Stormwater Pollution Prevention Plan

for:

Chemours Fayetteville Works
22828 NC Highway 87
Fayetteville, NC 28306

SWPPP Contact(s):

The Chemours Company FC, LLC
Dianne Fields
22828 NC Highway 87
Fayetteville, NC 28306
919.771.8039
Dianne.L.Fields@chemours.com

SWPPP Preparation Date:

05/31/2020

Page Intentionally Blank

Contents

Table of Contents

SECTION 1: FACILITY DESCRIPTION AND CONTACT INFORMATION.

1.1 Facility Information.

Facility Information

Name of Facility: Chemours Fayetteville Works

Street: 22828 NC Highway 87

City: Fayetteville State: NC ZIP Code: 28306

County or Similar Subdivision: Bladen County

NPDES ID (i.e., permit tracking number): NC0003573

Primary Industrial Activity SIC code, and Sector and Subsector (2015 MSGP, Appendix D and Part 8):
SIC 2869: Industrial Organic Chemicals – Sector C: Chemical and Allied Products, Subsector C5

Co-located Industrial Activity(s) SIC code(s), Sector(s) and Subsector(s) (2015 MSGP, Appendix D):

SIC 3083: Laminated Plastics Plate, Sheet and Profile Shapes and SIC 3081: Unsupported Plastics Film & Sheet – Sector Y: Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries, Subsector Y2; SIC 2821: Plastic Materials and Resins – Sector C: Chemical and Allied Products, Subsector C4

Latitude/Longitude of Stormwater Discharge Points

Location	Latitude	Longitude
Outfall 002	34.8384 º N (decimal degrees)	78.8285 º W (decimal degrees)
Southwest Discharge Point (DP-SW)	34.8390 º N (decimal degrees)	78.8403 º W (decimal degrees)

Method for determining latitude/longitude (check one):

☐USGS topographic map (specify scale:_____) ☐GPS

☒Other (please specify): ArcGIS

Horizontal Reference Datum (check one):

☐NAD 27 ☐NAD 83 ☒WGS 84

Is the facility located in Indian country? ☐Yes ☒No

If yes, name of Reservation, or if not part of a Reservation, indicate "not applicable."_____

Are you considered a "federal operator" of the facility?

Federal Operator – an entity that meets the definition of "operator" in this permit and is either any department, agency or instrumentality of the executive, legislative and judicial branches of the Federal government of the United States, or another entity, such as a private contractor, operating for any such department, agency, or instrumentality.

☐Yes ☒No

Estimated area of industrial activity at site exposed to stormwater: 28 (acres)

Discharge Information

Does this facility discharge stormwater into a municipal separate storm sewer system (MS4)? ☐Yes ☒No

If yes, name of MS4 operator: _____

Name(s) of surface water(s) that receive stormwater from your facility:

Cape Fear River

Does this facility discharge industrial stormwater directly into any segment of an "impaired water" (see definition in 2015 MSGP, Appendix A)? ☒Yes ☐No

If Yes, identify name of the impaired water(s) (and segment(s), if applicable): All North Carolina waters

Identify the pollutant(s) causing the impairment(s): Mercury

Which of the identified pollutants may be present in industrial stormwater discharges from this facility?

None.

Has a Total Maximum Daily Load (TMDL) been completed for any of the identified pollutants? If yes, please list the TMDL pollutants: Yes, there is a North Carolina Statewide Mercury TMDL

Does this facility discharge industrial stormwater into a receiving water designated as a Tier 2, Tier 2.5 or Tier 3 water (see definitions in 2015 MSGP, Appendix A)? ☐Yes ☒No

Are any of your stormwater discharges subject to effluent limitation guidelines (ELGs) (2015 MSGP Table 1-1)? ☐Yes ☒No

If Yes, which guidelines apply?

1.2 Contact Information/Responsible Parties.

Name: The Chemours Company FC, LLC – Dianne Fields
Address: 22828 NC Highway 87
City, State, Zip Code: Fayetteville, NC 28306
Telephone Number: 919.771.8039
Email address: Dianne.L.Fields@chemours.com

Name: Kuraray America, Inc – Hope Walters
Address: 22824 NC Highway 87
City, State, Zip Code: Fayetteville, NC 28306
Telephone Number: 910.433.7170

Email address: hope.walters@kuraray.com

Name: DuPont de Nemours, Inc. – Faye Godwin

Address: 22654 NC Highway 87

City, State, Zip Code: Fayetteville, NC 28306

Telephone Number: 910.213.1383

Email address: d-faye.godwin@dupont.com

(repeat for multiple operators by copying and pasting the above rows)

Facility Owner(s):

Name: The Chemours Company FC, LLC

Address: 22828 NC Highway 87

City, State, Zip Code: Fayetteville, NC 28306

Telephone Number: 302.773.1000

Email address: Brian.D.Long@chemours.com

(repeat for multiple operators by copying and pasting the above rows)

SWPPP Contact(s):

SWPPP Contact Name (Primary): Dianne Fields

Telephone number: 919.771.8039

Email address: Dianne. L.Fields@chemours.com

SWPPP Contact Name (Backup): Eddie Vega

Telephone number: 910.678.1938

Email address: Edward.vega-1@chemours.com

1.3 Stormwater Pollution Prevention Team.

The Stormwater Pollution Prevention team is responsible for overseeing, developing, modifying where necessary, and implementing the SWPPP. Individual NPDES Permit No. NC0003573 (application under review as of May 2020) covers industrial stormwater discharges from the Chemours Fayetteville Works Site (the Site). In addition to the stormwater compliance requirements under this individual NPDES permit, the Site has voluntarily elected to develop and maintain this SWPPP to further protect stormwater quality, with the Chemours Company FC, LLC (Chemours), DuPont de Nemours, Inc. (DuPont), and Kuraray America, Inc. (Kuraray) each implementing the SWPPP in their respective manufacturing areas. Each member of the Stormwater Pollution Prevention Team will be familiar with and have access to the Site's individual NPDES permit, the most updated copy of the facility's SWPPP, and other relevant documents.

Staff Names	Individual Responsibilities
Brian Long (Chemours)	- Responsible party; and - Administration of overall compliance with the stormwater permit.
Dianne Fields (Chemours)	- Stormwater Pollution Prevention Team Leader; - General site supervision to clean debris and spills in all areas of the Site; - Organize records pertaining to the SWPPP and other relevant reports;

	- Provide employee training (for new employees and annual refreshers); - Lead and oversee site inspections; - Participate in review and update of the SWPPP; - Monitor spill response and routine housekeeping; - Coordinate collection of required monitoring samples; - Monitor the safe handling and pollution prevention practice during receiving and storing chemicals and supplies; - Monitor implementation and maintenance of control measures; - Retain records and provide sampling results reporting and annual reporting; - Revise SWPPP when facility or operational changes are made or when corrective actions are identified; and - Document corrective actions and make sure they are implemented.
Scott Quinn (Chemours)	- Oversee maintenance of the entire stormwater collection system (site conveyance network, stormwater pipes/ditches); - Assist with the collection of stormwater sampling; - Develop and implement corrective actions when required; - Coordinate collection of required monitoring samples and transmittal to appropriate laboratory; and - Coordinate and supervise analysis of monitoring parameters.
Hope Walters (Kuraray)	- Oversee SWPPP implementation in Kuraray leased areas
Faye Godwin (DuPont)	- Oversee SWPPP implementation in DuPont leased areas

1.4 Site Description.

The Site is located adjacent to the Cape Fear River 7 miles upstream of the Bladen Bluffs water intake and 55 miles upstream of the Kings Bluff Intake Canal. The Site is situated in the northwestern portion of Bladen County and southern portion of Cumberland county, approximately 20 miles from the Fayetteville, NC city center. There are several operating areas at the Site. Chemours operates two manufacturing areas on the Site: the Chemours Monomers IXM Area and the Polymer Processing Aid Area (PPA Area). Chemours also operates the wastewater treatment plant (WWTP) and Power Area; filtered water and demineralized water are produced in the Power Area. Two tenants also operate on the Site: Kuraray and DuPont. Kuraray operates three areas on the Site: the SentryGlas manufacturing area, the Trosifol manufacturing area, and the Laboratory area. DuPont operates a polyvinyl fluoride manufacturing area. The industrial activities for tenants operating on the Site (Kuraray and DuPont) are also included under this SWPPP. Implementation of the SWPPP in the Kuraray and DuPont manufacturing areas are the responsibility of the SWPPP team member listed for each organization in Section 1.3.

The Site has an individual NPDES Permit No. NC0003573 (permit renewal application under review as of May 2020) that covers industrial stormwater discharges from Outfall 002 and the Southwest Discharge Point (DP-SW)[1]. The individual NPDES permit also covers treated wastewater and non-contact cooling

[1] The individual NPDES permit also covers stormwater discharges from the "blower drainage area", located in the Northeast portion of the facility. However, the "blower drainage area" is not included herein because industrial activity does not occur in this area. It is included in the individual NPDES permit due to potential concerns related to PFAS only from the blower.

water (NCCW) discharged from Outfall 002, which are comingled with industrial and non-industrial stormwater.

Under an existing Consent Order with North Carolina Department of Environmental Quality (NCDEQ) and Cape Fear River Watch (CFRW), Chemours is implementing several activities to quantify and reduce per- and polyfluoroalkyl substances (PFAS) loading to the Cape Fear River, including from stormwater discharges specifically. The stormwater specific activities include performing a PFAS treatability evaluation, which will investigate effective treatment (and pretreatment) methods for treating PFAS in stormwater. Targeted stormwater sampling will also be conducted to sample numerous sources of stormwater runoff to Outfall 002 in order to determine how stormwater concentrations vary by source and location. A Stormwater Action Plan will then be developed to summarize findings from the treatability evaluation and stormwater sampling (Site-wide and targeted). The Plan will outline actions to be performed to address source control and/or treatment of stormwater, related to PFAS. Therefore, other than acknowledging PFAS in the pollutant source assessment, this SWPPP does not include an assessment related to PFAS because of this extensive work aimed at targeting PFAS in stormwater at the Site and because conventional SWPPP minimum control measures are not expected to substantively reduce PFAS concentrations or loads at the Site.

The majority of the Site drains to Outfall 002 which is then discharged to the Cape Fear River. NCCW, stormwater, and treated wastewater from the WWTP is conveyed through the Site Conveyance Network to Outfall 002 through a series of channels and piping sections. There are five sections of the Site Conveyance Network, as shown in Figure 2 in Attachment B:

- The Wood Lined Trench conveys NCCW from Kuraray operations and stormwater from the western portion of the Site to the Open Channel to Outfall 002;
- The Cooling Water Channel conveys NCCW from the Chemours Monomers IXM Area and stormwater from the northeast portion of the Site to the Open Channel to Outfall 002;
- The WWTP discharges treated sanitary (e.g., gray water from manufacturing buildings), some NCCW, Kuraray and DuPont process waters, and some stormwater to the Open Channel to Outfall 002;
- The DuPont Area Ditches convey NCCW for DuPont operations and stormwater from the southeast portion of the Site to the Open Channel to Outfall 002; and
- The Open Channel to Outfall 002 conveys the combined flows from the previous sections (including the treated WWTP effluent discharge). as well as adjacent sheet flow runoff directly into the channel, to Outfall 002 and then on to the Cape Fear River.

The majority of other industrial activities on the Site that are exposed to stormwater occur in areas draining to Outfall 002. Other industrial activities that are exposed to stormwater but do not drain to Outfall 002 drain to the Southwest Discharge Point (DP-SW), which drains to Old Outfall 002 and then to the Cape Fear River.

1.4.1 Industrial Activity Description

This section includes a summary of the industrial activity and materials stored throughout the Site. It is organized by whether these activities or materials are: (1) conducted and stored indoors, under cover, within well maintained pipes, or captured via secondary containment, (2) in areas that drain to the WWTP for treatment, (3) in areas that are exposed to precipitation and drain to Outfall 002 then to the Cape Fear

River, or (4) in areas that are exposed to precipitation and drain to other stormwater discharge points then to the Cape Fear River. The main purpose of this SWPPP is to maintain or improve the water quality of stormwater runoff from industrial areas that are exposed to precipitation and drain, untreated, to the Cape Fear River.

Industrial Activity or Materials Conducted and Stored Indoors, Under Cover, within Well Maintained Pipes, or Captured via Secondary Containment

- Manufacturing of chemical products in Chemours Monomers IXM and PPA areas (activities located indoors, under cover, or are captured via secondary containment for off-site disposal);
- Manufacturing of filtered and demineralized water in Chemours Power area (activities located indoors or under cover);
- Manufacturing of SentryGlas and Trosifol in Kuraray leased areas (activities located indoors or under cover, or are captured via secondary containment);
- Kuraray Laboratory (activities located indoors or under cover);
- Manufacturing of polyvinyl fluoride (PVF) in DuPont area (including operations located indoors or under cover);
- Vehicle and equipment fueling areas;
- Vehicle and equipment maintenance areas; and
- Closed pipes and conveyances carrying process and non-process water from the Chemours Monomers IXM area, Chemours PPA area, Chemours Power area, Kuraray SentryGlas area, Kuraray Trosifol area, and Kuraray Laboratory area to secondary containment areas.

Industrial Activity Located in Areas that Drain to the Wastewater Treatment Plant (WWTP)

- Closed pipes and conveyances carrying process and non-process water from the Chemours Monomers IXM area, Chemours PPA area, Chemours Power area, Kuraray SentryGlas area, Kuraray Trosifol area, Kuraray Laboratory area, and DuPont PVF open structure area to the WWTP; and
- WWTP operations.

Industrial Activity Located in Areas that are Exposed to Precipitation and Drain to Outfall 002

- Outdoor material storage in Kuraray Trosifol manufacturing area;
- Outdoor material storage in Southwest area of the Site (various industrial materials, pipes, metal equipment, etc.);
- Tank storage in Monomers IXM manufacturing area;
- General trash, dumpsters, and other waste disposal areas (that are generally covered but have the potential to be left uncovered for periods of time) located throughout the Site;
- Staging area for materials from sediment ponds: sediment from cleaning of sediment ponds;
- Vehicle storage area (large trucks used for transportation of industrial materials); and
- Vinyl fluoride tank storage in DuPont area.

Industrial Activity Located in Areas that are Exposed to Precipitation and Drain to other Stormwater Discharge Points (DP-SW) and ultimately to the Cape Fear River

- Construction laydown area in Southwest area including outdoor storage of various industrial and construction-related materials, pipes, metal equipment, etc.

The following activities or areas are located on the Site but are considered non-industrial:

- Administrative buildings (i.e., buildings that are not used for manufacturing);
- Administrative/employee parking areas;
- Active construction areas (have an erosion and sediment control plan to cover this area);
- Vehicle pathways in non-industrial areas (vehicles are well-maintained and pathways generally used for employee transport. If raw materials are transported, the materials are covered/enclosed); and
- Open, unused fields.

1.5 General Location Map.

The general location map for this facility (Figure 1) can be found in Attachment A.

1.6 Site Map.

The Site Map for this facility (Figure 2) can be found in Attachment B. This figure shows the following information:

- Property boundaries
- Buildings and structures
- Grassy, graveled, and vegetated areas
- Operation or process areas, including the total industrial area covered under the SWPPP
- Stormwater conveyances (ditches, channels, pipes) and outfalls (discharge points)
- Drainage areas and direction of stormwater flow
- Structural stormwater controls
- Surface water bodies
- Potential pollutant sources (industrial areas potentially exposed to precipitation)

SECTION 2: POTENTIAL POLLUTANT SOURCES.

2.1 Potential Pollutants Associated with Industrial Activity.

A list of the potential pollutant sources at the Site that drain to Outfall 002 and to other Stormwater Discharge Points are provided in Table 2.1 and 2.2, respectively. Table 2.3 provides a summary of the industrial areas where stormwater is not exposed to industrial activities; therefore, the areas are not currently potential pollutant sources. These tables include the Site area, a description of industrial activities, potential pollutants, and control measures currently in place to address them if required. Detailed descriptions of the control measure categories are presented in Section 3.1.

Table 2.1. Summary of Potential Pollutant Sources from Industrial Activity Located in Areas Exposed to Precipitation and that Drain to Outfall 002

Area Description	Associated Operations and Activities	Potential Pollutants	Potential Stormwater Exposure	Control Measure Category (GH/M = Good Housekeeping and Maintenance; ME = Minimized Exposure; MR = Management of Runoff; SPR = Spill Prevention and Response)			
				GH/M	ME	MR	SPR
Outdoor material storage in Kuraray Trosifol manufacturing area	Outdoor material storage of pipes, palettes, and other miscellaneous items	Total Suspended Solids (TSS), Iron (Fe), Zinc (Zn), Aluminum (Al), Copper (Cu), Lead (Pb)	High; material stored outdoors and not covered	X		X	
Outdoor material storage in Southwest area	Outdoor material storage of pipes, palettes, and other miscellaneous items	TSS, Fe, Zn, Al, Cu, Pb	High; material stored outdoors and not covered	X		X	
General trash, dumpsters, and waste disposal areas located throughout the Site	Storage of Site trash and waste	Oil & Grease, Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), TSS	Low; trash, dumpsters, and waste disposal areas are covered but may potentially be subjected to precipitation	X			
Staging area (sediment)	Storage of material from cleaning of sediment ponds	TSS	Low; material stored outdoors and not covered, but the staging area is lined and surrounded by a berm	X		X	
Vehicle storage area	Outdoor parking for large vehicles/trucks used to transport industrial materials	Oil & Grease	Likely, vehicles stored outdoors and not covered	X			X
Vinyl Fluoride storage tanks in DuPont area	Outdoor storage tank without containment dike.	Vinyl fluoride	Low; storage tank is cooled and any potential leak would vaporize.	X			

Table 2.2. Summary of Potential Pollutant Sources from Industrial Activity Located in Areas Exposed to Precipitation and that Drain to other Stormwater Discharge Points

Area Description	Associated Operations and Activities	Potential Pollutants	Potential Stormwater Exposure	Control Measure Category (GH/M = Good Housekeeping and Maintenance; ME = Minimized Exposure; MR = Management of Runoff; SPR = Spill Prevention and Response)			
				GH/M	ME	MR	SPR
Construction laydown area (drains to DP-SW)	Outdoor material storage of constructed-related and industrial materials, pipes, palettes, and other miscellaneous items	TSS, Fe, Zn, Al, Cu, Pb	High; material stored outdoors and not covered	X		X	

Table 2.3. Summary of Potential Pollutant Sources that are Conducted and Stored Indoors, Under Cover, within Well Maintained Pipes, or Captured via Secondary Containment (These areas are not covered by this SWPPP but are provided for future planning in the event that Site changes result in these areas being uncovered or diverted from the WWTP).

Area Description	Associated Operations and Activities	Potential Pollutants
Chemours Monomers IXM Area	Operations include manufacturing of chemical products in areas located indoors, under cover, or captured via secondary containment for offsite disposal. Closed pipes and conveyances carry sanitary waste to the WWTP for treatment.	PFAS chemical products (e.g., benzene, toluene, HPFO), other corrosive materials (e.g., sulfuric acid, ammonium hydroxide, potassium hydroxide), etc. A complete list of chemicals in the Chemours Monomers/IXM area is available upon request
Chemours Monomers IXM Area	Storage of liquid materials in tanks and drums outdoors. Materials are stored in well-maintained tanks and within secondary containment.	Methylene chloride, sulfuric acid, potassium hydroxide, ammonium hydroxide.
Southwest corner of Site	Vehicle and equipment maintenance area (repairs and maintenance of Site vehicles and equipment). All activity is conducted indoors.	Oil & grease. See Attachment F for additional oil-related storage details.
Chemours PPA Area	Operations include manufacturing of chemical products in areas located indoors, under cover, or captured via secondary containment for offsite disposal. Closed pipes and conveyances carry sanitary waste to the WWTP for treatment.	PFAS chemical products (e.g, GX902, GX903, GX905, dimer), other corrosive materials (e.g., sulfuric acid, ammonium hydroxide, potassium hydroxide), etc. A complete list of chemicals in the Chemours PPA area is available upon request.
Chemours Power Area	Operations include manufacturing of filtered and demineralized water in areas located indoors or under cover. Closed pipes and conveyances carry process water, non-process water, and sanitary waste to the WWTP for treatment.	Oil products, corrosion inhibitor, oxygen scavenger, sodium hydroxide, sulfuric acid, aluminum sulfate, sodium hypochlorite, degreaser. A complete list of chemicals in the Chemours Power area is available upon request.

Area Description	Associated Operations and Activities	Potential Pollutants
Kuraray SentryGlas Area	Operations include manufacturing of SentryGlas, an ionoplast polymer product, in areas located indoor, under cover, or captured via secondary containment structures. Closed pipes and conveyances carry process and non-process water (i.e., sanitary wastewater) to the WWTP for treatment.	A complete list of chemicals in the Kuraray SentryGlas Area is available upon request.
Kuraray Trosifol Area	Operations include manufacturing of Trosifol, a polyvinyl butyral (PVB) film product, in areas located indoors or under cover. Closed pipes and conveyances carry process and non-process water to the WWTP for treatment.	Diethylcyclohexylamine, Dioctyl Sulfosuccinate, Versene, Phosphoric Acid, Acetic Acid, Ethylene Glycol
Kuraray Laboratory	Indoor laboratory operations supporting SentryGlas and Trosifol manufacturing. Closed pipes and conveyances carry process and non-process water to the WWTP for treatment.	A complete list of chemicals in the Kuraray Laboratory area is available upon request.
DuPont Area	Operations include manufacturing of polyvinyl fluoride in areas located indoors or under cover.	Volatile Organic Compounds (VOCs), including vinyl flouride and propylene.
DuPont PVF Open Structure Area	Operations include the manufacturing of polyvinyl fluoride slurry. The open structure is surrounded with area sumps that pump to a waste collection tank prior to being pumped to the WWTP.	Vinyl fluoride, propylene, and oil.
Throughout Site (Chemours Monomers IXM, just east of Kuraray leased area, southwest corner of Site)	Vehicle and equipment fueling areas. Fuel tanks are stored in secondary containment. Fueling areas also have secondary containment.	Oil & grease. See Attachment F for additional oil-related storage details.
WWTP	Process and non-process wastewater are collected and treated at the Site's WWTP. The WWTP has open tanks that are exposed to stormwater but are treated prior to discharge. Areas with potential spill or leak risk drain back to the WWTP for treatment and are not exposed to stormwater	Oil & Grease, TSS, pH, BOD, PFAS chemical products, ammonium hydroxide, potassium hydroxide, various flocculants, various coagulants, antifoam, folic acid, ground limestone, Mt. Olive Pickle Juice.

2.2 Spills and Leaks.

The areas identified below in Table 2.4 are where potential spills or leaks could occur on the Site associated with the industrial activities described in Section 2.1.

Table 2.4. Areas of Site Where Potential Spills/Leaks Could Occur

Location	Description of Potential Spill/Leaks	Potential Spill/Leak Discharge Point
Tank Storage in Monomers/IXM area	Leaks may occur if secondary containment fails	Outfall 002
Vehicle and equipment fueling areas	Spillage of fuel may occur if secondary containment fails	Outfall 002
Vehicle storage area	Unmaintained vehicles may leak or spill fuel or motor oil.	Outfall 002

As of May 2020, the Site has reported two (2) spills or leaks associated with the industrial activities described in Tables 2.1, 2.2, and 2.3. As this SWPPP is updated annually, the table below will be revised to reflect any spills or leaks that occurred during the last three (3) years.

Description of Past Spills/Leaks

Date	Description	Discharge Points
September 24, 2019	30 gallons of 3GO plasticizer (triethylene glycol bis(2-ethylhexanoate) leaked from Kuraray Trosifol. The 3GO plasticizer was released to an adjacent storm drain that is not in use but was uncovered during construction. This storm drain discharges to Outfall 002. Local authorities and public utilities including NCDEQ, the Cape Fear Public Utility Authority, and Brunswick County, were all notified of the spill.	Outfall 002
October 6, 2017	20 lb release of KOH (potassium hydroxide) solution containing PFAS compounds from the Vinyl Ethers South (VES) Waste Gas Scrubber via the VES Stack. Some of the liquid droplets entered the cooling water channel adjacent to VES which discharges to Outfall 002. NCDEQ was notified of the spill.	Outfall 002

2.3 Unauthorized Non-stormwater Discharges Documentation.

A site visit was conducted on June 19 – 20, 2019 to evaluate the presence of unauthorized non-stormwater discharges at the facility. A description of the site visit is provided below:

- Date of evaluation: June 19-20, 2019
- Description of the evaluation criteria used: A visual inspection of the Site was conducted. Allowable non-stormwater discharges from the Site were all directed into the Site conveyance network, which is discharged via Outfall 002 and is regulated by the applicable NPDES permit. Unauthorized non-stormwater discharges (i.e., any non-stormwater discharges that are not described as allowable in Section 1.1.3.1 of the 2015 MSGP) were not observed at Outfall 002 or DP-SW during the site visit.

- List of the drainage points that were directly observed during the evaluation: Outfall 002 and DP-SW were all observed during the evaluation.
- Action(s) taken, such as a list of control measures used to eliminate unauthorized discharge(s), or documentation that a separate NPDES permit was obtained. For example, a floor drain was sealed, a sink drain was re-routed to the sanitary sewer or an NPDES permit application was submitted for an unauthorized cooling water discharge: Not applicable; no unauthorized discharges were observed.

An evaluation of the facility for unauthorized non-stormwater discharges shall be conducted routinely and documented at least annually. A record log for the annual re-certification of non-stormwater discharges can be found in Attachment D.

2.4 Salt Storage.

Salt is stored in the construction laydown area, in the southwest corner of the Site. However, the majority of this salt storage pile is stored indoors. Each individual unit on Site has a small amount of salt stored within closed containers (bins).

2.5 Sampling Data Summary.

Stormwater samples (grab and composite) were collected from DP-SW (the Discharge Point Draining the Southwest portion of the Site, or the Construction Laydown Drainage Area, as identified on maps). A map of the drainage area and sampling results are presented in Attachment E. There is only one stormwater drainage areas with industrial activity on the Site that does not drain to Outfall 002. The remainder of stormwater from the Site drains to the Site conveyance network, where it combines with NCCW and treated effluent from the WWTP, and ultimately discharges via Outfall 002. Samples are collected regularly (currently twice per week) from Outfall 002. Sampling data are submitted to NCDEQ and can be found as a part of the NPDES permit renewal application for the Site. A summary of the concentrations observed at DP-SW, from common stormwater pollutants, is provided below.

Pollutant	Range of Concentrations (mg/L) Discharge Point Draining to Old Outfall 002 (DP-SW)
Total Suspended Solids	9.6 – 210 mg/L
Total Nitrogen	1.1 – 2.4 mg/L
Total Phosphorus	0.092 – 0.56 mg/L
Lead (mg/L)	5.8 – 51 µg/L
Copper (mg/L)	11 – 25 µg/L
Zinc (mg/L)	90 – 1,100 µg/L

SECTION 3: STORMWATER CONTROL MEASURES.

3.1 Non-numeric Technology-based Effluent Limits (BPT/BAT/BCT)

3.1.1 Minimize Exposure.

Many of the industrial activities at the Site are not exposed to precipitation, as described in Section 1.4 and 2.1 (also see Figure 2 in Attachment B). For example, some materials, chemicals, and potential pollutant sources on the Site are located indoors or under a permanent roof structure, stored in well-maintained/sealed tanks, or conveyed in well maintained (i.e., fully functioning) pipes. Industrial activities in these areas are not exposed to stormwater and therefore should not be discharged to receiving waters. These practices and measures minimize the exposure of stormwater to industrial activities at the facility.

3.1.2 Good Housekeeping.

The Site is routinely inspected to promote good housekeeping practices and to verify that equipment and storage areas are properly maintained. The following includes general good housekeeping programs implemented at the Site:

Operation and Maintenance

- Floors and ground surfaces are kept dry and clean by using brooms, shovels, vacuum cleaners, or cleaning machines.
- Miscellaneous garbage, trash and waste materials are properly stored and disposed of. Waste containers have covers and are located throughout the Site. Non-solid industrial materials or wastes (e.g., particulates, shredded paper, etc.) that can be transported or disperse by wind or contact with stormwater are contained within bins, scows, or other impermeable structures.
- Spillage is promptly removed.
- Equipment is routinely inspected to make sure it is maintained in working order.
- Containers for waste are inspected routinely. Dumpsters and other waste containers are disposed of when full.
- Process wastewater is contained in tanks and picked up daily by a contracted waste disposal company. The wastes are stored in appropriate containers and labeled to identify the contents and date of accumulation.
- Disposal of rinse/wash water or industrial materials is prevented from entering the storm drain system.

Materials Storage Practices

- Adequate aisle space is provided to facilitate material transfer and easy access for inspections.
- Containers, drums, and bags of material are stored away from direct traffic routes to prevent accidental spills.
- Containers are stacked according to manufacturers' instructions.
- Containers are stored on pallets to prevent corrosion.

Material Inventory Procedures

- An up-to-date inventory of hazardous and non-hazardous materials kept at the facility is maintained.
- Containers are labeled showing the name of the materials.

- Storage areas where hazardous materials are stored have been specially designed to contain spills.

Employee Participation

- Information on good housekeeping practices are discussed during employee training sessions.
- Good housekeeping measures are discussed at employee meetings.
- Good housekeeping tips and reminders are noted around the plant.

Additional schedules and procedures for the facility's good housekeeping practices can be found in Section 4.

3.1.3 Maintenance.

The facility's preventive maintenance program includes:

- Inspections of stormwater management devices and as needed maintenance.
- Visual monitoring of sediment basins after rain events and removal of any clogged sediment as needed.
- Regular inspection and testing of facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters.
- Proper maintenance of facility equipment and systems.

The facility has an active preventive maintenance program under the guidance of the maintenance supervisor. Additional schedules and procedures for the facility's maintenance program can be found in Section 4.

3.1.4 Spill Prevention and Response.

Chemours maintains a Spill Prevention Control and Countermeasure (SPCC) Plan. The SPCC outlines standard material handling and management practices, spill containment, spill response cleanup procedures, and emergency contact information. The SPCC Plan is provided in Attachment F.

More details on the Site's Spill Prevention and Response procedures are discussed in Section 4.3. Detailed procedures for the Chemours, Kuraray, and DuPont manufacturing areas are stored onsite and available upon request.

As shown in Figure 2 in Attachment B, many of the industrial activities at the facility are surrounded by secondary containment structures. Stormwater collected within the secondary containment is either a) transported off-site for disposal; or b) land applied or discharged to the Cooling Water Channel, after visual inspection, in accordance with the SPCC Plan.

Kuraray also maintains a separate SPCC plan for their leased area (see Attachment G). DuPont does not maintain a separate SPCC plan because the volume of oil stored on their leased area is below the threshold required to have an SPCC plan.

3.1.5 Erosion and Sediment Controls.

In 2018, lined sediment basins were constructed at the Site, as shown in Figure 2 in Attachment B. The main purpose of these sediment basins is for river intake water, in order to produce filtered water. Although stormwater collection is not the main purpose of the sediment basins, they also collect runoff from the northeast corner of the facility, including the Chemours Monomers IXM area and the Power Area, in addition to sediment flocculent from the Power Area, and reduce sediment discharged to the Site

Conveyance Network. Outside of the active construction area, there is minimal exposed soil on the Site. As shown in Figure 2 in Attachment B, most of the Site is developed (paved), vegetated (with grass or other natural vegetation), or surfaces are covered with river rock. Site topography in the vicinity of the industrial activities is also generally flat, reducing the potential for erosion from steep areas.

Stormwater inlets and outlets throughout the Site are also protected by rip rap velocity dissipators to control sediment from gravel and pervious areas. Use of river rock in parts of the Site (as shown in Figure 2 of Attachment B) also provides limited infiltration of stormwater and reduces transport of sediment.

As of May 2020, polymers or chemical treatments are not used at the Site for erosion and sediment control.

3.1.6 Management of Runoff.

NCCW, stormwater, and treated wastewater from the WWTP is transmitted through the Site Conveyance Network to Outfall 002 through a series of channels and piping sections, as described in Section 1.4 (and shown in Figure 2 in Attachment B).

Some of the manufacturing areas at the Site (in the Chemours Monomers IXM area, Chemours PPA area, and the Kuraray SentryGlas leased area) are surrounded by secondary containment structures (see Figure 2 in Attachment B). Stormwater exposed to industrial activities within secondary containment areas are either collected and disposed of off-site, or land applied or discharged to the Cooling Water Channel (after visual inspection and in accordance with the SPCC Plan), and thus not discharged to receiving waters.

3.1.7 Salt Storage Piles or Piles Containing Salt.

Salt is stored in the construction laydown area, in the southwest corner of the Site. However, the majority of this salt storage pile is stored indoors. Each individual unit on Site has a small amount of salt stored within closed containers (bins).

3.1.8 Dust Generation and Vehicle Tracking of Industrial Materials.

Most vehicle pathways on the Site are paved to reduce dust generation and tracking of industrial materials (as shown in Figure 2 of Attachment B). Where applicable, stabilized construction entrances are used to reduce the likelihood for dust and sediment generation from active construction areas.

3.2 Sector-Specific Non-Numeric Effluent Limits.

The Site's individual NPDES Permit No. NC0003573 (application under review as of May 2020) covers industrial stormwater discharges from the Site. In addition to the stormwater elements under their NPDES compliance program, the Site has voluntarily elected to develop and maintain this SWPPP to further protect stormwater quality. This SWPPP was developed based on the 2015 MSGP. Although not required, sector-specific non-numeric effluent limits under the 2015 MSGP were examined.

The primary and secondary industrial activity codes for the Site are categorized under Sector C and Sector Y of the 2015 MSGP. The 2015 MSGP does not identify any sector-specific non-numeric effluent limits for Sector C, but does require non-numeric technology-based effluent limits for Sector Y.

The Sector Y non-numeric technology-based effluent limits require Plastic Products Manufactures (Subsector Y2) to minimize the discharge of plastic resin pellets in stormwater discharges by implementing practices such as minimizing spills, cleaning up spills promptly, sweeping thoroughly, and employee

education. These practices are addressed as a part of the facility's good housekeeping program and Spill Prevention and Response Procedures.

There are no additional non-numeric effluents from the applicable North Carolina NPDES stormwater general permits.

3.3 Numeric Effluent Limitations Based on Effluent Limitations Guidelines.

Numeric effluent limitations are not applicable to the Site under the 2015 MSGP.

3.4 Water Quality-based Effluent Limitations and Water Quality Standards.

Numeric effluent limitations at Site discharge locations will be established in accordance with the Site's NPDES Permit No. NC0003573 (application under review as of May 2020).

The Site discharges to the Cape Fear River, a Water Supply Watershed Class IV (WS-IV) surface water body that is also protected for Class C uses. WS-IV waters are used as sources of water supply for drinking, culinary, or food processing purposes where a more protective classification is not feasible. Class C waters are protected for uses such as secondary recreation, fishing, wildlife, fish consumption, aquatic life, survival and maintenance of biological integrity, and agriculture. The surface water quality standards Class WS-IV and Class C waters are defined in Title 15A of the North Carolina Administrative Code (NCAC) Subchapter 02B.

North Carolina also has a statewide TMDL for mercury. There are currently no mercury TMDL requirements for stormwater discharges in the existing individual NPDES permit.

The stormwater management practices described above including minimizing exposure, implementing a good housekeeping program, executing preventative maintenance measures, employing erosion and sediment controls, and managing stormwater runoff all contribute to maintaining the water quality of the Cape Fear River.

3.5 Feasibility Study for Stormwater

For most industrial stormwater general permits, the state of North Carolina requires an assessment of the technical and economic feasibility of changing the methods of operations and/or storage practices to eliminate or reduce exposure of materials and processes to stormwater, with a listing of Site structural and non-structural Best Management Practices (BMPs) installed/implemented.

Material and process storage areas that pose a reasonable potential for stormwater pollution at the facility are generally located inside buildings or have secondary containment structures. Some industrial activities are exposed to stormwater, as described in Section 1.4 and 2.1. Bulk liquid storage tanks and manufacturing areas are provided with secondary containment and/or are roofed to minimize stormwater contact and to collect stormwater that comes into contact with manufacturing operations.

Information about BMPs that are currently employed at the facility and potential BMPs that could be employed in the future pending technical and economic feasibility are contained in the table below. A discussion of feasibility is included after the table.

