SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN
FOR
RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY

Philip E. Marucci Center for Blueberry and Cranberry Research and Extension
Chatsworth, New Jersey

Original Date of Plan: September 2001
Date of Last Plan Amendment/P.E. Certification: February 2005
Date of Last Plan Review: September 18, 2019

CERTIFICATION

I hereby certify that I have examined the facility, and being familiar with the provisions of 40 CFR part 112, and have visited this facility, attest that this SPCC Plan has been prepared in accordance with good engineering practices, including consideration of applicable industry standards, and that procedures for inspection and testing have been established, and that the plan is adequate for this facility.

Engineer:	Glenn Vliet
Registration Number:	GE0539800
State:	New Jersey
Signature:	Glenn Vliet
Date:	2/3/05

SPILL PREVENTION CONTROL AND COUNTERMEASURE COMPLIANCE INSPECTION PLAN REVIEW PAGE

In accordance with the amendments to the Oil Pollution Prevention Act promulgated under the authority of the Clean Water Act, effective August 16, 2002, and codified under 40 CFR 112, a review and evaluation of this Spill Prevention Control and Countermeasure (SPCC) Plan has been conducted. This plan must be reviewed and updated every five years for the date of the implementation of this plan (February 16, 2003). As a result of this review and evaluation, Rutgers, The State University of New Jersey (Rutgers) will amend the SPCC Plan within six months of the review (August 18, 2003) to include more effective prevention and control technology if: (1) such technology will significantly reduce the likelihood of a spill event from the facility, and (2) if such technology has been field-proven at the time of review. Any amendment to the SPCC Plan shall be certified by a Professional Engineer within six months after a change in the facility design, construction, operation, or maintenance occurs which materially affects the facility's potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shorelines.

Review Dates	Signature
1. 5/3/11	
2. 2/12/2014	
3. 1/6/2016	
4. 4/25/2017	
9/18/2019	

MANAGEMENT APPROVAL

Rutgers is committed to the prevention of discharges of oil to navigable waters and the environment, and maintains the highest standards for spill prevention control and countermeasures through regular review, updating, and implementation of this SPCC Plan for the Philip E. Marucci Center for Blueberry and Cranberry Research and Extension.

Authorized Facility Representative: ANTONIO M. CALCADO

Signature:

Title: SENIOR VICE PRESIDENT INSTITUTIONAL PLANNING & OPERATIONS

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1. FACILITY OWNER AND OPERATOR

1.1. Facility Owner and Address

Rutgers, The State University of New Jersey
Old Queens
83 Somerset Street
New Brunswick, NJ 08901-1281

1.2. Facility Operator, Address and Telephone

Philip E. Marucci Center for Blueberry and Cranberry Research and Extension
Rutgers, The State University of New Jersey
125A Lake Oswego Road
Chatsworth, New Jersey 08019
(609) 726-1590

2. FACILITY CONTACT(S)

Table 1 Facility Contacts

Name	Title	Telephone
Nicholi Vorsa	Director	(609) 726-1590
REHS Representative	Environmental Health and Safety Office	(848) 445-2550

3. FACILITY DESCRIPTION

3.1. Facility Operations

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 112.7(d)(4). The facility diagram must also include all transfer stations and connecting pipes

The Philip E. Marucci Center for Blueberry and Cranberry Research and Extension (facility) is a substation of the New Jersey Agricultural Experiment Station of Rutgers University Located in Chatsworth, New Jersey (Figure No. 1). The Center generates and disseminates research information directly applicable to the production of high-quality blueberries and cranberries and develops new cultivars for industry. The center was first established at Whitesbog in 1918 and moved to Chatsworth in 1962.

There are a total of sixteen (16) areas at the facility where petroleum products are stored. Of the sixteen (16) areas, fifteen (15) are aboveground storage tanks (ASTs), and one is the drum storage area in the maintenance shop (Figure 2).

There are various petroleum products stored in the ASTs including No. 2 fuel oil, diesel fuel and unleaded gasoline. The No. 2 fuel oil is used in oil-fired boilers to heat the buildings at the site. Diesel fuel is used to power motors for irrigation and to fuel and emergency generator, vehicles and equipment. The unleaded gasoline is used to fuel vehicles and equipment.

These petroleum products are received by a common carrier via tanker truck. Typically, product is delivered by a 2,800-gallon tanker truck. The tanker truck pumps product into storage tanks at a rate of approximately 65 gallons per minute.

The facility is generally open from 7:00 to 5:00, Monday through Friday. Rutgers personnel at the facility and at Rutgers Environmental Health and Safety can be reached at all times to respond to an incident regarding product storage areas.

3.2. Facility Oil Storage

112.7(a)(3)(i) The type of oil in each container and its storage capacity

The following table summarizes the location, size and type of oil storage areas.

