

CITY OF SALEM

SPILL PREVENTION, CONTROL, AND COUNTERMEASURES (SPCC) PLANS

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PREPARED FOR:

CITY OF SALEM ELECTRIC DEPARTMENT
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PROJECT: 13-772

OCTOBER 2013

Amendment to the Spill Prevention, Control, and Countermeasures Plan

**City of Salem Electric Department
Calhoun Street Substation
720 West Calhoun Street
Salem, Virginia**

Prepared for:

City of Salem Electric Department
730 West Main Street
Salem, Virginia 24153

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Project: 13-772

October 2013



EEE Consulting, Inc.

Environmental, Engineering and Educational Solutions

AMENDMENT TO THE SPCC PLAN

Facility Name: City of Salem Electric Department
Calhoun Street Substation
720 West Calhoun Street
Salem, VA 24153

A. Amendment [40 CFR 112.5(a)]

The Spill Prevention, Control, and Countermeasure (SPCC) Plan shall be amended whenever there is a change in the facility design, construction, operation or maintenance that materially affects its potential for a discharge as described in 40 CFR 112.1(b). The amendment shall be prepared within six months and implemented as soon as possible but not later than six months following preparation.

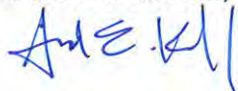
B. Certification [40 CFR 112.5(c)(3)]

If this plan requires amendment and the required amendment is a technical amendment, a Professional Engineer must certify the technical amendment in accordance with 40 CFR 112.3(d) and 40 CFR 112.5(c).

CERTIFICATION:

I hereby certify that the following technical amendments to the SPCC Plan prepared for the Calhoun Street Substation have been prepared in accordance with good engineering practices, including consideration of applicable industry standards, and with the requirements of the SPCC rule. Procedures for the required inspections and testing have been established and the plan is adequate for the facility.

Engineer: Andrew E. Kassoff, PE

Signature: 

Registration Number: 43711

State Registered: Virginia

Firm: EEE Consulting, Inc.

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City: Blacksburg State: VA Zip: 24060

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The following amendments reflect changes in the following Sections of the original SPCC Plan dated February 13, 2004.

AMENDMENT No. 1

Page 1, Section 2.1: General Facility Information

The following amendment adds an additional point of contact for the City of Salem – Calhoun Street Substation

Point of Contact – Assistant SPCC Coordinator:

Mr. Mike Salmon – Electrical Engineer

Phone Number (Office): (540)-375-3030

Phone Number (Cell): (540)-815-0412

AMENDMENT No. 2

Page 1, Section 2.1: General Facility Information

Pages 3 and 4, Section 4.1.1: Dielectric Oil Storage

The original Plan identifies two (2) oil-filled transformers and one (1) circuit breaker as the regulated oil storage containers at the facility. The oil-filled equipment contains dielectric oil that provides additional electrical insulation as well as cooling to prevent the equipment from overheating. The original Plan also notes that the circuit breaker was scheduled to be removed as part of Phase II construction. The oil-filled circuit breaker and temporary containment structure have been removed from the facility.

Table 1, included as an attachment to 2004 SPCC Plan, identified the oil storage capacities of Transformer 1A and Transformer 1B as 3,530-gallons and 5,000-gallons, respectively. Site reconnaissance for the 2013 update indicates the following oil storage capacities for the Transformers and associated appurtenances:

- ❖ The name plate for Transformer 1A lists the main belly tank as having a dielectric oil storage capacity of 3,080-gallons. The subject name plate also lists a 450-gallon radiator oil belly tank and a 430-gallon tap changer tank as integrated into the system.
- ❖ The name plate for Transformer 1B lists the main belly tank as having a dielectric oil storage capacity of 4,580-gallons. The subject name plate also lists a 375-gallon radiator oil belly tank and a 430-gallon tap changer tank as integrated into the system.

Table 1 – Spill Scenario and Volume on the following page was updated to:

1. Accurately depict the Aboveground Storage Tanks (ASTs) and associated oil storage capacities for Transformers 1A and 1B,
2. Remove the 765-gallon circuit breaker AST,
3. Adjust the maximum potential oil discharges based on the updated AST oil storage capacities and;
4. Provide additional details on the potential spill pathways in the event of a release of oil at the facility.

TABLE 1
Spill Scenario and Volume
Calhoun Street Substation

Equipment	Tank Capacity (gallons)	Secondary Containment	Tank Type/Description	*Maximum Anticipated Discharge (gallons)	Spill Route	Response Action
Transformer No. 1A	3,080	Concrete Integral Containment Dike	Aboveground (main belly tank for providing insulation for power distribution)	616	An uncontained spill would sheet flow north/northwest as shown in Figure 1 . Drainage will continue to flow north to one of two drop inlets in the concrete parking lot for the City of Salem Electrical Department Complex. The inlet ultimately discharges to the stormwater system maintained by the City of Salem. The stormwater system ultimately discharges to the Roanoke River.	Contain spilled material with petroleum absorbents/earthen berms. Prevent all released oil from traveling off-site towards the two (2) drop inlets north of the facility.
Transformer No. 1A	430	Concrete Integral Containment Dike	Aboveground (oil-filled belly tank supplying insulation to the tap changer integrated into the main unit)	86		
Transformer No. 1A	450	Concrete Integral Containment Dike	Aboveground (oil-filled belly tank supplying insulation to the radiator integrated into the main unit)	90		
Transformer No. 1B	4,580	Concrete Integral Containment Dike	Aboveground (main belly tank for providing insulation for power distribution)	916		
Transformer No. 1B	430	Concrete Integral Containment Dike	Aboveground (oil-filled belly tank supplying insulation to the tap changer integrated into the main unit)	86		
Transformer No. 1B	375	Concrete Integral Containment Dike	Aboveground (oil-filled belly tank supplying insulation to the radiator integrated into the main unit)	75		

*Based on release of all dielectric oil from the identified oil storage tank and 20% of oil "sloshing" outside the containment structure.