BMP Summary

Location/Area	Current BMPs	Additional Potential BMPs
Stormwater Discharge Points and Conveyance Network	-Maintain established vegetation in grassed areas, swales, and ditches	None identified.
	-Provide and maintain riprap at inlets and outlets of the culverts and discharge (outfall) locations	
	- Some stormwater is managed by sediment basins prior to discharge	
Construction Laydown Area and Material Storage Areas	- Good housekeeping measures are implemented to prevent pollutants from entering stormwater discharges	-Consider installing measures to prevent stormwater contact with exposed materials.
	- The facility has a SPCC Plan	
Staging area (sediment)	- Good housekeeping measures are implemented to prevent pollutants from entering stormwater discharges. The staging area is lined and there is a berm surrounding the area.	-Consider installing measures to prevent stormwater contact with exposed materials.
	- Timely and regular inspection and testing of facility equipment and systems to uncover potential conditions	
	- The facility has a SPCC Plan	
Vehicle and Equipment Fueling Areas	- Fuel is stored in a secondary containment structure and fueling activities are conducted within secondary containment	None identified.
	- The facility has a SPCC Plan	
	- Good housekeeping measures are implemented to prevent pollutants from entering stormwater discharges	
Vehicle and Equipment Maintenance Areas	- Vehicle and equipment maintenance is conducted indoors.	None identified.
	- The facility has a SPCC Plan	
	- Employee training programs inform employees of the components and goals of SWPPP;	
General Trash, Dumpsters, and Waste Disposal Areas	- Good housekeeping measures are implemented to prevent pollutants from entering stormwater discharges;	None identified.
	- The facility has an SPCC Plan	

Installing measures (such as a structural overhead roof) to prevent exposure of industrial materials and associated pollutants around the Construction Laydown and Staging areas was considered, but was determined to not be operationally or economically practicable. The Construction Laydown area is occasionally serviced by cranes that would not be able to maneuver if a structural over roof was constructed in this area.

Additionally, this measure was determined to not be economically practicable, and relatively marginal water quality benefit would be expected. Generally, the amount of material stored in these areas is relatively low. The areas are regularly inspected, and waste is removed as needed. Additionally, these areas are predominately pervious, so minimal runoff is generated. In lieu of a structural overhead roof, other measures may be used, such as a tarp, to cover exposed equipment and materials that pose a stormwater pollution risk.

SECTION 4: SCHEDULES AND PROCEDURES.

4.1 Good Housekeeping.

Good housekeeping practices are designed to maintain a clean and orderly work environment. At this Site, the following types of good housekeeping measures are implemented to prevent pollutants from entering stormwater discharges.

- Floors and ground surfaces are kept dry and clean by using brooms, shovels, vacuum cleaners, or cleaning machines daily.
- Garbage and waste materials are regularly picked up and properly disposed.
- Equipment is routinely inspected to make sure it is maintained in working order.
- Containers for waste are inspected routinely. Dumpsters and other waste containers are disposed of when full.
- Process wastewater is contained in tanks and picked up daily by a contracted waste disposal company. Wastes that are stored in appropriate containers, they are labeled to identify the contents and date of accumulation. These tanks are inspected to ensure they are in proper operating condition. The process wastewater tanks that contain hazardous waste, due to the characteristic of corrosivity, are inspected daily and personnel fill out a signoff sheet. The tanks that manage the non-hazardous wastewater do not have a signoff sheet.

4.2 Maintenance.

The Site shall be visually observed monthly and after rain events by Site personnel to identify maintenance needs to maintain the operational capacity of non-structural and structural BMPs. The following additional actions shall be conducted annually:

- A review of any applicable stormwater sampling results, visual observation records, and inspection records conducted during the previous year;
- A visual inspection of areas with industrial activity and associated potential pollutant sources for evidence of, or the potential for, pollutants entering the conveyance system in stormwater;
- A review and evaluation of BMPs to determine whether the BMPs are adequate, properly maintained, providing adequate effectiveness, or whether additional BMPs are needed;

Visual inspection of stormwater conveyance systems shall be conducted quarterly. Visual monitoring of structural BMPs shall also be conducted to confirm proper operation and maintenance on the following schedule:

- A minimum of monthly; and
- Post-rain events.

4.3 Spill Prevention and Response Procedures.

This section outlines the steps to be taken to identify and characterize potential spills, how to eliminate or reduce spill potential, and how to respond if a spill should occur.

Identification of Potential Spill Areas

An inventory of the potential pollutants associated with the industrial activities at the facility is provided in Section 2. Drainage areas for the facility are identified on the Site map provided as Figure 2 in Attachment B. From this information, it can be concluded that the areas at the facility where spills are most likely to occur include:

- General trash, dumpsters, and waste disposal areas
- Vehicle and equipment fueling areas
- Material storage areas

Identify Spill Response Procedures and Equipment

In the event that spill prevention measures fail, the facility will immediately respond to the spill to prevent contamination of the stormwater.

The facility has established a spill response team that is responsible for implementing the spill response plan. Adequate spill response equipment is available to the team for containing and cleaning up the spill. Spill team members are instructed to immediately attempt to stop the source of the spill/leak and prevent the spilled material from contacting stormwater or entering the conveyance network. The spill response procedures and equipment are described further in the SPCC Plan (Attachment F) as well as Spill Response Procedures specific to each manufacturing area (available upon request), but generally include the following:

- Proper labeling of containers susceptible to spillage or leakage
- Material storage and handling procedures, such as secondary containment and barriers, to prevent discharge of pollutants from areas susceptible to spills
- Employee training on spill response procedures
- Spill kits are to be located near areas where spills may occur such that a rapid response can be made

Employees are instructed to notify the facility spill coordinator whenever a spill occurs. It will be the coordinator's responsibility to evaluate if the spill needs to be reported to the regulatory authorities. Records of spills and leaks will be maintained on-site for a period of five (5) years.

4.3.1 Secondary Containment Requirements and Records

Secondary containment is provided for liquid materials and hazardous substances via secondary containment facilities as described in this SWPPP and the SPCCs for Chemours and Kuraray.

The secondary containment devices collect stormwater exposed to industrial activities, which is then collected and shipped for disposal off-site or land applied or discharged to the Cooling Water Channel (after visual inspection and in accordance with the SPCC Plan). A decision support tool (NG 27 - Dike Management Procedure) is used to determine if accumulated stormwater can be safely discharged from a secondary containment area (Attachment F and G).

4.4 Erosion and Sediment Control.

Erosion and sediment control measures are described in Section 3.1.5. As of May 2020, polymers or chemical treatments are not used at the Site for erosion and sediment control.

4.5 Employee Training.

A training session for Chemours personnel that are responsible for overseeing and implementing this SWPPP shall be conducted annually. New personnel supporting the program will be provided the initial training and subsequent refresher trainings. The purpose of the training is to educate workers on activities that can impact stormwater discharges and the training will generally cover the following components:

- Identification of personnel responsible for overseeing and implementing the SWPPP;
- Site description, including facility activities, general location map, Site Map, etc.;
- Summary of potential pollutant sources including identification of facility areas where industrial materials or activities are exposed to stormwater and description of potential pollutants, opportunities for spills and leaks, existing sampling data, etc.;
- Description of control measures including the identification of location and type of control measures being implemented;
- Schedules and procedures including an overview of good housekeeping and maintenance activities being conducted, Spill Prevention and Response Procedures (including SPCC Plan), employee training records, etc.; schedule for routine inspections and quarterly stormwater discharge assessments; and description of procedures and schedule for monitoring;
- Facility-specific guidance on stormwater BMPs including an overview of identified BMPs, such as good housekeeping practices, exposure minimization, erosion controls, etc.

SWPPP Training Records will be maintained in electronic training records.

4.6 Inspections and Assessments.

4.6.1 Routine Facility Inspections.

Routine inspections of the facility and all stormwater systems shall occur in conjunction with the Good Housekeeping and Maintenance programs. Routine facility inspections shall occur at least quarterly, or in some instances more frequently, as described below. At least once each calendar year, the routine inspection will be conducted during a period when a stormwater discharge is occurring. The inspection will consist of the following:

- Inspect stormwater drainage areas for evidence of pollutants entering the drainage system.
- Evaluate the effectiveness of BMPs (for example, determine if the Site is cleaner or gauge whether employees are more familiar with good housekeeping measures and spill prevention/response practices).
- Observe structural measures (secondary containment dikes, drip pans, etc.), sediment controls, and other stormwater BMPs to ensure proper operation.
- Revise the SWPPP as needed within 2 weeks of inspection and implement any necessary changes within 12 weeks of the inspection.

- The lead inspector will prepare a report summarizing inspection results and follow-up actions, identifying the date of inspection and personnel who conducted the inspection, and other items as listed in Section 3.2.1 of the 2015 MSGP (see template in Attachment D).
- The lead inspector will sign the report and keep it with the SWPPP for a period of (5) years.

Routine Facility Inspection records will be retained on-site; these records will be available upon request.

Further description of the routine facility inspections is provided below.

1. Person(s) or positions of person(s) responsible for inspection.

   Routine facility inspections will be conducted by the first line leader for the Facility. At least one member of the stormwater pollution prevention team, who is qualified to perform the inspections, shall also participate during routine inspections when feasible, and inspectors will consider the results of visual and analytical monitoring over the past year when planning or conducting inspections.

2. Schedules for conducting inspections.

   Inspections shall occur at the following frequency:

   - Sediment basins: monthly.
   - Outfall 002: monthly
   - Site Conveyance network and stormwater ditches: quarterly
   - Tanks storing process wastewater: monthly
   - Other disposal containers (such as dumpsters): quarterly

   At least once each calendar year, the routine inspection shall be conducted during a period when a stormwater discharge is occurring.

3. Areas to be evaluated during Routine Facility Inspections

   The following areas will be evaluated during Routine Facility Inspections:

   - Areas where industrial materials or activities are exposed to stormwater (areas identified in the SWPPP and any others that are potential pollutants sources): See Section 1.4 and 2.1
   - Areas where spills and leaks have occurred in the past three (3) years: See Section 2.2
   - Stormwater Discharge Points: See Section 1.1
   - Control Measures used to with the effluent limits contained in this permit including: secondary containment structures, good housekeeping program components, maintenance program components, the facility's sediment basins, the erosion and sediment control devices in active construction areas, and the facility's stormwater runoff conveyance systems.

4.6.2 Quarterly Visual Assessment of Stormwater Discharges.

Visual assessments of stormwater discharges shall be conducted quarterly. The inspection will occur at each stormwater discharge point during a measurable storm event. Further description of the quarterly assessment of stormwater discharges is provided below.

1. Person(s) or positions of person(s) responsible for assessments.

   Quarterly visual inspections will be conducted by the first line leader for the Facility. This person is identified as qualified personnel to perform the inspection.

2. Schedules for conducting assessments. The assessments shall be conducted quarterly.

3. Specific assessment activities.

   A stormwater sample shall be collected quarterly (except under adverse weather conditions as described in Section 3.2.3 of the 2015 MSGP) from each outfall for visual assessment at DP-SW. Visual inspections at Outfall 002 will be performed in accordance with NPDES Permit No. NC0003573 (application under review as of May 2020) and are not detailed in this SWPPP.

   Procedures for the assessment are detailed below.

   - Collect a sample of stormwater in a clean, colorless glass or plastic container and examine in a well-lit area.
   - Collect samples within the first 30 minutes of an actual discharge from the storm event if possible. If it is not possible to collect the sample within the first 30 minutes, collect as soon as practicable and document why it was not possible to take the sample within the first 30 minutes. Samples should be collected during daylight hours. Documentation should be provided if a sample cannot be collected for visual inspection during a quarter due to the absence of a qualifying rainfall event (that produces runoff at DP-SW) during daylight hours or adverse weather conditions.
   - The following sample characteristics will be visually inspected, observed, and recorded:

Parameter
Color
Odor
Clarity
Floating Solids
Suspended Solids
Foam
Oil Sheen
Deposition at or immediately below the discharge point
Erosion at or immediately below the discharge point
Other obvious indicators of stormwater pollution

   - Prepare a report summarizing visual assessment results, identifying the date of inspection and personnel who conducted the inspection (see template in Attachment D)
   - Sign the report and keep it with the SWPPP for a period of (5) years.

Visual assessment records will be retained on-site; these records will be available upon request.

4.6.3 Exception to Routine Facility Inspections and Quarterly Visual Assessments for Inactive and Unstaffed Sites.

The exception to routine facility inspections and quarterly visual assessments is not applicable to this facility.

4.7 Monitoring.

The facility discharges stormwater at two locations as described in Section 1.1. Outfall 002 and DP-SW are covered under NPDES Permit No. NC0003573 (application under review as of May 2020). Monitoring requirements and procedures for these outfalls will be conducted in accordance with the permit. Additionally, stormwater monitoring related to PFAS is not identified herein. It is included in the individual NPDES permit (Permit No. NC0003573).

SECTION 5: DOCUMENTATION TO SUPPORT ELIGIBILITY CONSIDERATIONS UNDER OTHER FEDERAL LAWS.

5.1 Documentation Regarding Endangered Species.

This Site is covered by NPDES Permit No. NC0003573 (application under review as of May 2020). The Site has voluntarily elected to develop and maintain this SWPPP to further protect stormwater quality. Therefore, documentation regarding endangered species to establish eligibility under the 2015 MSGP is not applicable, as this process was followed during development of the individual permit.

5.2 Documentation Regarding Historic Properties.

This Site is covered by NPDES Permit No. NC0003573 (application under review as of May 2020). The Site has voluntarily elected to develop and maintain this SWPPP to further protect stormwater quality. Therefore, documentation regarding historic properties to establish eligibility under the 2015 MSGP is not applicable, as this process was followed during development of the individual permit.

SECTION 6: CORRECTIVE ACTIONS.

The Site is covered by NPDES Permit No. NC0003573 (application under review as of May 2020). Corrective actions required for compliance with the NPDES permit will be implemented in accordance with the procedures outlined in this permit.

SECTION 7: SWPPP CERTIFICATION.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____ Title: _____

Signature: _____ Date: _____

NOTE: This certification must be re-signed in the event of a SWPPP modification as described in Section 8.

SECTION 8: SWPPP MODIFICATIONS AND ANNUAL UPDATES.

If any modifications are required to the SWPPP in response to a corrective action as required by the Site's NPDES permit, then the certification statement in Section 7 must be resigned. Additionally, advanced notice will be given to the Division of Water Resources (the Division) of any planned changes to the facility or activities that may result in noncompliance with the Site's permit.

8.1 SWPPP Amendment and Annual Updates

The SWPPP will be amended whenever there is a change in design, construction, operation, Site drainage, maintenance or configuration of the physical features which may have a significant effect on the discharge of pollutants to surface waters. Additionally, all aspects of the SWPPP will be reviewed and updated on an annual basis.

8.1.1 Requirements of the Annual Update

The annual update will include:

a) An updated list of significant spills or leaks of pollutants for the previous three (3) years, or documentation that no spills have occurred. (See Section 2.2)
b) A written re-certification that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges (see Section 2.3)
c) A documented re-evaluation of the effectiveness of the on-site stormwater BMPs (see Section 2.3)
d) A review and comparison of sample analytical data to numeric effluent limitations (if applicable) over the past year. The permittee will use the Division's Annual Summary Data Monitoring Report (DMR) form.

If the permittee is notified by the Division that the SWPPP does not meet one or more of the minimum requirements of the permit, within 30 days of notice, the permittee will submit a time schedule to the Division for modifying the SWPPP accordingly. Written certification will be provided to the Division once changes are made.

All other SWPPP modifications must be logged with a description of the modification, the name of the person making the modification, and the date and signature of that person. A record log for SWPPP modifications and annual updates can be found in Attachment D.

SWPPP ATTACHMENTS

Attachment A – General Location Map

Attachment B – Site Map

Attachment C – 2015 MSGP

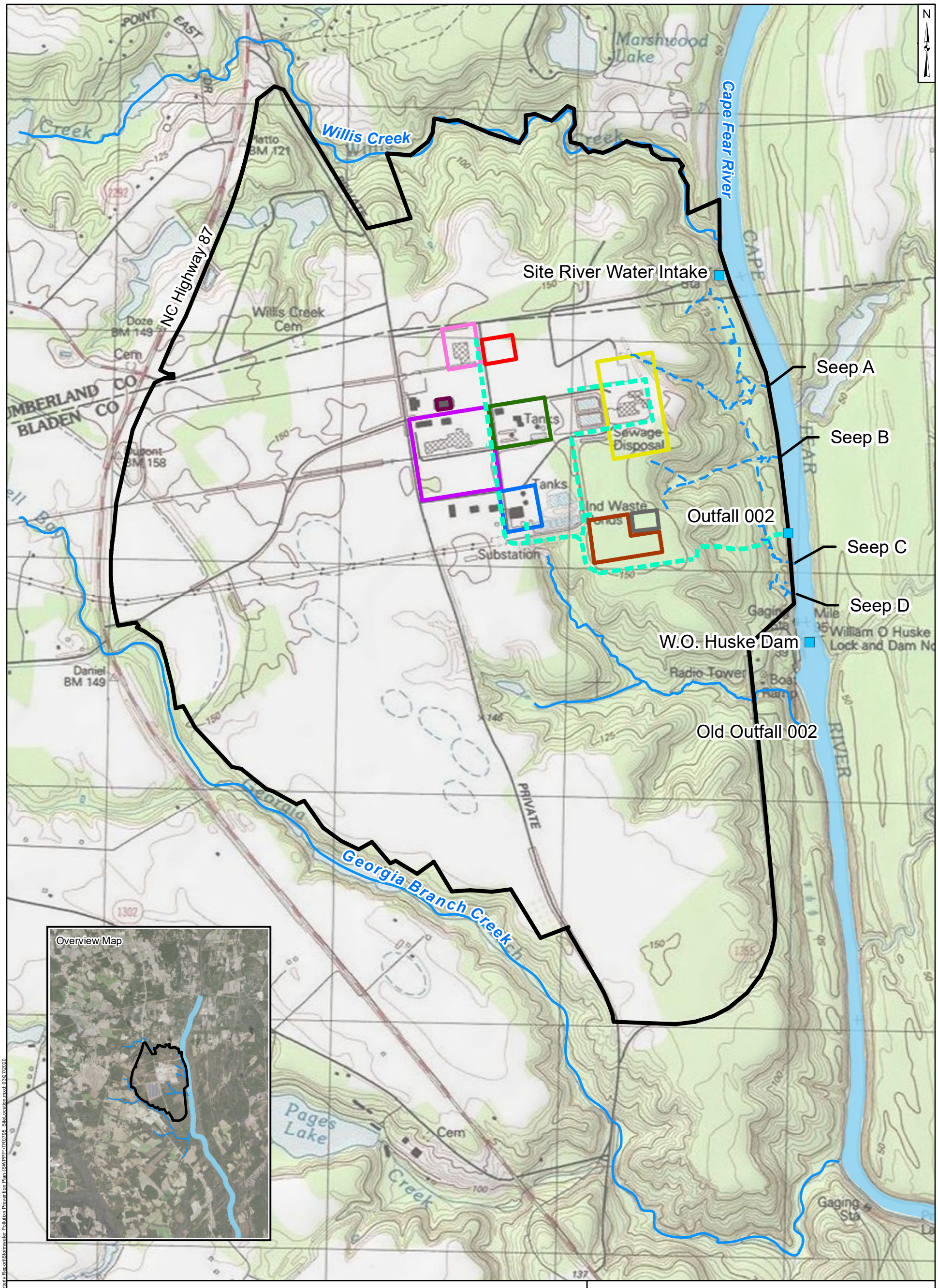
Attachment D – Record Keeping Forms

Attachment E – Sampling Data Summary

Attachment F – Spill Prevention Control and Countermeasure Plan (Chemours)

Attachment G – Spill Prevention Control and Countermeasure Plan (Kuraray)

ATTACHMENT A – General Location Map



Legend

- Site Features
- Site Boundary
- Nearby Tributary
- Observed Seep (Natural Drainage)
- Site Drainage Network

Areas at Site

- Chemours Monomers IXM
- Chemours Polymer Processing Aid Area
- DuPont Polyvinyl Fluoride Leased Area
- Former DuPont PMDF Area
- Kuraray SentryGlas® Leased Area
- Kuraray Trosifol® Leased Area
- Wastewater Treatment Plant
- Power - Filtered and Demineralized Water Production
- Kuraray Laboratory

1,900 950 0 1,900 Feet

Notes:
1. The outline of the Cape Fear River shown on this figure is approximate (River outline based on compilation of open data sources from ArcGIS online service and North Carolina Department of Environmental Quality Online GIS - Major Hydro shapefile).
2. USGS Topo Maps: © 2013 National Geographic Society, i-cubed.

General Location Map

Chemours Fayetteville Works, North Carolina

Geosyntec consultants

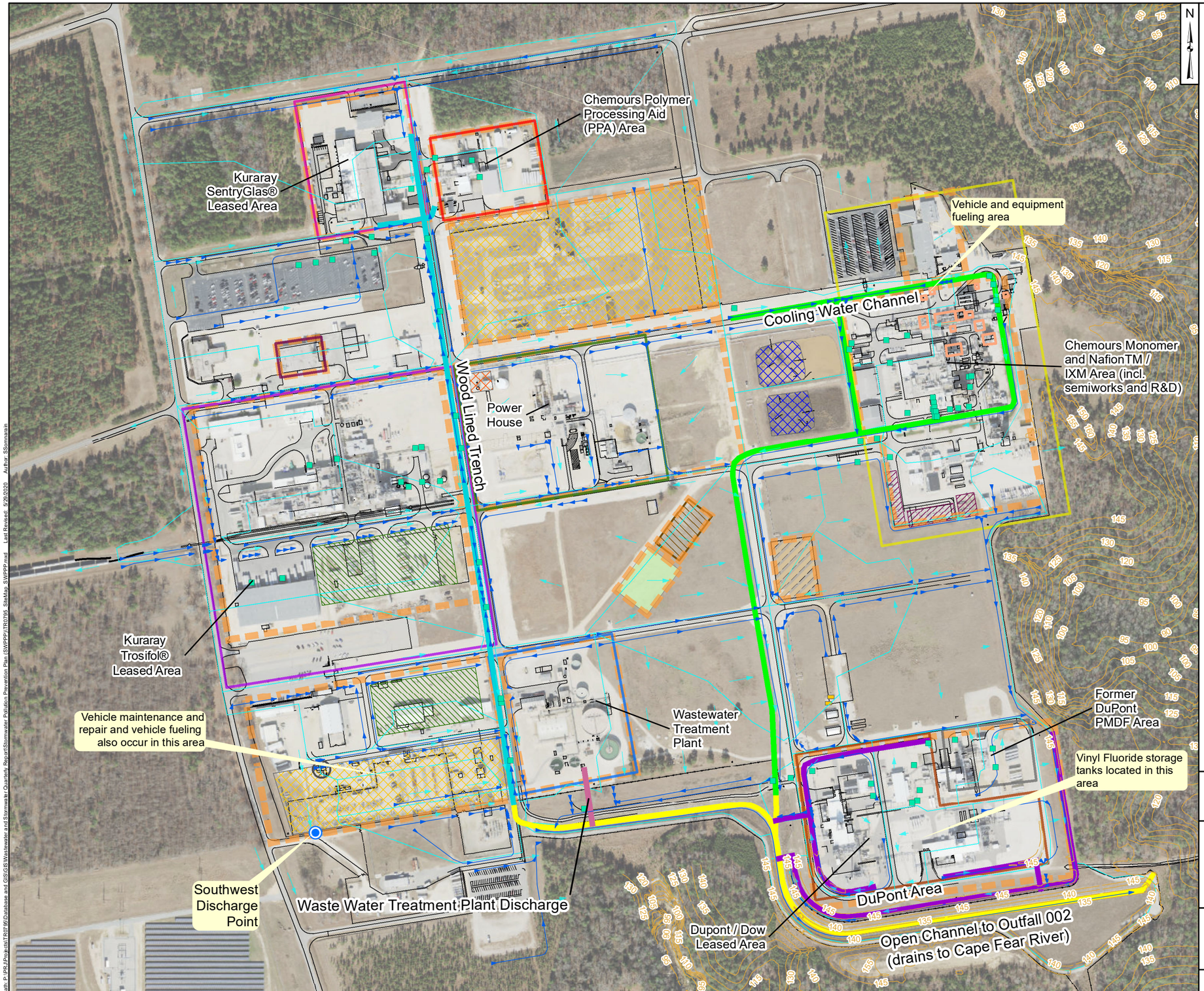
Geosyntec Consultants of NC, P.C.
NC License No.: C 3500 and C 295

Raleigh | March 2020

Figure 1

Path: P:\PJ\Projects\TR0795\Database and GIS\GIS\Wastewater and Stormwater Quarterly Report\Stormwater Pollution Prevention Plan (SWPPP)\TR0795_SiteLocation.mxd; 03/27/2020

ATTACHMENT B – Site Map



Legend

- Stormwater Inlet
- Stormwater Sampling Location
- Stormwater Conveyance
- Stormwater Flow Arrow
- Topographic Contours (5 ft interval)
- Roads/Impervious Surface
- Stormwater Subcatchment
- Industrial Area Covered by SWPPP

Site Conveyance Network Ditch Types

- Wood Lined Trench
- Wastewater Treatment Plant Discharge
- Cooling Water Channel
- Open Channel to Outfall 002
- DuPont Area

Areas at Site

- Chemours Monomers IXM
- Chemours Polymer Processing Aid (PPA) Area
- DuPont Polyvinyl Fluoride Leased Area
- Former DuPont PMDF Area
- Kuraray SentryGlas® Leased Area
- Kuraray Trosifol® Leased Area
- Wastewater Treatment Plant
- Power - Filtered and Demineralized Water Production
- Kuraray Laboratory

Stormwater Control Measures

- Sediment Basins
- Secondary Containment Structure

Industrial Activities Potentially Exposed to Precipitation (and covered by SWPPP)

- Construction Laydown Area
- Staging Area (sediment)
- Oil Tanks
- Dumpster
- Outdoor Material Storage
- Tank Storage
- Vehicle and Equipment Fueling Area
- Storage of Process Wastewater Before Transport Off-Site
- Vehicle Storage Area

Note:
1. The property boundary is shown in the General Location Map. The property size is 2094 acres.
2. Significant structures are shown in aerial imagery.
3. Other minimum stormwater control measures, including good housekeeping, maintenance, and spill prevention and response, are implemented throughout the site.
4. Aerial Imagery provided by ESRI Basemaps (2017).

500 250 0 500 Feet

Site Map - Stormwater Pollution Prevention Plan

Chemours Fayetteville Works, North Carolina

Geosyntec consultants

Geosyntec Consultants of NC, P.C.
NC License No.: C 3500 and C 295

Raleigh | May 2020

Figure 2

Path: P:\PRJProjects\TR0795\Database and GIS\GIS\Wastewater and Stormwater Quarterly Report\Stormwater Pollution Prevention Plan (SWPPP)\TR0795_SiteMap_SWPPP.mxd Last Revised: 5/29/2020 Author: SSommarin

Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet; Units in Foot US

ATTACHMENT C – 2015 MSGP

(see final 2015 MSGP documents here: https://www.epa.gov/npdes/final-2015-msgp-documents)

ATTACHMENT D – Record Keeping Forms

Chemours Fayetteville Works

Storm Water Pollution Prevention Plan
Annual Recertification of Evaluation of the Facility for Unauthorized Non-Stormwater Discharges

Date of Evaluation	Description of Evaluation Criteria	List of Drainage Points Observed Directly	List of Action(s) Taken	Evaluation performed by [Name(s) and Title]	Signature and Date

Chemours Fayetteville Works Stormwater Pollution Prevention Plan
Quarterly Visual Assessment Form

Person(s)/Title(s) collecting sample: _____

Person(s)/Title(s) examining sample: _____

Weather Conditions: _____ Tide: _____ Other: _____

Date and Time Rainfall Starts: _____ Rainfall Depth: _____in

Qualified Rainfall*? ☐Yes ☐No

Date and Time Sample Collected**:_____

Date and Time Sample Examined: _____

*Storm event exceeds 0.1" of precipitation and previous sampled storm ended >72 hours before start of this storm

** Collect sample within 30 min of runoff commencing

Pollutants Observed:

Monitoring Location	Color	Odor[1]	Clarity[2]	Floating Solids	Settled Solids[3]	Foam[4]	Oil Sheen[5]	Other	None	Description
DP-SW	☐	☐	☐	☐	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	☐	☐	☐	☐	

[1]Odor: musty, sewage, sulfur, sour, petroleum/gas, [2]Clarity: slightly cloudy, cloudy, opaque, [3]Observe for settled solids after allowing the sample to sit for approximately 90mins. [4]Observe for foam after gently shaking sample, [5]Oil sheen: flecks, globs, sheen, slick

Identify probably sources of any observed stormwater observation contamination and record other observations:

_____

_____

Corrective Actions: _____

_____

_____

If outfall observations not performed, document reason: _____

_____

Industrial Stormwater Routine Facility Inspection Report (MSGP)

General Information			
Facility Name	Chemours Fayetteville Works		
NPDES Tracking No.			
Date of Inspection		**Start/End Time**	
Inspector's Name(s)			
Inspector's Title(s)			
Inspector's Contact Information			
Inspector's Qualifications			

Weather Information
Weather at time of this inspection[1]? ❑ Clear ❑Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snow ❑ High Winds ❑ Other: Temperature:
Have any previously unidentified discharges of pollutants occurred since the last inspection? ❑Yes ❑No **If yes, describe:**
Are there any discharges occurring at the time of inspection? ❑Yes ❑No **If yes, describe:**

1. At least once each calendar year, the routine inspection must be conducted during a period when a stormwater discharge is occurring (i.e., during a storm event)

Control Measures

Structural Control Measure	Control Measure is Operating Effectively?	Maintenance or Corrective Action Needed and Notes
Conveyance Network – Check for clogging, debris or any other obstruction that may cause stormwater or wastewater overflowing from the ditch - Check for structural damage that may cause stormwater or wastewater leakage	❑Yes ❑No	
Erosion and Sediment Control Devices in Active Construction Areas – Check for clogging, debris, or failure of erosion and sediment control devices that may cause stormwater to be released	❑Yes ❑No	
Sediment Basins – Check for clogging, debris or any other obstruction at sediment basin outlet that may cause stormwater to be released	❑Yes ❑No	
Facility Rooftops – Confirm facility rooftops are intact and not susceptible to leaks	❑Yes ❑No	
Secondary Containment Structures – Confirm secondary containment structures are free of cracks and able to contain spills and stormwater effectively – Confirm pumps have been operating effectively to convey captured stormwater to storage tanks for disposal offsite	❑Yes ❑No	

Areas of Industrial Materials or Activities Exposed to Stormwater

Area/Activity	Potential Stormwater Pollutants Observed[1]?	Describe Stormwater Pollutants Observed (if applicable)	Maintenance or Corrective Action Needed and Notes
General Trash, Dumpsters, and Waste Disposal Areas	❑Yes ❑No		
Borrow Areas	❑Yes ❑No		
Active Construction Areas	❑Yes ❑No		
Exposed Overhead Piping in Manufacturing Areas	❑Yes ❑No		
Vehicle and Equipment Fueling Areas	❑Yes ❑No		
Vehicle and Equipment Maintenance Areas	❑Yes ❑No		
Construction Laydown Area	❑Yes ❑No		
Vehicle Storage Area	❑Yes ❑No		

Areas of Industrial Materials or Activities Not Exposed to Stormwater (Covered, Contained, Drain to WWTP)

Area/Activity	Potential Stormwater Pollutants Observed[1]?	Describe Stormwater Pollutants Observed (if applicable)	Maintenance or Corrective Action Needed and Notes
Manufacturing areas under structure	❑Yes ❑No		
Manufacturing areas with secondary containment	❑Yes ❑No		
WWTP operations	❑Yes ❑No		

1. Stormwater pollutants may include spills and leaks, degraded containers that may spill or leak, tracking of industrial materials by vehicles/fork lifts, and uncovered industrial materials (e.g., trash, material storage, fuel/oil, chemicals/pesticides, etc.) or activities (e.g., uncovered material unloading and transport, uncovered fish processing, vehicle washing, etc.) exposed to stormwater that may enter the stormdrain system.

Storm Drain System

At stormdrain inlets and monitoring locations, describe any evidence of, or the potential for, pollutants entering the drainage system. Also describe observations regarding the physical condition of all storm drain inlets, storm drains, monitoring locations, and rooftops (as feasible) including gutters, drains, and downspout pipes, and evidence of pollutants in discharges and/or the receiving water. Identify if any corrective action is needed.

Spill and Maintenance Logs

Coordinate with each applicable department to review spill and maintenance logs or discuss the spill response and maintenance procedures carried out during the previous month. Identify if any corrective action is needed.

Planned Corrective Actions

Describe any planned corrective actions based on the observations described above.