Table 2 Summary of Locations of Oil Storage

Above Ground Storage Tanks			
Tank No.	Building/Tank Name	Volume (Gallons)	Contents
1	Irrigation Motor Shed #1	550	Diesel Fuel
2	Maintenance Shop (Bldg 6175)	1,500	No. 2 Fuel Oil
3	USDA Greenhouse	1,000	No. 2 Fuel Oil
4	USDA Greenhouse	1,000	Diesel Fuel
5	House	275	No. 2 Fuel Oil
6	Irrigation Motor Shed #2	550	Diesel Fuel
7	Office Barn (Bldg 6355)	2,500	No. 2 Fuel Oil
9	White Elephant	550	No. 2 Fuel Oil
10	East/West Greenhouse	2,000	No. 2 Fuel Oil

11	Hot House	550	No. 2 Fuel Oil
12	3-Greenhouses (Bldg 6356)	2,500	No. 2 Fuel Oil
13	Peter's Greenhouse	1,000	No. 2 Fuel Oil
14	Irrigation Motor Shed	550	Diesel Fuel
15	Greenhouse (Bldg 6256)	1,000	Unleaded Gasoline
16	Emergency Generator	720	Diesel Fuel
Drums/Containers			
NA	Maintenance Shop	<400	Motor, hydraulic and gear oils
Total Storage: 16,645			

Note: Tank No. 8 is a 1,000-gallon propane AST that is not required to be included in this SPCC Plan.

3.3. Drainage Pathways and Distance to Navigable Waters

Description of facility's proximity to bays, rivers, streams (perennial or intermittent), creeks, ditches, flood control channels, storm drains, and other waterways. Hydrological systems are described.

The facility is located in the Pinelands in Burlington County, New Jersey. The Pinelands is located in the Atlantic Outer Coastal Plain. The Outer Coastal Plain is comprised of flat to gently rolling terrain. The facility and much of the Pinelands is underlain by the Cohansey Aquifer, consisting of sand and gravel. Water in the aquifer is very shallow, frequently lying at or near the surface. The shallow water produces bogs and numerous narrow and intermittent streams throughout the region. Due to this shallow water and the high acid content of the soil, regional conditions are optimum for cranberry and blueberry farming.

Lakes in the region are mostly man-made and have generally been created by damming streams and wetlands. Lakes and other ponded surface water are utilized to periodically flood the cranberry bogs. Typically, each acre of cranberry bog is associated with ten acres of upstream woodland as a water source.

Near the facility, there are two unnamed streams and cranberry bogs. A perennial stream is located along the east side of Oswego Road and an intermittent stream is located to the west of the facility. These streams flow to the south-southeast where they eventually discharge to the Oswego River, located approximately 3,000 feet to the east of the facility. The Oswego River flows to the south where it becomes part of the Wading River. The Wading River flows southeast into the Mullica

River. Cranberry bogs are located north, east and west of the facility. There are no storm drains or detention ponds.

4. SPILL HISTORY

112.7(a) A facility which has experienced one or more spill events within twelve months prior to the effective date of this part should include a written description of each such spill, corrective action taken and plans for preventing recurrence.

Table No. 3 indicates that no spills have occurred at this facility.

Table 3 Spill History

Location/Date /Time of Spill	Type & Amount Spilled	Cause	Affected Watercourses	Damages & Cost of Damages	Cleanup Cost	Corrective Action
None	----------	--------	----------	----------	----------	----------

5. POTENTIAL SPILL PREDICTIONS

112.7(b) Where experience indicates a reasonable potential for equipment failure (such as loading and 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.

Table 4 summarizes the rate and total quantity of oil that would be discharged at storage areas where there is a reasonable potential for equipment failure. A prediction of the direction of flow is not included since the areas surrounding the oil storage are generally flat.

Table 4
Summary of Potential Spill Predictions and Prevention Measures

Tank No.	Building Name	Tank Size & Contents	Type of Failure	Total Volume (gallons)	Flow Rate (gpm)	Spill Prevention Measures	Prevention Measure Adequate or Corrective Action	Notes
Aboveground Storage Tanks								
1	Irrigation Motor Shed	550-G, Diesel Fuel	Overfill	SC	-	Inside building, metered delivery	Adequate	1
			Rupture, leakage	SC	-	Tank located inside building	Adequate	
			Unloading pipe rupture	130	65	None	Adequate	2,3
2	Maintenance Shop	1,500-G, No. 2 Fuel Oil	Overfill	OP	-	Audible overfill alarm, metered delivery	Adequate	1
			Rupture, leakage	SC	-	Double-walled Fireguard tank	Adequate	
			Unloading pipe rupture	130	65	None	Adequate	2,3
3	USDA Greenhouse	1,000-G, No. 2 Fuel Oil	Overfill	OP	-	Audible overfill alarm, metered delivery	Adequate	1
			Rupture, leakage	SC	-	Doubled-walled Fireguard tank	Adequate	
			Unloading pipe rupture	130	65	None	Adequate	2,3
4	USDA Greenhouse	1,000-G, Diesel Fuel	Overfill	OP	-	Audible overfill alarm, metered delivery	Adequate	1
			Rupture, leakage	SC	-	Double-walled Fireguard tank	Adequate	
			Unloading pipe rupture	130	65	None	Adequate	2,3
5	House	275-G, No. 2 Fuel Oil	Overfill	OP	-	Metered delivery, constantly manned operation	Adequate	1
			Leakage	SC	NA	Tank and piping is pressure tested		
			Unloading pipe rupture	130	65	None	Adequate	2,3
6	Irrigation Motor Shed by Shop	550-G, Diesel Fuel	Overfill	SC	-	Inside building, metered delivery	Adequate	1
			Rupture, leakage	SC	-	Tank located inside building	Adequate	
			Unloading pipe rupture	130	65	None	Adequate	2,3
7	Office Barn	2,500-G, No. 2 Fuel Oil	Overfill	OP	-	Metered delivery, constantly manned operation	Adequate	1
			Rupture, leakage	SC	-	None		
			Unloading pipe rupture	130	65	None	Adequate	2,3
9	White Elephant	550-G, No. 2 Fuel Oil	Overfill	OP	-	Metered delivery, constantly manned operation	Adequate	1
			Rupture, leakage	SC	-	None		
			Unloading pipe rupture	130	65	None	Adequate	2,3