AMENDMENT No. 3

Page 3, Section 4.1.2: Secondary Containment

Each transformer, including all oil storage tanks and associated piping, are contained within a specifically-sized secondary containment structure that consists of a concrete slab surrounded by concrete curbing that is 10-inches in height. Each containment structure is designed to route liquids into an integrated, pre-cast concrete vault. The following amendment indicates the condition of the concrete curbing associated with both systems as viewed during the 2013 site visit, and clarifies the containment requirements of oil-filled operational equipment as defined in the SPCC Rule [40 CFR Part 112.7(c)].

The concrete curbing for both containment systems was installed in 2004 on the pre-existing concrete slabs to provide specifically-sized, secondary containment for the oil-filled operational equipment. The concrete containment systems were in good condition with no apparent signs of cracking or spalling. Thus, the dikes are sufficiently impervious to oil as defined in the SPCC Rule.

Per the SPCC Rule, the single-walled steel, dielectric oil ASTs associated with the transformers are considered oil-filled operational equipment because the oil is solely used to support the function of the apparatus or device. Oil-filled operational equipment is not considered a bulk oil storage container per 40 CFR 112.2 and does not have to comply with specific requirements as described under 40 CFR 112.8 (c), 112.9(c), and 112.12(c). Examples of these requirements include (but are not limited to) specifically-sized secondary containment, fail safe engineering (such as high level alarms), and testing. However, oil filled equipment must meet the general requirements of 40 CFR 112.7.

Because the dielectric oil ASTs at the facility are considered oil-filled operational equipment, general secondary containment measures apply. Each specifically-sized, containment system for the applicable regulated oil storage containers is designed to retain the storage capacity of the single-largest, dielectric oil tank. As previously noted, both containment systems are in good condition and sufficiently impervious to oil. Thus, they meet/exceed the applicable containment requirements of the SPCC Rule.

AMENDMENT No. 4

Page 7, Section 5.1: Inspection and Maintenance

The original Plan describes the procedure for monthly routine inspections of the ASTs and discharge requirements for liquids present in the concrete vault(s) for the secondary containment system(s). The following language clarifies the discharge procedures for each containment vault.

Each containment vault is equipped with a telemetric high level alarm that remotely alerts City of Salem personnel when approximately 3.5-feet of liquid collects in the vault(s). When responding to a high level alarm, the designated person will visually inspect the liquid in the vault(s) and containment area(s) for signs of oil. If no oil is observed, the suction lift pump(s) will be manually started to discharge the collected water in the containment vault(s) to the ground surface. If oil is encountered during the vault inspection, the designated person **will not** engage the pump. The designated person will instead determine the source of oil, and handle and dispose of the oil in compliance with all local, state, and federal regulations. The facility SPCC Coordinator (the Electric Department Director) will be notified immediately to ensure that the clean-up is completed per SPCC guidelines. The SPCC Coordinator will also determine if the spill is reportable to applicable state and federal agencies as described in **Section 7.3** of the original Plan.

The 2004 SPCC Plan contained a Monthly Inspection Form in Appendix B. The subject form listed line items for inspecting and documenting the discharge of liquids that had accumulated in the containment system vaults. Discharge events typically occur during or following precipitation events, which may occur more frequently than once a month depending on seasonal variations. The Dike Drainage Logs (included as **Attachment 1**) will replace the drainage line items on the 2004 Form to clarify the procedures required prior to engaging the pumps. A drainage log record will be filled every time precipitation is discharged from a containment vault.

AMENDMENT No. 5

Pages 7 and 8, Section 5.1: Inspection and Maintenance

The Environmental Protection Agency (EPA) indicates that it is a good engineering practice to have some form of visual inspection or monitoring for oil-filled equipment to prevent discharges as described in 40 CFR 112.1(b). The SPCC regulations require preventative maintenance of all oil handling equipment on an as needed basis and according to recommended practices. The integrity testing requirement of the SPCC Rule can be complied with by following an industry standard such as the Steel Tank Institute (STI) Standard SP001.

Per STI-SP001, all oil storage containers equal to or greater than 55-gallons must be inspected on a monthly and annual basis in accordance with the integrity testing requirements. The outside of the container(s) must be frequently inspected for signs of deterioration, and leaks. Records of the inspections and tests must be maintained at the facility. Blank copies of the monthly and annual facility inspection checklists for the regulated oil storage containers at this facility are included as **Attachment 2**. Completed inspection checklists will be maintained on file in the Main Facility Building located at 730 West Main Street in Salem, Virginia. The monthly and annual inspection checklists must be retained, along with the SPCC Plan, for this facility for a minimum of three (3) years.

The SP001 Standard prescribes a testing procedure involving monthly and annual visual inspections, combined with potential periodic non-destructive testing following a schedule based on tank size, tank age, release detection methods, and presence of a release prevention barrier. In accordance with STI-SP001, the dielectric oil ASTs for Transformers 1A and 1B are considered Category 1 ASTs because they have spill control (i.e. the tanks have specifically-sized secondary containment) and a continual release detection method (CRDM). The STI-SP001 inspection requirements for Category 1 ASTs that are between 0- and 5,000-gallons are as follows:

- ❖ Monthly and annual visual inspections by facility personnel that are trained in oil handling procedures and familiar with the AST and associated components.

The periodic inspections are conducted and documented by facility personnel in accordance with **Section 6.0** of STI-SP001. Inspection personnel are knowledgeable of the City of Salem Electric Department storage operations, the ASTs and their associated components, and characteristics of the liquids stored (dielectric oil). Monthly inspections focus on structural integrity of the tank walls and bottom and the integrity of the tank foundation, secondary containment, piping and anchor bolts. Annual inspections of the ASTs will also be performed by facility personnel. Annual inspections will generally focus on similar action items included in the monthly checklist; however, a more rigorous visual inspection will be conducted on the tanks and associated appurtenances to ensure the system is suitable for continued service.

AMENDMENT No. 6

Page 12, Section 8.0: Plan Review and Amendment

The following action items must be implemented within six (6) months of the PE certified date of this plan to ensure compliance with the SPCC Rule.