Notes

Use this space for any additional notes or observations from the inspection:

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Print name and title: _____

Signature: _____Date:_____

Chemours Fayetteville Works

Storm Water Pollution Prevention Plan Training Record

Training Date:		
Training Description:		
Trainer:		
Employee(s) trained	Employee Title	Employee signature

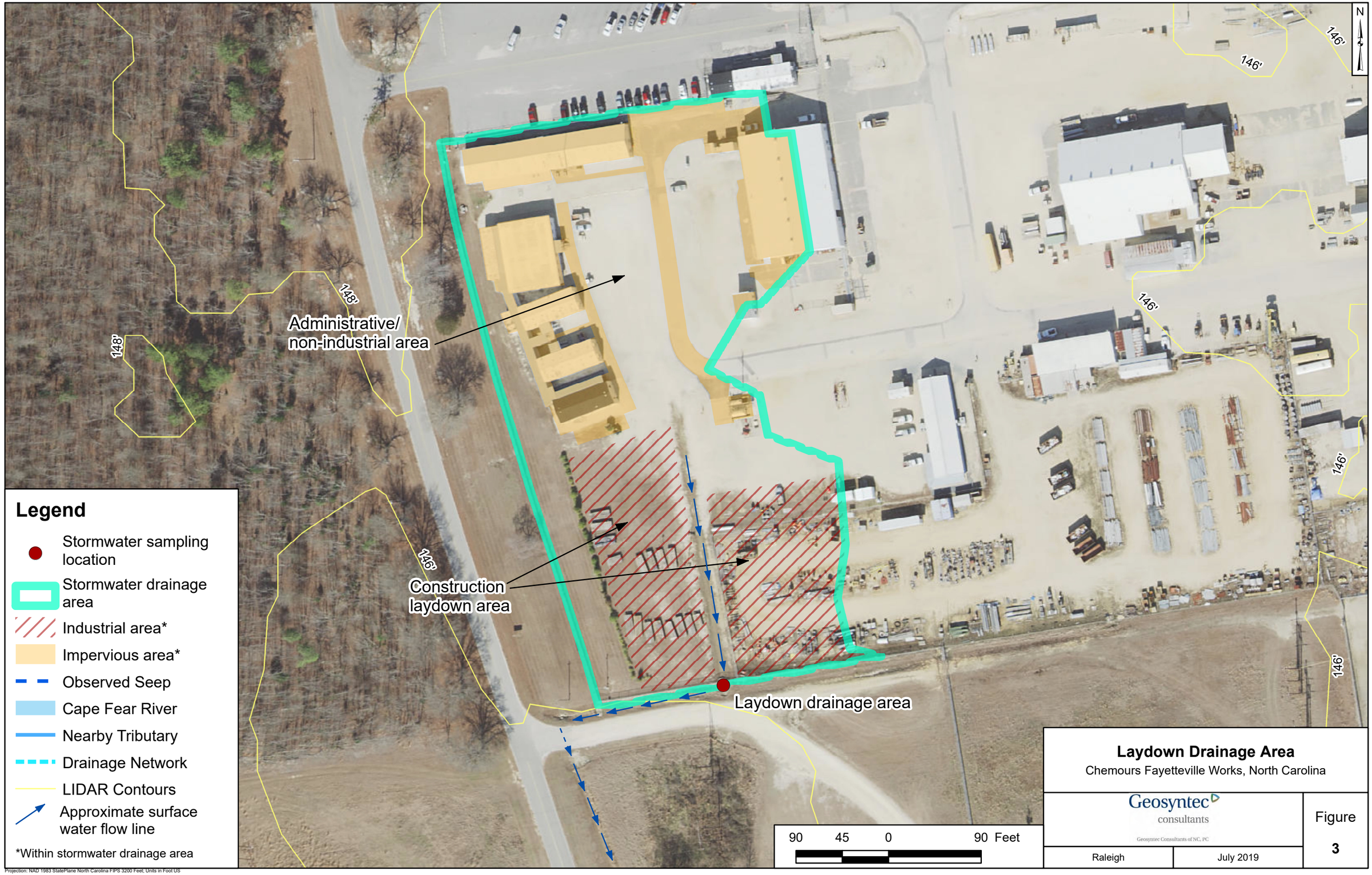
Training Date:		
Training Description:		
Trainer:		
Employee(s) trained	Employee Title	Employee signature

Chemours Fayetteville Works

Storm Water Pollution Prevention Plan Modification and Annual Review Log

Amend. or Annual Review No.	Description of the Amendment or Annual Review	Date of Amendment or Annual Review	Amendment or Annual Review Prepared by [Name(s) and Title]
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			

ATTACHMENT E – Sampling Data Summary



Laydown Drainage Area

Chemours Fayetteville Works, North Carolina

Geosyntec consultants

Geosyntec Consultants of NC, PC

Raleigh | July 2019

Figure 3

TABLE 1
Summary of Monitoring Data at Discharge
Point Draining to Old Outfall 002
Chemours Fayetteville Works, North Carolina

Location ID	STW-LOC004	STW-LOC004	STW-LOC004
Field Sample ID	STW-LOC004-072319	STW-LOC004-080219	FAY-OF4-COMP-WATER-121319
Sample Date	7/23/2019	8/2/2019	12/13/2019
Sample Type	Grab	Composite	Composite
SDG	280-126569-1/280-126569-2	280-126886-1/280-126886-2	2079460/2079461
Lab Sample ID	280-126569-1	280-126886-1	1223718/1223723
Table 3+ Lab SOP (ng/L)			
HFPO-DA	**250**	**24,000**	**750**
PFMOAA	**84**	**5,200**	**260**
PFO2HxA	**63**	**5,500**	**270**
PFO3OA	**12**	**860**	**48**
PFO4DA	**26**	**500**	**85**
PFO5DA	**110**	**670 J**	**190**
PMPA	**210**	**7,600**	**2,100**
PEPA	**55**	**2,700**	**1,400**
PFESA-BP1	**9.5**	**6,700**	**57**
PFESA-BP2	**100**	**1,900**	**160**
Byproduct 4	**280 J**	**6,900**	**200**
Byproduct 5	**120 J**	**26,000 J**	**150**
Byproduct 6	**11**	**76**	**6.8**
NVHOS	**19**	**2,400**	**21**
EVE Acid	<2	**1,800**	**33**
Hydro-EVE Acid	**7.7**	**720**	**38**
R-EVE	**24 J**	**3,300**	**73**
PES	<2	<46	<2
PFECA B	<2	<60	<2
PFECA-G	<2	<41	<2
Other PFAS (ng/L)	--	--	--
10:2 Fluorotelomer sulfonate	<2	<2	--
11Cl-PF3OUdS	<2	<3.1	--
1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	<20	<20	--
1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	<20	<50	--
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	<2	<60	--
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	<2	<110	--
6:2 Fluorotelomer sulfonate	<20	<20	--
9Cl-PF3ONS	<2	<2.3	--
ADONA	<2.1	<2.1	--
NaDONA	<2.1	<2.1	--
N-ethyl perfluorooctane sulfonamidoacetic acid	<20	<20	--
N-ethylperfluoro-1-octanesulfonamide	<2	<37	--
N-methyl perfluoro-1-octanesulfonamide	<2	<35	--
N-methyl perfluorooctane sulfonamidoacetic acid	<20	<30	--
Perfluorobutane Sulfonic Acid	<2	<2	--
Perfluorobutanoic Acid	**20**	**210**	--
Perfluorodecane Sulfonic Acid	<2	<3.1	--
Perfluorodecanoic Acid	**4.5**	**5.8**	--
Perfluorododecane sulfonic acid (PFDoS)	<2	<4.4	--
Perfluorododecanoic Acid	**2.5**	<5.3	--
Perfluoroheptane sulfonic acid (PFHpS)	<2	<2	--
Perfluoroheptanoic Acid	**3.9**	**17**	--
Perfluorohexadecanoic acid (PFHxDA)	<2	<8.6	--
Perfluorohexane Sulfonic Acid	<2	<2	--
Perfluorohexanoic Acid	<2	**21**	--
Perfluorononanesulfonic acid	<2	<2	--
Perfluorononanoic Acid	**4.5**	**9.3**	--
Perfluorooctadecanoic acid	<2	<4.5	--
Perfluorooctane Sulfonamide	<2	<3.4	--
Perfluoropentane sulfonic acid (PFPeS)	<2	<2.9	--
Perfluoropentanoic Acid	**12**	**99**	--
Perfluorotetradecanoic Acid	<2	<2.8	--
Perfluorotridecanoic Acid	<2	<13	--
Perfluoroundecanoic Acid	**4.5**	<11	--
PFOA	**23**	**48**	--
PFOS	**7.7**	<5.2	--
Other Parameters (mg/L)	--	--	--
Aluminum	--	**0.69**	**29**
Biochemical Oxygen Demand (BOD) - 5 Day	**5**	**4.4 J**	<2
Chemical Oxygen Demand (COD)	**14 J**	**31**	**49 J**
Chromium	**0.0084**	**0.0034**	**0.0272**
Copper	**0.011**	**0.017**	**0.025**
Fluoride	<0.17	**0.75**	**0.5**
Iron	--	**0.51**	**20**
Lead	**0.026**	**0.0058**	**0.0506**
Magnesium	--	**0.5**	**1.05**
Manganese	**0.11**	**0.49**	**0.159**
Nickel	**0.0036**	**0.012**	**0.0121**
Nitrate	--	--	**0.19 J**
Nitrate/Nitrite Nitrogen	**0.34**	**1.4**	**2.5**
Nitrite	--	--	<0.015
Nitrogen, Total	**1.1**	**2.4**	--
Oil and Grease	<1.7	--	--
Phosphorus	**0.12**	**0.56 J**	**0.092 J**
Sulfate	**6.4**	**30**	**5.5**
Total Kjeldahl Nitrogen	**0.74 J**	**1**	--
Total NO2/NO3/TKN	--	--	--
Total Suspended Solids	**190 J**	**9.6**	**210**
Zinc	**0.09**	**1.1**	**0.249**

Bold - Analyte detected above associated reporting limit
B - analyte detected in an associated blank
EPA - Environmental Protection Agency
J - Analyte detected. Reported value may not be accurate or precise
mg/L - milligrams per liter
ng/L - nanograms per liter
SDG - Sample Delivery Group
SOP - standard operating procedure
UJ – Analyte not detected. Reporting limit may not be accurate or precise.
< - Analyte not detected above associated reporting limit.
-- - not analyzed

TABLE 1
Summary of Monitoring Data at Discharge
Point Draining to Old Outfall 002
Chemours Fayetteville Works, North Carolina

Location ID	STW-LOC004	STW-LOC004	STW-LOC004
Field Sample ID	STW-LOC004-072319	STW-LOC004-080219	FAY-OF4-COMP-WATER-121319
Sample Date	7/23/2019	8/2/2019	12/13/2019
Sample Type	Grab	Composite	Composite
SDG	280-126569-1/280-126569-2	280-126886-1/280-126886-2	2079460/2079461
Lab Sample ID	280-126569-1	280-126886-1	1223718/1223723
Table 3+ Lab SOP (ng/L)			
HFPO-DA	**250**	**24,000**	**750**
PFMOAA	**84**	**5,200**	**260**
PFO2HxA	**63**	**5,500**	**270**
PFO3OA	**12**	**860**	**48**
PFO4DA	**26**	**500**	**85**
PFO5DA	**110**	**670 J**	**190**
PMPA	**210**	**7,600**	**2,100**
PEPA	**55**	**2,700**	**1,400**
PFESA-BP1	**9.5**	**6,700**	**57**
PFESA-BP2	**100**	**1,900**	**160**
Byproduct 4	**280 J**	**6,900**	**200**
Byproduct 5	**120 J**	**26,000 J**	**150**
Byproduct 6	**11**	**76**	**6.8**
NVHOS	**19**	**2,400**	**21**
EVE Acid	<2	**1,800**	**33**
Hydro-EVE Acid	**7.7**	**720**	**38**
R-EVE	**24 J**	**3,300**	**73**
PES	<2	<46	<2
PFECA B	<2	<60	<2
PFECA-G	<2	<41	<2
Other PFAS (ng/L)	--	--	--
10:2 Fluorotelomer sulfonate	<2	<2	--
11Cl-PF3OUdS	<2	<3.1	--
1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	<20	<20	--
1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	<20	<50	--
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	<2	<60	--
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	<2	<110	--
6:2 Fluorotelomer sulfonate	<20	<20	--
9Cl-PF3ONS	<2	<2.3	--
ADONA	<2.1	<2.1	--
NaDONA	<2.1	<2.1	--
N-ethyl perfluorooctane sulfonamidoacetic acid	<20	<20	--
N-ethylperfluoro-1-octanesulfonamide	<2	<37	--
N-methyl perfluoro-1-octanesulfonamide	<2	<35	--
N-methyl perfluorooctane sulfonamidoacetic acid	<20	<30	--
Perfluorobutane Sulfonic Acid	<2	<2	--
Perfluorobutanoic Acid	**20**	**210**	--
Perfluorodecane Sulfonic Acid	<2	<3.1	--
Perfluorodecanoic Acid	**4.5**	**5.8**	--
Perfluorododecane sulfonic acid (PFDoS)	<2	<4.4	--
Perfluorododecanoic Acid	**2.5**	<5.3	--
Perfluoroheptane sulfonic acid (PFHpS)	<2	<2	--
Perfluoroheptanoic Acid	**3.9**	**17**	--
Perfluorohexadecanoic acid (PFHxDA)	<2	<8.6	--
Perfluorohexane Sulfonic Acid	<2	<2	--
Perfluorohexanoic Acid	<2	**21**	--
Perfluorononanesulfonic acid	<2	<2	--
Perfluorononanoic Acid	**4.5**	**9.3**	--
Perfluorooctadecanoic acid	<2	<4.5	--
Perfluorooctane Sulfonamide	<2	<3.4	--
Perfluoropentane sulfonic acid (PFPeS)	<2	<2.9	--
Perfluoropentanoic Acid	**12**	**99**	--
Perfluorotetradecanoic Acid	<2	<2.8	--
Perfluorotridecanoic Acid	<2	<13	--
Perfluoroundecanoic Acid	**4.5**	<11	--
PFOA	**23**	**48**	--
PFOS	**7.7**	<5.2	--
Other Parameters (mg/L)	--	--	--
Aluminum	--	**0.69**	**29**
Biochemical Oxygen Demand (BOD) - 5 Day	**5**	**4.4 J**	<2
Chemical Oxygen Demand (COD)	**14 J**	**31**	**49 J**
Chromium	**0.0084**	**0.0034**	**0.0272**
Copper	**0.011**	**0.017**	**0.025**
Fluoride	<0.17	**0.75**	**0.5**
Iron	--	**0.51**	**20**
Lead	**0.026**	**0.0058**	**0.0506**
Magnesium	--	**0.5**	**1.05**
Manganese	**0.11**	**0.49**	**0.159**
Nickel	**0.0036**	**0.012**	**0.0121**
Nitrate	--	--	**0.19 J**
Nitrate/Nitrite Nitrogen	**0.34**	**1.4**	**2.5**
Nitrite	--	--	<0.015
Nitrogen, Total	**1.1**	**2.4**	--
Oil and Grease	<1.7	--	--
Phosphorus	**0.12**	**0.56 J**	**0.092 J**
Sulfate	**6.4**	**30**	**5.5**
Total Kjeldahl Nitrogen	**0.74 J**	**1**	--
Total NO2/NO3/TKN	--	--	--
Total Suspended Solids	**190 J**	**9.6**	**210**
Zinc	**0.09**	**1.1**	**0.249**

Bold - Analyte detected above associated reporting limit
B - analyte detected in an associated blank
EPA - Environmental Protection Agency
J - Analyte detected. Reported value may not be accurate or precise
mg/L - milligrams per liter
ng/L - nanograms per liter
SDG - Sample Delivery Group
SOP - standard operating procedure
UJ – Analyte not detected. Reporting limit may not be accurate or precise.
< - Analyte not detected above associated reporting limit.
-- - not analyzed

ATTACHMENT F – Spill Prevention Control and Countermeasure Plan (Chemours)

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN

The Chemours Company FC, LLC
Chemours Company – Fayetteville Works
Bladen County, North Carolina

Original Preparation Date: November 10, 2011

Review / Amendment Date: December 22, 2019

TABLE OF CONTENTS

LIST OF TABLES

(Following Report)

LIST OF FIGURES
(Following Report)

LIST OF ATTACHMENTS
(Following Report)

1.0 PROFESSIONAL ENGINEERING CERTIFICATION

Pursuant to 40 CFR 112.3(d) and by means of this Spill Prevention, Control, and Countermeasure certification, I attest that:

(i) I am familiar with the requirements of the Spill Prevention, Control, and Countermeasure ("SPCC") rule as codified in 40 CFR Part 112;

(ii) I have visited and examined the facility;

(iii) the Plan has been prepared in accordance the good engineering practice, including consideration of applicable industry standards, and with the requirements of the SPCC rule;

(iv) procedures for required inspections and testing have been established; and

(v) the Plan is adequate for the facility.

This certification in no way relieves the owner or operator of the facility of his/her duty to prepare and fully implement this SPCC Plan in accordance with the requirements of 40 CFR Part 112. This Plan is valid only to the extent that the facility owner or operator maintains, tests, and inspects equipment, containment, and other devices as prescribed in this Plan.

Licensed Professional Engineer:	Michael E. Johnson, PE 98 Old Forge Drive Nebo, NC 28761
NC Professional Engineering License No.:	41399
NC Licensed Engineering Firm:	Johnson Environmental Engineering, PLLC
NC Licensed Engineering Firm No.:	P-1489

SIGNED CERTIFICATION INCLUDING ENGINEER'S SEAL IS ON FILE

December 22, 2019

Michael E. Johnson, PE — Date

2.0 INTRODUCTION

The Federal Water Pollution Control Act, as amended by for the prevention and/or containment of discharges of oil and hazardous substances from vessels and onshore and offshore facilities. In partial response to this authorization, the U.S. Environmental Protection Agency ("USEPA") issued Oil Pollution Prevention Regulations for Non-Transportation Related Onshore and Offshore Facilities on December 11, 1973 (effective on January 10, 1974). These regulations were published under title 40 of the Code of Federal Regulations the Clean Water Act of 1977, authorized the establishment of procedures, methods, equipment, and other requirements ("CFR"), Part 112 and specifically outlined requirements for the preparation of Spill Prevention, Control, and Countermeasure ("SPCC") plans.

On July 17, 2002, the USEPA published modifications to the SPCC requirements in the Federal Register (Volume 67, No. 137, pages 47042-47152). This SPCC Plan has been prepared in accordance with the revised regulations along with subsequent modifications to the regulations.

The following sections of this Plan are presented in the sequence of the new rule. The substantive requirements (§§112.7 and 112.8) are addressed in Sections 5 and 6, respectively. In these sections, the exact wording of the rule is provided in Italics, followed by an explanation of how the requirements have been addressed.

3.0 GENERAL APPLICABILITY: §112.1

The Oil Pollution Prevention Regulations (40 CFR Part 112) require preparation of an SPCC Plan for facilities that have discharged or could reasonably be expected to discharge oil into or upon navigable waters of the United States or adjoining shorelines. Specifically, §112.1(d)(2)(ii) requires an SPCC Plan to be developed for facilities where the aggregate storage capacity of oil is greater than 1,320 gallons (include containers with capacities of 55-gallons or greater).

Because the Chemours Company – Fayetteville Works ("Fayetteville Works") facility in Bladen County, North Carolina maintains an above ground oil storage capacity of over 1,320 gallons, it is required to develop, implement, and maintain an SPCC Plan. The North Carolina Department of Environmental Quality ("NCDEQ") defers to the federal SPCC requirements.

This SPCC Plan has the full approval of the Fayetteville Works' management at a level of authority to ensure that the facility maintains full compliance with all applicable SPCC regulations.

This SPCC Plan has been developed for the Fayetteville Works in response to the regulations listed above. The purpose of this Plan is to identify sources of oil or oil-like substances at the Fayetteville Works and outline procedures to prevent the release of those substances to navigable waters of the United States. A release of oil is considered a discharge under this Plan only if the release is into or upon the navigable waters of the United States, adjoining shorelines or waters contiguous with navigable waters of the United States. This is apparent if a release impacts surface water quality by causing a film, sheen or discoloration of the water surface, or upon water or adjoining shorelines, or causes a sludge or emulsion to be deposited beneath the surface of the adjoining shorelines. Impacts to groundwater also apply if the groundwater is contiguous with navigable waters of the United States (i.e., groundwater discharges to or contributes to the total volume of a surface water body that is itself contiguous with navigable waters of the United States).

All facilities regulated under 40 CFR Part 112 must conduct an initial screening to determine whether they are required to develop a Facility Response Plan ("FRP") under §112.20. The Substantial Harm determination checklist used to certify that these requirements has been reviewed and applied to the facility, and is provided in Attachment A. The Fayetteville Works neither transfers oil over water to or from vessels nor operates with oil storage capacity of more than one (1) million gallons. Therefore, a FRP is not required for the Fayetteville Works.

4.0 SPCC PLAN ADMINISTRATION: §§112.3, §112.4, and §112.5

4.1 REQUIREMENT TO PREPARE AN SPCC PLAN: §112.3

This SPCC Plan was prepared to comply with the revised rule (40 CFR Part 112) that became effective on August 16, 2002 and subsequent amendments. In accordance with §112.3(a), this Plan was implemented prior to November 10, 2011. In accordance with §112.3(d), this Plan was reviewed and certified by a North Carolina licensed Professional Engineer. That professional engineering certification is found in Section 1.0 of this Plan.

In accordance with §112.3(e)(1) and (2), a complete updated copy of this SPCC Plan will be maintained at the Fayetteville Works both electronically on the company's server and as a hard copy in the environmental offices in the CSL Office Building. During normal working hours at the facility, the Plan will be available to authorized representatives of

Local, State or Federal governing agencies for on-site review and a copy will be submitted if requested.

4.2 AMENDMENT BY REGIONAL ADMINISTRATOR: §112.4

In accordance with §112.4(a), whenever more than 1,000-gallons of oil have been discharged in a single incident or more than 42-gallons of oil have been discharged in each of two incidents over a 12-month period, Fayetteville Works will submit a report to the USEPA Regional Administrator ("RA") within 60 days (refer to the definition of a discharge previously provided in Section 4). The report must contain the following information:

- §112.4(a)(1): Name of the facility;
- §112.4(a)(2): Name of the person submitting the information;
- §112.4(a)(3): Location of the facility;
- §112.4(a)(4): Maximum storage capacity and daily throughput at facility;
- §112.4(a)(5): Description of corrective action and countermeasures taken;
- §112.4(a)(6): Description of the facility, including maps and flow diagrams;
- §112.4(a)(7): Cause of the discharge(s), including an analysis of the failed system;
- §112.4(a)(8): Additional preventive measures taken or contemplated to minimize the possibility of recurrence; and
- §112.4(a)(9): Other pertinent information.

In accordance with §112.4(c), NCDEQ will be sent a complete copy of all information provided to the Regional Administrator under paragraph (a) of this section.

As required by §112.4(d), the Plan will be amended if the Regional Administrator requires it to be done.

In accordance with §112.4(e), should the Regional Administrator subsequently propose by certified mail or personal delivery that this SPCC Plan be amended, in accordance with §112.4(e), the Fayetteville Works will:

- Submit arguments and supporting information in response to the proposed amendments within 30 days; or

- Amend this SPCC Plan within 30 days and implement the amended Plan within six-months, unless otherwise authorized by the Regional Administrator.

4.3 SPCC PLAN AMENDMENT BY OWNER/OPERATOR: §112.5

In accordance with §112.5(a), when there is a change in facility design, construction, operation or maintenance that materially affects its potential for a discharge, the Fayetteville Works will amend this SPCC Plan within six (6) months of the change and implement the amended Plan within six (6) months of its completion.

In accordance with §112.5(b), the Fayetteville Works will also review this Plan at least once every five (5) years from the date of the last review. The five-year review is presented as Attachment I. As a result of the review, the Plan will be amended within six (6) months of the review if more effective prevention and control technology has been field-proven at the time of the review and will significantly reduce the likelihood of a discharge. The amended Plan will be implemented within six (6) months of its completion. The five-year review will be documented with a signed statement as to whether the Plan will be amended, and the amendments of the Plan will be listed in Attachment I if the Plan was amended.

As required by §112.5(c), technical amendments made to the Plan will be certified by a North Carolina licensed Professional Engineer.

5.0 SPCC PLAN GENERAL REQUIREMENTS: §112.7

If you are the owner or operator of a facility subject to this part you must prepare a Plan in accordance with good engineering practices. The Plan must have the full approval of management at a level of authority to commit the necessary resources to fully implement the Plan. You must prepare the Plan in writing. If you do not follow the sequence specified in this section for the Plan, you must prepare an equivalent Plan acceptable to the Regional Administrator that meets all of the applicable requirements listed in this part, and you must supplement it with a section cross-referencing the location of requirements listed in this part and the equivalent requirements in the other prevention plan. If the Plan calls for additional facilities or procedures, methods, or equipment not yet fully operational, you must discuss these items in separate paragraphs, and must explain separately the details of installation and operational start-up.

Section 5 of this Plan presents facility-specific details associated with the general requirements for SPCC Plans outlined in §112.7. As previously indicated in Sections 1, 2, and 3, this SPCC Plan has been prepared in accordance with good engineering practice, with management approval at a level with authority to commit the necessary resources for full implementation, and in the sequence of the rule.

5.1 GENERAL FACILITY INFORMATION

Facility/Owner name	The Chemours Company FC, LLC	
Facility type	Chemicals / Plastics Manufacturing	
Facility/Owner location	22828 NC Highway 87 W Fayetteville, North Carolina 28306-7332 Latitude: 34º 50' 38" N Longitude: 78º 50' 12" W	
Date of initial facility operation	1971	
Designated person accountable for oil spill prevention at facility	Edward Vega	
Reportable oil spill history	2017	None
	2018	None
	2019	None

5.2 GENERAL FACILITY DESCRIPTION

The Fayetteville Works of The Chemours Company FC, LLC, is located approximately fifteen (15) miles south by southeast of the city of Fayetteville, NC on N.C. Highway 87 at the Bladen-Cumberland county line. The site is an existing chemical manufacturing facility consisting of 2200 acres of relatively flat land bounded on the east by the Cape Fear River, of which approximately 260 acres are developed. Approximately 85 percent of the property lies in Bladen County, with the remainder being in Cumberland County. All the existing manufacturing facilities, waste facilities, and service structures lie in Bladen County.

This facility is primarily a manufacturer of fluorocarbon plastic laminate sheeting and fluorocarbon chemicals. Specific materials produced are:

- Nafion® fluorocarbon membrane
- Fluorocarbon intermediates for Nafion® membranes and other fluorocarbon products.
- Fluoropolymer Processing Aids

5.3 SPCC PLAN CONFORMANCE AND DEVIATIONS: §112.7(a)(1) and (a)(2)

§112.7(a)(1): Include a discussion of your facility's conformance with the requirements listed in this part.

With one exception, the Fayetteville Works conforms with all the applicable requirements of 40 CFR Part 112. The exception is the Power Area's Emergency Fire Water Pump diesel engine's 500-gallon fuel storage tank that has a secondary containment dike with a current capacity of 476 gallons. This does not comply with the requirement of Part 112.8(c)(2) to "Construct all bulk storage tank installations (except mobile refuelers and other non-transportation-related tank trucks) so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation." The subject tank is inside an enclosed building, hence there is no precipitation infiltration. Therefore, the required secondary containment capacity for this tank is a minimum of 500 gallons. The Fayetteville Works intends on increasing the capacity of this dike to be greater than 500 gallons in 2020.

§112.7(a)(2): Comply with all applicable requirements listed in this part. Your Plan may deviate from the requirements in paragraphs (g), (h)(2) and (3), and (i) of this section and the requirements in subparts B and C of this part, except the secondary containment requirements in paragraphs (c) and (h)(1) of this section, and §§ 112.8(c)(2), 112.8(c)(11),

112.9(c)(2), 112.9(d)(3), 112.10(c), 112.12(c)(2), and 112.12(c)(11), where applicable to a specific facility, if you provide equivalent environmental protection by some other means of spill prevention, control, or countermeasure. Where your Plan does not conform to the applicable requirements in paragraphs (g), (h)(2) and (3), and (i) of this section, or the requirements of subparts B and C of this part, except the secondary containment requirements in paragraph (c) and (h)(1) of this section, and §§ 112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), and 112.12(c)(11), you must state the reasons for nonconformance in your Plan and describe in detail alternate methods and how you will achieve equivalent environmental protection. If the Regional Administrator determines that the measures described in your Plan do not provide equivalent environmental protection, he may require that you amend your Plan, following the procedures in § 112.4(d) and (e).

Except for the following, the SPCC Plan conforms with and does not deviate from the requirements of 40 CFR §§112.7, 112.8, and 112.12. The exception is the Power Area's Emergency Fire Water Pump diesel engine's 500-gallon fuel storage tank that has a secondary containment dike with a current capacity of 476 gallons. This does not comply with the requirement of Part 112.8(c)(2) that all bulk storage tanks be provided with a secondary means of containment for the entire capacity of the largest single container. Therefore, the required secondary containment capacity for this tank is a minimum of 500 gallons. The Fayetteville Works intends on increasing the capacity of this dike to be greater than 500 gallons in 2020.

The Fayetteville Works is not an onshore oil production facility, therefore §112.9 is not applicable. The Fayetteville Works is not an onshore oil drilling and workover facility, therefore §112.10 is not applicable.

5.4 FACILITY LAYOUT: §112.7(a)(3)

§112.7(a)(3): Describe in your Plan the physical layout of the facility and include a facility diagram, which must mark the location and contents of each container. The facility diagram must include completely buried tanks that are otherwise exempted from the requirements of this part under §112.1(d)(4). The facility diagram must also include all transfer stations and connecting pipes.

The Fayetteville Works receives and uses Nalco 71300 Flocculant in the wastewater treatment plant and the GX-901 process ingredient in the Polymer Processing Aid manufacturing area. The facility has determined that the above two materials meet the definition of oil as defined in §112.7 and are covered by this Plan.

The facility also uses diesel fuel No. 2 fuel oil (a.k.a. No. 2 fuel oil), gasoline, kerosene, and various other types of heat transfer, lubricating, and hydraulic oils. These new and used oils and oil-like materials are received or stored at the facility in above ground storage tanks (ASTs), 55-gallon drums, and totes, and are also used in electrical, process, and operating equipment. Figure 1 is the facility diagram, and provides the locations of each of the oil storage areas, transfer areas, and oil-filled electrical and operational equipment.

Diesel and gasoline are received and stored for use in motor vehicle refueling at the facility in a 2,000-gallon Diesel AST and a 1,000-gallon Gasoline AST in the southwestern corner of the facility in the Construction Area. The 2,000-gallon Diesel Tank and 1,000-gallon Gasoline Tank are owned by Campbell Oil who supplies the fuels. These two tanks are covered by Campbell Oil's SPCC Plan, a copy of which is located in the Construction Area Offices. The secondary containment and transfer area for these two tanks (diesel and gasoline) are owned by The Chemours Company and are covered by this SPCC Plan. Diesel fuel is also stored in a 500-gallon AST located at the Emergency Fire Water Pump House, a 100-gallon double-walled tank integral with the Stack Blower Emergency Electrical Generator's diesel engine in the FPS/IXM Area, a 298-gallon double-walled tank integral with the HFPO Barricade Emergency Electrical Generator's diesel engine in the FPS/IXM Area, and a 500-gallon double-walled tank integral with the Thermal Oxidizer Unit's Emergency Electrical Generator's diesel engine. The site also operates a mobile refuel vehicle for diesel fuel that has a 100-gallon double-walled tank. When not in use this vehicle is stored on a curbed concrete pad. The site may also have on-site at any time up to approximately ten (10) portable rental generators. These generators each have a 100-gallon double-walled tank for diesel fuel. They may be used anywhere on site so they are not shown on the Facility Diagram (Figure 1).

New lubricating/hydraulic/refrigerant oil is used in oil-filled operating equipment, including the three Frick Refrigeration Units in the FPS/IXM Area, the two air compressors in the Power Area, and a hydraulic-driven filter press in the Thermal Oxidizer System Area. The new oil is stored in 5-gallon containers throughout the site. These containers are not subject to the SPCC regulations as they are less than the 55-gallon threshold for applicability. Occasionally new oil is received in 55-gallon drums for a specific maintenance activity, whereby the drums are delivered directly to the location of the equipment needing the oil and the oil is unloaded into the equipment in an expeditious manner. Since the drums are neither being stored at a specific location nor being stored for an extended period of time, they are not part of this SPCC Plan.

Used oil is stored in two 1,000-gallon double-walled tanks in the Construction PEO Shop Area, and various 55-gallon drums in the FPS/IXM and Construction Areas.

Flocculant 71300 is received and used from 275-gallon totes. The totes are stored in the Coagulant Building in the wastewater treatment plant ("WWTP") area on top of 389-gallon secondary containment pallets and in the WWTP Sludge Drying Building that has a secondary containment sump with a capacity of 319 gallons.

Twenty (20) oil-filled transformers with oil capacities greater than or equal to 55 gallons are in use at the facility. These transformers are located throughout the site. The transformers do not have specific ("sized") secondary containment, but all of them have general secondary containment by active measures. The transformers are located in areas where the most likely spill scenario, i.e. a slow weep of oil from a transformer, would result in a negligible discharge of oil before it would be discovered, corrected, and remediated.

5.5 OIL STORAGE CAPACITY: §112.7(a)(3)(i)

§112.7(a)(3)(i): You must also address in your Plan the type of oil in each container and its storage capacity;

A summary of the substances, containers, and container capacities applicable to this Plan is provided in Table 1. Although an oil-filled operational equipment is not considered a bulk storage container as defined by §112.2, the preamble of the new rule indicates that applicability criteria such as oil storage capacity and potential for a discharge location still apply and the prevention of discharges from such equipment still falls within the scope of the SPCC rule. Consequently, the type of oil and capacity of the oil filled equipment at the Fayetteville Works are included in the summary.

5.6 DISCHARGE PREVENTION MEASURES: §112.7(a)(3)(ii)

§112.7(a)(3)(ii): You must also address in your Plan discharge prevention measures including procedures for routine handling of products (loading, unloading, and facility transfers, etc.);

The Fayetteville Works relies on a number of measures to aid in the prevention of a discharge. Descriptions of these measures are provided below.

Loading/Unloading Procedures (See Attachment B):

1) Used oil is transferred to the two 1,000-gallon used oil storage tanks from drums
2) General Safety Procedure for Unloading from Tankers, ISO tanks and Cargo Trailers.

Oil-Containing Operational Equipment & Maintenance:

Routine maintenance of the oil-containing equipment is performed by trained personnel using drip-pans and other appropriate equipment (sorbent materials). If a spill should occur, the material is immediately recovered and containerized for ultimate off-site disposal. Oil-filled operational equipment at the site primarily utilizes sized secondary containment features, in addition to active management (i.e. sorbent materials) under the general secondary containment requirements (112.7(c)(1)(vii)) as noted in Table 1.

Mechanical Integrity Program:

The Fayetteville Works has a comprehensive Mechanical Integrity Program that consists of the following elements;

- Predictive Maintenance
- Preventive Maintenance
- Equipment History
- Equipment Testing
- Equipment Analysis
- Repair
- Training and performance
- Root Cause Failure Analysis
- Procedures (Standard Job Procedures)
- Maintenance, instrument and electrical, Reliability
- Material Verification
- Risked Based Inspection Evaluation (RBI)
- Instrument and Electrical Reliability Network (infrared)
- Identification of PSM critical equipment

- Storage tank management
- Ground water protection management

The elements of the program maintain the site's industrial equipment so that spills and leak are controlled or eliminated and maintain the site's controls measures in effective operating condition. A general discussion of the predictive and preventive maintenance programs is provided below.

The predictive maintenance objective is to conduct inspections to determine current equipment condition and detect potential impending failures prior to failure and to ensure mechanical integrity. The strategy is to identify all equipment that needs to be inspected, establish predictive inspections, identify performance limits, determine damage modes and conduct inspections. The predictive inspection testing tools are; ultrasonic thickness, visual, dye penetrant, acoustic emission, material verification, infrared, vibration, state inspection, internal visual, continuity of vessel liners, FRP visual oil analysis, X-ray, UT (shear wave) welds, hydrostatic evaluation, snoop/leak detection, and eddy current.

The preventive maintenance objective is to remove equipment from service prior to equipment reaching the end of its life, based on equipment history. The strategy is to establish predictive maintenance to remove equipment from service prior to failure based on equipment history. The scope of the programs includes 250 vessels, 90,000 feet of piping, and 248 pieces of rotating equipment.

The Mechanical Integrity Program elements are detailed in the site's Mechanical Integrity Manual.

5.7 DISCHARGE OR DRAINAGE CONTROLS: §112.7(a)(3)(iii)

§112.7(a)(3)(iii): You must also address in your Plan discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of a discharge;

Table 1 provides a summary of discharge or drainage controls such as general or specific secondary containment around containers and other structures. Figure 1 shows the drainage pattern for the plant. All stormwater runoff flows to Outfall 002 via open conveyance systems. Storm runoff for certain areas of the site is directed to the wastewater treatment plant due to the potential for contamination from process

materials. The following describe other procedures in practice at the facility to control oil discharges.

Potential spills occurring at the oil-containing ASTs and container storage areas, would be contained in their respective secondary containment areas. Accumulated liquids in the secondary containment areas would be visually inspected for the presence of oil prior to releasing the contents either onto the ground surface or into the process sewer. If oil is present in a secondary containment area, the accumulated oils would be removed, containerized, and transported off site for disposal.

Oil-filled operational equipment at the site either

- has sized secondary containment as noted on Table 1 or
- is a Qualified Oil-filled Operational Equipment per §112.7(k) and as such complies with the "Alternative Requirements to General Secondary Containment" provision of §112.7(k)(2). Additionally, the Qualified Oil-filled Operational Equipment would utilize active management (i.e. sorbent materials) under the general secondary containment requirements of §112.7(c)(1)(viii). Spill response supplies are located throughout the site, with the main inventory being at the Fire Station as noted on Figure 1.

Potential spills occurring at the twenty (20) oil-filled transformers would flow onto their specific concrete foundation pads, since most of the equipment has no secondary containment. The most likely release volume from these transformers is much less than one (1) gallon of oil from slow gasket/bushing weeps. All such releases from the transformers would generally remain in the area of the release.

Releases from other oil-filled equipment, including transfer stations, would generally remain on-site in the area of the release.

5.8 COUNTERMEASURES FOR DISCHARGE DISCOVERY, RESPONSE, AND CLEANUP: §112.7(a)(3)(iv)

§112.7(a)(3)(iv): You must also address in your Plan countermeasures for discharge discovery, response, and cleanup (both the facility's capability and those that might be required of a contractor);

The Fayetteville Works operates 24 hours/day, 365 days/year. All areas are patrolled during each 12-hour shift so an oil weep/leak would be promptly discovered. In

addition, formal monthly inspections of oil-filled equipment are conducted and any small weeps/leaks would be identified during these inspections as well.

In the event of a release, the facility has trained personnel and equipment available to contain and clean-up releases of oil and oil-like materials. On-site equipment and materials include a spill response truck, spill kits, shovels, and sorbent materials (booms, socks, pads, and loose granules) that would be used to dike, contain, and remove releases. The location of various spill control equipment at the facility is shown in Figure 1.

The Fayetteville Works has an Emergency Response Team ("ERT") trained to respond to releases. In addition, the individual areas have spill response procedures. See Attachment C for reference to the site and area response procedures.

5.9 RECOVERED MATERIALS DISPOSAL: §112.7(a)(3)(v)

§112.7(a)(3)(v): You must also address in your Plan methods of disposal of recovered materials in accordance with applicable legal requirements;

The final disposal of materials generated during oil spill response efforts will be addressed in accordance with all applicable local, state, and federal regulations under direction of site/area environmental personnel, as follows:

1. Contained oil will be pumped into appropriate containers by site personnel until final disposal can be accomplished. Recovered product will be disposed of by a commercial oil recycler/reclaimer or disposal facility. Soils will be placed in roll-off boxes or other containers for disposal. Contaminated soil will be transported to an approved disposal facility.

2. Contaminated equipment and materials will be decontaminated and cleaned when salvageable and reusable. Contaminated equipment and materials that are not salvageable and reusable will be disposed of in accordance with state and federal regulations.

3. Personal protective equipment will be disposed of in accordance with state and federal regulations.

4. Decontamination liquids will be stored in temporary storage and will be disposed of by a qualified recycler/reclaimer or disposal facility.

5. Sorbent materials will be disposed of off-site as appropriate.

6. Spent chemicals are not anticipated. If any are generated during the response efforts they will be characterized either by testing or by knowledge of the constituents. Depending on the character of the spent chemicals, they may be drummed and disposed of with other plant hazardous wastes or they may be disposed of with the recovered product.

5.10 CONTACT LIST AND NOTIFICATION PHONE NUMBERS: §112.7(a)(3)(vi)

§112.7(a)(3)(vi): You must also address in your Plan contact list and phone numbers for the facility response coordinator, National Response Center, cleanup contractors with whom you have an agreement for response, and all appropriate Federal, State, and local agencies who must be contacted in case of a discharge as described in §112.1(b).

The Emergency Telephone List is included as Table 2.

5.11 REPORTING AND NOTIFICATION PROCEDURES: §112.7(a)(4)

§112.7(a)(4): Unless you have submitted a response plan under §112.20, provide information and procedures in your Plan to enable a person reporting a discharge as described in §112.1(b) to relate information on the exact address or location and phone number of the facility; the date and time of the discharge, the type of material discharged; estimates of the total quantity discharged; estimates of the quantity discharged as described in §112.1(b); the source of the discharge; a description of all affected media; the cause of the discharge; any damages or injuries caused by the discharge; actions being used to stop, remove, and mitigate the effects of the discharge; whether an evacuation may be needed; and, the names of individuals and/or organizations who have also been contacted.