Table 4
Summary of Potential Spill Predictions and Prevention Measures

Tank ID No.	Building Name	Tank Size & Contents	Type of Failure	Total Volume (gallons)	Flow Rate (gpm)	Spill Prevention Measures	Prevention Measure Adequate or Corrective Action	Notes
10	E/W Greenhouse	2,500-G, No. 2 Fuel Oil	Overfill	OP	-	Audible overfill alarm, metered delivery	Adequate	1
			Rupture, leakage	SC	-	Double-walled Fireguard tank	Adequate	
			Unloading pipe rupture	130	65	None	Adequate	2,3
11	Hot House	550-G, No. 2 Fuel Oil	Overfill	OP	-	Audible overfill alarm, metered delivery	Adequate	1
			Rupture, leakage	SC	-	Double-walled Fireguard tank	Adequate	
			Unloading pipe rupture	130	65	None	Adequate	2,3
12	3-Greenhouses	2,500-G, No. 2 Fuel Oil	Overfill	OP	-	Metered delivery, constantly manned operation	Adequate	1
			Rupture, leakage	SC	-	Double-walled Areo-Power tank	Adequate	
			Unloading pipe rupture	130	65	None	Adequate	2,3
13	Peters' Greenhouse	1,000-G, No. 2 Fuel Oil	Overfill	OP	-	Metered delivery, constantly manned operation	Adequate	1
			Rupture, leakage	SC	-	None		
			Unloading pipe rupture	130	65	None	Adequate	2,3
14	Irrigation Motor Shed (Blueberry)	550-G, Diesel Fuel	Overfill	SC	-	Inside building, metered delivery	Adequate	1
			Rupture, leakage	SC	-	Inside building	Adequate	
			Unloading pipe rupture	130	65	None	Adequate	2,3
15	Maintenance Shop	1,000-G, Unleaded Gasoline	Overfill	OP	-	Metered delivery, constantly manned operation	Adequate	1
			Rupture, leakage	SC	-	Doubled-walled Convault tank	Adequate	
			Unloading pipe rupture	130	65	None	Adequate	2,3
16	Emergency Generator	720-G, Diesel Fuel	Overfill	SC	-	Audible overfill alarm, metered delivery	Adequate	1
			Rupture, leakage	SC	-	Double-walled steel tank	Adequate	
			Unloading pipe rupture	130	65	None	Adequate	2,3
Drums/Containers								
NA	Maintenance Shop	(7) 55-G Drums	Drum rupture	55	55	Drums stored inside building	Adequate	

Abbreviations:

Table 4
Summary of Potential Spill Predictions and Prevention Measures

OP	Tank is equipped with overfill protection.	NA	Not applicable.
CP	Tank is equipped with corrosion protection.	AST	Aboveground Storage Tank.
SC	Tank is equipped with secondary containment.	UST	Underground Storage Tank.
PT	Tank and piping is pressure tested every 36 months.	GPM	Gallons per minute.

Notes:

1 The delivery tanker truck uses a metered delivery system. The delivery person programs the number of gallons to be pumped into the tank. The delivery system automatically shuts off when the programmed volume is attained.

2 The volume of the worst-case overfill was estimated by calculating the estimated delivery flow rate (a maximum of 65 gallons per minute) by the maximum time in which it would take the delivery person to notice the overfill (assumed to be 2 minutes).

3 Due to the nature of the facility and reliance of the cranberry bogs on surface water infiltration and runoff, the construction of impervious surfaces (i.e., pavement, concrete) and/or facility drainage systems is not feasible. In the event of a pipe rupture, it is predicted that the oil will spread laterally while infiltrating into underlying sandy soil. Since none of the tanks are located immediately adjacent to any surface water bodies, there is a low potential for a spill to affect a waterway. Rutgers will take immediate action to remediate the affected soil.