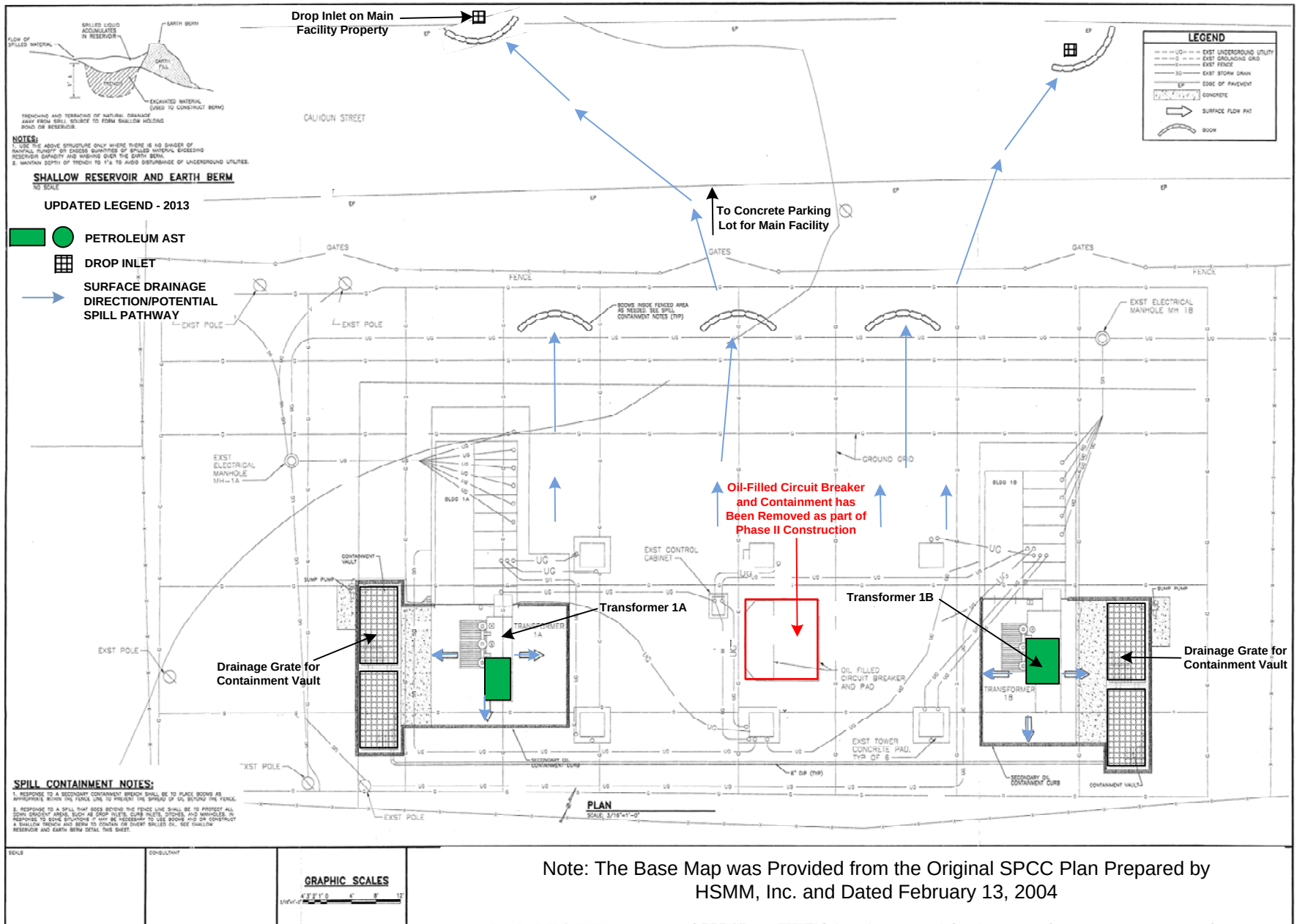
- ❖ Records of water discharge from each containment system vault are to be documented on the Dike Drainage Logs that are included as **Attachment 1**. These logs will replace the dike drainage line items provided on the 2004 Inspection Form.
- ❖ Conduct and document monthly and annual inspections in accordance with the requirements of 40 CFR Part 112 and STI-Standard SP001. Blank copies of the updated monthly and annual facility inspection checklists for steel containers are included as **Attachment 2**. Maintain all inspection forms with the SPCC Plan for a minimum of three years.
- ❖ Conduct annual SPCC training for maintenance personnel who are authorized to handle oil as noted in **Section 6.0** of the 2004 SPCC Plan.

AMENDMENT No. 7

Figure 1

The following amendment reflects revisions to **Figure 1**, which was updated to:

- ❖ Remove the circuit breaker with the 765-gallon AST and containment dike.
- ❖ Clearly depict surface drainage in the event of a release from the dielectric oil-filled transformers. Off-site drainage features were also added to the map to identify infrastructure that discharges to the City of Salem Stormwater System.
- ❖ Update the existing Legend to clearly illustrate the locations of the ASTs, and stormwater drop inlets.



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City of Salem Electrical Department
Calhoun Street Substation

FIGURE 1

Facility Layout
Oil Storage Containers and Drainage Patterns

13-772

September 2013

Attachment 1

Dike Drainage Log

RECORD OF DIKE DRAINAGE
City of Salem Electric Department – Calhoun Street Substation – Transformer 1A

Instructions: This record will be completed by responsible personnel when rainwater collects in the secondary containment vault for Transformer 1A at the Calhoun Street Substation. After inspecting for the presence of product or a sheen, collected water is authorized to be discharged directly to the ground surface using the suction lift pump. **DO NOT** discharge water if a sheen or standing oil is present. Attempt to absorb any pooled oil or sheen using absorbent pads and contact the facility SPCC Coordinator immediately.

Reason for Drainage (i.e. High Level Alarm, Routine Maintenance)	Date	Presence of Oily Sheen in Containment Vault? (Y/N)	Any Oil Seen Leaking from the Equipment or Accessories? (Y/N)	Time Started	Time Finished	Signature

Note: Provide copy to the Facility SPCC Coordinator

RECORD OF DIKE DRAINAGE
City of Salem Electric Department – Calhoun Street Substation – Transformer 1B

Instructions: This record will be completed by responsible personnel when rainwater collects in the secondary containment vault for Transformer 1B at the Calhoun Street Substation. After inspecting for the presence of product or a sheen, collected water is authorized to be discharged directly to the ground surface using the suction lift pump. **DO NOT** discharge water if a sheen or standing oil is present. Attempt to absorb any pooled oil or sheen using absorbent pads and contact the facility SPCC Coordinator immediately.