Fayetteville Works' Procedure ENV-1 (see Attachment C), insures rapid response to oil releases and required notification of Chemours personnel and proper regulatory (local, state, and federal) agencies. This procedure includes forms to list the information required to be provided during notification of appropriate authorities and agencies.

5.12 OIL SPILL RESPONSE PROCEDURES: §112.7(a)(5)

§112.7(a)(5): Unless you have submitted a response plan under §112.20, organize portions of the Plan describing procedures you will use when a discharge occurs in a way that will make them readily usable in an emergency, and include appropriate supporting material as appendices.

This Section contains response procedures required under §112.20 and are summarized below:

In the event of an oil spill at the facility, the following general response procedures will be followed:

1. Stop the source of the oil spill if it is safe to do so
    - Set the container upright or the leak side up
    - Stop the transfer
    - Obstruct flow of oil spill
    - Small spills: Use available absorbent materials
    - Large spills: Use absorbent materials to block building doorways for an oil spill within a building. Construct temporary berms or other barriers with available materials for an oil spill outdoors.
2. Isolate the oil spill from potential stormwater contact and verify no off-site release.
3. The prompt involvement of the Environment, Health, and Safety ("EHS") resources during off-hours may be needed for certain oil releases. An attempt should be made to relay incident information, as outlined in Section 5.11, to those on the contact list (see ENV-1 listed in Attachment C).

It is the responsibility of the area managers to investigate and communicate all chemical releases (see Attachment D). Specifically, the Area is responsible for:

1. Conducting a thorough and complete investigation of the spill;
2. Notifying proper authorities; and
3. Writing a clear and concise report within of the spill.

The Emergency Notification Phone List is included as Table 2.

Personnel are trained on applicable spill response procedures for their areas annually.

5.13 DISCHARGE ANALYSIS: §112.7(b)

§112.7(b): Where experience indicates a reasonable potential for equipment failure (such as loading or unloading equipment, tank overflow, rupture, or leakage, or any other equipment known to be a source of a discharge), include in your Plan a prediction of the direction, rate of flow, and total quantity of oil which could be discharged from the facility as a result of each type of major equipment failure.

Potential spill scenarios exist based upon the location of the stored materials. Table 1 summarizes each of these scenarios in terms of substance spilled, possible volume of spill, rate of spillage, direction of release, and containment capabilities.

Regarding the rate of flow, all oil bulk storage containers and oil-containing operational equipment have secondary containment features except for the following:

1. Power Area air compressors: Each compressor contains 65 gallons of oil. The likely discharge of this oil would be from a ruptured hydraulic hose, in which case the discharge flow would be expected to be high. In that scenario, the 65 gallons of oil would be expected to be discharge in a matter of minutes.
2. Electrical transformer substations: The most likely discharge of oil from a transformer would be less than one (1) gallon of oil from a slow gasket/bushing weep before it is discovered. In that scenario, it would be expected that the discharge rate would be no more than ounces of oil per day.

5.14 SPILL CONTAINMENT: §112.7(c)

§112.7(c): Provide appropriate containment and/or diversionary structures or equipment to prevent a discharge as described in § 112.1(b), except as provided in paragraph (k) of this section for qualified oil-filled operational equipment, and except as provided in § 112.9(d)(3) for flowlines and intra-facility gathering lines at an oil production facility. The entire containment system, including walls and floor, must be capable of containing oil and must be constructed so that any discharge from a primary containment system, such as a tank, will not escape the containment system before cleanup occurs. In determining the method, design, and capacity for secondary containment, you need only to address the typical failure mode, and the most likely quantity of oil that would be discharged. Secondary containment may be either active or passive in design. At a minimum, you must use one of the following prevention systems or its equivalent:

(1) For onshore facilities: (i) Dikes, berms, or retaining walls sufficiently impervious to contain oil; (ii) Curbing or drip pans; (iii) Sumps and collection systems; (iv)

Culverting, gutters, or other drainage systems; (v) Weirs, booms, or other barriers; (vi) Spill diversion ponds; (vii) Retention ponds; or (viii) Sorbent materials.

(2) For offshore facilities: (i) Curbing or drip pans; or (ii) Sumps and collection systems.

Table 1 provides a summary of facility containment systems. Section 5.7 describes the discharge prevention systems and procedures that are currently implemented at the facility.

The two air compressors located in the Power Area are qualified oil-filled operational equipment per §112.7(k)(1). In lieu of specific ("sized") secondary containment for the air compressors, the Fayetteville Works will comply with the "Alternative Requirements to General Secondary Containment" provision of §112.7(k)(2) as described in Section 5.22 of this Plan.

5.15 SPILL CONTAINMENT PRACTICABILITY: § 112.7(d)

§112.7(d): Provided your Plan is certified by a licensed Professional Engineer under §112.3(d), or, in the case of a qualified facility that meets the criteria in §112.3(g), the relevant sections of your Plan are certified by a licensed Professional Engineer under §112.6(d), if you determine that the installation of any of the structures or pieces of equipment listed in paragraphs (c) and (h)(1) of this section, and §§112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), and 112.12(c)(11) to prevent a discharge as described in §112.1(b) from any onshore or offshore facility is not practicable, you must clearly explain in your Plan why such measures are not practicable; for bulk storage containers, conduct both periodic integrity testing of the containers and periodic integrity and leak testing of the valves and piping; and, unless you have submitted a response plan under §112.20, provide in your Plan the following:

(1) An oil spill contingency plan following the provisions of part 109 of this chapter

(2) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

Except for the Emergency Fire Water Pump diesel engine's fuel storage tank and the Qualified Oil-filled Operational Equipment that is complying with the "Alternative Requirements to General Secondary Containment" per §112.7(k)(2), appropriate spill containment (either Specific or General) is currently in place for all equipment required to have it.

As discussed in Section 5.3, the Power Area's Emergency Fire Water Pump diesel engine's 500-gallon fuel storage tank has a secondary containment dike with a current capacity of 476 gallons. This does not comply with the requirement of Part 112.8(c)(2) that all bulk storage tanks be provided with a secondary means of containment for the entire capacity of the largest single container. Therefore, the required secondary containment capacity for this tank is a minimum of 500 gallons. The Fayetteville Works intends on increasing the capacity of this dike to be greater than 500 gallons in 2020.

The two air compressors located in the Power Area are qualified oil-filled operational equipment per §112.7(k)(1). In lieu of specific ("sized") secondary containment for the air compressors, Chemours will comply with the "Alternative Requirements to General Secondary Containment" provision of §112.7(k)(2) as described in Section 5.22 of this Plan.

5.16 INSPECTIONS, TESTS, AND RECORDS: § 112.7(e), § 112.8(c), § 112.8(d)

§112.7(e): Inspections, tests, and records. Conduct inspections and tests required by this part in accordance with written procedures that you or the certifying engineer develop for the facility. You must keep these written procedures and a record of the inspections and tests, signed by the appropriate supervisor or inspector, with the SPCC Plan for a period of three years. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.

§112.8(c)(6): Test or inspect each aboveground container for integrity on a regular schedule and whenever you make material repairs. You must determine, in accordance with industry standards, the appropriate qualifications for personnel performing tests and inspections, the frequency and type of testing and inspections, which take into account container size, configuration, and design (such as containers that are: shop-built, field-erected, skid-mounted, elevated, equipped with a liner, double-walled, or partially buried). Examples of these integrity tests include, but are not limited to: visual inspection, hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or other systems of non-destructive testing. You must keep comparison records and you must also inspect the container's supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices satisfy the recordkeeping requirements of this paragraph.

§112.8(d)(4): Regularly inspect all aboveground valves, piping, and appurtenances. During the inspection you must assess the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves,

and metal surfaces. You must also conduct integrity and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement.

Oil Bulk Storage Containers

Oil aboveground storage tanks ("AST") are subjected to monthly visual inspections as detailed on the SPCC equipment inspection forms included in Attachment E. Monthly inspections include observations for tank, valve, and line conditions, dike or wall conditions, tank foundation/support conditions, leak or spill evidence, and overhead pipe and support conditions.

Oil ASTs are subject to periodic integrity testing as noted in Attachment F. The type of integrity testing of the tanks follows the appropriate industry standard for each tank. The Site's Mechanical Integrity Quality Assurance Inspector is responsible for performing this testing and maintaining the records.

Oil storage containers (i.e. 55-gallon drums and 275-gallon totes) are also inspected monthly as are oil-filled operational and portable equipment, and transfer areas. Records of these inspections are recorded simultaneously and kept in the Fayetteville Works' environmental central files. The responsible person for maintaining these files is the Site Environmental Manager. All 55-gallon drums are kept on either containment pallets, wooden pallets, drum dollies or spill dollies such that a leak from the drum bottom can be detected quickly.

All aboveground valves and pipelines are inspected monthly by operating personnel at which time the general conditions of items such as flange joints, expansion joints, valve glands and bodies, pipeline supports, and metal surfaces are assessed. Records of these inspections are also kept in the Fayetteville Works' environmental central files by the Site Environmental Manager for a period of three (3) years.

Oil Storage Secondary Containment

All oil storage secondary containment features ("dikes") are inspected monthly in accordance with the SPCC equipment inspection forms included as Attachment E. Monthly inspections include visually assessing the integrity of the walls, floor, seals, pipelines, and related appurtenances. The position of each drain valve is confirmed to be in the closed position for those dikes with valves. These inspections records are kept in the Fayetteville Works' environmental central files by the Site Environmental Manager for a period of three (3) years.

All outdoor tank dikes must be emptied of accumulated stormwater periodically. The dikes are emptied by either gravity draining or pumping. Prior to emptying a dike, the liquid is visually inspected for the presence of oil. If no oil or sheen is apparent, the dike may be emptied of the uncontaminated stormwater. If oil or sheen is present, the oil is removed and containerized for off-site disposal. Records of the stormwater inspections and releases are kept in the respective area files for a period of three (3) years.

Electrical Transformers

The site's twenty (20) oil-filled transformers are inspected monthly in accordance with the SPCC equipment inspection forms included as Attachment E. Observations of the transformers include leaking or the presence of water. These inspections records are kept in the Fayetteville Works' environmental central files by the Site Environmental Manager for a period of three (3) years.

Liquid Level Sensing Devices

The liquid level sensing device for the No. 2 Fuel Oil Storage Tank is calibrated annually. Records of these calibrations are maintained by the Power Mechanical Facilitator electronically in the SAP electronic data historian. The GX-901 storage tank is on weigh scales that are calibrated quarterly. The Site Engineering Group Contract Administrator maintains the paper copies of these calibration records. All other oil storage tanks use visual gauges to monitor tank levels and operating personnel are present during all filling operations for these tanks.

5.17 PERSONNEL TRAINING AND DISCHARGE PREVENTION PROCEDURES: §112.7(f)

§112.7(f): Personnel, training, and discharge prevention procedures.

(1) At a minimum, train your oil-handling personnel in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and, the contents of the facility SPCC Plan.

(2) Designate a person at each applicable facility who is accountable for discharge prevention and who reports to facility management.

(3) Schedule and conduct discharge prevention briefings for your oil-handling personnel at least once a year to assure adequate understanding of the SPCC Plan for that facility. Such briefings must highlight and describe known discharges as

described in §112.1(b) or failures, malfunctioning components, and any recently developed precautionary measures.

The area managers are accountable for oil spill prevention in their respective areas.

The FPS Fluoromonomers operations personnel and ERT members are required to take comprehensive spill prevention and response training. ERT members also must take HAZWOPER initial and refresher training. Power Area employees, ERT members, PPA Area employees that handle GX-901, and WWTP Area employees that handle Nalco 71300 Flocculant are required to take the SPCC Awareness training annually. All of the training records discussed above are maintained by the Chemours Training Team.

5.18 SECURITY: §112.7(g)

§112.7(g): Security (excluding oil production facilities).

(1) Fully fence each facility handling, processing, or storing oil, and lock and/or guard entrance gates when the facility is not in production or is unattended.

(2) Ensure that the master flow and drain valves and any other valves permitting direct outward flow of the container's contents to the surface have adequate security measures so that they remain in the closed position when in non-operating or non-standby status.

(3) Lock the starter control on each oil pump in the "off" position and locate it at a site accessible only to authorized personnel when the pump is in a non- operating or non-standby status.

(4) Securely cap or blank-flange the loading/unloading connections of oil pipelines or facility piping when not in service or when in standby service for an extended time. This security practice also applies to piping that is emptied of liquid content either by draining or by inert gas pressure.

(5) Provide facility lighting commensurate with the type and location of the facility that will assist in the: (i) Discovery of discharges occurring during hours of darkness, both by operating personnel, if present, and by non-operating personnel (the general public, local police, etc.); and (ii)Prevention of discharges occurring through acts of vandalism.

The Fayetteville Works' manufacturing and utility facilities are operated with 24-hour per day employee coverage, seven days per week throughout the year. In the unusual

case when all or part of the facilities are shut down, security and fire watch is maintained. In addition to the employee force, a contracted security force is maintained on the plant at all times. This security force is under the supervision of the Captain of Security and the facility's Security Supervisor. The security force also makes routine patrols of the perimeter of the security barrier several times each day. The active portions of the facility are also illuminated by a system of outside lighting.

The active portion of the Fayetteville Works facility is completely surrounded by a security barrier. The barrier is comprised of a six-foot high chain link fence topped with three strands of barbed wire. The chain link fence is constructed of 1/8-inch diameter galvanized steel wire supported every ten feet by 2-inch diameter galvanized steel poles. The barrier includes an intrusion detection system that detects local vibration of the fence and alarms the security force. A system of pan/tilt/zoom (PTZ) cameras are positioned to monitor all sections of the security barrier surrounding the active portion of the facility. Access through this barrier is allowed only through personnel and vehicular gates.

Access through the security barrier is allowed only through personnel and vehicular gates. Pedestrian entry is controlled via automatic locking card access doors and turnstiles that are unlocked by a magnetic keyed pass card. These pedestrian entry barriers are located in numerous locations around the facility. Contractors performing work at the site are issued pass cards following a safety and security orientation. Their movement and activities are controlled by the on-site contract administration personnel. Visitors to the site are issued pass cards and are escorted by facility employees during the visitor's stay at the facility.

The security force controls vehicular entry onto the active portion of the facility via two normally closed security gates. Vehicles are allowed entry to the site only if the driver has approved authorization from either The Chemours Company, the DuPont Company or the Kuraray America Company. Vehicles of contractors, common carriers, and vendors are admitted when warranted for transporting tools, equipment or personnel and for delivery or pick up of material.

Warning signs stating "Danger - Unauthorized Persons Keep Out" are posted at each entry point into the active portion of the facility. The signs are legible from a distance of at least 25 feet.

All oil storage pumping facilities and transfer piping are inside of the site-fenced area. Gates are locked after each vehicle use and/or controlled by facility personnel 24 hours per day, 365 days per year.

All drain valves and any other valve which permits outflow of oil to the ground surface are securely kept in a closed position. Controls for feed pumps either are locked in the "off" position or located in an area accessible only to authorized personnel when not in use or on non-operating or non-standby status. The unloading connections of oil pipelines are securely capped or blank-flanged when not in service or when in standby status for an extended period of time. This security practice also applies to pipelines that are emptied of oil content either by draining or by inert gas pressure.

The facility has adequate lighting to illuminate the oil facility areas to allow the discovery of discharges occurring in hours of darkness. Acts of unauthorized nocturnal activity will also be illuminated should these occur.

5.19 FACILITY TANK CAR AND TANK TRUCK LOADING/UNLOADING RACKS: §112.7(h)

§112.7(h): Facility tank car and tank truck loading/unloading rack (excluding offshore facilities).

(1) Where loading/unloading area drainage does not flow into a catchment basin or treatment facility designed to handle discharges, use a quick drainage system for tank car or tank truck loading and unloading areas. You must design any containment system to hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility.

(2) Provide an interlocked warning light or physical barrier system, warning signs, wheel chocks, or vehicle break interlock system in loading/unloading areas to prevent vehicles from departing before complete disconnection of flexible or fixed oil transfer lines.

(3) Prior to filling and departure of any tank car or tank truck, closely inspect for discharges the lowermost drain and all outlets of such vehicles, and if necessary, ensure that they are tightened, adjusted, or replaced to prevent liquid discharge while in transit.

The Fayetteville Works has no loading/unloading racks as defined by the SPCC regulations, therefore the requirements of §112.7(h) do not apply.

5.20 BRITTLE FRACTURE ANALYSIS: §112.7(i)

§112.7(i): If a field-constructed aboveground container undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe, or has discharged oil or failed due to brittle fracture failure or other catastrophe, evaluate the container for risk of discharge or failure due to brittle fracture or other catastrophe, and as necessary, take appropriate action.

The Fayetteville Works will conduct this evaluation as required.

5.21 APPLICABLE REQUIREMENTS: §112.7(j)

§112.7(j): In addition to the minimal prevention standards listed under this section, include in your Plan a complete discussion of conformance with the applicable requirements and other effective discharge prevention and containment procedures listed in this part or any applicable more stringent State rules, regulations, and guidelines.

Sections 5 and 6 of this Plan provide detailed discussions of conformance with the applicable requirements and other effective discharge prevention methods used at the facility. The NCDEQ defers to the Federal SPCC requirements.

5.22 QUALIFIED OIL-FILLED OPERATIONAL EQUIPMENT: §112.7(k)

§112.7(k): Qualified Oil-filled Operational Equipment. The owner or operator of a facility with oil-filled operational equipment that meets the qualification criteria in paragraph (k)(1) of this sub-section may choose to implement for this qualified oil-filled operational equipment the alternate requirements as described in paragraph (k)(2) of this sub-section in lieu of general secondary containment required in paragraph (c) of this section.

(1) Qualification Criteria—Reportable Discharge History: The owner or operator of a facility that has had no single discharge as described in §112.1(b) from any oil-filled operational equipment exceeding 1,000 U.S. gallons or no two discharges as described in §112.1(b) from any oil-filled operational equipment each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan certification date, or since becoming subject to this part if the facility has been in operation for less than three years (other than oil discharges as described in §112.1(b) that are the result of natural disasters, acts of war or terrorism); and

(2) Alternative Requirements to General Secondary Containment. If secondary containment is not provided for qualified oil-filled operational equipment pursuant

to paragraph (c) of this section, the owner or operator of a facility with qualified oil-filled operational equipment must:

i. Establish and document the facility procedures for inspections or a monitoring program to detect equipment failure and/or a discharge; and

ii. Unless you have submitted a response plan under §112.20, provide in your Plan the following:

(A) An oil spill contingency plan following the provisions of part 109 of this chapter.

(B) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

The two air compressors located in the Power Area are oil-filled operational equipment. These pieces of equipment are located outdoors and do not include secondary containment. Chemours has had no single discharge as described in §112.1(b) from any oil-filled operational equipment exceeding 1,000 U.S. gallons or no two discharges as described in §112.1(b) from any oil-filled operational equipment each exceeding 42 U.S. gallons within any twelve-month period in the three years prior to the SPCC Plan certification date. As such, the two air compressors are Qualified Oil-filled Operational Equipment per §112.7(k).

In lieu of specific ("sized") secondary containment for the two original air compressors located in the Power Area, Chemours will comply with the "Alternative Requirements to General Secondary Containment" provision of §112.7(k)(2).

Pursuant to §112.7(k)(2)(i), this Plan establishes a facility procedure for inspections to detect equipment failure and/or a discharge. Chemours will perform monthly inspections of all oil-filled operational equipment subject to the SPCC rule. The inspection forms are provided in Attachment E.

Pursuant to §112.7(k)(2)(ii)(A), provided in this Plan is an oil spill contingency plan that follows the provisions of 40 CFR Part 109. The oil spill contingency plan is provided in Attachment G.

Pursuant to §112.7(k)(2)(ii)(B), provided in this Plan is a written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful. The written commitment is provided in Attachment H.

6.0 SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN REQUIREMENTS FOR ONSHORE FACILITIES (EXCLUDING PRODUCTION FACILITIES): § 112.8

§112.8(a): If you are the owner or operator of an onshore facility (excluding a production facility), you must meet the general requirements for the Plan listed under §112.7, and the specific discharge prevention and containment procedures listed in this section.

As previously indicated in Section 5.3, this SPCC Plan conforms to the requirements of CFR 40 §112.7. Section 6 of this Plan presents facility-specific details associated with the requirements for onshore non-production facilities as outlined in §112.8.

6.1 FACILITY DRAINAGE: §112.8(b)

§112.8(b)(1): If you are the owner or operator of an onshore facility (excluding a production facility), you must restrain drainage from diked storage areas by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. You may empty diked areas by pumps or ejectors; however, you must manually activate these pumps or ejectors and must inspect the condition of the accumulation before starting, to ensure no oil will be discharged.

Section 5.7 addresses discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of a discharge. Table 1 provides a summary of discharge or drainage controls such as specific or general secondary containment for containers and other structures. Figure 1 shows the stormwater drainage patterns for the site.

Per Section 5.7, potential spills occurring at all oil containing ASTs would be contained in their respective secondary containment areas either by valves or be required to be pumped out. Accumulated liquids in the secondary containment areas would be visually inspected for the presence of oil prior to releasing the contents either onto the ground surface or into the process sewer. If oil is present in a secondary containment area, the accumulated oils would be removed, treated, and disposed.

§112.8(b)(2): If you are the owner or operator of an onshore facility (excluding a production facility), you must use valves of manual, open-and- closed design, for the drainage of diked areas. You may not use flapper-type drain valves to drain diked areas. If your facility drainage drains directly into a watercourse and not into an on-site

wastewater treatment plant, you must inspect and may drain uncontaminated retained stormwater, as provided in paragraphs (c)(3)(ii), (iii), and (iv) of this section.

Only valves of manual, open-and-closed design are in use at the facility for the drainage of diked areas. Per the previous section, accumulated liquids in secondary containment areas are visually inspected for the presence of oil prior to releasing the contents either onto the ground surface or into the process sewer. If oil is present in a secondary containment area, the accumulated oils would be removed, treated, and disposed, accordingly.

§112.8(b)(3): If you are the owner or operator of an onshore facility (excluding a production facility), you must design facility drainage systems from undiked areas with a potential for a discharge (such as where piping is located outside containment walls or where tank truck discharges may occur outside the loading area) to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility. You must not locate catchment basins in areas subject to periodic flooding.

The Fayetteville Works has no facility drainage systems from undiked areas with a potential for a discharge to flow into ponds, lagoons or catchment basins. Therefore, the requirements of §112.8(b)(3) are not applicable to the Fayetteville Works.

§112.8(b)(4): If facility drainage is not engineered as in paragraph (b)(3) of this section, [you must] equip the final discharge of all ditches inside the facility with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.

The Fayetteville Works has no facility drainage systems from undiked areas with a potential for a discharge to flow into ponds, lagoons or catchment basins, therefore the requirements of §112.8(b)(4) do not apply.

§112.8(b)(5): Where drainage waters are treated in more than one treatment unit and such treatment is continuous, and pump transfer is needed, [you must] provide two "lift" pumps and permanently install at least one of the pumps. Whatever techniques you use, you must engineer facility drainage systems to prevent a discharge as described in §112.1(b) in case there is an equipment failure or human error at the facility.

The Fayetteville Works has no oil-containing drainage waters that are treated in a wastewater treatment system, therefore the requirements of §112.8(b)(5) do not apply.

6.2 BULK STORAGE CONTAINERS: §112.8(c)

Because oil-filled electrical and operating equipment are not considered bulk storage containers as defined by §112.2, the containers at the Fayetteville Works subject to the requirements of §112.8(c) are limited to the above-ground No. 2 fuel oil storage tank, Emergency Fire Water Pump Engine diesel fuel storage tank, GX-901 tank, two used oil tanks, portable 275-gallon Nalco 71300 Flocculant totes, and portable 55-gallon drums, as shown in Table 1. The facility-specific details associated with the requirements of §112.8(c) are presented below.

§112.8(c)(1): If you are the owner or operator of an onshore facility (excluding a production facility), you must not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature.

The products stored at the Fayetteville Works with their storage conditions (temperature and pressure) are compatible with the materials of which the storage containers and containment structures are constructed.

§112.8(c)(2): If you are the owner or operator of an onshore facility (excluding a production facility), you must construct all bulk storage tank installations (except mobile refuelers and other non-transportation-related tank trucks) so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must ensure that diked areas are sufficiently impervious to contain discharged oil. Dikes, containment curbs, and pits are commonly employed for this purpose. You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond.

Secondary containment in place for bulk storage containers is discussed in Section 5.7 and in Table 1. These secondary containment units would provide containment of a potential oil spill from their respective bulk storage container(s) at the facility.

The Emergency Fire Water Pump Engine diesel fuel storage tank's secondary containment feature is undersized, and has a containment capacity of 476 gallons versus the 500-gallon capacity of the diesel storage tank. A modification has been proposed to increase the height of the containment dike wall by approximately four (4) inches, which would increase the containment capacity to 560 gallons. The Fayetteville Works will have a physical modification to increase the capacity of this secondary containment feature completed in 2020.

§112.8(c)(3): If you are the owner or operator of an onshore facility (excluding a production facility), you must not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open watercourse, lake, or pond, bypassing the facility treatment system unless you: (i) normally keep the bypass valve sealed closed; (ii) inspect the retained rainwater to ensure that its presence will not cause a discharge as described in §112.1(b); (iii) open the bypass valve and reseal it following drainage under responsible supervision; and (iv) keep adequate records of such events, for example, any records required under permits issued in accordance with §§122.41(j)(2) and 122.41(m)(3) of this chapter.

The drainage of uncontaminated stormwater from a secondary containment feature is either directly onto the ground surface or into a process wastewater sewer. Secondary containment features are emptied of accumulated stormwater either via gravity draining through a manually operated block valve, or via a pump that is manually activated. No stormwater is released from a secondary containment feature unless it is visually inspected and determined to be free of any oil sheen or other indication of the presence of an oil. After the secondary containment feature is emptied of uncontaminated stormwater, either the manual valve is closed or the discharge pump is turned off by personnel trained to perform that task. The Power Area documents the inspection of the No. 2 Fuel Oil Storage Tank's secondary containment and the Thermal Oxidizer Area CaF2 Dike's secondary containment and the discharge of uncontaminated stormwater from those secondary containment features. The Chemours NPDES Wastewater Discharge Permit does not require the facility to record instances of draining oil-related secondary containment features. The NPDES Permit does authorize Chemours to discharge stormwater through both Chemours Outfalls 001 and 002, and the permit has an Oil & Grease monitoring requirement at the Chemours Outfall 001.

§112.8(c)(4): If you are the owner or operator of an onshore facility (excluding a production facility), you must protect any completely buried metallic storage tank installed on or after January 10, 1974 from corrosion by coatings or cathodic protection compatible with local soil conditions. You must regularly leak test such completely buried metallic storage tanks.

The Fayetteville Works has no known buried oil storage tanks as addressed by this SPCC Plan, therefore the requirements of §112.8(c)(4) do not apply.

§112.8(c)(5): If you are the owner or operator of an onshore facility (excluding a production facility), you must not use partially buried or bunkered metallic tanks for the storage of oil, unless you protect the buried section of the tank from corrosion. You must

protect partially buried and bunkered tanks from corrosion by coatings or cathodic protection compatible with local soil conditions.

The Fayetteville Works has no known partially buried or bunkered metal storage tanks as addressed by this SPCC Plan, therefore the requirements of §112.8(c)(5) do not apply.

§112.8(c)(6): If you are the owner or operator of an onshore facility (excluding a production facility), you must test or inspect each aboveground container for integrity on a regular schedule and whenever you make material repairs. You must determine, in accordance with industry standards, the appropriate qualifications for personnel performing tests and inspections, the frequency and type of testing and inspections, which take into account container size, configuration, and design (such as containers that are: shop-built, field-erected, skid-mounted, elevated, equipped with a liner, double-walled, or partially buried). Examples of these integrity tests include, but are not limited to: visual inspection, hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or other systems of non-destructive testing. You must keep comparison records and you must also inspect the container's supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices satisfy the recordkeeping requirements of this paragraph.

Integrity testing of tanks and containers is discussed in Section 5.16 and Attachment F.

Oil storage ASTs are subject to periodic integrity testing as noted in Attachment F. The type of integrity testing of the tanks follows the appropriate industry standard for each tank. The Site's Mechanical Integrity Quality Assurance Inspector is responsible for performing this testing and maintaining the records.

Although a method of physical integrity testing is required in conjunction with visual inspection, the EPA "Bulk Storage Container Inspection Fact Sheet" (August 2013) states:

> "Industry standards (such as STI SP001) refer to specific conditions for which visual inspection alone is an appropriate method for verifying the integrity of certain smaller shop-built containers (e.g., portable containers such as drums and totes). These conditions include container type, size, and configuration (such as whether the container is in contact with the ground or has appropriate secondary containment). For example, according to STI SP001, when portable containers have adequate secondary containment then visual inspection of these containers is acceptable and will satisfy the integrity testing requirements of the rule."

"A baseline determination of metal thickness of a portable container is not required prior to implementing the visual-only integrity testing inspection protocol."

Consequently, integrity testing of 55-gallon oil storage drums and 275-gallon totes will be limited to visual inspection. These containers are staged on secondary containment pallets, wooden pallets, spill dollies or other dollies such that the bottom of the container is not on the ground and are visually examined on a routine basis (cursory inspections) and monthly basis (written inspection procedures) for signs of deterioration or leaks. Furthermore, these portable containers are temporary and are frequently replaced.

§112.8(c)(7): If you are the owner or operator of an onshore facility (excluding a production facility), you must control leakage through defective internal heating coils by monitoring the steam return and exhaust lines for contamination from internal heating coils that discharge into an open watercourse, or pass the steam return or exhaust lines through a settling tank, skimmer, or other separation or retention system.

The Fayetteville Works has no oil storage tanks with internal heating coils as addressed by this SPCC Plan, therefore the requirements of §112.8(c)(7) do not apply.

§112.8(c)(8): If you are the owner or operator of an onshore facility (excluding a production facility), you must engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices: (i) High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities an audible air vent may suffice; (ii) High liquid level pump cutoff devices set to stop flow at a predetermined container content level; (iii) Direct audible or code signal communication between the container gauger and the pumping station; (iv) A fast response system for determining the liquid level of each bulk storage container such as digital computers, telepulse, or direct vision gauges. If you use this alternative, a person must be present to monitor gauges and the overall filling of bulk storage containers.

The following are in effect where applicable for bulk oil containers at this site:

- #2 Fuel Oil Tank: Monitored liquid level gauge with a high-level alarm and interlock
- Emergency Fire Water Pump Engine Diesel Fuel Storage Tank: Visually monitored liquid level gauge
- GX-901 Tank: Monitored tank weigh via weigh cells
- Used Oil Tanks: Visually monitored liquid level gauges

- Diesel Fuel Tanks: Monitored liquid level gauge
- Nalco 71300 Tote: Tote is replaced, not filled

§112.8(c)(9): If you are the owner or operator of an onshore facility (excluding a production facility), you must observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in §112.1(b).

The Plant wastewater going to the wastewater treatment facility has facilities to collect oil and hold it within the site boundaries. The wastewater treatment facility is manned 24 hours per day, 365 days per year. The facility has the ability to stop the final effluent flow to the Cape Fear River by manually closing a gate valve at Outfall 002.

§112.8(c)(10): If you are the owner or operator of an onshore facility (excluding a production facility), you must promptly correct visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts. You must promptly remove any accumulations of oil in diked areas.

Any oil leak that will result in a loss of oil from tank seams, gaskets, rivets or bolts to cause the accumulation of oil in a dike area will be promptly corrected. Any accumulated oil in diked areas will be promptly removed and disposed of off-site.

§112.8(c)(11): If you are the owner or operator of an onshore facility (excluding a production facility), you must position or locate mobile or portable oil storage containers to prevent a discharge as described in §112.1(b). Except for mobile refuelers and other non-transportation-related tank trucks, you must furnish a secondary means of containment, such as a dike or catchment basin, sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.

Portable oil storage container storage areas are described in Section 5.4.

Used oil drum storage areas provide sufficient secondary containment per regulatory requirements either by being stored on spill containment pallets.

New oil is stored in 5-gallon containers throughout the site. These containers are not subject to the SPCC regulations as they are less than the 55-gallon threshold for applicability. Occasionally new oil is received in 55-gallon drums for a specific maintenance activity, whereby the drums are delivered directly to the location of the equipment needing the oil and the oil is unloaded into the equipment in an expeditious

manner. Since the 55-gallon drums are neither being stored at a specific location nor being stored for an extended period of time, those drums are not part of this SPCC Plan.

6.3 FACILITY TRANSFER OPERATIONS, PUMPING, AND IN-PLANT PROCESS: §112.8(d)

§112.8(d)(1): Provide buried piping that is installed or replaced on or after August 16, 2002, with a protective wrapping and coating. You must also cathodically protect such buried piping installations or otherwise satisfy the corrosion protection standards for piping in part 280 of this chapter or a State program approved under part 281 of this chapter. If a section of buried line is exposed for any reason, you must carefully inspect it for deterioration. If you find corrosion damage, you must undertake additional examination and corrective action as indicated by the magnitude of the damage.

No underground oil transfer lines have been installed or replaced on or after August 16, 2002, at the facility.

§112.8(d)(2): Cap or blank-flange the terminal connection at the transfer point and mark it as to origin when piping is not in service or is in standby service for an extended time.

When an oil pipeline is not in service for an extended period of time, the tank connections at the transfer point are capped or blank-flanged and marked as to the origin.

§112.8(d)(3): Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.

Oil pipe supports are properly designed to allow for expansion and contraction, and to minimize abrasion and corrosion.

§112.8(d)(4): Regularly inspect all aboveground valves, piping, and appurtenances. During the inspection you must assess the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. You must also conduct integrity and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement.

All above ground valves and pipelines are routinely examined by operating personnel as part of normal operations at which time the general conditions of items such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces are assessed. This equipment is also specifically inspected

monthly as discussed in Section 5.16 with the records being kept as noted in that Section.

§112.8(d)(5): Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.

Vehicular traffic granted entry onto the Site is cautioned by appropriate signs to be sure that the vehicle, because of its size, will not endanger above ground piping.

7.0 REQUIREMENTS FOR ONSHORE OIL PRODUCTION FACILITIES: § 112.9

The Fayetteville Works is not an onshore oil production facility, therefore the requirements of in §112.9 do not apply.

8.0 REQUIREMENTS FOR ONSHORE OIL DRILLING AND WORKOVER FACILITIES: § 112.10

The Fayetteville Works is not an onshore oil drilling or workover facility, therefore the requirements of provisions in §112.10 do not apply

9.0 REQUIREMENTS FOR OFFSHORE OIL DRILLING, PRODUCTION, AND WORKOVER FACILITIES: § 112.11

The Fayetteville Works is not an offshore oil drilling, production, or workover facility, therefore the requirements of §112.11 do not apply.

10.0 REQUIREMENTS FOR ANIMAL FATS AND OILS AND GREASES, AND FISH AND MARINE MAMMAL OILS; AND FOR VEGETABLE OILS, INCLUDING OILS FROM SEEDS, NUTS, FRUITS, AND KERNELS: § 112.12-15

The Fayetteville Works does not currently use or store animal fats, oils or greases, fish or marine mammal oils, or any vegetable oils, therefore the requirements of §112.12 through §112.15 do not apply.

Table 1

Types of Products Stored & Potential Storage Volume

Fayetteville SPCC Oil Equipment Table.xls

Table 2

Emergency Telephone List

See: Fayetteville Works Emergency Procedures Menu
Emergency Phone List [active link in Menu]
Emergency Manual Section A-1
Procedure No.: A-1
Procedure Title: Emergency Phone List

Figure 1

Facility Diagram

Facility%20Diagram.
docx

Figure 2

Topographic Map

Figure 2
Topographic Map Fay

ATTACHMENT A

Substantial Harm Checklist

Substantial Harm
Criteria - 2019.pdf

ATTACHMENT B

Unloading Procedures References

Refer to:

General Safety Procedure No. 76 (GSP 76)
Chemical Tanker, ISO and Cargo Trailer Loading and Unloading

ATTACHMENT C

Site Spill Response Procedures References

Refer to:

Environmental Release Reporting Requirements
See Environmental Procedure ENV-1

FPS/IXM Spill Collection & Cleanup Procedure
See FPS/IXM Area Procedure NS-16

PPA Area Spill Control Procedure
See PPA Area Procedure PPA 9.4

ERT Spill & Fume Release Response Procedures
See Emergency Procedures Section B-5

ATTACHMENT D

Reporting and Investigating Incidents Procedure

Refer to:

Reporting & Investigating Incidents
See General Safety Procedure GSP 2

ATTACHMENT E

Oil Equipment Inspection Forms

Fayetteville SPCC
Monthly Inspection Fo

ATTACHMENT F

Tank Integrity Testing

Fayetteville Oil Tank
Integrity Testing.xls

ATTACHMENT G

Oil Spill Contingency Plan

Oil Spill Contingency Plan follows this page

APPENDIX G

Oil Spill Contingency Plan

[§112.7(k)(2)(ii)(A)]

Alternative Requirements to General Secondary Containment for Qualified Oil-filled Operational Equipment

40 CFR 112.7(k): Qualified Oil-filled Operational Equipment. The owner or operator of a facility with oil-filled operational equipment that meets the qualification criteria in paragraph (k)(1) of this sub-section may choose to implement for this qualified oil-filled operational equipment the alternate requirements as described in paragraph (k)(2) of this sub-section in lieu of general secondary containment required in paragraph (c) of this section.