7. PREVENTION MEASURES PROVIDED

7.1. Summary of Spill Prevention and Control Measures

112.7(c) Provide appropriate containment and/or diversionary structures or equipment to prevent a discharge as described in 112.1(b). 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 or pipe, will not escape the containment system before clean up occurs. 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; (iii) Culverting, gutters or other drainage systems; (iv) Weirs, booms or other barriers; (v) Spill diversion ponds; (vi) Retention ponds, or; (vii) Sorbent materials. (2) Offshore facilities: (i) Curbing, drip pans, or; (ii) Sumps and collection systems.

Table 4 summarizes the spill prevention and control measures, which are in-place to minimize the potential for equipment failure at the Rutgers Center for Blueberry and Cranberry Research and Extension.

7.2. Facility Drainage

7.2.1. Drainage from diked storage areas

112.8(b) (1) Facility drainage. Restrain drainage from diked storage areas by valves to prevent discharge into the drainage system or facility 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.

This section is not applicable to the facility since there are no diked storage areas.

7.2.2. Valves used on diked area storage

112.8(b) (2) 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

This section is not applicable to the facility since there are no diked storage areas.

7.2.3. Drainage systems from undiked areas

112.8(b)(3) 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.

Due to the nature of the facility and reliance of the cranberry bogs on surface water infiltration and runoff, a facility drainage system that would provide a means for containing a spill is not feasible. None of the tanks at the facility are located immediately adjacent to any surface water bodies. The entire facility is generally flat, unpaved and contains no storm water catch basins. Therefore, there is a low potential that any of the nearby streams or bogs would be immediately affected in the event of a spill. If a spill is not addressed, there is a high potential for ground water to be affected that would eventually lead to the spill affecting nearby streams and bogs.

Therefore, in the event of a spill, Rutgers will take immediate action to remediate affected soil. Rutgers maintains spill control equipment at the facility (see Section 6.9) and has a contract with a local emergency response contractor. The contractor would be contacted immediately following the discovery of the spill to conduct remediation.

7.2.4. Final discharge of drainage

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

As discussed in Section 6.2.3, there is no facility drainage system.

6.2.5. Facility Drainage Systems and Equipment

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, provide two ''lift'' pumps and permanently install at least one of these pumps. Whatever techniques are used, you must engineer facility drainage systems to prevent a discharge as described in paragraph 112.1(b) in case there is an equipment failure or human error at the facility.

As discussed in Section 6.2.3, there is no facility drainage system.

7.3. Bulk Storage Tanks and Secondary Containment

7.3.1. Tank compatibility with its contents

112.8(c) (1) Bulk storage containers. 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 material and construction of all ASTs is compatible with both type of oil and the conditions of oil storage as summarized in Table 5.

Table 5 Summary of AST Compatibility with Contents

Tank No.	Building/Tank Name	Construction	Date Installed	Contents	Content Compatible
1	Irrigation Motor Shed #1	Steel	1998	Diesel Fuel	Yes
2	Maintenance Shop (Bldg 6175)	Steel	1998	No. 2 Fuel Oil	Yes
3	USDA Greenhouse	Steel	1998	No. 2 Fuel Oil	Yes
4	USDA Greenhouse	Steel	1998	Diesel Fuel	Yes
5	House	Steel	2002	No. 2 Fuel Oil	Yes
6	Irrigation Motor Shed #2	Steel	1980	Diesel Fuel	Yes
7	Office Barn (Bldg 6355)	Steel	1997	No. 2 Fuel Oil	Yes
9	White Elephant	Steel	1997	No. 2 Fuel Oil	Yes
10	East/West Greenhouse	Steel	2008	No. 2 Fuel Oil	Yes
11	Hot House	Steel	1998	No. 2 Fuel Oil	Yes
12	3-Greenhouse (Bldg 6356)	Steel	1990	No. 2 Fuel Oil	Yes
13	Peter's Greenhouse	Steel	1998	No. 2 Fuel Oil	Yes
14	Irrigation Motor Shed	Steel	1986	Diesel Fuel	Yes
15	Greenhouse (Bldg 6256)	Steel	1992	Unleaded Gasoline	Yes
16	Emergency Generator	Steel	2016	Diesel Fuel	Yes

7.3.2. Diked area construction and containment volume for storage tanks

112.8(c)(2) Construct all bulk storage tank installations so that you provide a secondary means of containment for the entire contents of the largest single tank plus sufficient freeboard to allow for precipitation. You must ensure diked areas are sufficiently impervious to contain discharges oil. Dikes, containment curbs, and pits are commonly employed for this purpose. You may use an alternative system consisting of a drainage trench enclosure that must be arranged so that a discharge will be safely confined in an in facility catchment basin or holding pond.

Secondary containment will be provided for all bulk storage tanks at the facility by the end of the summer of 2003. The type of secondary containment for each tank is summarized in Table 4. In summary, the ASTs at the irrigation motor sheds (Tank Nos. 1, 6 and 14) have secondary containment provided by the buildings. Tank Nos. 2-4, 10-12 and 15-16 are double-walled ASTs. The remaining tanks (Nos. 5, 7, and 9) currently do not have secondary containment. Rutgers plans to provide secondary containment for these tanks by the end of summer 2003.

