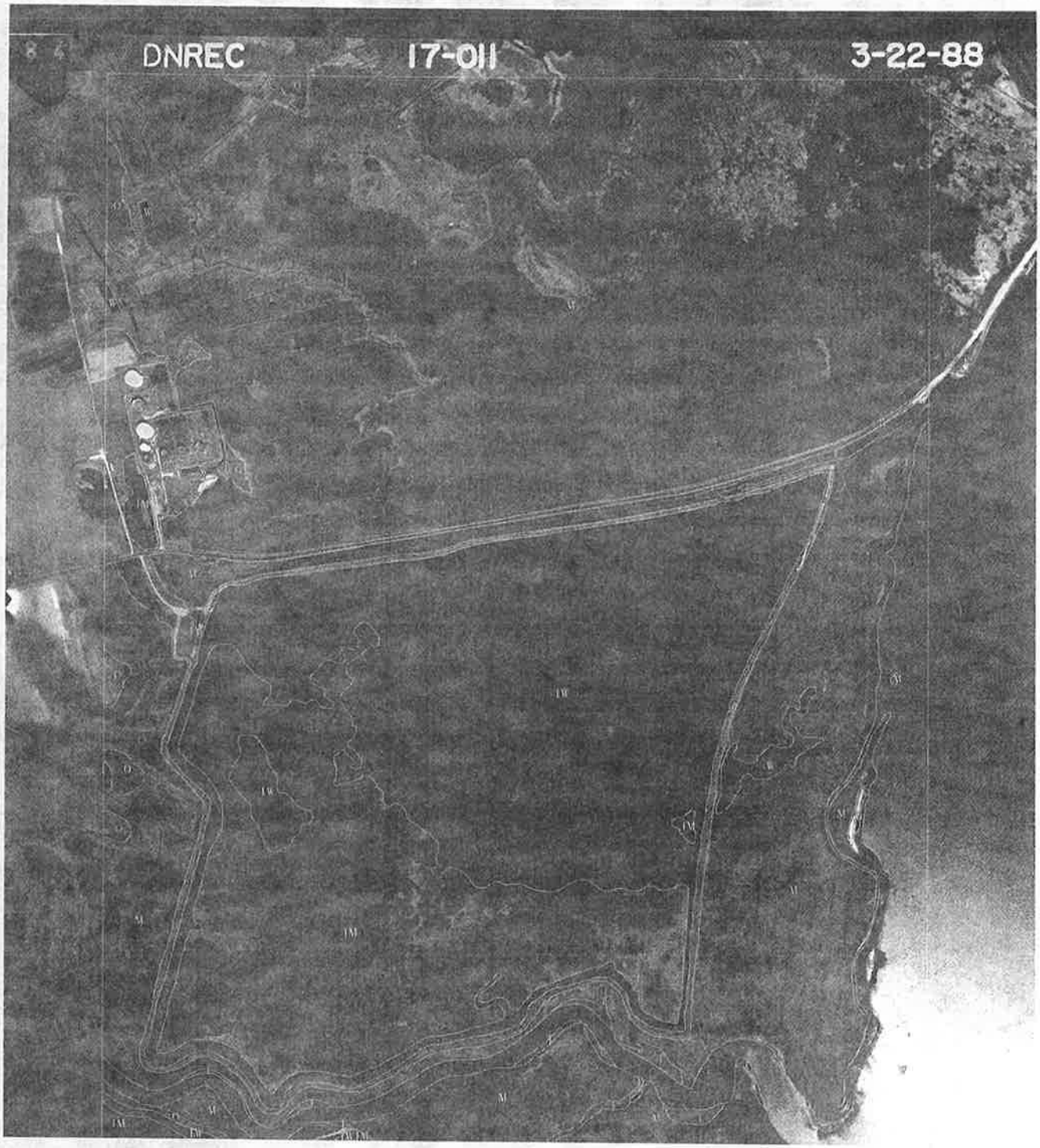
Approved: _____

Shawn M. Garvin
Secretary, DNREC

Date: 10/25/19

PHOTO # 17-011

FILENAME - DNR198



scale 1"=3600

State of Delaware Wetlands
KENT COUNTY, DELAWARE
(In Accordance with the Delaware Wetlands Act * 6603)
Approximate Scale (1"=3600)