(1) Qualification Criteria—Reportable Discharge History: The owner or operator of a facility that has had no single discharge as described in §112.1(b) from any oil-filled operational equipment exceeding 1,000 U.S. gallons or no two discharges as described in §112.1(b) from any oil-filled operational equipment each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan certification date, or since becoming subject to this part if the facility has been in operation for less than three years (other than oil discharges as described in §112.1(b) that are the result of natural disasters, acts of war or terrorism).

The Chemours Company - Fayetteville Works ("Chemours") operates two air compressors located in the Power Area are oil-filled operational equipment, with each containing 65 gallons of lubrication oil. These pieces of equipment are located outdoors and do not include secondary containment.

Chemours's oil-filled operational equipment with the largest oil capacity are the three (3) Frick refrigeration chillers located in the FPS/IXM Area, each of which contain 220 gallons of oil. Therefore, it is physically impossible for there to be a single discharge from any oil-filled operational equipment exceeding 1,000 U.S. gallons of oil.

Chemours has not had a single discharge from any oil-filled operational equipment exceeding 42 U.S. gallons within any twelve-month period in the three years prior to the SPCC Plan certification date.

Therefore, the two air compressors located in the Power Area satisfy the qualification criteria for Qualified Oil-filled Operational Equipment per §112.7(k)(1).

(2) Alternative Requirements to General Secondary Containment. If secondary containment is not provided for qualified oil-filled operational equipment pursuant to paragraph (c) of this

APPENDIX G

Oil Spill Contingency Plan

[§112.7(k)(2)(ii)(A)]

section, the owner or operator of a facility with qualified oil-filled operational equipment must:

i. Establish and document the facility procedures for inspections or a monitoring program to detect equipment failure and/or a discharge; and

ii. Unless you have submitted a response plan under §112.20, provide in your Plan the following:

(A) An oil spill contingency plan following the provisions of part 109 of this chapter.

(B) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

Pursuant to §112.7(k)(2), if secondary containment is not provided for qualified oil-filled operational equipment, the owner or operator of a facility with qualified oil-filled operational equipment must provide in the SPCC Plan an oil spill contingency plan following the provisions of 40 CFR Part 109.

The elements of the oil spill contingency plan are outlined in §109.5. The Chemours oil spill contingency plan is presented in the sequence of the published federal regulations as of November 2019. The exact wording of the regulation is provided in italics, followed by an explanation of how the requirements have been addressed and satisfied by the facility.

Purpose and Scope

This Oil Spill Contingency Plan ("Contingency Plan") is prepared in accordance with 40 CFR 112.7(k) to address the Chemours qualified oil-filled operational equipment that do not have the secondary containment and/or diversionary structures or equipment specified by §112.7(c), as is documented in the Chemours Spill Prevention, Control, and Countermeasure ("SPCC") Plan.

The purpose of this Contingency Plan is to define procedures and tactics for responding to discharges of oil into navigable waters of the United States. The Contingency Plan is implemented whenever a discharge of oil has reached, or threatens, navigable waters, which for Chemours is the Cape Fear River.

APPENDIX G

Oil Spill Contingency Plan

[§112.7(k)(2)(ii)(A)]

The objective of procedures described in this Contingency Plan is to protect the public, Chemours personnel, and other responders during oil discharges. In addition, the plan is intended to minimize damage to the environment, natural resources, and facility installations from a discharge of oil. This Contingency Plan complements the prevention and control measures presented in the Chemours SPCC Plan by addressing the qualified oil-filled operational equipment that do not have secondary containment in place.

This Oil Spill Contingency Plan follows the content and organization of 40 CFR part 109 and describes the distribution of responsibilities and basic procedures for responding to an oil discharge and performing cleanup operations

§109.5: Development and implementation criteria for State, local and regional oil removal contingency plans.

§109.5(a): Definition of the authorities, responsibilities and duties of all persons, organizations or agencies which are to be involved or could be involved in planning or directing oil removal operations, with particular care to clearly define the authorities, responsibilities and duties of State and local governmental agencies to avoid unnecessary duplication of contingency planning activities and to minimize the potential for conflict and confusion that could be generated in an emergency situation as a result of such duplications.

The Chemours facility in manned continuously 24 hours per day, 365 days per year.

Chemours has the primary responsibility for providing the initial response to oil discharge incidents originating from its Fayetteville NC facility. Should an oil release, the Chemours's Emergency Response Team ("ERT") would be summoned and would contain the oil with absorbent materials and other equipment from the onsite supplies. The ERT would initiate the cleanup of the oil using oil absorbents, and would place the absorbed oil into containers for off-site disposal. If the remediation of the oil release is beyond the capability of the ERT, then the Construction responders would be utilized to remove the oil. Should the remediation of the oil release be beyond the capability of site personnel, Chemours would summon Contaminant Control by calling (910) 484-7000. Contaminant Control is an approved vendor of Chemours for emergency response and hazardous materials containment and cleanup.

In the event of an oil that cannot be completely contained and removed by site personnel and that has the potential for any amount of oil to reach any surface water, Chemours will immediately contact the following within fifteen (15) minutes of the discovery of the oil

APPENDIX G

Oil Spill Contingency Plan

[§112.7(k)(2)(ii)(A)]

discharge:

1) National Response Center (NRC) by calling 800-424-8802
2) North Carolina Emergency Operations Center by calling 800-858-0368
3) Bladen County Emergency Management Department by calling 911
4) Contaminant Control by calling (910) 484-7000

The Fayetteville (North Carolina) Fire/Emergency Management Department's Special Operations Division is charged with overseeing the operations of the Hazardous Material Team and coordinating with other agencies on emergency management.

The Chemours's on-duty FLS is responsible for the coordination effort in the event of an oil discharge. This position has the authority to commit the necessary services and equipment to respond to the discharge and to request assistance from local emergency response agencies and contractors.

In the event of an emergency involving outside response agencies, the on-duty FLS's primary responsibility is to provide information regarding the characteristics of the discharged material and equipment involved, and to provide access to Chemours resources as requested. He/she shall also take the necessary measures to control the flow of people, emergency equipment, and supplies, and obtain the needed response from the outside emergency response agencies as required to maintain control of the site. These controls may be necessary to minimize injuries and confusion.

Finally, the on-duty FLS serves as the coordinator for communications by acquiring all essential information and ensuring clear communication of information to emergency response personnel. He/she has access to reference materials at the facility either as printed material or on computer files that can further assist the response activities.

Whenever circumstances permit, the on-duty FLS communicates information regarding the oil release to Chemours management for direction.

§109.5(b)(1): Establishment of notification procedures for the purpose of early detection and timely notification of an oil discharge including the identification of critical water use areas to facilitate the reporting of and response to oil discharges.

APPENDIX G

Oil Spill Contingency Plan

[§112.7(k)(2)(ii)(A)]

Chemours's Fayetteville Works facility is located approximately fifteen (15) miles south of the downtown center of Fayetteville, North Carolina, near the intersection of NC Highway 87 and County Line Road, and within the North Carolina Watershed HUC 03030005.

The facility owns approximately 2,200 acres of land. The oil-filled operational equipment that does not include secondary containment is located in the Power Area.

Stormwater from Chemours flows through NPDES permitted Outfall 002 to the Cape Fear River. See the SPCC Plan's Topographic Map (Figure 2) for the approximate flow of stormwater from this facility.

The Cape Fear River in this drainage area has been assigned a primary classification by the NC Division of Water Resources ("DWR") of Water Supple IV (WS-IV) waters, which is defined as "Waters used as sources of water supply for drinking, culinary, or food processing purposes where a WS-I, II or III classification is not feasible. These waters are also protected for Class C uses. WS-IV waters are generally in moderately to highly developed watersheds or Protected Areas."

Ground cover at the facility consists of sandy soils and natural forests. The natural topography of the land is sloped in an eastern direction, and all surface drainage from the facility therefore ultimately flows to the east to the Cape Fear River. The slope is relatively mild: approximately 1 to 8 percent slopes in the vicinity of the facility and 8 to 15 percent slopes on the eastern side of the property. Soils in the vicinity of the facility are defined by the US Department of Agriculture as primarily Norfolk-Urban land complex (0 to 6 percent slopes), Wagram fine sand (0 to 6 percent slopes), and Norfolk loamy fine sand (0 to 2 percent slopes).

In the event of an oil discharge, Chemours will coordinate with the Fayetteville (North Carolina) Fire/Emergency Management Department's Special Operations Division to provide the appropriate warnings in the event of a discharge that could affect public health and safety. The Special Operations Division is charged with overseeing the operations of the Hazardous Material Team and coordinating with other agencies on Emergency Management.

§109.5(b)(2): Establishment of notification procedures for the purpose of early detection and timely notification of an oil discharge including a current list of names, telephone numbers and addresses of the responsible persons and alternates on call to receive notification of an oil discharge as well as the names, telephone numbers and addresses of the organizations and agencies to be notified when an oil discharge is discovered.

APPENDIX G

Oil Spill Contingency Plan

[§112.7(k)(2)(ii)(A)]

In the event of a discharge of oil from a qualified oil-filled operational equipment that results in oil leaving the Chemours property, required notifications to the various emergency response agencies will be made immediately upon discovery of the discharge. These notifications will be made by the on-duty FLS at the time the discharge is discovered.

The following emergency response agencies and contractors will be notified immediately upon discovery of the oil discharge:

National Response Center (NRC)	800-424-8802
NC Emergency Operations Center	800-858-0368
Bladen County Emergency Management Department	911
Contaminant Control Inc. (emergency response contractor)	910-484-7000
NC Department of Environmental Quality 1) Fayetteville Regional Office: 2) If no answer at Fayetteville Regional Office, then:	 433-3336 919-807-6308

§109.5(b)(3): Establishment of notification procedures for the purpose of early detection and timely notification of an oil discharge including provisions for access to a reliable communications system for timely notification of an oil discharge and incorporation in the communications system of the capability for interconnection with the communications systems established under related oil removal contingency plans, particularly State and National plans.

Chemours relies on the facility's landline telephone system to notify federal, State, and local emergency response agencies, as well as their emergency response contractor (Contaminant Control), to ensure the timely notification of an oil discharge. In the unlikely event that the facility's landline telephone system is inoperative, an adequate number of the facility personnel's cellular phones would be available to make the necessary notifications.

As described in the preceding §109.5(b)(2) section, an oil discharge to a surface water would initiate immediate notification of the National Response Center (NRC), the NC Emergency Operations Center, and the Bladen County Emergency Management Department.

APPENDIX G

Oil Spill Contingency Plan

[§112.7(k)(2)(ii)(A)]

§109.5(b)(4): Establishment of notification procedures for the purpose of early detection and timely notification of an oil discharge including an established, prearranged procedure for requesting assistance during a major disaster or when the situation exceeds the response capability of the State, local or regional authority.

Chemours has an established, prearranged procedure for requesting assistance during a major disaster. This request for assistance will be made by the FLS on site at the time the discharge is discovered.

In the case of an oil discharge that exceeds the response capability of the State, local or regional authorities, Chemours would summon Contaminant Control, who is an approved vendor of Chemours for emergency response and hazardous materials containment and cleanup.

§109.5(c)(1): Provisions to assure that full resource capability is known and can be committed during an oil discharge situation including the identification and inventory of applicable equipment, materials and supplies which are available locally and regionally.

The Chemours's Emergency Response Team ("ERT") maintains an inventory of chemical absorbent supplies that includes oil absorbent booms, mats, socks, and loose granular material, which is readily available to facility personnel to respond to an oil release. These oil absorbents are stored in the Fire Station Storage Building and in the HAZMAT Trailer, both of which are located at the Chemours Fire Station (see Figure 1 - Facility Diagram). The spill response supplies that were in inventory in December 2019, and which is the typical inventory of these supplies, had the combined absorbency to capture 424 gallons of oil. This is more than adequate to capture the worst-case 65-gallon oil release from one of the air compressors.

§109.5(c)(2): Provisions to assure that full resource capability is known and can be committed during an oil discharge situation including an estimate of the equipment, materials and supplies which would be required to remove the maximum oil discharge to be anticipated.

The maximum quantity of oil that could possibly be discharged from the qualified oil-filled operational equipment would be 65 gallons from either the air compressors. The Chemours's emergency response supplies include oil booms, mats, socks, and loose granular material. The total oil absorption capacity of the absorbents in inventory as of December 2019 was approximately 424 gallons of oil.

APPENDIX G

Oil Spill Contingency Plan

[§112.7(k)(2)(ii)(A)]

Therefore, Chemours has the needed absorbents in inventory on-site to contain and remediate the worst-case maximum oil discharge of 65 gallons of oil.

As a compliance condition of this Plan, Chemours will maintain an on-site inventory of oil absorbents that has a combined absorption capacity of no less than 65 gallons of oil.

§109.5(c)(3): Provisions to assure that full resource capability is known and can be committed during an oil discharge situation including development of agreements and arrangements in advance of an oil discharge for the acquisition of equipment, materials and supplies to be used in responding to such a discharge.

The Chemours's ERT maintains an inventory of chemical absorbent supplies including oil absorbent booms, mats, socks, and loose granular material, that is more than adequate to capture the worst-case 65-gallon oil release from one of the air compressors. These oil absorbents are readily available to facility personnel to respond to an oil release. See above §109.5(c)(1).

Chemours also has identified Contaminant Control as an approved vendor for emergency response and hazardous materials containment and cleanup, including oil. Contaminant Control has confirmed they have the necessary equipment, materials, and supplies to be used in responding to a discharge of 65 gallons of oil to both the ground and to the river.

§109.5(d)(1): Provisions for well defined and specific actions to be taken after discovery and notification of an oil discharge including specification of an oil discharge response operating team consisting of trained, prepared and available operating personnel.

In the event of an oil release at the Chemours facility, the ERT would be summoned and would contain the oil with absorbent materials and other equipment. The ERT consists of trained and prepared operating personnel who are available on-site 24 hours per day, 365 days per year. The ERT would initiate the cleanup of the oil using absorbents and would place the absorbed oil into containers for off-site disposal. If the remediation of the oil release is beyond the capability of the ERT, then the Construction maintenance personnel will be utilized to remove the oil. Should the remediation of the oil release be beyond the capability of site personnel, Chemours would summon Contaminant Control, which is a Chemours approved vendor for emergency response and hazardous materials containment and cleanup.

APPENDIX G

Oil Spill Contingency Plan

[§112.7(k)(2)(ii)(A)]

§109.5(d)(2): Provisions for well defined and specific actions to be taken after discovery and notification of an oil discharge including predesignation of a properly qualified oil discharge response coordinator who is charged with the responsibility and delegated commensurate authority for directing and coordinating response operations and who knows how to request assistance from Federal authorities operating under existing national and regional contingency plans.

The Chemours's on-duty FLS has been predesignated by the Chemours' management as being responsible for the coordination effort in the event of an oil discharge.

The on-duty FLS is considered to be a properly qualified oil discharge response coordinator who is charged with the responsibility and delegated commensurate authority for directing and coordinating response operations. As described in §109.5(b)(2) of this oil spill contingency plan, he/she knows how to request assistance from Federal, State, and local authorities operating under existing national and regional contingency plans.

This position has the authority to commit the necessary resources, services, and equipment to respond to an oil discharge and to request assistance from local emergency response agencies and contractors.

In the event of an emergency involving outside response agencies, the on-duty FLS's primary responsibility is to provide information regarding the characteristics of the materials and equipment involved and to provide access to Chemours resources as requested. He/she shall also take necessary measures to control the flow of people, emergency equipment, and supplies, and obtain the needed response from the local Police Department as required to maintain control of the site. These controls may be necessary to minimize injuries and confusion.

Finally, the on-duty FLS serves as the coordinator for communications by acquiring all essential information and ensuring clear communication of information to emergency response personnel. He/she has access to reference materials at the facility either as printed material or on computer files that can further assist the response activities.

§109.5(d)(3): Provisions for well defined and specific actions to be taken after discovery and notification of an oil discharge including a preplanned location for an oil discharge response operations center and a reliable communications system for directing the coordinated overall response operations.

APPENDIX G

Oil Spill Contingency Plan

[§112.7(k)(2)(ii)(A)]

In the event of an oil discharge, the Chemours Main Security Gate Building will be the location for an oil discharge response operations center. This building has a reliable communications system for directing the coordinated overall response operations.

§109.5(d)(4): Provisions for well-defined and specific actions to be taken after discovery and notification of an oil discharge including provisions for varying degrees of response effort depending on the severity of the oil discharge.

As described in earlier sections of this oil spill contingency plan, in the event of an oil release at the Chemours facility, the ERT would be summoned and would contain the oil with absorbent materials and other equipment available from the on-site inventory of supplies. The ERT would initiate the cleanup of the oil using the available absorbents, and would place the absorbed oil into containers for off-site disposal. If the remediation of the oil release is beyond the capability of the ERT, then the Construction maintenance personnel will be utilized to remove the oil. Should the remediation of the oil release be beyond the capability of site personnel, Chemours would summon Contaminant Control, which is a Chemours approved vendor for emergency response and hazardous materials containment and cleanup.

§109.5(d)(5): Provisions for well defined and specific actions to be taken after discovery and notification of an oil discharge including specification of the order of priority in which the various water uses are to be protected where more than one water use may be adversely affected as a result of an oil discharge and where response operations may not be adequate to protect all uses

Given the small quantities of oil in the equipment and the generally flat topography of the land surrounding the Chemours Power Area, an oil discharge to off-site navigable waters would only be possible if an oil release is discharged into a stormwater conveyance feature.

All stormwater from Chemours flows to the Cape Fear River through the NPDES permitted Outfall 002. See the Facility Diagram (Figure 1) for the approximate flow of stormwater from this facility and the Topographic Map (Figure 2) for the comparative approximate locations of Outfall 002 and the Cape Fear River.

Therefore, there is not more than this one water that could be adversely affected as a result of an oil discharge.

From an emergency response standpoint, if a release of oil should escape into the facility's

APPENDIX G

Oil Spill Contingency Plan

[§112.7(k)(2)(ii)(A)]

stormwater conveyance system, Chemours has the ability to close a block valve at the Outfall 002 discharge structure that would then prevent the discharged oil from reaching the Cape Fear River.

§109.5(e): Specific and well defined procedures to facilitate recovery of damages and enforcement measures as provided for by State and local statutes and ordinances.

In the event of an oil discharge to navigable waters, Chemours will determine and facilitate recovery of damages and enforcement measures, to the extent that such remedies are applicable and available to it under State and local statutes and ordinances.

40 CFR 112.7(k)(2)(ii)(B): If secondary containment is not provided for qualified oil-filled operational equipment pursuant to paragraph (c) of this section, the owner or operator of a facility with qualified oil-filled operational equipment must provide in the SPCC Plan a written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

The written commitment of manpower, equipment, and materials, signed by the Chemours plant manager who if the authorized facility representative, is presented as Appendix H in the SPCC Plan.

ATTACHMENT H

WRITTEN COMMITMENT OF MANPOWER, EQUIPMENT, AND MATERIALS

40 CFR 112.7(k)(2)(ii)(B): If secondary containment is not provided for qualified oil-filled operational equipment pursuant to paragraph (c) of this section, the owner or operator of a facility with qualified oil-filled operational equipment must provide in the SPCC Plan a written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

In addition to implementing the preventive measures described in the SPCC Plan, Chemours will also specifically:

- In the event of an oil discharge:
  - (1) Make available all trained facility personnel to perform response actions.
  - (2) Obtain assistance from its approved emergency response/remediation contractor.
  - (3) Cooperate fully with local, state, and federal authorities on response and cleanup operations.
- Maintain all on-site oil spill control equipment described in this Plan and in the attached oil spill contingency plan. The equipment will be maintained such that it can capture and contain no less than 65 gallons of oil.
- Maintain all communications equipment in operating condition at all times.
- Ensure that staging areas to be used in the event of an off-site oil discharge are accessible by emergency response vehicles.
- Review the adequacy of response capacity of approved response/cleanup contractors on a routine basis and update the response/cleanup contractor list as necessary.
- Maintain formal agreements with response/cleanup contractors who will provide assistance in controlling an oil discharge and/or completing the cleanup of an oil discharge.

Authorized Representative Signature:

SIGNED DOCUMENT IS ON FILE

_____ _____

Brain D. Long — Date

Plant Manager – Chemours Fayetteville Works

ATTACHMENT I

FIVE-YEAR REVIEW AND EVALUATION DOCUMENTATION

I have completed a review and evaluation of the SPCC Plan for the Chemours Company – Fayetteville Works on December 22, 2019, and as a result the Plan was amended as follows:

- Added new oil-containing bulk storage containers, operating equipment, and electrical equipment associated with the Thermal Oxidizer and Suez Project.
- Added the two incoming 115,000 KVA electrical substation transformers that are owned by Chemours but maintained by Duke Energy.
- Added an Oil Spill Contingency Plan to comply with the Alternative Requirements to General Secondary Containment of §112.7(k)(2) for qualified oil-filled operational equipment without sized secondary containment.
- Added the secondary containment for the Campbell Oil gasoline and diesel tanks.
- Updated the designated person accountable for oil spill prevention at facility.
- Updated the Substantial Harm Checklist (Attachment A) with current Plant Manager.
- Corrected the two Power Area air compressors to show there is no secondary containment.
- Corrected secondary containment capacities and noted the Fire Water Pump Engine's diesel fuel tank secondary containment is undersized.
- Corrected the Tank Integrity Testing (Attachment F) to show that the initial integrity testing of five bulk storage containers has not been performed and is scheduled during 2020.
- Eliminated the No. 2 fuel oil unloading station and transfer piping in the Power Area, as Chemours is no longer burning that fuel in the boilers.
- Eliminated the Underground Pipeline Testing attachment, as Chemours is no longer transferring No. 2 fuel oil in underground pipes associated with the boilers.
- Eliminated the 55-gallon new oil drum storage in the Stores Area, as new oil is now exclusively stored in 5-gallon containers.

SIGNED DOCUMENT IS ON FILE

	December 22, 2019
Michael E. Johnson, PE	Date

ATTACHMENT G – Spill Prevention Control and Countermeasure Plan (Kuraray)

SPILL PREVENTION, CONTROL AND COUNTERMEASURE PLAN

Kuraray
Fayetteville, NC

Prepared for:

Kuraray
22824 Hwy. 87 West
Fayetteville, NC 28306

Prepared By:

Dewberry Engineers Inc.
2610 Wycliff Road
Suite 410
Raleigh, NC 27607
Phone: 919.881.9939
Fax: 919.881.9923
www.dewberry.com
NCBELS F-0929

November 2017

Contents

List of Tables

List of Figures

List of Appendices

Maintenance of the SPCC Plan – 40 CFR 112.5(a)

In accordance with 40 CFR 112.5(a), this Spill Prevention, Control and Countermeasures (SPCC) Plan must be amended "*when there is a change in the facility design, construction, operation, or maintenance that materially affects its potential for a discharge"* into or upon the navigable waters of the United States or adjoining shorelines [as defined by 40 CFR Part 112.1(b)].

In addition to the above-referenced requirement, Kuraray America, Inc. is required to complete a review and evaluation of this SPCC Plan at least once every ***5 years***. More specific information related to the review and amendment requirements is described in Section 1.3 of this SPCC Plan

Management Approval- 40 CFR 112.7

Kuraray America, Inc. (Kuraray) is committed to the prevention of discharges of oil to navigable waters and the environment, and maintains the appropriate standards for spill prevention, control and countermeasures through regular review, updating and implementation of this SPCC Plan, as described herein. In accordance with CFR 40 Part 112.7, this SPCC Plan *"has the full approval of management at a level with authority to commit the necessary resources to fully implement the Plan."*

Kuraray America Inc.
Fayetteville Facility

_____
E. Ross Crews
Site Manager

_____
Date

Professional Engineer Certification- 40 CFR Part 112.3(d)

This SPCC Plan has been developed based on a site visit to and inspection of the Kuraray facility located in Fayetteville, North Carolina, and information provided by Kuraray. I hereby certify that I am familiar with the current requirements of 40 CFR Part 112 and, by means of this certification, attest to the following:

- *"I am familiar with the requirements of 40 CFR Part 112;*
- *I have visited and examined the facility;*
- *The SPCC Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of 40 CFR Part 112;*
- *Procedures for required inspections and testing have been established;*
- *The SPCC Plan is adequate for the facility."*

Leigh-Ann Dudley, PE

NORTH CAROLINA PROFESSIONAL SEAL 042015 11-2-17 ENGINEER LEIGH-ANN B. DUDLEY

Date: 11-2-17
Registration No: 042015
State: North Carolina

40 CFR Part 112, Appendix C – Attachment C-II Certification of Substantial Harm Determination

In accordance with 40 CFR Part 112, the following identifies whether a facility *"could reasonably be expected to cause substantial harm to the environment by discharging into or on the navigable waters of adjoining shorelines."*

Facility Name: Kuraray America, Inc.
Facility Address: 22824 Highway 87 West, Fayetteville, NC 28306

		YES*	NO
1)	Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?		X
2)	Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large enough to contain the capacity of the largest above ground oil storage tank plus sufficient freeboard to allow for precipitation within any above ground storage tank area?		X
3)	Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?		X
4)	Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula) such that a discharge from the facility would shut down a public drinking water supply.		X
5)	Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last five years?		X

***If there is a "yes" answer to one or more of the preceding five questions, then a USEPA facility Response Plan (FRP) is required to be prepared.**

1.0 Introduction

1.1. Regulatory Background

The United States Environmental Protection Agency's (USEPA's) Oil Spill Prevention, Control and Countermeasure (SPCC) rule was initially published in the Federal Register on December 11, 1973, and was promulgated under the authority of Section 311(j)(1)(C) of the 1970 Federal Water Pollution Control Act, as amended, also known as the Clean Water Act (CWA).

The SPCC rule is codified in Title 40 of the Code of Federal Regulations (40 CFR) Part 112 under the title "Oil Pollution Prevention," which first became effective on January 10, 1974. The USEPA has since revised the SPCC rule in 1991, 1993, 1997, 2002, and 2006. On November 5, 2009 the USEPA Administrator signed a notice that amended the SPCC rule. The SPCC rule amendments became effective on January 14, 2010. Subjected facilities must amend or prepare, and implement SPCC Plans by November 10, 2011 in accordance with revisions to the SPCC rule promulgated since 2002.

The goal of the oil pollution prevention regulation in 40 CFR Part 112 is to prevent oil discharges from reaching navigable waters of the United States or adjoining shorelines. The rule was also written to ensure effective responses to oil discharges. The rule further specifies that proactive, and not passive, measures must be used to respond to oil discharges.

Those facilities that could reasonably be expected to discharge oil into navigable waters or adjoining shorelines and have a total aboveground storage capacity of oil, which is not buried and is greater than 1,320 gals, must prepare an SPCC Plan.

Note: For calculating total aboveground storage capacity, only containers of oil with a capacity of 55 gals or greater are counted towards the 1,320 gal regulatory threshold. The on-site location (*e.g.*, inside versus outside) of the containers or machinery is irrelevant for calculation purposes.

1.2. Applicability

Kuraray is subject to 40 CFR Part 112 based on the reasonable potential to discharge oil into or upon navigable waters of the United States or adjoining shorelines and based on the aggregate storage aboveground storage capacity of the facility of greater than 1,320 gallons of oil. The reasonable potential is based upon the geographical and physical aspects of the facility (such as proximity to navigable waters and storm water drainage) and excludes consideration of manmade features such as dikes, equipment or other structures that may serve to restrain, contain, or otherwise prevent a discharge or oil into or upon navigable waters of the United States or adjoining shorelines.

In addition to the requirements for the preparation of an SPCC Plan, subject facilities are required to complete Attachment C-II of 40 CFR Part 112, "*Certification of the Applicability of the Substantial Harm Criteria*" (see **page vi** of this SPCC Plan). As Kuraray does not currently meet any of the criteria, it is thus not considered a facility that "*could reasonably be expected to cause substantial harm to the environment by discharging (oil) into or on the navigable waters of adjoining shorelines*"[of the United States], and is not required to prepare a Facility Response Plan (FRP).

1.3. Plan Amending and Updating Requirements

Based on the requirements of 40 CFR 112.5(a), this SPCC Plan will be amended "*when there is a change in the facility design, construction, operation, or maintenance that materially affects its potential for a discharge*" into or upon the navigable waters of the United States or adjoining shorelines [as defined by 40 CFR Part 112.1(b)]. Examples of changes that may require the technical amendment to this SPCC Plan include, but are not limited to, the following:

- commissioning or decommissioning containers;
- replacement, reconstruction, or movement of containers;
- reconstruction, replacement, or installation of piping systems;
- construction or demolition that might alter secondary containment structures;
- changes of product or service (if the new product is not compatible with the conditions in the existing tank and secondary containment);
- revision of standard operation or maintenance procedures at a facility

A technical amendment made to this SPCC Plan is required to be prepared within 6 months of the facility change, and implemented as soon as possible, but not later than six months following preparation of the amendment.

In accordance with 40 CFR Part 112.5(c), technical amendments to this SPCC Plan, which require the use of good engineering practice, must be certified by a registered Professional Engineer in accordance with 40 CFR Part 112.3(d).

In addition to the above-referenced requirement, Kuraray is also required to complete a review and evaluation of this SPCC Plan ***at least once every 5 years***. As a result of this review and evaluation, Kuraray must amend this SPCC Plan within 6 months of the review to include more effective prevention and control technology if: (1) such technology will significantly reduce the likelihood of a discharge as described in 40 CFR 112.1(b), and (2) if such technology has been field-proven at the time of review. Kuraray must implement the identified technical amendment as soon as possible, but not later than 6 months following preparation of any amendment.

Also, as required per 40 CFR Part 112.5(b), Kuraray must document the completion of the review and evaluation, and must sign a statement as to whether this SPCC Plan requires amendment or not. Appendix A presents the Record of Plan Reviews and Amendments to document such reviews and evaluations of this SPCC Plan. Signed forms should be maintained with the SPCC Plan onsite.

Non-technical amendments do not require Professional Engineer certification of the SPCC Plan and generally include changes that do not materially affect the facility's potential to discharge oil and do not require the exercise of good engineering practice.

In accordance with 40 CFR Part 112.5(c), technical amendments to this SPCC Plan, which require the use of good engineering practice, must be certified by a registered Professional Engineer in accordance with 40 CFR Part 112.3(d). If Kuraray is uncertain if a change is considered "technical" or "non-technical," the amended SPCC Plan should be certified by a Professional Engineer.

2.0 Overview of the Facility

2.1. General Facility Identification Information

Name of Facility: Kuraray

Type: Industrial-Specialty Chemical Production

Physical Location: 22824 Highway 87 West
Fayetteville, N. C., 28306

Name and Address of Owner: Kuraray
22824 Highway 87 West
Fayetteville, N. C., 28306

The SPCC Coordinator, the person designated accountable for overall oil spill prevention and response at the facility, is the Site Manager, E. Ross Crews. Additional site personnel and 24-hr contact information are provided below.

Name	Title	Office Telephone	Cell Telephone
Hope A. Walters	Environmental Specialist Primary Emergency Contact	910-433-7170	910-374-5195
Jennifer L. Locklear	Occupational Health Specialist Secondary Emergency Contact	910-433-7144	910-608-9264

2.2. Facility Description

The Kuraray Fayetteville facility is a production facility of Butacite®, a polyvinyl butyral interlayer laminate, located within a larger industrial complex. The facility is approximately 19 acres and is located 15 miles southeast of the city of Fayetteville on NC Highway 87 at the Bladen-Cumberland county line. The Kuraray facility location is bounded by the larger industrial facility to the east and south and by NC Highway 87 to the west, with undeveloped land to the north.

Portions of the complex that are not part of the Kuraray facility are owned or operated by other parties. These other parties are each responsible for preparing and implementing SPCC plans for their respective operations.

The location of the Kuraray facility is shown on Figure 1 - Facility Location Map. A site plan showing the general layout of the facility, including the approximate locations of tanks, containers, and storage areas, is provided in Figure 2- Site Plan.

2.3. Facility Discharges

2.3.1. Wastewater

Process wastewater from the facility is discharged to an off-site wastewater treatment plant under the auspices of a Service Level Agreement (SLA).

2.3.2. Stormwater Drainage- 40 CFR 112.12(b)

Facility drainage outside the containment areas is designed to flow into a storm drain ditch, called the wood-lined ditch on the eastern side of the facility (refer to Figure 2 – Site Plan). The wood-lined ditch drains from the Kuraray site to the drainage system of the industrial complex. Stormwater discharges from the wood-lined ditch to a stormwater outfall of the industrial complex and ultimately to the Cape Fear River.

3.0 General SPCC Plan Requirements

3.1. Regulatory Conformance- 40 CFR 112.7(a)(1)

Per 40 CFR 112.7(a)(1), the SPCC Plan is required to include a discussion of the facility's conformance with the requirements listed in this part. As such, Appendix B presents the Regulatory Cross Comparison Matrix, which provides the specific locations (in this document) for discussions pursuant to each of the current applicable regulatory requirements. Appendix B also provides plan reviewers with information necessary to review compliance and to verify that the SPCC Plan is complete and meets applicable regulatory requirements.

3.2. Deviations from Requirements- 40 CFR 112.7(a)(2)

This SPCC Plan complies with all applicable requirements listed in 40 CFR Part 112.

3.3. Description of Physical Layout of Facility- 40 CFR 112.7(a)(3)

The following presents the specific facility information, as required pursuant to 40 CFR 112.7 (a)(3).

Description of storage containers- 40 FR 112.7(a)(3)(i)
Table 1 describes oil bulk storage location and capacity of each storing device. All containers are above ground and constructed of materials compatible with the contents. Figure 2 shows the location of containers at the site.

Table 1. Oil Storage and Capacity

Figure 2 ID	Container	Location Description	No.	Volume (gal)	Contents	Materials of Construction
Storage Containers						
1	Butacite 3GO* Storage Tank A	Bulk Storage Area	1	68,000	3GO*	Aluminum
2	Butacite 3GO* Storage Tank B	Bulk Storage Area	1	33,000	3GO*	Aluminum
3	55- gallon drums	Maintenance Shop Oil Storage (fenced area outside)	1 - 40	≤ 2,200	Used and Unused turbine and gear oil	Carbon Steel
4	5-gallon buckets	Maintenance Shop Short-Term Storage (inside shop)	Varies with maintenance needs		Unused oil	Plastic
5	55-gallon drums	Used Oil Drum and Oily Rag Storage Area	1 - 20	≤ 1,100	Used gear and turbine oil	Carbon Steel
Oil-Filled Operational Equipment						

6	Butacite Guillotine #1 Gearbox	Butacite Building, 3rd floor	1	140	Lubricating oil	Steel
6	Butacite Block Guillotine Gearbox	Butacite Building, west side, within the used oil storage area	1	140	Lubricating oil	Steel
7	Butacite Common Refrigeration Unit #1	Refrigeration unit area	3	125	Refrigerant oil	Steel
Transfer Piping						
8	3GO* piping from transfer station to 3GO tanks A&B	Butacite Building, 3rd Floor	100 ft 3-inch pipe	-	3GO*	Stainless steel
9	3GO* piping from Tanks A&B to manufacturing buildings	Butacite Building, 3rd Floor	150 ft 3-inch pipe	-	3GO*	Stainless steel

*3GO – Triethylene Glycol DI-2-Ethylhexanote

Discharge prevention measures for routine handling of products- 40 CFR 112.7(a)(3)(ii)_
To aid in the prevention of an oil discharge during routine handling, Kuraray has implemented appropriate procedures and programs. Employees engage in the storage, handling, and use of oil at the facility and are trained in safe and proper oil handling practices. When oil is loaded or unloaded, personnel follow site the loading/unloading procedures presented in Appendix C to minimize the potential for a spill.

Discharge or drainage controls- 40 CFR 112.7(a)(3)(iii)
The discharge or drainage control measures such as secondary containment around containers and procedures for control of a discharge are presented in Section 4 of this SPCC Plan.

Countermeasures for discharge discovery, response and, cleanup- 40 CFR 112.7(a)(3)(iv)
Appendix D of this SPCC Plan address the facility's response procedures for discharge discovery, response, and cleanup.

Oil spill cleanup and disposal measures- 40 CFR 112.7(a)(3)(v)
Appendix D of this SPCC Plan address the facility's approach to the proper management and disposal of cleanup materials.