7.3.3. Diked area, inspection and drainage of rainwater

112.8(c)(3) Not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open water course, lake, or pond, or bypassing the treatment facility system unless you:
(i) Normally keep the bypass valve sealed closed.
(ii) Inspect the retained rainwater to ensure its presence will not cause a discharge as described in paragraph 112.1(b).
(iii) Open the bypass valve is opened and reseal it following drainage under responsible supervision.
(iv) Keep adequate records of such events, for example, any records required under permits issued in accordance with paragraph 122.41(j)(2) and 122.41(m)(3) of this chapter.

This section is not applicable to this facility since there are no diked areas.

7.3.4. Corrosion protection of buried metallic storage tanks

112.8(c)(4) Protect any completely buried metallic storage tanks installed 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.

There are no buried storage tanks at the facility.

7.3.5. Corrosion protection of partially buried metallic tanks

112.8(c)(5) Not use partially buried metallic tanks for the storage of oil, unless you protect the buried section of the tank from corrosion. You must protect the partially buried and bunkered tanks from corrosion by coatings or cathodic protection compatible with local soil conditions

This section is not applicable to the facility since there are no partially buried tanks.

7.3.6. Aboveground tank periodic integrity testing

> *112.8(c)(6) Test each aboveground container for integrity on a regular schedule, and whenever you make material repair. The frequency of and type of testing must take into account container size and design (such as floating roof, skid mounted, elevated, or partially buried). You must combine visual inspection with another testing technique such as hydrostatic testing, radiographic testing, ultrasonic testing, acoustical emissions testing, or another system of non-destructive shell 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 test kept under usual and customary business practices will suffice for purposes of this paragraph*

ASTs are constantly observed by Rutgers personnel during operating hours. Formal inspections are conducted monthly to examine the exterior of the ASTs and the containment areas. These inspections are documented using the form in Attachment C. At a minimum of every five years, ASTs are drained, cleaned, inspected and repaired, or more frequently based on the results of the visual inspections.

7.3.7. Control of leakage through internal heating coils

> *112.87(c)(7) 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.*

This section is not applicable to the facility since none of the bulk storage tanks are equipped with internal heating coils.

7.3.8. Tank installation fail-safe engineered

> *112.8(c)(8) 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 tank 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.*
> *(v) You must regularly test liquid level sensing devices to ensure proper operation.*

Several ASTs are equipped with fail-safe engineering systems as summarized in the following table.

Table 6 Summary of Fail Safe Engineering Systems

Tank No.	High Liquid Level Audible Alarm	High Liquid Level Visual Alarm	Pump Cutoff Device	Fast Response System for Liquid Level Gauging	Direct Communication between Gauger and Pumper
1	-	-	-	-	Yes
2	Yes	-	-	-	Yes
3	Yes	-	-	-	Yes
4	Yes	-	-	-	Yes
5	-	-	-	-	Yes
6	-	-	-	-	Yes
7	-	-	-	-	Yes
9	-	-	-	-	Yes
10	Yes	-	-	-	Yes
11	Yes	-	-	-	Yes
12	-	-	-	-	Yes
13	-	-	-	-	Yes
14	-	-	-	-	Yes
15	-	-	-	-	Yes
16	Yes	-	-	-	Yes

Note: - indicates fail-safe engineering system is not provided for that tank.

A fail-safe engineering system is employed for all tanks at the facility. Tanker trucks are positioned immediately adjacent to tanks during unloading. The position of the tanker truck allows the operator to observe the tank from tanker truck controls. In the event of a hose rupture or an overfill, the tanker truck operator can respond quickly to shut off the tanker truck pump.

Additionally, tank nos. 2, 3, 4, 10, 11 and 16 are equipped with high liquid level audible alarm systems. The systems are designed to be triggered when product reaches 95% of the storage capacity of the tank. Since tanker trucks are positioned immediately adjacent to the tanks during unloading, the tanker truck operator can respond quickly in the event the alarm is triggered.

7.3.9. Observation of disposal facilities for effluent discharge

> *112.8(c)(9) Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in paragraph 112.1(b).*

This section is not applicable to the facility since there are no disposal facilities.

7.3.10. Visible oil leak corrections from tank seams and gaskets

> *112.8(c)(10) Promptly correct visible oil leaks which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, and bolts. You must promptly remove any accumulations of oil in diked areas.*

Visible oil leaks are reported to the Research Farm Supervisor (see Section 2). Subsequent to reporting, a work order is written and the tank is repaired prior to being reused

7.3.11. Appropriate position of mobile or portable oil storage tanks

> *112.8(c)(11) Position or locate mobile or portable oil storage containers to prevent a discharge as describe in paragraph 112.1(b). You must furnish secondary means of containment, such as dikes or catchment basins, sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.*

This section is not applicable to this facility since there are no mobile or portable oil storage tanks.