Prepared for: DEPARTMENT OF NATURAL RESOURCES and ENVIRONMENTAL CONTROL

Produced by: SALISBURY STATE UNIVERSITY
IMAGE PROCESSING & REMOTE SENSING CENTER
SALISBURY, MARYLAND

Legend for Delaware Tidal Wetland Delineations:

B = Beach
DF = Disturbed Forested Swamp
DM = Disturbed Marsh Vegetation (removed for agricultural activities)
F = Tidal Forested Swamp
IF = Impounded Forested Wetland
ILM = Impounded Low Marsh
IM = Impounded Marsh
IS = Impounded Tarsh- Shrub Wetland
IW = Impounded Water
LM = Low Marsh
M = Marsh
MS = Marsh-in spoil areas
N = Non-tidal wetlands (>100 acres) - (including tidal forested swamps)
O = Other (Upland or Non-tidal wetlands less than >100 acres)
S = Tidal Scrub-Shrub Swamps
SS = Areas flooded by tidal storm surges
SS* = Areas flooded by storm surges at a higher flood plain elevation
T = Tidal Mudflats (or some times vegetated) - sand bars
W = Water
WS = Water in a spoil area
/ = complexes among different community types (ex. M/S)

Delaware Wetlands

The Conservation Management Institute (CMI) has updated the existing USFWS National Wetlands Inventory (NWI) and Delaware Statewide Wetland Mapping Project (SWMP) data to meet or exceed NWI procedures and the guidelines of the Federal Geographic Data Committee's Wetland Mapping Standard (document FGDC-STD-015-2009) employing heads-up photo interpretation in a softcopy environment. We identified wetlands with a minimum mapping unit (MMU) of 0.5 acres with smaller, highly recognizable polygons (e.g., ponds) mapped down to approximately 0.10 acres. Photo interpreters (PIs) identified the wetland targets at a scale of approximately to 1:10,000 with delineations completed at 1:5,000 and, occasionally, larger as necessary. Polygons were then attributed with a code corresponding to the existing NWI classification scheme (Cowardin et al. 1979) and Delaware specific modifiers, where applicable. The update was completed in ESRI's ArcGIS 9.3.x using 2007 Color Infrared, obtained from the State of Delaware. All spatial and classification changes were made manually using standard photogrammetric techniques. When it was necessary to use ancillary datasets to aid in decisions, PIs would consult one or more of the following: Soil Survey Geographic Database (SSURGO), 1992 color infrared, National Hydrography Dataset (NHD), National Elevation Dataset (NED), NWI, and USGS Topographic maps. After we completed the delineation and attribution of the wetland polygons, datasets were inspected through an in-house quality control process for spatial, classification, and topologic errors before being sent to the U.S. Fish and Wildlife Service (USFWS) and the State of Delaware for final review and corrections. Additionally, the wetlands layer was run through the USFWS verification tool to further ensure the accuracy of polygons and the codes assigned to them. CMI completed the LLWW classification following guidelines provided by the USFWS. These classifications were derived from the Cowardin code, NHD, topography, and spatial relationships between wetlands. We assigned the initial codes based through a largely automated process. Where applicable, this process uses the Cowardin codes to attribute Landscape and Water body type. The next step largely uses water regime and spatial relationships to attribute Landform. We then manually attributed the NHD to assign Water flow. We manually reviewed the dataset and modified the attributes to create a correct and logical dataset. As the automated classification tends to use too fine a scale, we completed the finer step at a smaller scale than the initial classification in consultation with the Fish and Wildlife Service and the State of Delaware. Delaware modifiers are based off spatial data and guidance provided by DNREC. Wetland functional analysis was performed in consultation with Dr. Ralph Tiner of the USFWS.

State of Delaware, USDA FSA

EXHIBIT #4

The News Journal Media Group
A GANNETT COMPANY

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Wilmington, DE 19850

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Legal Desk:
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302 324-2249

SD DNREC DE COASTAL PROGRAMS
100 W WATER ST UNIT 7B

DOVER, DE 19904

DE,

AFFIDAVIT OF PUBLICATION

State of Delaware } **SS.**
New Castle County

Personally appeared **The News Journal**

Of the **The News Journal Media Group,** a newspaper printed, published and circulated in the State of Delaware, who being duly sworn, deposeth and saith that the advertisement of which the annexed is a true copy, has been published in the said newspaper times, once in each issue as follows:

10/30 A.D 2019

Gail Wilczewski
Sworn and subscribed before me, this 14 day of November, 2019

Melanie Alt

Ad Number: 0003870947

Legal notification printed at larger size for affidavit.