Emergency Response contacts- 40 CFR 112.7(a)(4)
Appendix D of this SPCC Plan provides the contact list and phone numbers for the facility Safety, Health, and Environment (SHE) Manager, National Response Center, and cleanup contractors with whom the facility has an agreement for response, and appropriate Federal, State, and local agencies who must be contacted in case of a discharge.

3.4. Spill Reporting Procedures- 40 CFR 112.7(a)(4)

In the event of an oil spill that requires notification to appropriate state and federal regulatory agencies, Kuraray personnel should reference Appendix D of this SPCC Plan for specific information and procedures regarding spill notification and reporting requirements. In the event of

an oil spill, Appendix E, a Spill Incident Report Form will be used by the facility to document the facts regarding the spill incident and assess the spill prevention, control, and countermeasures to determine their adequacy for preventing future releases, and may be submitted as part of the agency notification process. Records of previous spills are maintained in Appendix F - Facility Spill History.

3.5. Fault Analysis- 40 CFR 112.7(b)

To provide adequate spill prevention, control, and countermeasures, 40 CFR Part 112.7(b) states that, where experience indicates a reasonable potential for equipment failure, an SPCC Plan must include a prediction of the direction, rate of flow, and total quantity of oil that could be discharged from the facility as a result of each type of major equipment failure.

Section 4.2 describes potential spill sources, a prediction of the direction of flow, rate of flow, and total quantity of oil that could be discharged from each spill source.

3.6. Containment and/or Diversionary Structures or Equipment- 40 CFR 112.7(c)

In accordance with 40 CFR 112.7(c), Kuraray must "*provide appropriate containment and/or diversionary structures or equipment to prevent a discharge"* of oil as described in 40 CFR 112.1(b). Secondary containment may be either passive or active in design. At a minimum, one of the following prevention systems or its equivalent must be used:

- *"Dikes, berms or retaining walls sufficiently impervious to contain oil;*
- *Curbing or drip pans;*
- *Sumps and collection systems;*
- *Culverting, gutters or others drainage systems;*
- *Weirs, booms or other barriers;*
- *Spill diversion ponds;*
- *Retention ponds; or*
- *Sorbent materials*."

Section 4 of this SPCC Plan presents an inventory of oil products and associated containment and/or diversionary structures or equipment associated discharge prevention.

3.7. Demonstration of Practicability- 40 CFR 112.7(d)

In accordance with 40 CFR 112.7(d), if any of the spill prevention measures listed in 40 CFR 112.7(c) are deemed impracticable by a facility, that facility must explain why the measures are not practicable, and conduct a series of integrity and leak testing for associated tank and piping systems. In addition, the facility would be required to prepare an Oil Spill Contingency Plan following the provisions of 40 CFR 109, and provide a written commitment of manpower, equipment, and materials required to expeditiously control and remove discharged oil that may be harmful.

This SPCC Plan does not deviate from the requirements of 40 CFR Part 112.

3.8. Inspection and Record Keeping- 40 CFR 112.7(e)

Daily formal and informal inspections are conducted at the plant as part of routine facility operations. Formal inspections are conducted at the facility on a regular basis to meet requirements of the facility's SPCC Plan, as outlined in Table 2. Inspection procedures for specific areas or processes are further detailed in the following sections.

Table 2 - Inspection Frequency and Location

Frequency & Type	Inspection Area(s)
Daily Information Visual (every shift)	Operating Areas
Periodic (Monthly) Visual	Bulk Storage Areas, Portable Containers, and Oil -filled Equipment Spill Response Equipment Containment and Drainage
Periodic (Annual) Visual	Containment and Drainage Facility Transfer Piping and Supports

Oil Aboveground Storage Tank (AST) Inspections and Testing- Aboveground oil and fuel storage tanks are inspected monthly as part of the facility's preventative maintenance program. During monthly inspections, maintenance and utilities department personnel visually inspect the exteriors of ASTs for signs of deterioration and leaks, and examine the secondary containment structures for accumulation of oil. Oil observed in secondary containment structures is promptly removed for appropriate disposal. Annual inspections are more detailed and include examining the tank supports, foundations, piping and piping supports, and secondary containment systems for signs of deterioration or leaks. Copies of the monthly and annual inspection procedures and inspection forms for the oil and fuel ASTs are provided in Appendix G- SPCC Inspection Forms. Issues observed during these inspections are promptly reported to the shift supervisor, who coordinates the necessary repairs. Completed inspection forms are maintained at the facility for at least 3 years.

Fuel and oil AST are tested for integrity at least once every 5 years, or whenever material repairs are made to the AST. The integrity testing is performed using one of the following techniques, as determined appropriate by Kuraray, based on the tank size, design, and manufacturer specifications:

- Hydrostatic testing;
- Radiographic testing;
- Ultrasonic testing;
- Acoustic emissions testing; or
- Another system of nondestructive shell testing.

Tank integrity testing records are maintained on file at the facility for a period of at least 3 years.

Oil Containing Equipment Inspections- The gear box and refrigeration units are inspected monthly by maintenance and utilities personnel during routine mechanical integrity inspections. Inspections include examining oil reservoirs and piping (valves and other potential points of weakness, in particular) for leaks and corrosion or other signs of deterioration or damage. Equipment foundations and piping supports are also inspected. Inspection logs are maintained in an internal database at the facility for at least 3 years.

Drummed Oils Inspections- Drummed oil areas are inspected daily. Oil drums stored at the facility are stored on spill containment pallets. Oil releases are quickly cleaned up and disposed of appropriately by operating staff.

Facility Transfer Piping Inspections- Transfer piping for the 3GO systems is inspected monthly by maintenance and utilities department personnel during routine mechanical integrity inspections. Inspections include examining oil reservoirs and piping (valves and other potential points of weakness, in particular) for leaks and corrosion or other signs of deterioration or damage. Equipment foundations and piping supports are also inspected. Integrity and leak testing of oil and fuel transfer lines is not required, since all piping is located above grade. Inspection records are maintained in an internal database for at least 3 years.

3.9. Personnel Training, and Discharge Prevention Procedures- 40 CFR 112.7(f)

Appropriate facility personnel are trained in the operation and maintenance of oil and fuel storage containers and the prevention of oil or fuel discharges. These personnel are also trained on the proper handling and discharging of material collected in containment structures. Training is provided to these personnel to create an awareness of the applicable environmental regulations that govern the management of oil and the prevention of oil discharges to the navigable waters or adjoining shoreline.

Personnel requiring SPCC Plan training are trained on the Plan initially upon hire and annually thereafter. This training highlights the following aspects of spill prevention, control, and countermeasures:

- Elements of the spill prevention, control, and countermeasures plan
- Pollution control laws, rules, and regulations applicable to the facility
- Spill prevention and control equipment
- Spill response and reporting procedures
- Spill prevention briefing

Appendix H presents that Butacite Annual SPCC Briefing that is required for all employees. The facility's Environmental Coordinator has been designated as the individual responsible for maintaining the SPCC Plan and ensuring that the appropriate personnel are trained on the Plan. Training records are maintained by the facility for a period of at least 3 years.

3.10. Facility Security Measures- 40 CFR 112.7(g)

The overall industrial complex is secured by a fence around the perimeter of the complex, which is secured at all times, requiring a key-card to open or notification to the facility's security office. The security barrier is maintained by another facility within the complex. Visitors to the facility are required to check in with security and have an escort at all times while at the facility. Exterior lighting is provided so that operating personnel can discover potential spills or discharges that may occur at night and to discourage acts of vandalism.

Feed pumps and drain valves are located inside the complex fence line and can only be accessed by authorized personnel.

The master flow and drain plugs on bulk oil storage containers are maintained in the "closed" position when adding or removing product. Bulk oil storage container areas are inspected regularly by operating personnel to prevent direct outward flow of the container's contents. Drain valves on secondary containment are maintained in the "closed" position. Operating personnel inspect routinely and are responsible for visual inspection and draining contained rainwater.

Starter controls on oil pumps are locked in the off position when the pump is not operating or not in standby status. Additionally, oil pumps are located such that they are only accessible to authorized personnel. Oil pipeline loading and unloading connections are capped or blank-flanged and marked when the pipeline is not in service or is on standby service for an extended period of time.

3.11. Facility Tank Car and Tank Truck Loading/Unloading Rack- 40 CFR 112.7(h)

The transfer and loading of oils and fuels at the Kuraray Fayetteville facility follow the Loading and Unloading Procedure, which is included as Appendix C. 3GO is transferred to the bulk storage tanks, Tank A and Tank B, from a railcar. The railcar unloading station is located adjacent to the bulk storage area and is shown on Figure 2 Location 10. Each railcar delivers about 22,300 gallons of 3GO and may be located at the unloading station for up to two days prior to being unloaded into the tank. The track mobile used for moving the railcar is equipped with a 25-gallon diesel fuel tank. The following safety measures must be followed for loading material:

1. Exercise caution when maneuvering to avoid damage to secondary containment walls.
2. When filling an on-site tank, inspect the tank, fitting, and liquid level prior to filling.
3. When filling a tank truck, inspect the truck's lowermost drain and outlets for discharges and, if necessary, tighten, adjust, or replace closures to prevent liquid discharge.
4. Place drip pans under pump hose fittings prior to loading and unloading.
5. Block truck wheels prior to loading and unloading, as appropriate.
6. Drain loading lines to the storage tank prior to disconnecting line.
7. Verify that drain valves are closed before disconnecting loading lines.
8. Immediately report leakage or spillage.

3.12. Field-construction Above Ground Containers- 40 CFR 112.7(i)

In accordance with 40 CFR 112, a field-constructed above ground container is one that is assembled or reassembled (outside of the container manufacturer) at the location of its intended use.

Tank A and Tank B are field-constructed above ground containers. If a field-constructed aboveground containers at the facility undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe, or has discharged oil or failed due to brittle fracture failure or other catastrophe, Kuraray will evaluate the container for risk of discharge or failure due to brittle fracture or other catastrophe and, as necessary, will take action including tank inspection and repair, as appropriate.

3.13. Conformance with State Requirements- 40 CFR 112.7(j)

This SPCC Plan is written in conformance with the requirements of 40 CFR 112. Discharge notifications are made in compliance with local, state, and federal requirements.

3.14. Qualified Oil-filled Operational Equipment- 40 CFR 112.7(k)

Qualified oil-filled operations equipment at Kuraray has adequate secondary containment.

4.0 Spill Sources, Prevention, and Pathways

4.1. Common Spill Prevention and Control Measures

The following sections provide a description of potential spill sources, spill prevention and control measures, including procedures for routine handling of products, discharge or drainage controls associated with the spill source, and countermeasures and a spill potential analysis. Each spill source has some shared spill prevention and control measures.

Appropriate containment and/or diversionary structures and equipment are provided to prevent discharge of oil from reaching navigable waters. The containment structures are sufficiently impervious to contain spilled oil and absorbent materials.

Table 1, Section 3.3, details the location and contents of tanks, operating equipment and piping. Table 3 provides information about the secondary containment, where applicable.

Table 3. Containment Summary

Figure 2 ID	Container	Volume (gal)	Contents	Secondary Containment Type	Secondary Containment Dimensions	Secondary Containment Volume (gal)
Storage Containers						
1	Butacite 3GO Storage Tank A	68,000	3GO	Concrete containment	86’ x 38’ x 4.5’	110,000
2	Butacite 3GO Storage Tank B	33,000	3GO	Concrete containment	86’ x 38’ x 4.5’	110,000
3	≤ (40) 55- gallon drums	≤ 2200	Used and Unused oil turbine and gear oil	4-drum secondary containment pallet	49” x 49” x 11”	73 per containment pallet
4	5-gallon buckets (short-term storage for maintenance)	Varies	Unused oil	secondary containment pallet	49” x 49” x 11”	73 per containment pallet
5	≤ (20) 55- gallon drums	≤ 1100	Used oil turbine oil	4-drum secondary containment pallet	49” x 49” x 11”	73 per containment pallet
Oil-filled Operational Equipment						
6	Butacite Guillotine #1 Gearbox	140	Lubricating oil	Sorbent materials	-	-
6	Butacite Block Guillotine Gearbox	140	Lubricating oil Gear oil	Concrete containment and sorbent materials	8’ x 12’ x 3”	180
7	Butacite Common Refrigeration Unit	125	Refrigerant oil	Sorbent materials	-	-
Transfer Piping						
8	3GO piping from transfer station to 3GO tanks A&B	39	3GO	Sorbent materials	-	-
9	3GO piping from Tanks A&B to manufacturing	58	3GO	Sorbent materials	-	-

Spill kits containing sorbent materials are provided at locations where secondary containment is not deemed practicable. Spill kit equipment and materials that can be used to contain and clean up oil releases include personal protective equipment (PPE), absorbent materials, spill mats, booms, non-sparking shovels, and rakes. Bulk spill materials are also maintained on site to restock spill kits and for use during larger spills.

4.2. Spill Sources

In accordance with CFR 40 112.7(b), Kuraray must provide a prediction of the direction, rate of flow, and total quantity of oil which could be discharged from the facility as a result of each type major equipment failure.

The general categories of predicted fates of potential spills from identified sources are as follows:

- The spill would be contained within a secondary containment system surrounding the tank or equipment.
- The spill would not be contained, and could potentially reach navigable waterways.

Maintenance Shop

Short-term storage of 5-gallon buckets of unused oil is located inside the maintenance shop on secondary containment pallets. This temporary storage only occurs when oil is being gathered for specific maintenance activities. It is stored for 1-3 days before being used at the location needing maintenance. In the event of a spill, each secondary containment pallet would provide enough storage for up to (14) 5-gallon buckets. There are no floor drains in the maintenance shop, and if oil were to spill and leave the shop, it would flow in the easterly direction to the wood-lined ditch and ultimately to the Cape Fear River.

The 55-gallon drums of used and unused oil, turbine oil, and gear oil are located in a fenced area outside of the maintenance shop. The drums are stored on secondary containment pallets. Each secondary containment pallet provides more than enough catchment for the spill of one drum. If the secondary containment were to fail, contents would flow in the easterly direction to the wood-lined ditch and ultimately to the Cape Fear River.

Butacite 3GO Storage Tank A and Tank B

Tank A and Tank B are located within one concrete containment area with a capacity of 110,000 gallons, 161% of the maximum storage capacity of the largest tank. In a worst case, if both of the tanks were to fail the secondary containment would contain the entire 101,000 gallons. If the secondary containment were to fail, contents would flow in the easterly direction to the wood-lined ditch through a stormwater outfall of the industrial complex and ultimately to the Cape Fear River.

Transfer piping to and from Tank A and Tank B are not within secondary containment but spill containment in the form of sorbent materials is provided. In addition the pipes are inspected monthly for signs of leaks, deterioration or other damage.

Butacite Guillotine #1 Gearbox
The Butacite Guillotine #1 Gearbox is located inside the building. In a worst case, 140 gallons of oil could be spilled. Sorbent materials are stored nearby and could contain the entire spill. In the event that containment with sorbent materials were to fail, contents would drain to a floor drain which drains to the off-site wastewater treatment plant.

Butacite Block Gearbox
In a worst case, 140 gallons of oil could be spilled. The gearbox is located within a concrete containment area with a capacity of 180 gallons, 129% of the maximum volume of oil used in the gearbox. Sorbent materials are also stored nearby and could contain the entire spill. In the event that containment with sorbent materials were to fail, contents would drain in the southerly direction to the industrial complex drainage system which ultimately discharges to the Cape Fear River.

Butacite Refrigeration Units
In a worst case, 125 gallons of oil could be spilled. Sorbent materials are stored nearby and could contain the entire spill. In the event that containment with sorbent materials were to fail, contents would drain in the easterly direction to the wood-lined ditch then through a stormwater outfall of the industrial complex and ultimately to the Cape Fear River.

4.3. Specific Plan Requirements

4.3.1. Facility Drainage – 40 CFR 112.8/112.2(b)

Drainage from storage areas – 40 CFR 112.8/112.12(b)(1) Designated personnel inspect these areas to determine if rainwater needs to be removed from the structure and to assess whether oil is present and to manage the contents.

In the event of a spill in containment areas, manually operated valves restrain drainage from contained storage areas. If an oil spill is found, the response procedure in Appendix D should be followed.

Prior to draining rainwater from the containment areas, the operator will observe the surface of the accumulated water to ensure it is free of oil. Should oil be present, the operator will take steps to remove the oil prior to draining the water. The drain valves from the containment areas will be kept locked in the "closed" position; except when draining the water. Records of containment drainage events will be maintained in the area operating log. Accumulated precipitation in secondary containment structures is inspected before draining, based on the facility's Dike Draining Procedures, included as Appendix I - Dike Draining Procedures and Log. Drainage from containment areas flows in an easterly direction into the wood-lined ditch then through a stormwater outfall of the industrial complex and ultimately to the Cape Fear River.

Flapper-type drain valves – 40 CFR 112.8/112.12(b)(2) Currently, Kuraray uses only manual valves for the drainage of containment areas.

Undiked area drainage – 40 CFR 112.8/112.12(b)(3) Kuraray provides containment via berms, containment pallets, or sorbent materials for all oil materials onsite. Therefore the requirements of this provision are not applicable.

Other drainage – 40 CFR 112.8/112.12(b)(4) The provisions of 40 CFR 112.8(b)(3) are not applicable; therefore, the requirements of this provision are not applicable.

Treatment of drainage water – 40 CFR 112.8/112.12(b)(5) Kuraray does not treat drainage waters in more than one "treatment unit"; therefore, the requirements of this provision are not applicable.

4.3.2. Bulk Storage Containers- 40 CFR 112.8/112.12(c)

Materials of construction – 40 CFR 112.8/112.12(c)(1) Oil storage tanks are constructed of materials that are compatible with their contents at normal storage conditions. Bulk storage tanks are also constructed according to recognized standards published by the American Petroleum Institute or American Society of Mechanical Engineers to ensure their integrity under normal operation.

Secondary containment – 40 CFR 112.8/112.12(c)(2) Bulk oil storage containers at the facility are located in secondary containment dike or curbing or sorbent materials are used as secondary containment. These areas have the capability and capacity to contain and/or divert releases.

Diked area drainage – 40 CFR 112.8/112.12(c)(3) Valves in containment areas are maintained closed and containment area contents are inspected prior to release. Bypass valves are opened and closed to drain contents under responsible supervision and record of drainage events are maintained.

Completely or partially buried metallic storage tanks – 40 CFR 112.8/112.12(c)(4-5) Currently, there are no completely or partially buried metallic storage tanks located at this facility. Therefore, the requirements of this provision are not applicable.

Integrity testing or inspections by trained facility oil-handing personnel – 40 CFR 112.8/112.12(c)(6) The facility's tank integrity testing program consists of periodic visual inspections of each tank and its accompanying foundation/supports, dike and non-destructive shell thickness tests conducted at varying frequencies, depending on the severity of the service, but in no event less than once every 5 years. Comprehensive records of inspections are maintained and comparisons of each tank's condition are made to determine if deterioration is occurring.

Facility pipelines are inspected monthly for mechanical integrity and tightness.

The facility's prevention maintenance and visual inspections program provide a routine evaluation of the equipment used to contain process materials.

Internal heating coils – 40 CFR 112.8/112.12(c)(7) There are no internal heating coils located at this facility. Therefore, the requirements of this provisions are not applicable.

Engineering of containers – 40 CFR 112.8/112.12(c)(8) Oil storage containers installed at the facility are engineering in accordance with good engineering practices. The storage tanks at the facility have at least one of the following means of level indication:

- Local level indication in the form of a gauge readout or sight glass
- Remote level indication in a control room
- High and/or low level alarms

Effluent treatment facilities – 40 CFR 112.8/112.12(c)(9) Kuraray does not currently maintain an effluent treatment facility. Kuraray discharges wastewater to an off-site wastewater treatment plant.

Discharge correction and oil removal – 40 CFR 112.8/112.12(c)(10) Visible oil leaks from the oil tanks or pipes will be identified during the routine inspections completed in accordance with §112.7(e). Operational personnel are trained and instructed to notify appropriate personnel if releases are observed.

Mobile/portable containers – 40 CFR 112.8/112.12(c)(11) Drums and buckets are stored on spill containment pallets.

Temporary mobile storage containers that are utilized on site for maintenance, shutdown or non-routine activities will be required to have the appropriate sized secondary containment in place to comply with the requirements. During the time temporary equipment is on site, the required inspections will be conducted and documented.

4.3.3. Facility Transfer Operations, Pumping, and Facility Process- 40 CFR 112.8/112.12(d)

Buried piping – 40 CFR 112.8/112.12(d)(1) Currently there is no buried oil piping installed at the facility. Therefore, the requirements of this provision are not applicable.

Terminal connections – 40 CFR 112.8(d)(2) Oil transfer lines are capped or blank-flanged at the terminal connection and transfer point when the piping is not in service or is in standby service for an extended time.

Pipe supports – 40 CFR 112.8(d)(3) Supports for aboveground oil transfer lines at the facility are designed to minimize abrasion and corrosion, and allow for expansion and contraction.

Aboveground and buried piping inspection and testing – 40 CFR 112.8(d)(4) Aboveground oil transfer lines are visually inspected on a monthly basis. The general condition of flange joints, expansion joints, valves, supports, and other associated appurtenances is assessed during inspections.

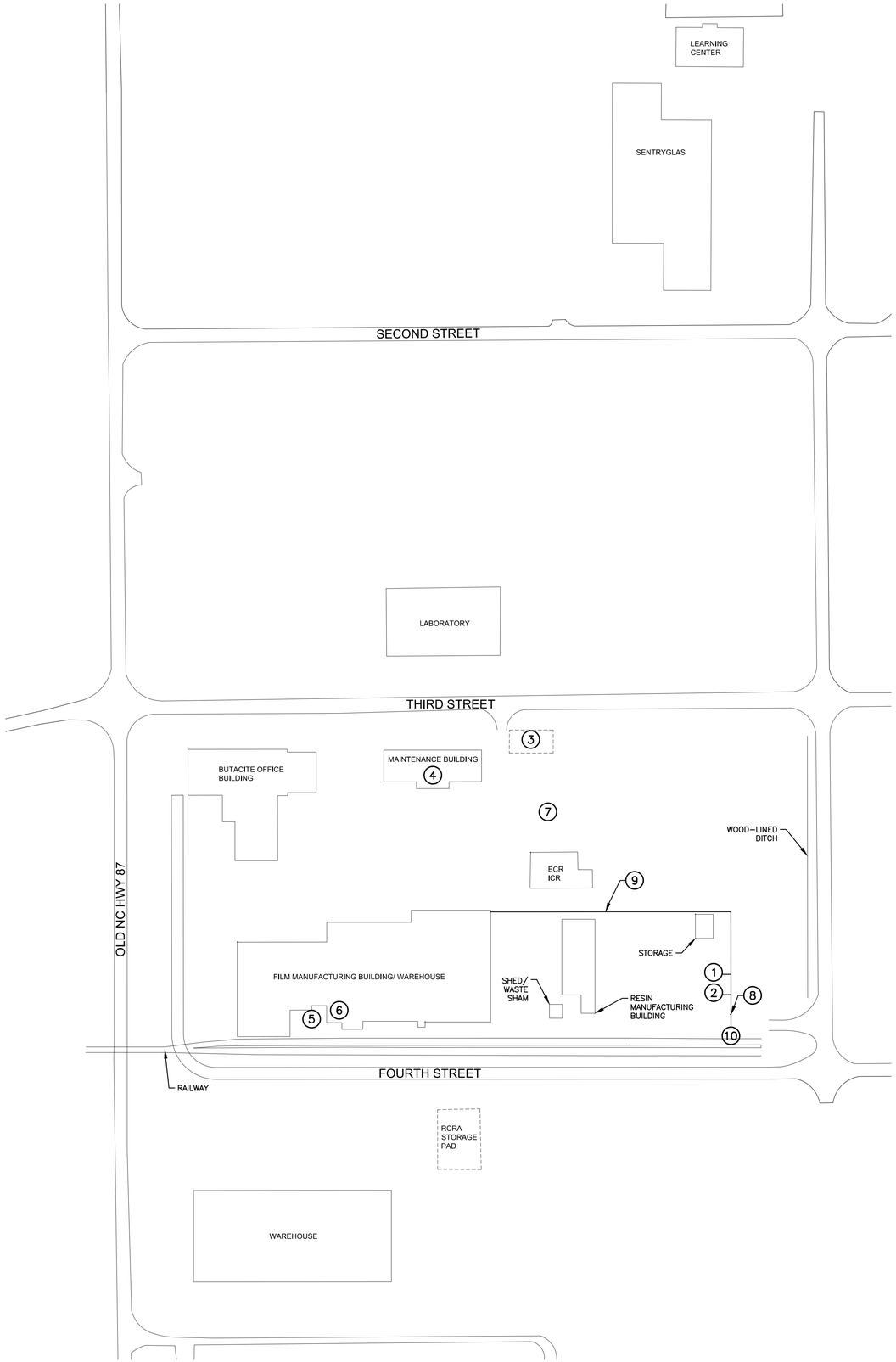
Aboveground piping and other oil transfer operations warning – 40 CFR 112.8(d)(5) Transfer piping is located aboveground and is situated in overhead pipe racks such that it will not be endangered by vehicular traffic within the plant.

Figure 1: Facility Location Map

Dewberry®
Dewberry Engineers Inc.
2301 REXWOODS DRIVE
SUITE 200
RALEIGH, NC 27607
PHONE: 919.881.9939
FAX: 919.881.9923
NCBELS # F-0929

DATE	TITLE	SHEET NO.
2015.07.22	FIGURE 1: FACILITY LOCATION MAP	SK-1
PROJ. NO. 50075498	PROJECT KURARAY AMERICA, INC. FAYETTEVILLE FACILITY	

Figure 2: Site Plan



LEGEND

1. 68,000 GALLON 3GO AST (TANK A)
2. 33,000 GALLON 3GO AST (TANK B)
3. FENCED OIL STORAGE (TURBINE AND GEAR OIL)
4. TEMPORARY STORAGE OF UNUSED OIL FOR MAINTENANCE EVENTS
5. USED OIL DRUM AND OILY RAG DRUM STORAGE (TURBINE AND GEAR OIL)
6. TWO GEAR BOXES – ONE INSIDE BUILDING, ONE OUTSIDE OF BUILDING UNDER COVER (LUBRICATION OIL)
7. REFRIGERATION UNITS #1–#4 (REFRIGERATION OIL)
8. ABOVEGROUND 3GO PIPING FROM TRANSFER STATION TO TANKS A & B
9. ABOVEGROUND PIPING FROM 3GO TANKS A & B TO MANUFACTURING BUILDING
10. 3GO RAILCAR UNLOADING AREA

---------- DENOTES FENCE OR GENERAL AREA BOUNDARY

NOTE: ORIGINAL SITE PLAN WAS DEVELOPED BY 4D SITE SOLUTIONS IN 2014. SURVEY WAS NOT CONDUCTED FOR THE DEVELOPMENT OF THIS DRAWING.

NOT TO SCALE

Dewberry

Dewberry Engineers Inc.
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
FAX: 919.881.9923
NCBELS #F-0929

KURARAY
FAYETTEVILLE, NC
SITE PLAN
NOVEMBER 2017

SEAL

KEY PLAN

SCALE

No.	DATE	BY	Description

REVISIONS

DRAWN BY	RKB
APPROVED BY	LD
CHECKED BY	KEH
DATE	NOVEMBER 2017

TITLE

FIGURE 2
SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN

PROJECT NO. 50097823

SHEET NO. OF

Appendix A: SPCC Plan – Record of Plan Reviews & Amendments

www.dewberry.com

Appendix A

SPCC Plan – Record of Plan Reviews & Amendments

Kuraray America, Fayetteville Facility

In accordance with 40 CFR Part 112.5(b), the following provides for the required documentation of the review and evaluation of the Kuraray's SPCC Plan.

This log will be used when there has been a review of the SPCC Plan and/or when there are changes made to the Plan due to changes in operation (administrative or technical). Administrative updates to the Plan do not require certification by a registered Professional Engineer. Engineering certification is only required for a change that materially affects the facility's potential for a discharge of oil. Changes in information such as names, addresses, and phone numbers are not deemed technical amendments.

When a review is completed and/or updates are made to the Plan, update the table below, indicating if there were any updates completed, what was changed and which pages were affected.

Date Reviewed	Update required? (Y or N)	Professional Engineer Certification Required? (Y or N)	Updated by	Page(s) Affected	Reason(s) for Update(s)
November 2017	Y	Y	LD	Entire Plan Review	Updated Oil Storage

Make additional copies of this page, as necessary.

Appendix B: SPCC Plan Regulatory Cross – Comparison Matrix

Appendix B

SPCC Plan Regulatory Cross – Comparison Matrix

Kuraray America, Fayetteville Facility

Rule Citation	Description of Rule	Location in SPCC Plan
112.3(d)	General requirements for SPCC Plans for all facilities and all oil types.	Professional Engineer Certification
112.5 (a)	General requirements for SPCC Plans for all facilities and all oil types.	Maintenance of the SPCC Plan
Subpart A, 112.7	General requirements for SPCC Plans for all facilities and all oil types.	Management Approval; Section 3
Subpart A, 112.7(a)	General requirements; discussion of facility's conformance with rule requirements; deviations from SPCC Plan requirements; facility characteristics that must be described in the SPCC Plan; spill reporting information in the SPCC Plan; emergency procedures.	Sections 3.1 - 3.4
Subpart A, 112.7(b)	Fault analysis - including prediction of the direction, rate of flow, and total quantity of oil which could be discharged from the facility as a result of major equipment failure.	Section 3.5; Section 4.2
Subpart A, 112.7(c)	Containment and/or diversionary structures or equipment to prevent a discharge	Section 3.6
Subpart A, 112.7(d)	Demonstration of practicability - contingency SPCC planning, written commitment of manpower.	Section 3.7
Subpart A, 112.7(e)	Inspections, tests, and records.	Section 3.8
Subpart A, 112.7(f)	Employee training and discharge prevention procedures.	Section 3.9
Subpart A, 112.7(g)	Security (excluding oil production facilities).	Section 3.10
Subpart A, 112.7(h)	Facility tank car and tank truck loading/unloading rack.	Section 3.11
Subpart A, 112.7(i)	Brittle fracture evaluation requirements.	Section 3.12
Subpart A, 112.7(j)	Conformance with other applicable requirements and discharge prevention and containment procedures in this part or more stringent State rules, regulations, and	Section 3.13

Appendix B

SPCC Plan Regulatory Cross – Comparison Matrix

Kuraray America, Fayetteville Facility

Rule Citation	Description of Rule	Location in SPCC Plan
	guidelines.	
Subpart A, 112.7(k)	Qualified oil-filled operational equipment	Section 3.14
Subpart B, 112.8; Subpart C 112.12	Requirements for onshore facilities (excluding production facilities); requirements for animal fats and oils and greases, and fish and marine mammal oils; and for vegetable oils.	Section 4
Subpart B, 112.8(a), 112.12(a)	General and specific requirements.	Section 4
Subpart B, 112.8(b), 112.12(b)	Facility drainage.	Section 4.3.1
Subpart B, 112.8(c), 112.12(c)	Bulk storage containers.	Section 4.3.2
Subpart B, 112.8(d), 112.12(d)	Facility transfer operations, pumping, and facility process.	Section 4.3.3
Subpart B, 112.9	Requirements for onshore production facilities.	Not applicable
Subpart B, 112.10	Requirements for onshore oil drilling and workover facilities.	Not applicable
Subpart B, 112.11	Requirements for offshore oil drilling, production, or workover facilities.	Not applicable
Subpart D 112.20	Facility Response Plans	Not applicable Certification of Substantial Harm
Subpart D 112.21	Facility response training and drills/exercises	Not applicable
Subpart D, 112.22	Temporary suspension of response planning level requirements to support Deepwater Horizon spill response	Not applicable

Appendix C: Loading and Unloading Procedures

www.dewberry.com

FLAKE BLENDING AND STORAGE FACILITIES
PLASTICIZING

FLAKE BLENDING AND STORAGE FACILITIES
PLASTICIZING

I. SAFETY CONSIDERATIONS

3GO is a clear, slightly toxic liquid. Any area of the body, which comes in contact with it, should be immediately washed with water. Neoprene® gloves must be worn when taking plasticizer batch samples. When contact with plasticizer is required (including making initial breaks of plasticizer lines) Neoprene® gloves and chemical goggles must be worn.

Octylphenol® is a white or light-pink flake and is moderately toxic. It can cause skin irritation. When heated to the decomposition temperature of 280°C, Octylphenol will emit toxic phenol fumes. Any exposed area should be immediately washed with large amounts of water. Mixing or handling Octylphenol requires Neoprene® gloves and chemical goggles. (If a full-face MSA respirator with MSA GMC cartridge is worn, chemical goggles are not required.)

Tinuvin-P® is an off-white crystalline powder, which is not considered toxic. Mixing or handling Tinuvin-P® requires Neoprene® gloves and chemical goggles. (If a full face MSA respirator with MSA GMC cartridge is worn, chemical goggles are not required.)

Decham® is moderately flammable and highly toxic. It can be absorbed through the skin. Neoprene® gloves, chemical full face MSA respirator (with MSA GMC type cartridge), rubber apron must be worn when handling Decham® and making initial breaks of Decham® lines. **Immediately wash any contaminated area with large amounts of water.**

When preparing any of the plasticizing kettles for vessel entry always follow the Lock, Tag, Try and Think Procedure.

II. STARTUP PREPARATION

The purpose of this procedure is to describe how to establish conditions in a sequence that is necessary prior to startup to normal operation. As written, it is assumed that all of the plasticizing kettles and associated auxiliary systems are shutdown and in a standby condition.

FLAKE BLENDING AND STORAGE FACILITIES
PLASTICIZING

A. General

1. In this procedure the "set-up" of instrument loops includes establishing the proper:

   a. Purges

   b. Air supply pressure

   c. Electrical power supply

   d. Valve and controller action

2. Check flanges and equipment for proper assembly with specified gaskets.

3. Test for leaks on any equipment being disassembled during the last down time.

4. Inspect the area for good housekeeping. Make certain that all spare parts, gaskets, ladders, signs, tools and hoses have been picked up and stored properly.

5. Check all equipment for proper installation of guards and ground wires.

6. Return any bypassed interlocks to normal operating positions.

7. Remove danger tags and locks in accordance with the "Lock, Tag and Try" procedures.

8. Place electrical disconnect switch in "ON" position for equipment to be operated.

B. DCS Sequence Controller

1. Ensure that the sequence is in manual and in Step #1.

2. Pull the "sequence On" panel push button to the out (on) position.

3. Switch the sequence mode and the following devices to the "AUTO" Mode.

   a. Plasticizer valve to kettle.

   b. Plasticizer additives valve to kettle.

   c. Hot water valve to kettle (controlled by sequence mode).

   d. Cold water valve to kettle (controlled by sequence mode).

   e. Kettle jacket water valve (controlled by sequence mode).

   f. Kettle discharge valve (controlled by sequence mode).

   g. Discharge water flush valve.

   h. Steam injection valve (controlled by sequence mode).

   i. Slurry transfer pump (both "A" and "E").

   j. Plasticizer discharge select 3-way valve.

C. Establish Plasticizer Supply and Slurry Flow to Kettles

1. Open the inlet guard valves to the five plasticizer kettles.

2. Close the vent and drain valve on the air release tank.

3. Open the sight glass valves on the air release tank.

4. Open the inlet guard valve to the air release tank.

5. Close the plasticizer filters vents and drain valves.

6. Open the plasticizer filter inlet guard valve.

7. Set up the plasticizer storage tank level indication.

8. Open the guard valve in the plasticizer circulation loop return to the storage tank.

9. Close the drain valve on the plasticizer transfer pump that is to be used.

10. Open the storage tank discharge and the transfer pump suction and discharge valves.

11. Start the plasticizer transfer pump.

D. B and C Master Blend Discharge

1. Close manual block valves in hose connection line on both pump discharge lines.

2. Open manual valve on discharge flush line.

3. Set pump seal water flush to ROC.

4. In line flow meter will monitor slurry charge flow

E. Plasticizer Slurry Discharge To A and B Large Blend Tanks

1. Open the hot and cold demineralized water guard valves to each of the kettles. Ambient temp. Demin water can be used as backup.

2. Close the water jacket drain valves on each of the kettles.

3. Set up the kettle temperature control loop in "CASCADE".

4. Set up the trim water temperature control loop in "AUTO" and setpoint at ROC.

5. Open the guard valve to the water jacket on each kettle.

6. Open the guard valves in the recycle water line to the automatic discharge flush valves on each kettle.

7. Open guard valves to demineralized steam injection for each kettle.

8. Position the 3-way valve in the plasticizer discharge line to Large Blend Tank "A" or "B".

9. Open the seal flush water valve to Plasticizer discharge transfer pumps and set flow to ROC.

III. NORMAL OPERATIONS

This procedure is written to control the batch operation with the process controller system in either the automatic or manual mode.