7.4. Bulk Storage Piping

7.4.1. Underground Piping

> *112.8(d)(1) Provide buried piping that is installed 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, it should be 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.*

Underground piping exists at the following storage tanks – Nos. 2, 3, 5, 7, 10, and 13. The underground piping at all storage tanks, 7 (2,500-G No. 2 fuel oil AST) and 13 (1,000-G No. 2 fuel oil AST) is constructed with cathodic protection. Specifically, the piping at these storage tanks is double-walled flexible piping, manufactured by Total Containment, Inc. Rutgers plans to upgrade the piping at the other storage tanks with cathodic protection by the end of the summer of 2003.

7.4.2. Provisions for piping not in service

> *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 for an extended period of time.*

When aboveground piping at the storage tanks is not in use, the terminal connection at the transfer point, where applicable, is capped. All aboveground piping is labeled with product content, origin and direction of flow.

7.4.3. Aboveground Piping Support

> *112.8(d)(3) properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.*

All aboveground piping is properly supported. The aboveground piping for storage tank nos. 1, 5, 6, 9, 11, and 14 is supported both by the tank and the adjacent building. The aboveground piping at the remaining tanks is supported by external supports or by a dispenser.

7.4.4. Aboveground valve and pipeline examination

> *112.8(d)(4) Regularly inspect all aboveground valves, piping and appurtenances. During the inspection you must assess 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. You must conduct integrity and leak testing of buried metal piping at the time of installation, construction, relocation, or replacement.*

Aboveground piping and valves are inspected at the time facility inspections are conducted on a monthly basis. Records of these inspections are documented and signed by the inspector. The checklist used for these inspections can be found in Attachment C.

7.4.5. Aboveground piping protection from vehicular traffic

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

All aboveground piping is protected from vehicular traffic. The aboveground piping is either situated between the AST and the building or is protected by concrete bollards. Concrete bollards are installed at storage tank nos. 2, 3, 4, 10, 11, and 15.

7.5. Facility Truck Unloading

7.5.1. Unloading procedures meet DOT regulations

Rutgers requires all drivers to comply with DOT regulations in 49 CFR part 177 and a facility standard operating procedure (see Attachment D).

7.5.2. Secondary containment for tanker trucks

> *112.7(h)(1) Facility tank car and tank truck loading/unloading rack (excluding offshore facilities). 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 truck loading and unloading areas. You must design a 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.*

All tanker truck unloading areas associated with storage tanks are undiked. However, there are no areas where there is a reasonable potential for a spill to occur from the tanker truck and immediately affect any of the nearby streams or bogs. Therefore, in the event of a spill, Rutgers will take immediate action to remediate affected soil. Rutgers maintains spill control equipment at the facility (see Section 6.9) and has a contract with a local emergency response contractor. The contractor would be contacted immediately following the discovery of the spill to conduct remediation.

7.5.3. Warning or barrier system for vehicles

> *112.7(h)(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 transfer lines.*

Warning signs are posted in the unloading areas for the tanks to prevent vehicular departure before disconnecting flexible or fixed transfer lines

7.5.4. Vehicles examined for lowermost drainage outlets before leaving

> *112.7(h)(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, if necessary, ensure that they are tightened, adjusted, or replaced to prevent liquid discharge while in transit.*

Warning signs are posted in all the unloading areas to remind drivers to examine drain outlets prior to departure.

7.6. Inspections and Recordkeeping

> *112.7(e) Conduct inspections and test required of 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*

Facility inspection procedures:

Formal facility inspections are conducted monthly and records of these inspections are documented and signed by the inspector. During the monthly inspections, all unloading areas, containment structures, valves, pipelines, and other equipment are inspected.

Length of time records kept:

Inspection, training, and tank integrity testing records are retained for at least three years.

7.7. Site Security

7.7.1. Fencing

> *112.7(g)(1) Fully fence each facility handling, processing, and storing oil and lock and/or guard entrance gates the facility is not in production or is unattended.*

Fencing is provided around the entire facility.

7.7.2. Flow valves locked

> *112.7(g)(2) Security. Ensure the master flow and drain valves and any other valves permitting direct outward flow of the container's contents to the surface have adequate securely measures so that they remain in the closed position when in non-operating or nonstandby status.*

The only tanks where an appurtenance could be opened to allow the contents to flow outward are at tank nos. 4 and 15. Piping at these tanks is connected to a fuel dispenser. The fuel dispensers are secured with a lock.

7.7.3. Starter controls locked

> *112.7(g)(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 pumps are in a non-operating or non-standby status.*

Starter controls for pumps associated with boilers and other heating equipment are located inside buildings accessible only to authorized Rutgers personnel. Starter control for fuel dispensers which service tank nos. 4 and 15 are secured with locks.

7.7.4. Fill piping connections securely capped

> *112.7(g)(4) Securely cap or blank flange the loading/unloading connections of oil pipelines or facility piping when not in service or standby service.*

All fill piping connections are securely capped when they are not in use and blank-flanged when they are in standby service for an extended time.