GAIL WILCZEWSKI ★ NOTARY PUBLIC, STATE OF NEW JERSEY ★ MY COMMISSION EXPIRES JULY 10 2024

NOV 18 RECD

DNREC – DIVISION OF CLIMATE, COASTAL, & ENERGY

LEGAL NOTICE

The Department of Natural Resources and Environmental Control's Coastal Zone Act Program has received an application for a standard Coastal Zone permit (Project CZA-437P) from Delaware Storage and Pipeline Company (DSPC). DSPC is requesting a permit to construct a new storage building and undergo a process change to inject chemicals into the jet fuel supplied to Dover Air Force Base, in order to increase cost-effectiveness at its facility located at 987 Port Mahon Rd, east of Dover, Delaware. The application, which can be viewed at https://de.gov/cza, is considered administratively complete and sufficient to proceed to public hearing.

PUBLIC HEARING

The public hearing (Docket #2019-P-CZ-0027) will be held on Tuesday, November 19, 2019, beginning at 6:00pm at the DNREC Auditorium at 89 Kings Hwy, Dover, DE 19901. For additional information on the above matter, visit https://de.gov/dnrechearings.

Persons wishing to comment on the above application may do so either orally or in written form at the public hearing on November 19, 2019. In lieu of attending the public hearing, written comment may be submitted to the Hearing Officer via the online comment form at https://dnrec.alpha.delaware.gov/public-hearings/comment-form/, via email to DNREC.HearingComments@delaware.gov, or via mail to the following address:

Theresa L. Newman
Office of the Secretary
Department of Natural Resources and Environmental Control
89 Kings Highway
Dover, DE 19901

10/30-NJ

371523

EXHIBIT #5

INDEPENDENT NEWSMEDIA INC. USA

110 Galaxy Drive • Dover, DE • 19901 • 1-800-282-8586

State of Delaware:

County of Kent:

Before me, a Notary Public, for the County and State aforesaid. Darel LaPrade, known to me to be such, who being sworn according to law deposed and says that he is the publisher of the **Delaware State News**, a daily newspaper published at Dover, County of Kent, and State of Delaware, and that the notice, a copy of which is hereto attached, as published in the **Delaware State News** in its issue of October 30, 2019.

Darel LaPrade

Publisher
Delaware State News

Sworn to and subscribed before me this 30th

Day of October A.D. 2019

JANET E. LEVY
MY COMM. EXPIRES
NOTARY
PUBLIC
08-01-2021
STATE OF DELAWARE

Janet Levy

Notary Public

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Proof

Client	DNREC COASTAL ZONE ERIN WILSON	Phone	(302) 735-3480
Address	100 W WATER ST SUITE 7B DOVER, DE 19904	EMail Fax	Erin.Wilson@delaware.gov
AD #	371523	Requested By	DNREC COASTAL ZONE ERIN WILSON
Account#	400017		
Class	5500	PO #	Project CZA-437P
Start Date	10/30/19	Created By	ROBROOKS
End Date	10/30/19	Creation Date	10/28/2019
Run Dates	2	Dimensions	3 X 4.653
Pubs	Delaware State News, Newszap	**Price**	**$90.35**
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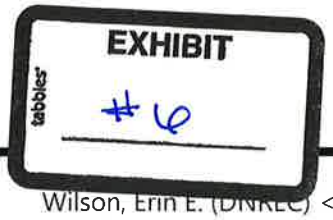
Theresa L. Newman
Office of the Secretary
Department of Natural Resources and Environmental Control
89 Kings Highway
Dover, DE 19901

371523 DSN 10/30/2019



Wilson, Erin E. (DNREC)

From: Wilson, Erin E. (DNREC) <erin.wilson@delaware.gov>
Sent: Wednesday, October 30, 2019 12:06 AM
To: DNREC Coastal Zone List
Subject: Legal Notice - CZA Application Received and Public Hearing Scheduled for DSPC

DNREC - DIVISION OF CLIMATE, COASTAL, & ENERGY

LEGAL NOTICE

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Theresa L. Newman

Office of the Secretary

Department of Natural Resources and Environmental Control

89 Kings Highway

Dover, DE 19901

Legal Notice and Public Hearing Notice: Delaware Storage and Pipeline Company Coastal Zone Permit