Reason for Drainage (i.e. High Level Alarm, Routine Maintenance)	Date	Presence of Oily Sheen in Containment Vault? (Y/N)	Any Oil Seen Leaking from the Equipment or Accessories? (Y/N)	Time Started	Time Finished	Signature

Note: Provide copy to the Facility SPCC Coordinator

Attachment 2

Monthly and Annual Inspection Checklists

Inspection Date (Keep records for 3 years)																						
Inspectors Name																						
		Tanks Inspected																				
Item		3,080-g Belly Tank for Transformer 1A			430-g Tap Changer Tank for Transformer 1A			450-g Radiator Tank for Transformer 1A			4,580-g Belly Tank for Transformer 1B			430-g Tap Changer Tank for Transformer 1B			375-g Radiator Tank for Transformer 1B			Comments		
		Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A			
1	Drainage pipes/valves fit for continued use? Closed? Locked?																					
2	Tanks are rusted, pitted, of deteriorated. Evidence of paint failure.																					
3	Tank shell distorted, buckling, dented, discolored, or bulging? Corrosion or cracking noted?																					
4	Bolts, rivets, or seams are damaged, rusted or cracked?																					
5	Grounding strap/wiring secured and in good condition?			X			X			X			X			X			X			
6	Welds are cracked or non-uniform?																					
7	Cracking or spalling of concrete pad?																					
8	Tank foundation has eroded or settled?																					
9	Water able to drain away from tank?																					
10	Tank supports are deteriorated or buckled?																					
11	Vents and pressure release devices are obstructed?																					
12	Emergency vent operable?			X			X			X			X			X			X			
13	Containment structure is in satisfactory condition/general secondary containment present?																					
14	Evidence of coating cracking, peeling, or blistering?																					
15	Does the tank liquid sensing device operate as required?																					
16	Are overfill prevention devices in proper working condition?																					
17	Is the electrical wiring for control boxes/lights in good condition?																					
18	Standing water on roof or top of tank?																					
19	Holes in roof or top of tank?																					
20	Insulation missing?			X			X			X			X			X			X			
21	Noticable areas of moisture on the insulation?			X			X			X			X			X			X			
22	Mold on the insulation?			X			X			X			X			X			X			
23	Damage to insulation?			X			X			X			X			X			X			
24	Stripping of surface resin?			X			X			X			X			X			X			
25	Subsurface disbonding or other defects in the tank shell or chime area?																					
26	Severe surface cracking of Hubs/Flanges, Nozzles, Man-ways, Pipe penetrations (3), on any other penetrations?																					
27	Damage to insulation?			X			X			X			X			X			X			

Amendment to the Spill Prevention, Control, and Countermeasures Plan

**City of Salem Electric Department
Cleveland Avenue Substation
751 Cleveland Avenue
Salem, Virginia**

Prepared for:

City of Salem Electric Department
730 West Main Street
Salem, Virginia 24153

Prepared by:

EEE Consulting, Inc.
201 Church Street, S.E.
Blacksburg, VA 24060
(540) 953-0170
Project: 13-772

October 2013



EEE Consulting, Inc.

Environmental, Engineering and Educational Solutions

AMENDMENT TO THE SPCC PLAN

Facility Name: City of Salem Electric Department
Cleveland Avenue Substation
751 Cleveland Avenue
Salem, VA 24153

A. Amendment [40 CFR 112.5(a)]

The Spill Prevention, Control, and Countermeasure (SPCC) Plan shall be amended whenever there is a change in the facility design, construction, operation or maintenance that materially affects its potential for a discharge as described in 40 CFR 112.1(b). The amendment shall be prepared within six months and implemented as soon as possible but not later than six months following preparation.

B. Certification [40 CFR 112.5(c)(3)]

If this plan requires amendment and the required amendment is a technical amendment, a Professional Engineer must certify the technical amendment in accordance with 40 CFR 112.3(d) and 40 CFR 112.5(c).

CERTIFICATION:

I hereby certify that the following technical amendments to the SPCC Plan prepared for the Cleveland Avenue Substation have been prepared in accordance with good engineering practices, including consideration of applicable industry standards, and with the requirements of the SPCC rule. Procedures for the required inspections and testing have been established and the plan is adequate for the facility.

Engineer: Andrew E. Kassoff, PE

Signature: *And E. Kassoff*

Registration Number: 43711

State Registered: Virginia

Firm: EEE Consulting, Inc.

Address: 201 East Church Street, Suite C

City: Blacksburg State: VA Zip: 24060

Phone: 540-953-0170



The following amendments reflect changes in the following Sections of the original SPCC Plan dated February 9, 2007.

AMENDMENT No. 1

Page 1, Section 2.1: General Facility Information

The following amendment adds an additional point of contact for the City of Salem – Cleveland Avenue Substation

Point of Contact – Assistant SPCC Coordinator:

Mr. Mike Salmon – Electrical Engineer

Phone Number (Office): (540)-375-3030

Phone Number (Cell): (540)-815-0412

AMENDMENT No. 2

Page 2, Section 2.1: General Facility Information

Page 3, Section 4.1.1: Dielectric Oil Storage

The original plan identifies two (2) oil-filled transformers as the regulated oil storage containers at the facility. The transformers contain dielectric mineral oil that provides additional electrical insulation as well as cooling to prevent the equipment from overheating. **Table 1**, included as an attachment to the the 2007 SPCC Plan, identifies the storage of the belly tank for Transformer 5A as 4,100-gallons and the belly tank for Transformer 5B as 3,611-gallons.

Site reconnaissance for the 2013 update indicates the following oil storage capacities for the transformers and associated appurtenances:

- ❖ The name plate for Transformer 5A lists the main belly tank as having a dielectric oil storage capacity of 4,100-gallons. The subject name plate also lists a 150-gallon tap changer tank as integrated into the system.
- ❖ The name plate for Transformer 5B lists the main belly tank as 2,990-gallons. The subject name plate for Transformer 5B also lists a 341-gallon radiator oil belly tank and a 280-gallon tap changer tank as integrated into the system.