7.7.5. Lighting adequate to detect spills

> *112.7(g)(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 nonoperating personnel (the general public, local police, etc.) and*
> *(ii) Prevention of spills occurring through acts of vandalism.*

There is no lighting to illuminate the individual storage tank areas. However, there is lighting to illuminate the facility and deter acts of vandalism.

7.8. Personnel Training and Spill Prevention Procedures

7.8.1. Personnel instructions

> *112.7(f)(1) Personnel, training and discharge prevention procedures. At a minimum, train your oil handling personnel in the operation and maintenance of equipment to prevent the discharges; discharge procedure protocols; applicable pollution control laws, rules and regulations; general facility operations; and, the contents of the SPCC Plan.*

Any personnel responsible for implementing the provisions of this SPCC Plan are required to have spill prevention training which includes a complete review of Rutgers' SPCC Plan. Rutgers conducts training to ensure that these personnel are familiar with the SPCC Plan and the measures to be implemented in the event of a discharge.

7.8.2. Designated person accountable for spill prevention

> *112.7(f)(2) Designate a person at each applicable facility who is accountable for oil spill prevention and who reports to facility management.*

The Director of Farm Activities is the designated person accountable for spill prevention at this facility.

7.8.3. Spill prevention briefings

> *112.7(f)(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 in paragraph 112.1(b) or failures, malfunctioning components, and recently developed precautionary measures.*

During annual safety briefings, spill prevention is discussed. Any incidents are discussed in these briefings in order to prevent them from recurring. Employee feedback and recommendations are encouraged in spill prevention and operation. Sign-in sheets, which include the topics of discussion at each meeting, are maintained for documentation.

7.9. Spill Control Equipment

Spill control equipment stored at or near the oil storage areas includes absorbent pads and booms, oil-absorbent clay, empty drums, brooms and shovels.

7.10. Emergency Contacts

> *Part 110-Discharge of Oil: 110.10 Notice. Any person in charge of a vessel or of an onshore or offshore facility shall, as soon as he or she has knowledge of any discharge of oil from such vessel or facility in violation of §110.6, immediately notify the National Response Center (NRC) (800-424-8802; in the Washington, DC metropolitan area, 426-2675). If direct reporting to the NRC is not practicable, reports may be made to the Coast Guard or EPA predesignated On-Scene Coordinator (OSC) for the geographic area where the discharge occurs. All such reports shall be promptly relayed to the NRC. If it is not possible to notify the NRC or the predesignated OCS immediately, reports may be made immediately to the nearest Coast Guard unit, provided that the person in charge of the vessel or onshore or offshore facility notifies the NRC as soon as possible. The reports shall be made in accordance with such procedures as the Secretary of Transportation may prescribe. The procedures for such notice are set forth in U.S. Coast Guard regulations, 33 CFR part 153, subpart B and in the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR part 300, subpart E. (Approved by the Office of Management and Budget under the control number 2050-0046).*

In the event of discharge, the person who is at the scene shall first contact the Research Farm Supervisor. The Research Farm Supervisor shall then contact REHS and Emergency Personnel, as necessary. Table No. 7 is a listing of the emergency contacts.

Table 7 Emergency Contacts

Name/Organization	Phone Number
Nicholi Vorsa, Research Farm Supervisor	(609) 726-1590
Federal National Response Center	(800) 424-8802
NJDEP Spill Hotline	(877) WARN DEP
Green Bank Vol. Fire Company	(609) 965-2272
Lower Bank Vol. Fire Company	(609) 965-5857
Rutgers Environmental Health & Safety (REHS)	(848) 445-2550

ATTACHMENT A

Certification of the Applicability of the Substantial Harm Criteria (40 CFR 112.20)

Certification of the Applicability of the Substantial Harm Criteria (40 CFR 112.20)

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?

   Yes ___ No 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 to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

   Yes ___ No 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 such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?

   Yes ___ No 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 such that a discharge from the facility would shut down a public water intake?

   Yes ___ No 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 5 years?

   Yes ___ No X

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Signature: _____

Name: Antonio M. Calcado

Title: Senior Vice President Institutional Planning & Operations

Date: 3/8/16

ATTACHMENT B

Monthly Facility Inspection Checklist

MONTHLY FACILITY INSPECTION CHECKLIST

Location: Example - Generator Diesel AST (500 g)
Date:
Inspector:

ALL QUESTIONS ARE TO BE ANSWERED
X = Satisfactory, N/A = Not Applicable, O = Repair or Adjustment Required
Explain All "O" Answers in Comments / Remarks / Recommendations

Drainage (Out of Doors Areas)

X	N/A	O	
			Any noticeable oil sheen on runoff.
			Containment area drainage valves are closed and locked.
			Oil / Water separator systems working properly.
			Effluent from oil / water separator inspected.
			No visible oil sheen in containment area.
			No standing water in containment area.
			Valves, flanges, and gaskets are free from leaks.
			Containment walls are intact.