Division of Climate, Coastal, & Energy
Start Date: October 30, 2019
End Date: November 19, 2019

Legal Notice

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Public Hearing

The public hearing (Docket #2019-P-CZ-0027) will be held on Tuesday, November 19, 2019 (https://dnrec.alpha.delaware.gov/events/525/public-hearing-delaware-storage-and-pipeline-company-coastal-zone-permit/), beginning at 6:00pm at the DNREC Auditorium at 89 Kings Hwy, Dover, DE 19901. For additional information on the above matter, visit https://de.gov/dnrechearings (https://de.gov/dnrechearings).

Persons wishing to comment on the above application may do so either orally or in written form at the public hearing on November 19, 2019 (https://dnrec.alpha.delaware.gov/events/525/public-hearing-delaware-storage-and-pipeline-company-coastal-zone-permit/). In lieu of attending the public hearing, written comment may be submitted to the Hearing Officer via the online comment form at https://dnrec.alpha.delaware.gov/public-hearings/comment-form/ (https://dnrec.alpha.delaware.gov/public-hearings/comment-form/), via email to DNRECHearingComments@delaware.gov ✉, or via mail to the following address:

Theresa Newman
Office of the Secretary
Department of Natural Resources and Environmental Control
89 Kings Highway
Dover, DE 19901

Public Hearing: Delaware Storage and Pipeline Company Coastal Zone Permit Application

06:00 PM - 06:00 PM Tuesday November 19, 2019

DNREC Division of Climate, Coastal, & Energy / Climate, Coastal, & Energy / DNREC

MEETING DESCRIPTION

The Department of Natural Resources and Environmental Control's Coastal Zone Act Program has received an application for a standard Coastal Zone permit (Project CZA-437P) from Delaware Storage and Pipeline Company (DSPC). The application, which can be viewed at https://de.gov/cza, is considered administratively complete and sufficient to proceed to public hearing.

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View the DSPC application

CONTACT INFORMATION

Erin Wilson
302-739-9283
CZA_Program@delaware.gov
Website

ADDRESS

Richardson & Robbins Building
89 Kings Hwy
Dover DE 19901
DNREC Auditorium
Parking in rear of building