Table 1 – Spill Scenario and Volume (on the following page) was updated to:

1. Accurately depict the volume and number of the Aboveground Storage Tanks (ASTs) in each transformer,
2. Adjust the maximum potential oil discharges based on the updated AST oil storage capacities and;
3. Provide additional details on the potential spill pathways in the event of a release of oil at the facility.

TABLE 1
Spill Scenario and Volume
Cleveland Avenue Substation

Equipment	Tank Capacity (gallons)	Secondary Containment	Tank Type/Description	*Maximum Anticipated Discharge (gallons)	Spill Route	Response Action
Transformer No. 5A	4,100	Concrete Integral Containment Dike	Aboveground (main belly tank for providing insulation for power distribution)	820	An uncontained spill would sheet flow to the south as shown in attached Figure 1. A concrete-lined drainage ditch borders the facility to the east. The drainage ditch discharges to an earthen stormwater basin near the northeast corner of the facility. The stormwater basin outfalls to an earthen ditch. The earthen ditch ultimately drains to a rip-rap-lined ditch. The rip-rap-lined ditch discharges to a concrete culvert outside the northwest corner of the facility. The culvert drains to a stormwater system maintained by the City of Salem.	Contain spilled material with petroleum absorbents/earthen berms. Prevent all released oil from entering the concrete lined ditch located east of the facility
Transformer No. 5A	150	Concrete Integral Containment Dike	Aboveground (oil-filled belly tank supplying insulation to the tap changer integrated into the main unit)	30		
Transformer No. 5B	2,990	Concrete Integral Containment Dike	Aboveground (main belly tank for providing insulation for power distribution)	598		
Transformer No. 5B	280	Concrete Integral Containment Dike	Aboveground (oil-filled belly tank supplying insulation to the tap changer integrated into the main unit)	56		
Transformer No. 5B	341	Concrete Integral Containment Dike	Aboveground (oil-filled belly tank supplying insulation to the radiator integrated into the main unit)	68		

*Based on release of all dielectric oil from the AST and 20% of oil "sloshing" outside the containment structure.

AMENDMENT No. 3

Page 3, Section 4.1.2: Secondary Containment

Both transformers, including all oil storage tanks and associated piping, are contained with a specifically-sized secondary containment structure that consists of a concrete slab surrounded by concrete curbing that is approximately 10-12-inches in height. Each containment structure is designed to route liquids into an integrated, pre-cast concrete vault. The 2007 Plan denotes that the concrete vaults are located adjacent to each slab. The following amendment updates the condition of the concrete curbing and clarifies the containment requirements of oil-filled operational equipment as defined in the SPCC Rule.

In 2004, the concrete curbing was installed to the pre-existing concrete slabs to provide specifically-sized secondary containment for the oil-filled operational equipment. Wooden planks were utilized to form the concrete curbing, and several of the forms were apparently left in place after construction of the curbing. It appears that the wooden forms have absorbed moisture and expanded in size, resulting in cracking and spalling to select sections of the concrete curbing and/or slab as follows:

- ❖ One (1) small section of the curbing near the southwest corner of the containment structure for Transformer 5B contained cracks that could potentially impact the capacity of the dike.

The cracked and/or spalled sections of concrete for Transformer 5B are depicted on **Figure 1**. Please note that these sections have the potential to materially affect the ability of each system to be sufficiently impervious to oil.

Per the SPCC Rule, the single-walled steel, dielectric oil ASTs associated with the transformers are considered oil-filled operational equipment because the oil stored is solely used to support the function of the apparatus or device. Oil-filled operational equipment is not considered a bulk oil storage container per 40 CFR 112.2 and does not have to comply with specific requirements as described under 40 CFR 112.8 (c), 112.9(c), and 112.12(c). Examples of these requirements include (but are not limited to) secondary containment, fail safe engineering (such as high level alarms), and testing. However, oil filled equipment must meet the general requirements of 40 CFR 112.7.

Because the dielectric oil ASTs at the facility are considered oil-filled operational equipment, general secondary containment measures apply. Each specifically-sized, containment system for the applicable regulated oil storage containers is designed to retain the storage capacity of the single-largest, dielectric oil tank. The containment system for Transformer No. 5A is in good condition and is sufficiently impervious to oil. Thus, the ASTs associated with Transformer 5A meet/exceed the applicable containment requirements of the SPCC Rule.

As previously noted, the containment system for Transformer No. 5B contained cracked and/or spalled sections of concrete that could materially affect its ability to be sufficiently impervious to oil. Compliance options to ensure adequate secondary containment for the regulated oil storage containers staged at this location is as follows:

1. Per 40 CFR 112.7, general secondary containment measures apply to oil-filled operational equipment, which must be capable of addressing the most likely discharge scenario(s). An overpack spill kit with an adequate supply of spill response materials (i.e. pads, booms, pillows, granular absorbent, etc.) could be staged proximate to Transformer 5B to address the most likely discharge scenario(s), which is a release from a leaking valve/fitting or during dielectric oil transfer events during routine maintenance.
2. In lieu of implementing general secondary containment measures, the City of Salem may elect to repair the compromised sections of concrete with hydraulic cement to ensure that they are sufficiently impervious to oil. Subsequently, the replaced or repaired sections should be lined with an epoxy sealant that is compatible with concrete and outdoor applications.

Please note that either option is acceptable to ensure SPCC compliance. However; upon implementation, the selected option should be reviewed by a Virginia-licensed Professional Engineer to ensure compliance with the applicable requirements of the SPCC Rule.

AMENDMENT No. 4

Pages 5 and 6, Section 4.2: Spill Scenarios

The original Plan lists several spill scenarios and predicts volumes and discharge rates. Per the original 2007 SPCC Plan, a release outside the secondary containment structure would most likely infiltrate into the gravel fill surrounding the equipment. During precipitation events, released oil could sheet flow across the surface with runoff. The following text replaces the

description of surface flow in the event of released oil migrating off-site as described in **Sections 4.2.1, 4.2.2, and 4.2.3** of the 2007 SPCC Plan.