A. General

1. Record data and make necessary adjustments to maintain standard/recommended operating conditions.

2. Maintain good housekeeping at all times.

3. Patrol for leaks and unusual conditions. Write work orders for any conditions where assistance is needed for repair.

B. Receiving Plasticizer

1. Plasticizer is received in Tank Cars and Tank Trucks.

2. Enter receipt of Tank Car or Tank Truck into SAP.

C. Positioning the Tank Car (Do Steps in Sequence)

1. Select the car to be unloaded. Check the car number with the car number on the COA and Acceptance notice in the Raw Materials acceptance book.

2. Having verified the car numbers, move the car to the unloading area. Position the car so that the opening in the car railing will line up with the unloading platform. Set car hand brake.

3. Put the derail in the derail position. Tag the derail (clearing tag). A personal lock and tag must be placed on the derail before any work is done on the railcar.

4. Place a blue flag on the rail 5' west of the derail. This will alert train not to pass that point.

5. Follow tank truck inspection as described in the "Hazardous Materials Manual" before unloading or sampling. Filled out forms must be filed in the CCR filing cabinet. Discrepancies are reported to the Raw Materials Coordinator.

D. Unloading the Tank Car (Do Steps in Sequence)

Note: Per Standard S3U - During entire unloading process, attendant must be within 25 feet of unloading hose(s).

1. Check for possible Plasticizer Storage Tank level inaccuracy by turning the nitrogen off to the level gauge rotameter 30 minutes prior to unloading. A drop in level indication will indicate a leak exists and the level indication is inaccurate. Turn the nitrogen back on after the leak check is completed.

2. Place personal lock and tag on derail.

3. Attach ground cable to the frame of the tank car. Perform the Ground Continuity Test per procedure 3-E-2.

4. Lower unloading platform and line up with tank car platform (red light on platform must come on).

5. Install safety bar across opposite access on tank car before work is performed on car.

Note: Chemical goggles and Neoprene® gloves are to be worn, and Non-sparking tools are to be used

while sampling and/or hooking up or unhooking tank cars.

6. Remove Seals from the unloading outlets, manway lids, and bottom outlet valve rod nozzle (when located on top of rail car). Verify Seal #'s with the BL. File seals and BL in CCR file cabinet.

7. Open manway and sample tank car using plastic dipper. Fill one 32 oz. plastic sample bottles with material. Enter sample data into CQMS. Submit to lab for analysis. Label same with car number and lot number.

8. Hand carry the samples to the Lab using a chemical transporting bucket (goggles and gloves are required).

9. When lab results are released indicating quality plasticizer per step 5 specifications.

   Note: Do not pump a plasticizer car that does not have an acceptance notice indicating that it has been accepted for use in the FW Butacite process filled out by the Raw Materials Coordinator. Ref. QOP Procedure FW-7.

10. Check storage tank level to be sure you can unload the contents of the rail car without going over the maximum level.

    Note: Maximum level in Plasticizer storage tank to start unloading car is 12 feet.

11. BA and plasticizer cars are unloaded from the same platform, so carefully check car contents and lines for proper hookup of material to be unloaded.

12. Ensure the ditch block valve is closed.

13. Hook up unloading and N2 vent lines.

14. Remove 5002 lock on the unloading hose manual valve. Open the valves in the unloading line.

15. Open the tank car vent valve and manual valves in the tank car vent line to let vapors from the storage tank pass into the car while unloading. This allows the car to fill with N2 gas to help vent the car during unloading.

16. Follow the priming procedures below to help prime the unloading pump, if necessary.

    Note: Priming facilities have been installed on the plasticizer circulation pumps for the purpose of priming the unloading pump.

    a. Slowly open the manual valve on the priming line until you obtain some pressure reading on the gauge on the unloading pump.

    b. Start unloading pump.

       Note: Pump will not start if the ditch block valve is open.

    c. Open manual valve on discharge side of unloading pump.

    d. Throttle the priming valve as necessary to get unloading pump primed and pumping.

    e. After unloading pump starts pumping from tank car, close the manual valve on the priming line.

17. Note: Refer to Page 12 for correct valving. During the unloading, check for storage tank level increase and for any piping leaks.

18. When unloading is complete, close unloading pump discharge valves, stop pump. Close valves in the unloading and vent lines and place 5002 lock on the unloading hose manual valve. and record storage tank level on flake operating log.

19. Unhook unloading lines using non-sparking tools, close and reseal the manway, unloading outlets and bottom outlet valve rod nozzle (when located on top of railcar).

20. Remove guard rail, raise platform, remove grounding cable, remove chocks, remove personal lock and tag from derail and remove clearing tag. Open derail and remove blue flag. Open ditch valve.

21. The tank car is ready to move.

22. Record storage tank level on flake operating log.

E. Bottom Unloading (In addition to normal unloading procedures)

Note: Per Standard S3U - During entire unloading process, attendant must be within 25 feet of unloading hose(s).

1. Flake Coordinator must approve the bottom unloading of a tank car.

2. Rain suit and rubber boots must be worn during the initial connection of the truck unloading line to the bottom of the tank car.

3. Connect the flexible truck unloading header to the bottom valve on the tank car with the adapter stored in equipment cabinet.

4. Open unloading valve under tank car.

5. Open the tank car vent valve and manual valve in tank car vent line to let vapors from the storage tank pass into the car while unloading.

6. Open internal discharge valve on top of tank car (located under bell cover) and check connections for leaks.

7. Unlock 5002 lock on Plasticizer-tank truck unloading header and open valve.

8. Take a sample at drain valve and check for contamination.

9. Open the unloading pump discharge valve.

10. Start unloading pump.

11. Periodically check the storage tank level and check for leaks.

12. Close in order:

    a. Plasticizer tank truck header manual valve and replace 5002 lock on valve.

b. Tank car internal discharge valve.

c. Manual external discharge valve located under tank car.

d. Reseal bottom discharge valve.

13. Drain Plasticizer from the flexible unloading line by first placing a liquid container under the drain valve and draining all plasticizer possible at this point. Next move liquid container to a point under the rail car connection and then break this connection allowing the remaining liquid to drain into the container. (Wear proper protective equipment.)

14. Disconnect flex line at the tank car and install blind flange on flex line.

15. Close drain valve.

16. Remove the adapter from bottom of tank car discharge valve and replace plug.

17. Make sure all openings on tank car are wrench tightened.

18. Dispose of collected plasticizer in waste plasticizer station in extrusion.

19. Complete release report FW-721 and return to the Flake

20. Coordinator's assistant. Record storage tank level on the flake plant shift logbook.

F. Tank Truck Positioning

1. Clear the unloading area of temporary barricades, chocks, and/or any other items that would block parking or the unloading area. **An explosibilty check must be made prior to backing in a tank truck into the unloading position. The CCR must notify the unloader if an alarm sounds on the BA leak detection system for the dike sump pump area or the BA unloading pump area.**

2. Check the bill of lading and truck driver's COA to Ensure proper identification. Ensure the acceptance notice indicates the 3GO conforms to specifications.

3. Have the driver position the tank truck so that unloading platform will line up with the truck manway.

4. Block off unloading area by setting up barricades And/or signs.

5. Chock one wheel on each side of the truck.

6. Follow tank truck inspection as described in the "Hazardous Materials Manual" before unloading or sampling. Filled out forms must be filed in the CCR filing cabinet. Discrepancies are reported to the Raw Materials Coordinator.

G. Unloading Tank Truck

Note: Using the same pump used to unload tank cars to unload plasticizer transported by tank trucks. Extra caution must be taken to setup valving correctly during unloading.

Note: Per Standard S3U - During entire unloading process, attendant must be within 25 feet of unloading hose(s).

1. Place truck driver's key in key box.

2. Connect ground cable to the truck to be unloaded. Perform the Ground Continuity Test per procedure 3-E-2.

3. Lower the unloading railing.

4. Follow the plasticizer-tank car sampling procedures above.

5. Properly vent the tank truck by opening manways on the tank trucks.

6. Check and record the storage tank level to insure that you can unload the contents of the tank truck

without going over the maximum level.

7. Make sure truck discharge valve is closed, then connect the unloading line to the truck tank.

8. Check to be sure sample valve, pump drain valve and tank truck unloading valve is closed.

9. Open the valve on the truck discharge.

10. Follow the plasticizer Tank Car unloading procedures to prime and start the unloading pump.

11. When unloading is complete, close the manual valve in the discharge side of pump and stop the unloading pump.

12. Close discharge valves on tank truck and open sample valve to drain suction. Collect material drained and pour down drain to bio-treatment pond.

13. Close the pump suction valve and record storage tank level.

H. Release of Truck (Do Steps in Sequence)

1. Disconnect and cap flexible unloading line. Store in hose rack.

2. Secure the truck dome covers.

3. Disconnect the ground cable and remove the chocks.

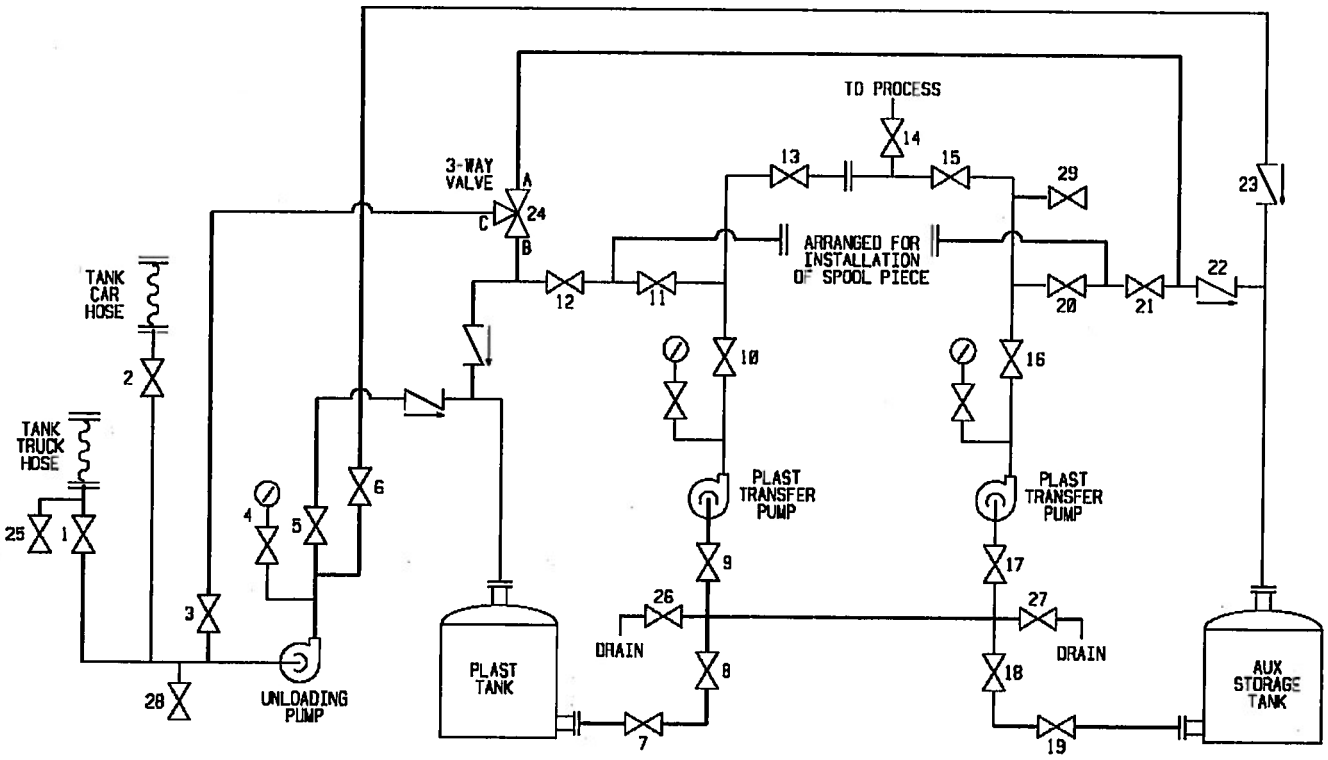
4. Sign bill of lading and keep the necessary copies for accounting records.

5. Remove all barricades and/or signs and release truck.

6. Verify with CCR that no BA leak alarm has sounded before Releasing tank truck and giving the keys back to the truck driver.

FLAKE BLENDING AND STORAGE FACILITIES
PLASTICIZING

PLAST TANK AND UNLOADING VALVING



Valving

"A" Transfer pump in service

* Valves 7,8,9,10,11,12,13 & 14 Open
* Valves 15,16,17,18,19,20, 21,22,23,26,27 & 29 Closed
* 3-way valve #24 is in the B-C position
* Valves 1 through 6 are closed unless unloading

Valving

"B" Transfer pump in service

* Valves 7,8,11,12,13,14,15 16 & 17 Open
* Valves 9,10,18,19,20,21,22 & 26,27 & 29 Closed
* 3-way valve #24 is in the B-C position
* Valves 1 through 6 are closed unless unloading

FLAKE BLENDING AND STORAGE FACILITIES
PLASTICIZING

I. Plasticizer Addition, Additive Addition, Final % Solids, and Dry Recycle Pounds Calculation

The plasticizer and additive addition calculation is performed automatically at the beginning of the plasticizer batch, but can also be performed manually during the plasticizer addition if it is necessary to make a correction. This calculation loads the plasticizer and additive gallon presets for the batch. The Final % solids of the batch will be automatically calculated when the plasticizer sequence advances into the "Ready for Discharge" step. The "Dry Recycle LBS" required for the blend will be automatically calculated when the plasticizer sequence advances into the "Discharge" step. DCS displays are used to access the calculation.

1. Bring up either the "Plasticizing and Feed Overview" or the individual Plasticizer Kettle display.

2. Ensure that the correct plasticizer, "3GO", is selected for the kettle to be charged. This will determine the density used for the plasticizer in the calculation.

3. Ensure that the correct master blend tank, either "B" or "C", is selected for the kettle. This will determine the % solids used, if "Feed forward % Solids" control is enabled.

4. Ensure that the correct plasticizer additive tank, either "Old" or "New" is selected. This will determine the Tinuvin type and concentration of the additive used in the calculation.

5. Bring up the "Plasticizer Calculation" display for the proper plasticizer kettle.

6. Ensure that the correct Tinuvin type, either "Tin-P" or "Tin-326" is selected. This will determine the Tinuvin concentration goal used in calculation.

7. Ensure that the "Target Parts" is correct. This will determine the plasticizer parts goal used in the calculation.

8. If "Feed forward % Solids" is turned on for either master blend tank, the "MB % solids" will be automatically entered just prior to execution of the calculation. Otherwise read the value for the "MB % Solids", and select and correct if necessary.

   Note: The "Slurry Charge LBS" is automatically calculated based on the "Slurry Level Preset" value in the Plasticizer DCS.

9. If it is necessary to correct the data after the addition has begun:

   a) Select and correct the data.

   b) Select and turn on the "Calculate Plasticizer Addition" Block.

10. After the calculation is completed the: "Plasticizer Gals preset", "Additive Gals preset", "LBS Octylphenol", and "Total LBS Tinuvin" will be updated. The "Plasticizer Gals Preset" and the "Additive Gals Preset" will be automatically loaded to the plasticizer and additive counters.

11. When the plasticizer sequence advances into the "Ready for Discharge" step, the "Final % Solids" which is required for extruder feed blending, will be automatically calculated by the Plasticizer DCS based on the kettle level, slurry charge, and plasticizer charge.

12. When the plasticizer sequence advances into the "Discharge" step, the "Dry Recycle LBS" required for blending with the batch will be automatically calculated based on the % Recycle Setpoint value for the Large Blend Tank selected. The value calculated will not effect the operation of the blending system, but it will be recorded on the batch card.

13. Plasticizer Process Group (207-234EA) alarm will be activated if the Master Blend % Solids value changes more than 0.6% between plasticizer batches. Operations should verify the change by bringing up the trend for the Master Blend % Solids. Events, which would result in a sudden drop in the Master Blend % Solids, would include

excessive flushing or a transfer of a wash batch with no flake. If no event can explain the sudden change in the Master Blend % Solids number assume an abnormal transfer sequence has caused the calculation to lose or gain dry weight pounds. See Master Blend Storage Tanks Procedure (6-D-1 Section IV. (Correcting Master Blend % Solids).

14. If a low plasticizer batch has been made, additional plasticizer may be added to adjust the batch to standard conditions. To do this average the total gallons added to the last three plasticizer batches. Take this average and subtract off the current amount of plasticizer that was added to the kettle in question. This value should be a rough approximation of how much more is needed. After each adjustment allow one hour for adequate mixing and take a plasticized flake sample. Without plasticizer injection, a plasticized flake sample should fall in the range between 39.5 to 41.5 pph. If plasticizer injection is taking place use the following.

Total injection rate = Add up all extruders per line

Total Injection Rate (cc/min)	Range of flake plasticizer (pph)
50 to 100	38.8 to 40.8
100 to 150	38.3 to 40.3
150 to 200	37.8 to 39.8
200 to 300	37.1 to 39.1
300 to 400	36.1 to 38.1

Record the event in the daily notes and inform technical.

J. DCS Sequence Batch Control

FLAKE BLENDING AND STORAGE FACILITIES
PLASTICIZING

1. Listed below in the proper sequence are the steps and actions required when operating with the sequence in the automatic mode. Ensure that the proper values are entered into the plasticizer calculation for the kettle being charged. The calculation will automatically execute, when the sequence is advanced to Substep #2.

2. The plasticizer and additive counter presets will be automatically entered by the plasticizer calculation. In the event the data used in the calculation is not correct, the presets can be changed from the DCS displays. To change select the plasticizer and additive presets for the kettle (F232PS_ and F3010PS_) and change to the desired settings.

3. Step "2" automatically resets the plasticizer counter to zero.

4. Select correct plasticizer kettle display to discharge on the DCS panel.

5. Start the Selected Large Blend tank agitator and select and turn on the Step Advance block (P_STEP), to step the sequence to "Discharging". Step #14 is the "Discharge" step. Plasticizer kettle being discharged will be displayed on Large Blend Tanks display A, B, C, D, E.

6. When the kettle is empty, the sequence steps in to "Discharge Flush'", Step #15.

7. When the flush timer times out, the sequence steps into the "Add Rinse", step #16. A 3% rinse is added to the kettle.

8. After the rinse water is added, the sequence steps into the "Discharge Rinse", step #17.

9. When the kettle is empty, the sequence steps into "Discharge Flush", Step #18.

10. When the flush timer times out, the sequence steps into "Ready", Step #1.

K. Plasticizing Automatic Sequence

1. Step 1&2 - Ready for charge

- Action Taken:

  - Kettle temperature controller setpoint at heat setting
  - Reset Kettle Plasticizer Counter
  - Reset Kettle Additive Counter
  - The Plasticizer and Additive additions are calculated and the presets are loaded just before the sequence advances into Step 2.

- Conditions for Advancing Sequence to Next Step:

  - No other kettle in Slurry Charge Step
  - No other kettle in the Acetic Acid Charge Step
  - Additive/Plasticizer to kettle valve closed
  - Kettle selected for charge
  - The Kettle Master Blend Designation agrees with the Master Blend selected for discharge to plasticizing.
  - The Plasticizer Batch Calculation has been completed.
  - Operator Step Advance

2. Step 3 & 4 - Acetic Acid Charge

- Action Taken:

  - Kettle Agitator On
  - Kettle Temperature Controller Setpoint at Heat Setting
  - The Acetic Acid Totalizers are instantaneously reset at the start of the step
  - If 3GO is selected for the plasticizer, the Acetic Acid Feed Valve opens a short time after the Acetic Acid Feed Pump has started, and remains open until the Acetic Acid flow total reaches the preset.
  - If 3GO is selected for the plasticizer, the Acetic Acid Feed Pump is On, until the Acetic Acid flow total

reaches the preset, and for a short time after the Acetic Acid Feed Valve has closed.

- Conditions for Advancing Sequence to Next Step:

Note: If 3GO is not selected for the plasticizer, the sequence will unconditionally advance to the next step. (No acetic acid will be added).

- The Acetic Acid Flow Total Reaches the Preset Gallons.
- No Other Kettle in Slurry Charge Step
- Additive/Plasticizer to Kettle Valve Closed
- Kettle Selected for Charge
- The Kettle Master Blend Designation Agrees with the Master Blend Selected for Discharge to Plasticizing.

3. Step 5 & 6 -Slurry Charge

- Action Taken:

- Kettle Agitator On
- Kettle Temperature Controller Setpoint at Heat Setting
- Jacket Water Valve Enabled
- Master Blend Discharge Valve Open for Tank Selected for Discharge, until the Slurry Charge Flow Total reaches the preset.
- Master Blend Slurry Pump On, until the Slurry Charge Flow Total reaches the preset.

- Conditions for Advancing Sequence to Next Step:

- The Slurry Flow Total Reaches the Preset Gallons.

4. Step 7 - Level and Temperature Adjust

- Action Taken:

- Kettle Agitator On
- Steam Sparge Valve Enabled
- Master Blend Discharge Flush is Started when the Discharge Valve Closes at the beginning of this Step

- Master Blend Slurry Pump On, until Flush Timer Times Out
- Master Blend Discharge Flush Valves Open, until Flush Timer Times Out
- Hot Water Valve Enabled, until Trim Level Reached
- Cold Water Valve Enabled, until Trim Level Reached
- Kettle Temperature Controller Setpoint at Heat Setting

• Conditions for Advancing Sequence to Next Step:

- No Other Kettle in the Additive or Plasticizer addition Steps
- All Kettle Additive/Plasticizer Valves Closed.
- Temperature > Minimum Plasticizing Temperature Setpoint Kettle Level > Trim Level Setpoint
- If the kettle is designated to use the UV Additive Mix Tank, the UV Additive Pump must be ready to Automatically start.
- If the kettle is designated to use the Additive Dissolver, the Additive Dissolver Discharge Valve must be open.

5. Step 8 & 9 - Additive Charge

• Action Taken:

- Jacket Water Valve Enabled
- Kettle Agitator On
- Instantaneous Reset Interlock Additive & Plasticizer Counter
- Kettle Additive Counter Enabled
- Additive/Plasticizer to Kettle Valve Open, until Additive Counter Preset Reached
- Proper Additive Header Valve Open, until Additive Counter Preset reached
- Kettle Temperature Controller Setpoint at Heat Setting
- Proper Additive Pump On

• Conditions for Advancing Sequence to Next Step:

- Additive Counter Preset Reached

6. Step 10 - Plasticizer Charge

- Action Taken:

- Jacket Water Valve Enabled
- Kettle Agitator On
- Instantaneous Reset Interlock Additive & Plasticizer Counter
- Kettle Plasticizer Counter Enabled
- Additive/Plasticizer to Kettle Valve Open, until Plasticizer Counter Preset is Reached
- Proper Plasticizer Header Valve Open, until Plasticizer Counter Preset is Reached
- Kettle Temperature Controller Setpoint at Heat Setting

- Conditions for Advancing Sequence to Next Step:

- Plasticizer Counter Preset Reached

7. Step 11 - Plasticizing Period

- Action Taken:

  - Jacket Water Valve Enabled
  - Kettle Agitator On
  - Enable 2nd Plasticizer Addition.
  - Kettle Temperature Controller Setpoint at Heat Setting
  - Reset and Start Plasticizing Period Minutes Counter

- Conditions for Advancing Sequence to Next Step:

  - Plasticizing Period Minutes Counter Reaches Preset

8. Step 12 - Batch Complete

- Action Taken:

  - Kettle Agitator On
  - Jacket Water Valve Enabled
  - Kettle Temperature Controller Setpoint at Heat Setting
  - Enable 2nd Plasticizer Addition.

- Conditions for Advancing Sequence to Next Step:

  - Additive/Plasticizer to Kettle Valve Closed
  - Operator Step Advance or Sample Period Timer Times Out

9. Step 13 - Ready For Discharge

- Action Taken:

  - Kettle Agitator On
  - Kettle Temperature Controller Setpoint at Cool Setting
  - Enable 2nd Plasticizer Addition.
  - Jacket Water Valve Enabled
  - At the start of the step, calculate the Final % Solids for the batch.

- Conditions for Advancing Sequence to Next Step:

  - Additive/Plasticizer to Kettle Valve Closed
  - Kettle Selected for Discharge
  - All Discharge Valves Closed
  - No Other Kettle in Discharge, Flush, Add Rinse, or Discharge Rinse Step
  - All Discharge Flush Valves Closed
  - Either A or B Transfer Pumps have Field Auto and Power On
  - At least one of the Recycle Transfer Pumps has the field switch in auto and the power on
  - Large Blend Tank selected for filling agitator is running
  - A Large Blend Tank has been designated for the kettle ("A", "B", or either)
  - If the kettle is designated for Large Blend Tank "A" or "B", the Large Blend Tank selected for filling must agree with the designation.
  - There is one and only one Recycle Blend Tank in step #7, which has the same Large Blend Tank designation as the kettle.
  - Recycle and Slurry pumps "AUTO" mode is selected on the DCS Blend Tank Graphic.
  - The Recycle Blend Tank Discharge Flush is not active.

-Operator Step Advance

10. Step 14 - Discharge

- Action Taken:

  - Jacket Water Valve Enabled
  - Kettle Agitator On
  - Plasticizer Slurry Discharge Pump On
  - Kettle Discharge Valve Open, if there is a RBT with the same LBT designation in step #7.
  - Kettle Temperature Controller Setpoint at Cool Setting
  - Start Auto Blending sequence.
  - Changing of the LBT designation is disabled
  - At the start of the step, calculate the Lbs. of Recycle required for the blend.

- Conditions for Advancing Sequence to Next Step:

- Kettle Level < Empty Level Setting for Time Delay

11. Step 15 - Discharge Line Flush

- Action Taken:

  - Kettle Agitator On
  - Reset and Start Discharge Flush Timer
  - Plasticizer Slurry Discharge Pump On, until Discharge Flush Timer Times Out
  - All Kettle Discharge Flush Valves Open, until the Discharge Flush Timer Times Out
  - Kettle Temperature Controller Setpoint at Cool Setting
  - Changing of the LBT designation is disabled

- Conditions for Advancing Sequence to Next Step:

  - Additive/Plasticizer to Kettle Valve Closed
  - All Kettle Discharge Valves Closed
  - Discharge Flush Timer Times Out

12. Step 16 - Add Rinse

- Action Taken:

  - Kettle Agitator On
  - Kettle Temperature Controller Setpoint at Cool Setting
  - Cold Water Valve Full Open
  - Changing of the LBT designation is disabled

- Conditions for Advancing Sequence to Next Step:

  - Kettle Level > Rinse Level Setting

13. Step 17 - Discharge Rinse

- Action Taken:

  - Kettle Agitator On
  - Plasticizer Slurry Discharge Pump On
  - Kettle Discharge Valve Open
  - Kettle Temperature Controller Setpoint at Cool Setting

- Conditions for Advancing Sequence to Next Step:

- Kettle Level < Empty Level Setting for Time Delay

14. Step 18 - Final Discharge Line Flush

- Action Taken:

  - Kettle Agitator On
  - Start Discharge Flush Time, If all Discharge Valves are Closed
  - Plasticizer Slurry Discharge Pump On, until Flush Time Times Out
  - All Kettle Discharge Flush Valves Open, until the Discharge Flush Timer Times Out
  - Kettle Temperature Controller Setpoint at Cool Setting
  - Changing of the LBT designation is disabled

- Conditions for Advancing Sequence to Next Step:

  - Discharge Flush Timer Times Out

L. Other Process Controls

1. Plasticizer Charge Select Switch (DCS).

2. Plasticizer Discharge Select Switch (DCS).

3. When any Discharge Flush Valve is opened, all Kettle Discharge Valves will be closed. Auto flushes may occur during the Discharge and Rinse Discharge steps, if no flow is detected.

4. LBT Designation Blocks for LBT "A" Only, LBT "B" Only, or Either LBT. Select and turn on the block (F341HS1_, or F341HS_ OR F341HS2) for the designation desired. Although the LBT Designation can be turned off while the Plasticizer sequence is in the discharge steps, a different LBT Designation can not be made.

5. Second Plasticizer Addition.

   a. A small second plasticizer addition may be made using the Second Plasticizer Addition display.

   b. The kettle to add the Plasticizer to is chosen by selecting and changing the KTL (F232HS1) target. Change the target to zero to disable any additions. Change the target to 1 through 5 for additions to kettles A through E (i.e. 1=A, 2=B, 3=C, 4=D, 5=E).

   c. An arrow will indicate the kettle chosen.

   d. After a selection has been made the "Ready" indicator will show if Plasticizer is not being added to any kettles and the main sequence for the kettle selected is in step #s 5, 6, or 7.

   e. The gallons of Plasticizer to be added is entered by selecting and changing the 2nd Addition Counter PS (F232PS1).

f. With the "Ready" indicator on, the addition may be started by selecting and turning on the Start block (F232PB1).

g. The addition will be stopped automatically, when the 2nd Addition Counter reaches the PS.

M. Plasticizer Filter Change

This procedure satisfies the intent the requirements of GSP #9 Line Break. Line Break permit is not required when this procedure is followed.

Note: Plasticizer Filter Bank should only be changed when no plasticizer is being used.

(Do Steps in sequence)

1. Neoprene® gloves and goggles are required when making line breaks in lines containing plasticizer.

When making the line break, please ensure the availability and operation of all safety equipment (fire extinguishers, safety showers, etc.), note the evacuation route and ensure appropriate barricade. Notify area personnel when beginning the line break and maintain appropriate communication.

2. Close inlet and exit valves on filter housing.

3. Loosen lid retaining bolts and use handle valve to remove lid.

4. Replace filter elements, (stores no. 1010717), rinse used elements and place in plastic bag for disposal.

5. Inspect lid gasket and replace if necessary.

6. Close lid and tighten hold down bolts enough to prevent leaks.

7. Close filter housing drain valve and open housing inlet valve (slowly) and check for leaks.

8. Open housing exit valve.

9. Update filter change record tag and dispose of used filters.

IV. NORMAL SHUTDOWN

This procedure is written assuming that all of the plasticizer kettles are to be shut down. All the Auxiliary slurry pipes are to be flushed with water prior to shutdown. We have the capability of transferring the water to either the large blend tank or the small blend tank.

A. DCS Controller

1. Switch the sequence control Mode to the "Man" mode. Switch the following devices to the "MAN" or "CLOSED" position. This can be done by selecting each device and turning on.

   a. Plasticizer kettle discharge pump ("A" or "B").

   b. Plasticizer agitator.

   c. Plasticizer valve to kettle.

   d. Cold water valve to kettle.

   e. Hot water valve to kettle.

   f. Kettle jacket water valve.

   g. Demineralized steam valve.

   h. Kettle discharge water flush.

   i. Plasticizer circulation pumps. Leave plasticizer circulating.

   j. Plasticizer additives valve to kettle.

B. System Flush

1. Start the Master Blend slurry tank transfer pump. Select and turn on pump (A or B) on the MB display.

2. Use the plasticizer charge select to select the kettle that will receive the flush water.

3. Manually activate Master Blend slurry discharge flush, by selecting and turning on the MB discharge flush valves. Flush until line is cleared.

4. When the level in the plasticizing kettle is above the agitator blade, select the next kettle to be charged with flush water.

5. Repeat steps 2 through 4 for all the Plasticizer kettles.

6. Stop the flushing by selecting and turning off the MB discharge flush valves.

7. Close the manual valves in the Master Blend slurry tank discharge flush lines.

8. Close the manual valve in the seal flush line to the MB slurry transfer pump.

C. Plasticizing Kettle Rinse and Discharge

1. Close the manual valve in the plasticizer line to each kettle.

2. Start the agitator for each plasticizer line to each kettle.

3. Switch the sequence control "MODE" to MANUAL by selecting and turning on.

4. Check and make sure that the plasticizing kettles are set up for discharge to the selected large blend tank.

5. Start the plasticizing kettle transfer pump by selecting and turning on

6. Open the automatic discharge valve for plasticizing kettle "A" and allow kettle to empty, then close and flush. Select and turn on the discharge valve to open.

7. Select and turn off the discharge valve to close. The Flush will start automatically, when discharge valve is closed.

8. Repeat steps 4, through 6 for other kettles, then select and turn off the transfer pump.

9. If rinse out is needed, use demineralized water hose. Reclassify this confined space as non-permit required for entry of the hand or arm.

10. This confined space is certified as not presenting any hazards to the person(s) entering it with the hand or arm, that would require a permit."

V. SHUT-DOWN FOR REPAIRS

As written, this procedure assumes that the system has been placed in the normal shutdown condition as per section IV. If the entire system has not been set up for normal shutdown, the specific equipment to be repaired must be cleared so that the repair work can be done safely. This procedure specifies the minimum amount of clearing. Each job must be reviewed and any additional precautions that are necessary to perform the work safely must be taken.

A. General

1. Review the safety considerations section for this system. Wear the proper protective equipment when performing any job.

2. Clear the equipment to be repaired of hazardous materials and drain, per General Safety Procedure 8.

4. Lock and tag the power source for all equipment to be repaired in accordance with the LTT&T procedure.

5. A work permit must be obtained from supervision before using any open flame or spark-producing device in this area. (Hand tools permitted).

6. A vessel entry permit must be obtained before entering any of the plasticizer kettles.

B. Plasticizing Kettles "A", "B", "C", "D", and "E"

1. DCS sequence control switched to "MAN" mode.

2. Manual valve in hot water supply line. Closed, Locked and Tagged

3. Manual valve in cold water supply line. Closed, Locked and Tagged

4. Manual valve in plasticizer supply line to kettle. Closed, Locked and Tagged

5. Strahman discharge valve. Physically blocked and tagged

6. Manual valve in the water supply line to the kettle jacket. Closed, Locked and Tagged

7. Manual valve in plasticizer additive supply line. Closed, Locked and Tagged

8. Agitator switch (CCR Panel 1133B and starter. Locked and Tagged

C. Unplugging Plasticized PVB Slurry Transfer Lines.

This procedure meets the intent of GSP-9 Line Break, therefore is an exception to GSP-9 (Line Break).

When performing the line break, please ensure the availabilty and operation of all safety equipment (fire extinguishers, safety showers, etc.), note the evacuation route and ensure appriate barricade. Notify area personnel when beginning the line break and maintain appropriate communication.

Plasticized PVB Slurry Lines are also an approved exception to the LTT&T Procedure GSP-8. These lines may be broken to remove plugs by tagging only using the following procedure. This Procedure is not to be used for unplugging pumps or in this process.

Neoprene® gloves are required when coming in contact with the plasticized slurry.

1.	Discharge pump	Tag local switch in the OFF Position
2.	Discharge valve	Tag discharge switch in the Off position for A, B, C, D, & E Plasticizer Tanks
3.	Discharge flush	Close and Tag manual valve for A, B, C & D & E Plasticizer Tanks

4. Make line break and open manual valve to discharge flush line and turn on flush to remove plug.

VI. INTERLOCKS AND ALARMS

There are no safety interlocks and alarms for the Plasticizing process. When non-safety alarms or interlocks are activated the technician should know the reason for the alarm, what steps are to be taken to correct the problem, and return to standard operation, either by notifying maintenance for repairs if necessary or referring to current operating guidelines. The

technician should also contact supervision making them aware of the process status.

When any alarm or interlock is activated and causes a process interruption, the technician will make a note of this occurrence in the area logbook and notify supervision. Any alarms that show a trend of excessive activation will be brought to area supervision or technical for follow up.

A. Process

Note: All DCS alarms will cause a "Plasticizer Group" Panel Alarm to sound

- Hi-Level (Level Transmitter 207-230LA-A,B,C,D,E)
  - DCS Alarm (F230LG-A,B,C,D,E)
  - Process Override
    - Closes Cold Water Valve
    - Closes Hot Water Valve
    - Closes Kettle Plasticizer Valve
    - Closes Kettle Additive Valve
    - Closes Steam Sparge Valve
    - Stops Slurry Charge, if Kettle Selected for Charge
- Hi-Hi-Level (207-230LA1-A,B,C,D,E)
  - DCS Alarm (F230LA-A,B,C,D,E)
  - Process Override
    - Closes Cold Water Valve
    - Closes Hot Water Valve
    - Closes Kettle Plasticizer Valve
    - Closes Kettle Additive Valve
    - Closes Steam Sparge Valve
    - Stops Slurry Charge, if Kettle Selected for Charge
    - Stops Charge Line Flush, if Kettle Selected for Charge
- Hi-Temp (207-233TA-A,B,C,D,E)

- o DCS Alarm (F233TC1-A,B,C,D,E)

- Hi-Hi Temperature (207-233TA1-A,B,C,D,E)
  - o DCS Alarm (F233TA-A,B,C,D,E)
  - o Hi-Hi Temperature Process Interlock also activates.

- Agitator Down (207-228EA-A,B,C,D,E)
  - o DCS Alarm (F228HS2-A,B,C,D,E)
  - o Process Override
    - Closes Plasticizer Charge Valve
    - Closes Additive Charge Valve
    - Closes Steam Sparge Valve
    - Stops Slurry Charge, if Kettle Selected for Charge

- Hi Plasticizer Flow Total (207-232FA)
  - o DCS Alarm (F232FS)
  - o Interlock 207-232FI also activates

- Hi Plasticizer Flow Total (207-232FA-1)
  - o DCS Alarm (F232F1)
    - Sounds when the plasticizer monitor flow total is significantly higher than the control preset.
  - o Interlock 207-232FI-1 also activates

- Hi Plasticizer Flow Total Deviation(207-232FA-2)
  - o DCS Alarm (F232F2)
    - Sounds when there is a significant difference between the plasticizer monitor flow total and the control flow total.