VIRTUAL MEETING INFORMATION

None

DOCUMENTS

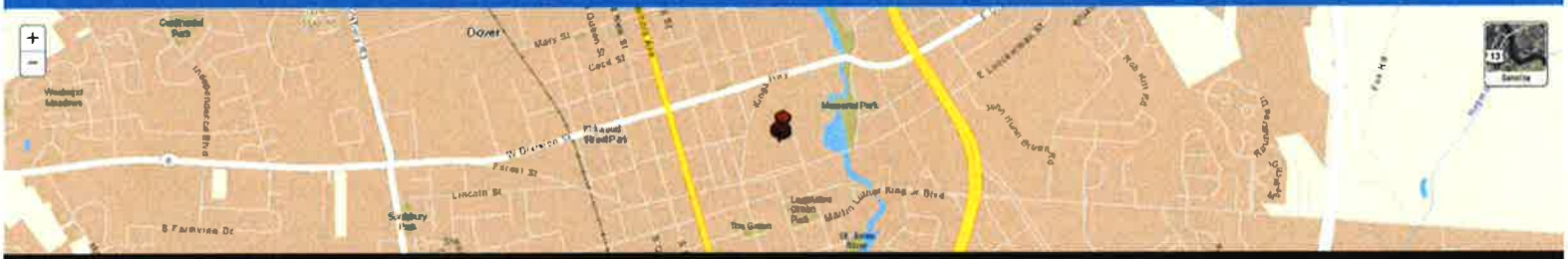
None

CHANGE HISTORY

Date	Reason
10/30/2019	New

Meeting Location

Get Directions



Coastal Zone Permit Application

Delaware Storage and Pipeline Company

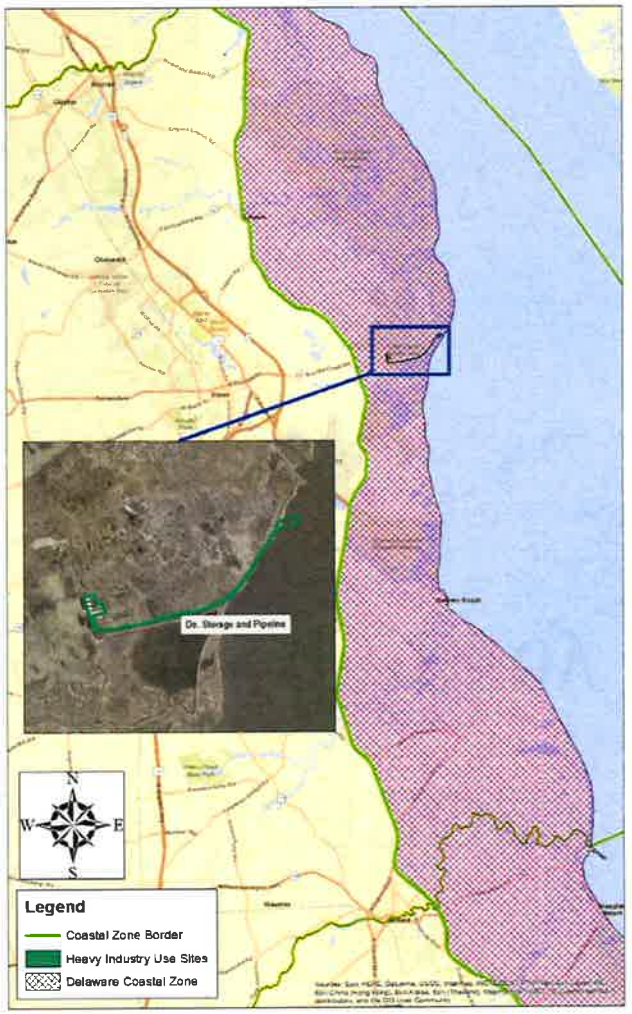
Jet Fuel Additive Project

EXHIBIT #6

Public Hearing
November 19, 2019
Erin Wilson, Environmental Scientist
Department of Natural Resources and Environmental Control

Background

- Delaware Storage and Pipeline Company (DSPC) is a facility that was in operation on June 28, 1971 and was grandfathered as a nonconforming use into the Coastal Zone Act (CZA)
- Facility location: 987 Port Mahon Rd
- DSPC submitted a Request for Status Decision in July 2018 to determine if a CZA permit would be necessary to add a tank, construct a storage building, and blend jet fuel additives onsite
- The Secretary's decision in October 2018 determined that this proposed expansion of operations would require a CZA permit



CZA Application Review

- DSPC submitted an initial application for a CZA permit in May 2019
- CZA Program requested more information regarding:
  - Assurance of staff abilities to carry out new process onsite
  - Justification of offset proposal
- DSPC submitted a FOIA Request for Confidentiality to keep site operations documentation private on October 9, 2019 for the purpose of national security
- DSPC submitted a revised application and offset proposal on October 15, 2019
- The Secretary approved the Request for Confidentiality and declared the application administratively complete on October 25, 2019
- The application was noticed and made available for public comment on October 30, 2019

Impacts

- The chemicals proposed to be blended onsite are present in the jet fuel currently delivered
  - Jet fuel and additives are regulated to meet North Atlantic Treaty Organization standards
- The proposed construction would add <5,000 square feet of impervious surface and changes in stormwater runoff would be negligible
- The proposed activity would generate approximately 3.68 pounds per year of air emissions from the icing inhibitor additive and increased truck traffic within the Coastal Zone
- The CZA requires any negative impacts to be more than offset

Pollutant	Lbs/day
VOC	0.000236
Total Hydrocarbons	0.000239
CO	0.001240
NOx	0.004770
PM	0.000233
Icing Inhibitor	0.003370
Total	**0.010088**

Offset Proposal

- $1,000 donation to Kent County Conservatory for land conservation in the Coastal Zone in Kent County
  - Rice 2015 study estimates 103.9 lbs/acre of pollutants are removed by forests annually
  - Recent easements in Kent County to preserve forestland average a value of $3,583.40/acre
    - $1,000 donation could purchase 0.28 acres of forestland
    - 0.28 acres of forestland could remove 29 lbs of pollutants annually
    - 29 lbs more than offsets 3.68 lbs

Purpose of Hearing

- Solicit public comment on the application submitted by DSPC
- No decision on the permit application will be made tonight
- The Secretary of DNREC will make a decision once the record has been closed and reviewed

- List of DNREC exhibits