An uncontained spill would sheet flow to the south as shown in **Figure 1**. Off-site drainage from the facility would continue to flow to the east along a grass-lined swale bordering the facility to the south. The swale directs flow to a concrete-lined drainage ditch which borders the facility to the east. The concrete ditch discharges to an earthen stormwater basin near the northeast corner of the facility. The stormwater basin outfalls to an earthen ditch which directs flow to a rip-rap lined ditch. The rip-rap lined ditch discharges to a concrete culvert outside the northwest corner of the facility. The culvert drains to a stormwater system maintained by the City of Salem. The stormwater drainage system discharges to Snyder Branch which eventually flows to the Roanoke River.

AMENDMENT No. 5

Pages 6 and 7, Section 5.1: Inspection and Maintenance

The original Plan describes the procedure for monthly routine inspections of the ASTs and discharge requirements for liquids present in the concrete vault(s) for the secondary containment system(s). The following language clarifies the discharge procedures for the containment vaults.

Each containment vault is equipped with a telemetric high level alarm that remotely alerts City of Salem personnel when approximately 1.2-feet and 0.95-feet of liquid collects in the vaults for Transformer 5A and 5B, respectively. When responding to a high water level alarm, the designated person will visually inspect the liquid in the vault(s) and containment area(s) for signs of oil. If no oil is observed, the suction lift pump(s) will be manually started to discharge the collected water in the containment vault(s) to the ground surface. If oil is encountered during the vault inspection, the designated person **will not** engage the pump(s). The designated person will instead determine the source of oil, and handle and dispose of the oil in compliance with all applicable local, state, and federal regulations. The facility SPCC Coordinator (the Electric Department Director) will be notified immediately to ensure that the clean-up is completed per SPCC guidelines. The SPCC Coordinator will also determine if the spill is reportable to applicable state and federal agencies as described in **Section 7.3** of the original Plan.

The 2007 SPCC Plan contained a Monthly Inspection Form in Appendix B. The subject form listed line items for inspecting and documenting the discharge of liquids that had accumulated in the containment system vaults. Discharge events typically occur during or following precipitation events, which may occur more frequently than once a month depending on seasonal variations. The Dike Drainage Logs (included as **Attachment 1**) will replace the drainage line items on the 2007 Form to clarify the procedures required prior to engaging the pumps. A drainage log record will be filled every time accumulated liquids are discharged from a containment vault.

AMENDMENT No. 6

Page 7, Section 5.1: Inspection and Maintenance

The Environmental Protection Agency (EPA) believes that it is good engineering practice to have some form of visual inspection or monitoring for oil-filled equipment to prevent discharges as described in 40 CFR 112.1(b). The SPCC regulations require preventative maintenance of all oil handling equipment on an as needed basis and according to recommended practices. The integrity testing requirement of the SPCC Rule can be complied with by following an industry standard such as the Steel Tank Institute (STI) Standard SP001.

Per STI-SP001, all oil storage containers equal to or greater than 55-gallons must be inspected on a monthly and annual basis in accordance with the integrity testing requirements. The outside of the container(s) must be frequently inspected for signs of deterioration, and discharges. Records of the inspections and tests must be maintained at the facility. Blank copies of the monthly and annual facility inspection checklists for all oil storage containers are included in **Attachment 2**. Completed inspection checklists will be maintained on file in the Main Facility Building located at 730 West Main Street in Salem, Virginia. The monthly and annual inspection checklists must be retained along with the SPCC Plan for this facility for a minimum of three (3) years.

The SP001 Standard prescribes a testing procedure involving monthly and annual visual inspections, combined with potential periodic non-destructive testing following a schedule based on tank size, tank age, release detection methods, and presence of a release prevention barrier. In accordance with STI-SP001, the dielectric oil belly tanks for Transformers 5A and 5B are considered Category 1 ASTs because they have spill control (i.e. the tanks have secondary containment structures) and a continual release detection method (CRDM). The STI-SP001 inspection requirements for Category 1 ASTs that are between 0- and 5,000-gallons are as follows:

- ❖ Monthly and annual visual inspections by facility personnel that are trained in oil handling procedures and familiar with the AST and associated components.

The periodic inspections are conducted and documented by facility personnel in accordance with **Section 6.0** of STI-SP001. Inspection personnel are knowledgeable of the City of Salem Electric Department storage operations, the ASTs and their associated components, and characteristics of the liquids stored (dielectric oil). Monthly inspections focus on structural integrity of the tank walls and bottom and the integrity of the tank foundation, secondary containment, piping and anchor bolts. Annual inspections of the ASTs will also be performed by facility personnel. Annual inspections will generally focus on similar action items included in the monthly checklist; however, a more rigorous visual inspection will be conducted on the tanks and associated appurtenances to ensure the system is suitable for continued service.

AMENDMENT No. 7

Page 12, Section 8.0: Plan Review and Amendment

The following action items must be implemented within six (6) months of the PE certified date of this plan to ensure compliance with SPCC Rule.

- ❖ As previously noted, the containment system for Transformer 5B contained cracked and/or spalled sections of concrete that could materially affect its ability to be sufficiently impervious to oil. Compliance options to ensure adequate secondary containment for the regulated oil storage containers staged at these locations is as follows:
 1. Per 40 CFR 112.7, general secondary containment measures apply to oil-filled operational equipment, which must be capable of addressing the most likely discharge scenario(s). An overpack spill kit with an adequate supply of spill response materials (i.e. pads, booms, pillows, granular absorbent, etc.) could be staged proximate to Transformer 5B to address the most likely discharge scenario(s), which is a release from a leaking valve/fitting or during dielectric oil transfer events during routine maintenance.
 2. In lieu of implementing general secondary containment measures, the City of Salem may elect to repair the compromised sections of concrete with hydraulic cement to ensure that they are sufficiently impervious to oil. Subsequently, the replaced or repaired sections should be lined with an epoxy sealant that is compatible with concrete and outdoor applications.

Please note that either option is acceptable to ensure SPCC compliance. However; upon implementation, the selected option should be reviewed by a Virginia-licensed Professional Engineer to ensure compliance with the applicable requirements of the SPCC Rule.