- Hi Additive Flow Total (207-3009FA)
  - o DCS Alarm (F3009FS)
  - o Interlock 207-3009FI also activates
- Hi Additive Flow Total (207-3009FA-1)
  - o DCS Alarm (F3009FA1)
    - Sounds when the additive monitor flow total is significantly higher than the control preset.
  - o Interlock 207-3009FI-1 also activates
- Hi Additive Flow Total Deviation(207-3009FA-2)
  - o DCS Alarm (F3009F2)
    - Sounds when there is a significant difference between the additive monitor flow total and the control flow total.

B. Process Interlock

- Hi Plasticizier monitor flow total(207-232FI-1)

  Activates when the plasticizer monitor flow total is significantly higher than the control preset. Stops the plasticizer addition by closing the plasticizer header valves. Once activated, won't reset until the sequence is taken out of the Plasticizer and Additive Addition Steps.

- Hi Additive monitor flow total(207-3009FI-1)

  Activates when the Additive monitor flow total is significantly higher than the control preset. Stops the additive addition by closing the additive header valves. Once activated, won't reset until the sequence is taken out of the Plasticizer and Additive Addition Steps.

- Hi-Hi Plasticizer Kettle Temperature(207-233TI-1A,B,C,D,E)
  - Closes steam sparge valve.

- Closes hot water valve.

- Hi Plasticizer Flow total (207-232FI)

  -Closes Plasticizer Header valve.

- Hi Additive Flow Total (207-3009FI)

  -Closes Plasticizer Additive valve.

VII. REVISIONS

1. Added TOC, procedure not changed, L. M. Parnell, 05/11/04.

2. Updated to make procedure current, W. R. Gardner, 12/9/04.

3. Routine 3 year review per GSP 54, Update to add statements for GSP #9 and unloading Rail Car procedures, L. A. Powers, 08/15/05.

4. Minor upgrade to replace 4G7 with 3GO, L. A. Powers, 10/12/05.

5. Routine 3 year review per GSP 54, Updated procedure for TA BF-2287 to replace section K with new procedure, R. E. Kern, 08/07/06.

6. Routine 3 year review per GSP 54, Update section VIII. Interlocks and Alarms, L. A. Powers and R. E. Kern, 01/25/07.

7. Routine 3 year review per GSP 54, Update section III-D. Normal operations, L. A. Powers and R. E. Kern, 01/12/08.

8. Updated ROC's to reflect current operation, W. R. Gardner, 10/03/08.

9. Updated section III-B, Normal Operations and replaced references to SetCIM with DCS throughout procedure, T. C. Bentley, 3/25/2009.

10. Updated section III-D to include verification step for proper storage tank level transmitter operation; removed

'ROC' section and 'Control of ROC' section (these were moved to procedure 4-C-6); T. C. Bentley; 5/11/2010.

11. Routine 3 year review per GSP 54, updated section III-F and III-G to obtain explosibility check before spotting Tank Trucks in the unloading position and check CCR for any alarms before releasing Tank Truck, L. A. Powers, 8/05/2010.

12. Revised to include statement around attendant requirements per Standard S3U, J. Stone, 12/14/2011

13. Updated to add statement to step to attach ground cable to car to check tank car/truck ground per procedure 3-E-2, L. A. Powers, 12/19/2011.

14. Routine 3 year review per GSP 54, updated section I-J and K Update the steps in Plast. to the new DCS steps, L. A. Powers, T. Bordeaux and J. Zhang, 6/7/2013.

Appendix D: Discharge Discovery and Reporting

www.dewberry.com

Appendix D

Discharge Discovery and Reporting

Discharge Discovery and Reporting

Upon discovery of a spill or release, the initial responder will contact the Shift Team Leader (STL) to notify him/her of the situation, providing the following information:

- Your name;
- Type of oil released and approximate total volume;
- Source of the release and exact location at the facility;
- Time that release was first discovered;
- Any damage and/or injuries caused by the release; and
- Any actions taken to stop the release or halt the spread of spilled material.

The STL will immediately notify the Safety, Health and Environmental (SHE) Manager to coordinate cleanup.

After contacting the STL, the initial responder will perform the following emergency response procedures:

1. Shut down the operation(s), if deemed necessary and safe.
2. Minimize the leak/release by closing valves, diverting product streams, shutting down pumps, etc. as appropriate, if deemed safe.
3. Ensure the release is minimized by containment within sumps and dikes and on pads. Personnel from the area will perform containment activities, if required.
4. Obtain the identity of the released material.
5. Area personnel will identify appropriate PPE.
6. Contact the Emergency Operations Commander (EOC) for the Industrial Complex.
7. When the release is contained within the boundary limits of the area, area personnel will determine the appropriate response. If the release goes beyond the boundary limits of the area, the Emergency Response Team (ERT) should be summoned and the Incident Commander (IC) will take charge of the incident. The EOC will begin evaluation of the release so that appropriate notifications can be initiated.
8. The EOC is responsible for contacting the appropriate emergency response officials and agencies.
9. The EOC is responsible for contacting all appropriate parties that could be impacted by the spill.

10. Area personnel, the on-site vacuum truck contractors and/or the Discharge Cleanup Organization (DCO) will perform physical recovery activities, if required. Area environmental personnel would also become involved for characterization, classification, and disposal of any waste material.

The DCO is the industrial complex ERT. If a spill or release is deemed beyond the capabilities of ERT, the IC or alternate will be responsible to seek the assistance of local and/or state agencies such as the Bladen County Response Team. The industrial complex ERT is located at the industrial complex and is able to respond to releases immediately. Kuraray has a SLA with the site for incident command.

Recovered Material Disposal

Spill cleanup activities will be considered under the general superv1s1on of the SHE Manager and Technologist, who will designate facility personnel and equipment, as well as authorize contractual assistance, as needed. Spill residues and other contaminated materials will be characterized using safety data sheets, process knowledge, analysis, or the available information, and will be managed in accordance with applicable federal and state regulations.

The facility environmental personnel will obtain necessary approvals for disposal of recovered materials from release events and for the contaminated materials used in cleanup operations. Recording of corrective actions should be implemented as a result of any release event Copies of disposal and release records will be maintained for at least 3 years.

Supplies or equipment depleted as a result of a release and/or subsequent response activities will be replaced as soon as reasonably possible.

Reporting and Notification Procedures

After ***any*** spill has been properly identified, the SHE Manager will be contacted immediately by telephone or in person.

Contact List and Notification Phone Numbers:

Primary [SHE Manager]

Hope A. Walters (910) 433-7170

Alternate [Environmental Coordinator] (910) 433-7144

Jennifer L. Locklear

Federal, State, and Local Agencies

National Response Center	(800) 424-8802 (24 hours)
North Carolina Department of Natural Resources	(800) 858-0368
Bladen County Emergency Management:	911 (24 hours)
US Environmental Protection Agency: Region IV	(800) 832-8224
Spill Cleanup Contractors: EHC Environmental	(910) 843-4456 (Office, 24 hours) (910) 850-4299 (Mobile)

Appendix E- Spill Incident Report Form contains a form to document the spill and assess the spill prevention, control, and countermeasures to determine their adequacy for preventing future releases, and may be submitted as part of the agency notification process. Records of previous spills are maintained in ***Appendix F - Facility Spill History***.

Reportable Quantity / Discharge Notification Requirements

The Table 2 shows the discharge notification requirements for the state of North Carolina as well as USEPA.

Table 1- Discharge Notification Requirements

Type of Discharge	**Verbal Notification to:**			**Written Notification to:**	
	NRC	**USEPA**	**NCDENR**	**USEPA**	**NCDENR**
Discharge of oil to water that exceeds 1,000 gallons	Yes	[2]	Yes	Yes	Yes
Two discharges of oil to water that exceed 42 gallons each within any 12-month period	[1]	[2]	[1]	Yes	Yes
One discharge of 25 gallons, a discharge that causes visible sheen, or a discharge that occurs within 100 feet of a surface water body	No	No	Yes	[3]	No[4]
Discharge of oil to water that violates applicable water quality standards (i.e., causes a sheen on the water)	Yes	[2]	Yes	[3]	No[4]
Discharge of oil to water that causes film or sheen upon, or discoloration of, water surface or adjoining shorelines	Yes	[2]	Yes	[3]	No[4]
Discharge of oil to water that causes sludge or emulsion to be deposited beneath water	Yes	[2]	Yes	[3]	No[4]

surface or upon adjoining shorelines					

Notes

[1] Notify only if discharge violates applicable water quality standards, causes a film or sheen upon or discoloration of the surface of the water or adjoining shorelines, or causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

[2] Notify only if NRC cannot be contacted.

[3] Notify only if this discharge is second of two discharges exceeding 42 gallons each within 12 months.

[4] NCDENR may request a report in writing.

The following additional spill guidance is provided for the state of North Carolina:

If the oil discharged, released or spilled is 25 gallons or more, or causes a sheen on nearby surface water, or is 100 feet or less from surface water body, then the person owning or having control over the oil must immediately take measures to collect and remove the discharge, and report the discharge to NCDENR within 24 hours of discharge, and begin to restore area affected by discharge.

If the oil released or spilled is less than 25 gallons and does not cause sheen on nearby surface water and is more than 100 feet from all surface water bodies, then the person who owns or has control over the oil must immediately take measures to collect and remove the discharge. If it cannot be cleaned up within 24 hours of the discharge or causes sheen on nearby surface water, the person must immediately notify the NCDENR.

If the oil released or spilled in any circumstances does not meet one of the above requirements, or is not permitted by GS 143-215.1, or is not pursuant to a rule adopted by the Environmental Management Commission or a regulation of USEPA, it must be reported to NCDENR immediately. (http://www.enr.state.nc.us/html/faq_details.html#spills).

Immediate Notification

If a discharge to Cape Fear River is imminent, the EOC will notify the following agencies immediately:

National Response Center

NRC: (800) 424·8802 (24 hours)

It is a federal reporting requirement that spills of oil in violation of the federal Clean Water Act and applicable state water quality regulations in excess of reportable quantities to navigable waters of the US (causing a visible film or sheen) be reported to the NRC within 15 minutes upon learning of the discharge. The NRC is the sole federal point of contact for reporting oil spills and operates 24 hours a day, 7 days a week, 365 days a year.

North Carolina Department of Natural Resources

NCDENR: (800) 858-0368 (24 hours)

Bladen County Emergency Services

Bladen County Emergency Services: **911** (24 hours)

The caller should be prepared to provide the following information to these agencies:

- Name of person reporting the spill;
- Telephone number of person reporting the spill;
- Address of facility;
- When and where the spill took place;
- Type(s) and quantity(ies) of material spilled;
- Name and method of contacting Kuraray official in charge of spill response at the facility;
- Any damage or injuries;
- Actions taken to stop the spill and/or prevent the spread of spilled material;
- Any containment and cleanup activities underway;
- Any downstream surveillance and protective measures underway; and
- Names of any other agencies or organizations that have been notified of the release.

Additional Reporting Requirements

The following agencies may be contacted as determined appropriate by EOC:

USEPA Region 4: 1-800-832-8224 (24 hours)

Appendix E: Spill Report Form

Appendix E

Spill Incident Release Form

Facility Name: _____ Facility Phone Number: _____

Facility Location: _____

Incident Type **Evacuation Required? _____**

_____ Discharge to water that exceeds 1,000 gallons

_____ Two discharges to water that exceed 42 gallons each within a 12-month period

_____ Discharge to water that violates applicable water quality standards

_____ Discharge to water that causes a sheen upon or discoloration of water surface

_____ Discharge to water that causes a sludge or emulsion to form beneath water surface

_____ Discharge of 75 gallons or more of diesel fuel within a 24-hour period

_____ Discharge of 25 gallons or more of petroleum product other than diesel within 24-hour period

Incident Source and Location:

_____

Incident Date: _____ Weather Conditions: _____

Approximate Time Incident Began: _____ Discovered: _____ Ended: _____

Material Discharged: _____Concentration of Discharge: _____

Total Quantity Discharged: _____ gallons

Qty. Discharged to Navigable Waters: _____ gallons

Affected Media:

_____

Additional Details/Comments Pertaining to Release:

_____

_____

_____

_____

Person Possessing or Controlling Material at Time of Discharge:

_____

Address: _____ Phone Number: _____

Person Having Actual Knowledge of Facts Surrounding Discharge:

_____

Address: _____Phone Number: _____

Person to Contact for Additional Information Concerning Discharge:

_____

Address: _____Phone Number: _____

Cause of Discharge, Including Failure Analysis:

_____

_____
_____
_____
_____

Efforts Taken to Control or Mitigate Discharge:

_____

_____
_____
_____
_____

Harmful Effects of Discharge, if known:

_____

_____
_____
_____
_____

Damages or Injuries Caused by Discharge:

_____

_____
_____
_____
_____

Corrective Actions and Countermeasures Taken, Including Equipment Repairs and Replacements:

_____
_____
_____
_____

Measures Taken or Planned to Reduce Possibility of Recurrence:

_____

_____
_____
_____
_____

Present or Proposed Remedial Action at Side of Discharge:

_____

_____
_____
_____
_____

Individuals and/or Organizations Contacted:

_____

_____
_____
_____
_____

Prepared by: _____ Title: _____

Signature: _____ Date: _____

Appendix F: Facility Spill History

www.dewberry.com

Appendix F

Facility Spill History

Date	Type of Spill	Description	Required to Report?

Appendix G: Inspection Forms

www.dewberry.com

Appendix G

Inspection Forms

Response Equipment Inspection Log

Inspection Procedure for Spill Response Equipment:

On a monthly basis, all response equipment is inspected for proper location and general condition. The response equipment is also inspected for proper operation, if applicable. If problems are noted, they are immediately corrected. A record of the inspection is maintained below and will be kept as part of the SPCC Plan for 5 years.

Record of inspection, condition, and action taken:

Date	Spill Kit Number	Equipment in Good Condition?	Equipment Located Properly?	Action Taken	Inspector's Signature

Name _____ Date _____

STI SP001 AST Record

Owner Information	**Facility Information**	**Installer Information**
Name	Name	Name
Number and Street	Number and Street	Number and Street
City, State, Zip Code	City, State, Zip Code	City, State, Zip Code

Tank ID _____

Specification:

Design: ☐ UL _____ ☐ SWRI _____ ☐ Horizontal ☐ Vertical ☐ Rectangular

☐ API _____ ☐ Other _____

☐ Unknown

Manufacturer: Contents: Construction Date: Last Repair/Reconstruction Date:

Dimensions: Capacity: Last Change of Service Date:

Construction: ☐ Bare Steel ☐ Catholically Protected (check one): A. ☐ Galvanic or B. ☐ Impressed Current Date Installed: _____

☐ Coated Steel ☐ Concrete ☐ Plastic/Fiberglass ☐ Other

☐ Double-Bottom ☐ Double-Wall ☐ Lined Date Installed: _____

Containment: ☐ Earthen Dike ☐ Steel Dike ☐ Concrete ☐ Synthetic Liner ☐ Other_____

CRDM: ☐ Date Installed: _____ Type: _____
Release Prevention Barrier: ☐ Date Installed: _____ Type: _____

Tank ID _____

Specification:

Design: ☐ UL _____ ☐ SWRI _____ ☐ Horizontal ☐ Vertical ☐ Rectangular

☐ API _____ ☐ Other _____

☐ Unknown

Manufacturer: Contents: Construction Date: Last Repair/Reconstruction Date:

Dimensions: Capacity: Last Change of Service Date:

Construction: ☐ Bare Steel ☐ Catholically Protected (check one): A. ☐ Galvanic or B. ☐ Impressed Current Date Installed: _____

☐ Coated Steel ☐ Concrete ☐ Plastic/Fiberglass ☐ Other

☐ Double-Bottom ☐ Double-Wall ☐ Lined Date Installed: _____

Containment: ☐ Earthen Dike ☐ Steel Dike ☐ Concrete ☐ Synthetic Liner ☐ Other_____

CRDM: ☐ Date Installed: _____ Type: _____

Release Prevention Barrier: ☐ Date Installed: _____ Type: _____

Tank ID _____

Specification:

Design: ☐ UL _____ ☐ SWRI _____ ☐ Horizontal ☐ Vertical ☐ Rectangular

☐ API _____ ☐ Other _____

☐ Unknown

Manufacturer:	Contents:	Construction Date:	Last Repair/Reconstruction Date:
Dimensions:	Capacity:	Last Change of Service Date:	

Construction: ☐ Bare Steel ☐ Catholically Protected (check one): A. ☐ Galvanic or B. ☐ Impressed Current Date Installed: _____

☐ Coated Steel ☐ Concrete ☐ Plastic/Fiberglass ☐ Other

☐ Double-Bottom ☐ Double-Wall ☐ Lined Date Installed: _____

Containment: ☐ Earthen Dike ☐ Steel Dike ☐ Concrete ☐ Synthetic Liner ☐ Other_____

CRDM: ☐ Date Installed: _____ Type: _____

Release Prevention Barrier: ☐ Date Installed: _____ Type: _____

Tank ID _____

Specification:

Design: ☐ UL _____ ☐ SWRI _____ ☐ Horizontal ☐ Vertical ☐ Rectangular

☐ API _____ ☐ Other _____

☐ Unknown

Manufacturer:	Contents:	Construction Date:	Last Repair/Reconstruction Date:
Dimensions:	Capacity:	Last Change of Service Date:	

Construction: ☐ Bare Steel ☐ Catholically Protected (check one): A. ☐ Galvanic or B. ☐ Impressed Current Date Installed: _____

☐ Coated Steel ☐ Concrete ☐ Plastic/Fiberglass ☐ Other

☐ Double-Bottom ☐ Double-Wall ☐ Lined Date Installed: _____

Containment: ☐ Earthen Dike ☐ Steel Dike ☐ Concrete ☐ Synthetic Liner ☐ Other_____
CRDM: ☐ Date Installed: _____ Type: _____
Release Prevention Barrier: ☐ Date Installed: _____ Type: _____

Tank ID _____
Specification: Design: ☐ UL _____ ☐ SWRI _____ ☐ Horizontal ☐ Vertical ☐ Rectangular ☐ API _____ ☐ Other _____ ☐ Unknown
Manufacturer: Contents: Construction Date: Last Repair/Reconstruction Date:
Dimensions: Capacity: Last Change of Service Date:
Construction: ☐ Bare Steel ☐ Catholically Protected (check one): A. ☐ Galvanic or B. ☐ Impressed Current Date Installed: _____ ☐ Coated Steel ☐ Concrete ☐ Plastic/Fiberglass ☐ Other ☐ Double-Bottom ☐ Double-Wall ☐ Lined Date Installed: _____
Containment: ☐ Earthen Dike ☐ Steel Dike ☐ Concrete ☐ Synthetic Liner ☐ Other_____
CRDM: ☐ Date Installed: _____ Type: _____
Release Prevention Barrier: ☐ Date Installed: _____ Type: _____

General Inspection Information:

Inspection Date: _____	Retain Until Date: _____ (36 months from inspection date)
Prior Inspection Date: _____	Inspector Name: _____
Tanks Inspected (ID #'s): _____	

Inspection Guidance:

- For equipment not included in this Standard, follow the manufacturer recommended inspection/testing schedules and procedures.
- The periodic AST Inspection is intended for monitoring the external AST condition and its containment structure. This visual inspection does not require a Certified Inspector. It shall be performed by an owner's inspector who is familiar with the site and can identify changes and developing problems.
- Upon discovery of water in the primary tank, secondary containment area, interstice, or spill container, remove promptly or take other corrective action. Before discharge to the environment, inspect the liquid for regulated products or other contaminants and disposed of it properly.
- (*) designates an item in a non-conformance status. This indicates that action is required to address a problem.
- Non-conforming items <u>important to tank or containment integrity</u> require evaluation by an engineer experienced in AST design, a Certified Inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action in the comment section.
- Retain the completed checklists for 36 months.
- **In the event of severe weather (snow, ice, wind storms) or maintenance (such as painting) that could affect the operation of critical components (normal and emergency vents, valves), an inspection of these components is required as soon as the equipment is safely accessible after the event.**

Item	Task	Status	Comments
1.0 Tank Containment			
1.1 Containment Structure	Check for water, debris, cracks or fire hazard	☐ Yes* ☐ No ☐ N/A	
1.2 Primary Tank	Check for water	☐ Yes* ☐ No	
1.3 Containment drain valves	Operable and in closed position	☐ Yes ☐ No* ☐ N/A	
1.4 Pathways and entry	Clear and gates/doors operable	☐ Yes ☐ No* ☐ N/A	
2.0 Leak Detection			
2.1 Tank	Visible signs of leakage	☐ Yes* ☐ No	
2.2 Secondary Containment	Visible signs of leakage from tank into secondary containment	☐ Yes* ☐ No	
2.3 Surrounding Soil	Visible signs of leakage	☐ Yes* ☐ No ☐ N/A	
2.4 Interstice	Visible signs of leakage	☐ Yes* ☐ No ☐ N/A	
3.0 Tank Equipment			
3.1 Valves	a. Check for leaks	☐ Yes* ☐ No ☐ N/A	
	b. Tank drain valves must be kept locked	☐ Yes* ☐ No ☐ N/A	
3.2 Spill containment boxes on fill pipe	a. Inspect for debris, residue, and water in the box and remove	☐ Yes* ☐ No ☐ N/A	
	b. Drain valves	☐ Yes* ☐ No ☐	

Item	Task	Status	Comments
	must be operable and closed	N/A	
3.3 Liquid level equipment	a. Both visual and mechanical devices must be inspected for physical damage	☐ Yes ☐ No* ☐ N/A	
	b. Check that the device is easily readable	☐ Yes ☐ No* ☐ N/A	
3.4 Overfill equipment	a. If equipped with a “test” button, activate the audible horn or light to confirm operation. This could be battery powered. Replace the battery if needed.	☐ Yes ☐ No* ☐ N/A	
	b. If overfill valve is equipped with a mechanical test mechanism, actuate the mechanism to confirm operation.	☐ Yes ☐ No* ☐ N/A	
3.5 Piping connections	Check for leaks, corrosion and damage	☐ Yes* ☐ No	
4.0 Tank Attachments and Appurtenances			
4.1 Ladder and platform structure	Secure with no sign of severe corrosion or damage?	☐ Yes ☐ No* ☐ N/A	

Item	Task	Status	Comments
5.0 Other Conditions			
5.1 Are other conditions that should be addressed for continued safe operation or that may affect the site spill prevention plan?		☐ Yes* ☐ No	

Additional Comments:

STI SP001 Annual Inspection Checklist

General Inspection Information:

Inspection Date: _____	Retain Until Date: _____ (36 months from inspection date)
Prior Inspection Date: _____	Inspector Name: _____
Tanks Inspected (ID #'s): _____	

Inspection Guidance:

- For equipment not included in this Standard, follow the manufacturer recommended inspection/testing schedules and procedures.
- The periodic AST Inspection is intended for monitoring the external AST condition and its containment structure. This visual inspection does not require a Certified Inspector. It shall be performed by an owner's inspector who is familiar with the site and can identify changes and developing problems.
- Remove promptly upon discovery standing water or liquid in the primary tank, secondary containment area, interstice, or spill container. Before discharge to the environment, inspect the liquid for regulated products or other contaminants and disposed of it properly.
- In order to comply with EPA SPCC (Spill Prevention, Control and Countermeasure) rules, a facility must regularly test liquid level sensing devices to ensure proper operation (40 CFR 112.8(c)(8)(v)).
- (*) designates an item in a non-conformance status. This indicates that action is required to address a problem.

- Non-conforming items important to tank or containment integrity require evaluation by an engineer experienced in AST design, a Certified Inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action in the comment section.
- Retain the completed checklists for 36 months.
- Complete this checklist on an annual basis supplemental to the owner monthly-performed inspection checklists.
- **Note: If a change has occurred to the tank system or containment that may affect the SPCC plan, the condition should be evaluated against the current plan requirement by a Professional Engineer knowledgeable in SPCC development and implementation.**

Item	Task	Status	Comments
1.0 Tank Containment			
1.1 Containment Structure	Check for: • Holes or cracks in containment wall or floor • Washout • Liner degradation • Corrosion • Leakage • Paint failure • Tank settling	☐ Yes* ☐ No ☐ N/A	
2.0 Tank Foundation and Supports			
2.1 Foundation	Settlement or foundation washout?	☐ Yes* ☐ No	
2.2 Concrete pad or ring wall	Cracking or spalling?	☐ Yes* ☐ No ☐ N/A	
2.3 Supports	Check for corrosion, paint failure, etc.	☐ Yes* ☐ No ☐ N/A	
2.4 Water drainage	Water drains away from tank?	☐ Yes ☐ No* ☐ N/A	

Item	Task	Status	Comments
2.5 Tank grounding	Strap secured and in good condition>	☐ Yes ☐ No* ☐ N/A	
3.0 Cathodic Protection			
3.1 Gavlvanic cathodic protection system	Confirm system is functional, includes the wire connections for galvanic system	☐ Yes ☐ No* ☐ N/A	
3.2 Impressed current system	a. Inspect the operational components (power switch, meters, and alarms).	☐ Yes ☐ No* ☐ N/A	
	b. Record hour meter, ammeter and voltmeter readings.	☐ Yes ☐ No* ☐ N/A	
4.0 Tank Shell, Heads, Roof			
4.1 Coating	Check for coating failure	☐ Yes* ☐ No	
4.2 Steel condition	Check for: • Dents • Buckling • Bulging • Corrosion • Cracking	☐ Yes* ☐ No	
4.3 Roof slope	Check for low points and standing water	☐ Yes* ☐ No ☐ N/A	
5.1 Tank Equipment			
5.1 Vents	Verify that components are moving freely and vent passageways	☐ Yes* ☐ No	

Item	Task	Status	Comments
	are not obstructed for: • Emergency vent covers • Pressure/vacuum vent poppets • Other moving vent components		
5.2 Valves	Check the condition of all valves for leaks, corrosion and damage.	☐ Yes* ☐ No	
5.2.1 Anti-siphon, check and gate valves	Cycle the valve open and closed and check for proper operation.	☐ Yes ☐ No* ☐ N/A	
5.2.2 Pressure regulator valve	Check for proper operation. (Note that there may be small ¼ inch drain plugs in the bottom of the valve that are not visible by looking from above only)	☐ Yes ☐ No* ☐ N/A	
5.2.3 Expansion relief valve	Check that the valve is in the proper orientation. (Note that fuel must be discharged back to the tank via a separate pipe or tubing.)	☐ Yes ☐ No* ☐ N/A	

Item	Task	Status	Comments
5.2.4 Solenoid valves	Cycle power to valve to check operation. (Electrical solenoids can be verified by listening to the plunger opening and closing. If no audible confirmation, the valve should be inspected for the presence and operation of the plunger).	☐ Yes ☐ No* ☐ N/A	
5.2.5 Fire and shear valves	a. Manually cycle the valve to ensure components are moving freely and that the valve handle or lever has clearance to allow valve to close completely.	☐ Yes ☐ No* ☐ N/A	
	b. Valves must not be wired in open position.	☐ Yes ☐ No* ☐ N/A	
	c. Make sure fusible element is in place and correctly positioned.	☐ Yes ☐ No* ☐ N/A	
	d. Be sure test ports	☐ Yes ☐ No* ☐	

Item	Task	Status	Comments
	are sealed with plug after testing is complete and no temporary test fixture or component remains connected to valve.	N/A	
5.3 Interstitial leak detection equipment	Check condition of equipment, including: • The window is clean and clear in sight leak gauges. • The wire connections of electronic gauges for tightness and corrosion. • Activate the test button, if applicable.	☐ Yes ☐ No* ☐ N/A	
5.4 Spill containment boxes on fill pipe	a. If corrosion, damage, or wear has compromised the ability of the unit to perform spill containment functions, replace the unit.	☐ Yes* ☐ No ☐ N/A	
	b. Inspect the	☐ Yes* ☐ No ☐	

Item	Task	Status	Comments
	connections to the AST for tightness, as well as the bolts, nuts, washers, for condition and replace if necessary.	N/A	
	c. Drain valves must be operable and closed.	☐ Yes* ☐ No ☐ N/A	
5.5 Strainer	a. Check that the strainer is clean and in good condition.	☐ Yes ☐ No* ☐ N/A	
	b. Access strainer basket and check cap and gasket seal as well as bolts.	☐ Yes ☐ No* ☐ N/A	
5.6 Filter	a. Check that the filter is in good condition and is within the manufacturer's expected service life. Replace, if necessary.	☐ Yes ☐ No* ☐ N/A	
	b. Check for leaks and decreased fuel flow	☐ Yes ☐ No* ☐ N/A	
5.7 Flame arrestors	Follow manufacturer's instructions. Check for corrosion and blockage of air	☐ Yes* ☐ No ☐ N/A	

Item	Task	Status	Comments
	passages.		
5.8 Leak detector for submersible pump systems	Test according to manufacturer's instructions and authority having jurisdiction (AHJ). Verify leak detectors are suited and properly installed for aboveground use.	☐ Yes ☐ No* ☐ N/A	
5.9 Liquid level equipment	a. Has equipment been tested to ensure proper operation?	☐ Yes ☐ No* ☐ N/A	
	b. Does equipment operate as required?	☐ Yes ☐ No* ☐ N/A	
	c. Follow manufacturer's instruction	☐ Yes ☐ No* ☐ N/A	
5.10 Overfill equipment	a. Follow manufacturer's instructions and regulatory requirements for inspection and functionality verification.	☐ Yes ☐ No* ☐ N/A	
	b. Confirm device is suited for above ground use by the manufacturer	☐ Yes ☐ No* ☐ N/A	

Item	Task	Status	Comments
6.0 Insulated Tanks			
6.1 Insulation	Check condition of insulation for: • Missing sections • Areas of moisture • Mold • Damage	☐ Yes* ☐ No ☐ N/A	
6.2 Insulation cover or jacket	Check for damage that will allow water intrusion	☐ Yes* ☐ No ☐ N/A	
7.0 Miscellaneous			
7.1 Electrical wiring and boxes	Are they in good condition?	☐ Yes ☐ No* ☐ N/A	
7.2 Labels and tags	Ensure that all labels and tags are intact and readable	☐ Yes ☐ No* ☐ N/A	

Additional Comments:

STI SP001 Portable Container Monthly Inspection Checklist

General Inspection Information:

Inspection Date: _____	Retain Until Date: _____ (36 months from inspection date)
Prior Inspection Date: _____	Inspector Name: _____
Tanks Inspected (ID #'s): _____	

Inspection Guidance:

- For equipment not included in this Standard, follow the manufacturer recommended inspection/testing schedules and procedures.
- The periodic AST Inspection is intended for monitoring the external AST condition and its containment structure. This visual inspection does not require a Certified Inspector. It shall be performed by an owner's inspector who is familiar with the site and can identify changes and developing problems.

- (*) designates an item in a non-conformance status. This indicates that action is required to address a problem.
- Non-conforming items important to tank or containment integrity require evaluation by an engineer experienced in AST design, a Certified Inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action in the comment section.
- Retain the completed checklists for 36 months.

Item	**Area:** _____	**Area:** _____	**Area:** _____	**Area:** _____
1.0 AST Containment/Storage Area				
1.1 ASTs within designated storage area?	☐ Yes ☐ No*	☐ Yes ☐ No*	☐ Yes ☐ No*	☐ Yes ☐ No*
1.2 Debris, spills, or other fire hazards in containment or storage area?	☐ Yes* ☐ No	☐ Yes* ☐ No	☐ Yes* ☐ No	☐ Yes* ☐ No
1.3 Water in outdoor secondary containment?	☐ Yes* ☐ No	☐ Yes* ☐ No	☐ Yes* ☐ No	☐ Yes* ☐ No
1.4 Drain valves operable and in a closed position?	☐ Yes ☐ No*	☐ Yes* ☐ No	☐ Yes* ☐ No	☐ Yes* ☐ No
1.5 Egress pathways clear and gates/doors operable?	☐ Yes ☐ No*	☐ Yes* ☐ No	☐ Yes* ☐ No	☐ Yes* ☐ No
2.0 Leak Detection				
2.1 Visible signs of leakage around the container or storage area?	☐ Yes* ☐ No	☐ Yes* ☐ No	☐ Yes* ☐ No	☐ Yes* ☐ No
3.0 Container				
3.1 Noticeable container distortions, buckling, denting or bulging?	☐ Yes* ☐ No	☐ Yes* ☐ No	☐ Yes* ☐ No	☐ Yes* ☐ No

Comments:

Appendix H: Butacite Annual SPCC Briefing

www.dewberry.com

Appendix H

Butacite® Annual SPCC Briefing

Kuraray America, Inc. is required to maintain a Spill Prevention, Control and Countermeasures Plan ("the Plan") for the Butacite® Area at the Fayetteville Site. The Plan outlines measures that are taken to prevent oil spills and to prevent any oil spill from reaching 'waters of the state' through discharges of oil to site floor drains and storm sewers.

The Plan requires all oil-handling personnel to participate in a "discharge prevention briefing" at least once a year to assure adequate understanding of the Plan as it applies to their area of responsibility. Such briefings must highlight and describe known discharges of oil or failures, malfunctioning components, and any recently developed precautionary measures. This document fulfills these requirements.

The following spill prevention and control measures are applicable to operations in the Butacite® Area at the Fayetteville Works Site:

- Listed below are the sources of oil and oil-like substances in the Butacite® Area:
  - Used oil is stored in 55-gallon drums in the Butacite® Area.
  - Lubricating/Hydraulic/Refrigerant oil is received in 55-gallon drums and used throughout the facility in operating equipment, including the two Guillotine hydraulic pumps and four Refrigeration units in the Butacite® Area.
  - 3GO is unloaded from either a railcar at a transfer station or from an ISO tank from an adjacent transfer station into either a 62,000-gallon or a 33,000-gallon storage tank located in the Raw Material Tank Farm. Railcars (usually one, but up to three) containing 3GO are sometimes stored on-site on the tracks south of the Butacite® manufacturing building. Since these railcars can be staged anywhere along the approximately 4,000 feet of track, installation of secondary containment has been determined to be impracticable per 40 CFR 112.7(d).
- In the event of an oil spill, refer to and follow the area Butacite® Procedure Number 3-D-1 (Safety and Occupational Health Spill Control) as well as the ENV-1 procedure titled "Environmental Release Reporting Requirements".
  - The Kuraray America, Inc.-Fayetteville Site environmental procedure ENV-1 specifies the immediate required reporting of oil releases to government agencies. If the oil spill meets or exceeds the Reportable Quantity ("RQ") limit, then required government agency reporting must occur within 15 minutes.
  - The following are the reportable quantities for oil releases to the environment:
    - Any quantity (one drop) of oil that causes a film or sheen upon the surface of any water flowing to the Cape Fear River requires reporting.
    - 25 or more gallons of oil spilled to the soil or gravel requires reporting.

- In the event of an oil spill that exceeds the above reportable quantities, immediately contact the Butacite® First Line Supervisor (Shift Incident Commander) so that agency reporting can occur within 15 minutes.
- If the oil release is less than the RQ, then the First Line Supervision in the affected area should be notified and made aware of the spill.
- Immediately notify the Wastewater Treatment Plant ("WWTP") of any oil release to the WWTP or plant outfall to the river.
- Notify the Flake Area Manager, Butacite® Safety Coordinator and Butacite® Unit Manager immediately. Give pertinent information regarding the incident: location, material, quantity, controlled or uncontrolled, and corrective action already taken.

- Spills of oil must be contained and cleaned up immediately so as to avoid discharge to floor drains or storm sewers that discharge to Outfall 002 (Cape Fear River).
  - Absorbent material (Pigs and Spill Cleanup Materials) is located in two places in the Butacite® Area; in the Extrusion Bay of the Raw Materials Building and on the 2nd Floor of the Flake Manufacturing Building.
  - Refer to the MSDS of the released oil for guidance with proper personal protective equipment while controlling and cleaning up the spill.
- In the past year (2016), no known discharges or failures occurred.
- Do you have any comments, questions or do you want to share recommendations concerning health, safety, and environmental issues encountered during facility operations?

Signed: _____

Print Name: _____

Date: _____

Appendix I: Dike Drainage Procedure and Log

www.dewberry.com

Appendix I

Dike Drainage Procedure and Log

ACCUMULATED PRECIPITATION SHALL BE INSPECTED AND WILL NOT BE DISCHARGED IF THERE IS POTENTIAL THAT IT WOULD VIOLATE WATER QUALITY STANDARDS (IF THERE IS A SHEEN PRESENT, DO NOT DISCHARGE THE ACCUMULATED PRECIPITATION. HAVE IT PROPERLY DISPOSED.)

Date	Estimated Amount of Discharge (gallons)	Person Performing Inspection/Draining Containment