AST's

X	N/A	O	
			Tank surfaces checked for signs of leakage.
			Tank condition good (no rusting, corrosion, pitting)
			Bolts, rivets or seams are not damaged.
			Tank foundations intact.
			Level gauges and alarms working properly.
			Vents are not obstructed.
			Containers properly labeled.
			Containment free of liquid (i.e. rain/product)

Pipelines

X	N/A	O	
			No signs of corrosion damage to pipelines or supports.
			Buried pipelines are not exposed.
			Out-of service pipes capped.
			Signs / barriers to protect pipelines from vehicles are in place.
			No leaks at valves, flanges or other fittings.
			Containment curbing or trenches are intact.
			Connections are capped or blank-flanged.

Truck Loading / Unloading Area

X	N/A	O	
			Warning signs posted.
			No standing water in rack area.
			No leaks in hoses.
			Drip pans not overflowing
			Catch basins free of contamination.

Security

X	N/A	O	
			Fence and gates intact.
			Gates locked and secure.
			Entrance door secure.
			AST's locked when not in use.
			Starter controls for pumps locked when not in use.
			Lighting is working properly.

Drums/Containers & Oil Filled Equipment

X	N/A	O	
			Containers condition good (i.e. no bulging, no leaks)
			Containers properly labeled/identified (product or waste)
			Containers properly closed
			Proper containment
			Containment free of liquid (i.e. rain/product)
			Transformers in good condition

UST's

X	N/A	O	
			Are sumps free of product/water/debris
			Are manways free of product/water/debris
			Are fill ports marked
			Have any alarms sounded in the last month
			Level gauges and alarms working properly.
			Vents are not obstructed.

Spill Kit Supplies

X	N/A	O	
			Spill Kit on site / available

Comments / Remarks / Recommendations

ATTACHMENT C

Standard Operating Procedure
Tanker Truck Unloading

Standard Operating Procedure – Tanker Truck Unloading

This standard operating procedure (SOP) is for the unloading of petroleum products only at Rutgers University. The SOP is intended to be used for unloading from tanker trucks into above ground or underground storage tanks.

Prior to Unloading

1. Ensure that tanker truck is positioned in approved location for unloading.

2. Make sure that parking brakes on tanker trucks are engaged. Secure the loading/unloading vehicle prior to transfer operations with physical barriers such as wheel chocks and interlocks, to safeguard against accidental movement and rupture of transfer lines.

3. If applicable to the storage location, verify that containment structures are intact and spill control equipment is readily available.

4. Inspect condition of all storage tank flanges, joints, connections, and outlets. Tighten, adjust, or replace as necessary prior to unloading.

5. Properly lock in the closed position all drainage valves in the secondary containment structure.

6. Closely examine the lowermost drain and all outlets of the tanker truck for leakage or defects. If necessary, properly tighten, adjust, or replace to prevent liquid leakage while in transit.

7. Establish adequate bonding/grounding of the tanker truck and receiving container before connecting to the fuel transfer point.

8. Keep hose ends tightly capped while moving hoses into position.

9. Position transfer hoses inside containment structures.

10. Check the pumping circuit and verify the proper alignment of valves.

11. Gauge storage tank to determine volume required.

12. The transfer of Class 3 (flammable liquids) materials, shut off motors of the tank truck when making and breaking hose connections. If unloading is done without requiring the use of the motor of the tank truck to operate pumps, keep the motor shut off throughout unloading.

During Unloading

1. The driver, operator and/or attendant of a tanker truck should remain in the immediate area but outside the vehicle during unloading.

2. When unloading, keep the internal and external valves on the receiving tank open.

3. Make sure that communication is maintained between the pumping and receiving operators at all times.

4. Periodically inspect the condition of the alligator clips, especially the joint between the bonding wire and the clip, to ensure effective bonding circuits.

5. Monitor all hose couplings during unloading.

6. Monitor the liquid level in the receiving tank during unloading to prevent overflow.

7. Monitor flow meters to determine rate of flow during unloading>

8. Reduce flow rate while topping off the tank to provide sufficient reaction time for pump shutdown without overflow of the receiving tank.

9. Never completely fill the receiving tank; provide a minimum of 1 percent ullage to prevent leakage due to thermal expansion.

Subsequent to Unloading

1. Make sure all material has been transferred to tank prior to disconnecting any transfer hoses.

2. Close all tank valves and tanker truck internal, external, and dome-cover valves before disconnecting.

3. Secure all hatches.

4. Disconnect grounding/bonding wires.

5. Prior to vehicle departure, make sure that all connections, fill lines, and grounding/bonding wires are disconnected.

6. Use a drip pan when breaking a connection.

7. Make sure that the hoses are drained, vented, or blown down, to remove the remaining oil before moving them away from their connections.

8. Cap the end of the hose or other connecting devices before moving them, to prevent uncontrolled oil leakage.

9. Disconnect, drain, and support out-of-service or standby hoses, to avoid crushing or excessive strain.

10. Cap associated hose risers.

11. Close all hose riser valves not in use.

12. Remove wheel chocks.