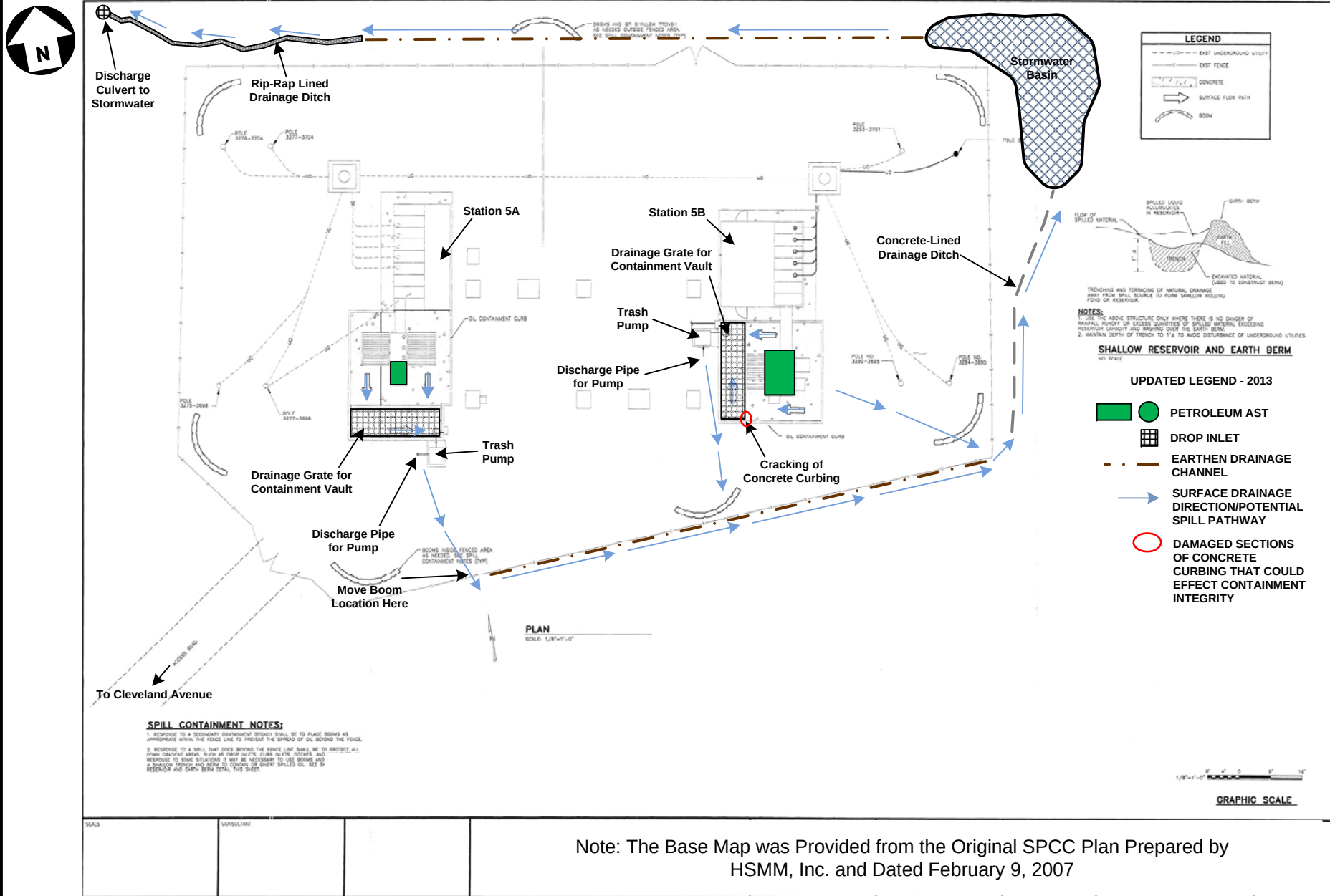
- ❖ Records of water discharge from the containment vaults are to be noted on the Dike Drainage Logs (included as **Attachment 1**). The Dike Drainage Logs replace the Monthly Inspection Form and clarifies the procedures required prior to engaging the lift pump.
- ❖ Conduct and document monthly and annual inspections in accordance with the requirements of 40 CFR Part 112 and STI-Standard SP001. Blank copies of updated monthly and annual facility inspection checklists for steel containers (fixed and portable) are included in **Attachment 2**. Maintain all inspection forms with the SPCC Plan for a minimum of three years.
- ❖ Conduct annual SPCC training for maintenance personnel who are authorized to handle oil as noted in **Section 6.0** of the original Plan.

AMENDMENT No. 8

Figure 1

The following amendment reflects revisions to **Figure 1**, which was updated to:

- ❖ Clearly depict surface drainage in the event of a release from the dielectric oil-filled transformers. Off-site drainage features were added to the map to help identify potential spill pathways.
- ❖ Clearly depict the locations of the pre-cast containment vaults for Transformers 5A and 5B.
- ❖ Depict the locations of cracked and/or spalled concrete in the containment structures for Transformer 5B.
- ❖ Update the existing Legend to clearly illustrate the locations of the ASTs, culverts, and earthen ditches at the facility.



Attachment 1
Dike Drainage Logs

RECORD OF DIKE DRAINAGE
City of Salem Electric Department – Cleveland Avenue Substation – Transformer 5A

Instructions: This record will be completed by responsible personnel when rainwater collects in the secondary containment vault for Transformer 5A at the Cleveland Avenue Substation. After inspecting for the presence of product or a sheen, collected water is authorized to be discharged directly to the ground surface using the trash pump. **DO NOT** discharge water if a sheen or standing oil is present. Attempt to absorb any pooled oil or sheen using absorbent pads and contact the facility SPCC Coordinator immediately.

Reason for Drainage (i.e. High Level Alarm, Routine Maintenance)	Date	Presence of Oily Sheen in Containment Vault? (Y/N)	Any Oil Seen Leaking from the Equipment or Accessories? (Y/N)	Time Started	Time Finished	Signature

Note: Provide copy to the Facility SPCC Coordinator

RECORD OF DIKE DRAINAGE
City of Salem Electric Department – Cleveland Avenue Substation – Transformer 5B

Instructions: This record will be completed by responsible personnel when rainwater collects in the secondary containment vault for Transformer 5B at the Cleveland Avenue Substation. After inspecting for the presence of product or a sheen, collected water is authorized to be discharged directly to the ground surface using the trash pump. **DO NOT** discharge water if a sheen or standing oil is present. Attempt to absorb any pooled oil or sheen using absorbent pads and contact the facility SPCC Coordinator immediately.

Reason for Drainage (i.e. High Level Alarm, Routine Maintenance)	Date	Presence of Oily Sheen in Containment Vault? (Y/N)	Any Oil Seen Leaking from the Equipment or Accessories? (Y/N)	Time Started	Time Finished	Signature

Note: Provide copy to the Facility SPCC Coordinator

Attachment 2

Monthly and Annual Inspection Checklists

SPCC Monthly Inspection Sheet - Cleveland Avenue Substation

Inspection Date (Keep records for 3 years)																	
Inspector's Name																	
		Tanks Inspected															
Item		4,100-g Belly Tank for Transformer 5A			150-g Tap Changer Tank for Transformer 5A			2,990-g Belly Tank for Transformer 5B			280-g Tap Changer Tank for Transformer 5B			341-g Radiator Tank for Transformer 5B			Comments
		Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A	
1	Signs of leakage around the tank/ equipment pad?																
2	Are there any cracks in the pad or the concrete walls?																
3	Valves, pipes, lines or hoses leaking or deteriorated?																
4	Drain valves operable and closed when not in use?																
6	Tank openings properly sealed?																
7	Liquids accumulated in secondary containment, interstice, or spill container?																
8	Debris or fire hazard in containment?																
9	Containment egress pathways clear?																
10	Are there other conditions that should be addressed for continued safe operation or that may affect the site SPCC Plan?																

SPCC Annual Inspection Sheet - Cleveland Avenue Substation																		
Inspection Date (Keep records for 3 years)																		
Inspectors Name																		
			Tanks Inspected															
Item			4,100-g Belly Tank for Transformer 5A			150-g Tap Changer Tank for Transformer 5A			2,990-g Belly Tank for Transformer 5B			280-g Tap Changer Tank for Transformer 5B			341-g RadiatorTank for Transformer 5B			Comments
			Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A	
1	Drainage pipes/valves fit for continued use? Closed? Locked?																	
2	Tanks are rusted, pitted, of deteriorated. Evidence of paint failure.																	
3	Tank shell distorted, buckling, dented, discolored, or bulging? Corrosion or cracking noted?																	
4	Bolts, rivets, or seams are damaged, rusted or cracked?																	
5	Grounding strap/wiring secured and in good condition?				X			X			X			X			X	
6	Welds are cracked or non-uniform?																	
7	Cracking or spalling of concrete pad?																	
8	Tank foundation has eroded or settled?																	
9	Water able to drain away from tank?																	
10	Tank supports are deteriorated or buckled?																	
11	Vents and pressure release devices are obstructed?																	
12	Emergency vent operable?				X			X			X			X			X	
13	Containment structure is in satisfactory condition/general secondary containment present?																	
14	Evidence of coating cracking, peeling, or blistering?																	
15	Does the tank liquid sensing device operate as required?																	
16	Are overfill prevention devices in proper working condition?																	
17	Is the electrical wiring for control boxes/lights in good condition?																	
18	Standing water on roof or top of tank?																	
19	Holes in roof or top of tank?																	
20	Insulation missing?				X			X			X			X			X	
21	Noticable areas of moisture on the insulation?				X			X			X			X			X	
22	Mold on the insulation?				X			X			X			X			X	
23	Damage to insulation?				X			X			X			X			X	
24	Stripping of surface resin?				X			X			X			X			X	
25	Subsurface disbonding or other defects in the tank shell or chime area?																	
26	Severe surface cracking of Hubs/Flanges, Nozzles, Man-ways, Pipe penetrations (3), on any other penetrations?																	
27	Damage to insulation?				X			X			X			X			X	

Amendment to the Spill Prevention, Control, and Countermeasures Plan

**City of Salem Electric Department
Cook Drive Substation
2055 Apperson Drive
Salem, Virginia**

Prepared for:

City of Salem Electric Department
730 West Main Street
Salem, Virginia 24153

Prepared by:

EEE Consulting, Inc.
201 Church Street, S.E.
Blacksburg, VA 24060
(540) 953-0170
Project: 13-772

October 2013



EEE Consulting, Inc.

Environmental, Engineering and Educational Solutions

AMENDMENT TO THE SPCC PLAN

Facility Name: City of Salem Electric Department
Cook Drive Substation
2055 Apperson Drive
Salem, VA 24153

A. Amendment [40 CFR 112.5(a)]

The Spill Prevention, Control, and Countermeasure (SPCC) Plan shall be amended whenever there is a change in the facility design, construction, operation or maintenance that materially affects its potential for a discharge as described in 40 CFR 112.1(b). The amendment shall be prepared within six months and implemented as soon as possible but not later than six months following preparation.

B. Certification [40 CFR 112.5(c)(3)]

If this plan requires amendment and the required amendment is a technical amendment, a Professional Engineer must certify the technical amendment in accordance with 40 CFR 112.3(d) and 40 CFR 112.5(c).

CERTIFICATION:

I hereby certify that the following technical amendments to the SPCC Plan prepared for the Cook Drive Substation have been prepared in accordance with good engineering practices, including consideration of applicable industry standards, and with the requirements of the SPCC rule. Procedures for the required inspections and testing have been established and the plan is adequate for the facility.

Engineer: Andrew E. Kassoff, PE

Signature:

Registration Number: 43711

State Registered: Virginia

Firm: EEE Consulting, Inc.

Address: 201 East Church Street, Suite C

City: Blacksburg State: VA Zip: 24060

Phone: 540-953-0170



The following amendments reflect changes in the following Sections of the original SPCC Plan dated February 9, 2007.

AMENDMENT No. 1

Page 1, Section 2.1: General Facility Information

The following amendment adds an additional point of contact for the City of Salem – Cook Drive Substation

Point of Contact – Assistant SPCC Coordinator:

Mr. Mike Salmon – Electrical Engineer

Phone Number (Office): (540)-375-3030

Phone Number (Cell): (540)-815-0412

AMENDMENT No. 2

Page 2, Section 2.1: General Facility Information

Page 3, Section 4.1.1: Dielectric Oil Storage

The original plan identifies one (1) oil-filled transformer as the regulated oil storage container at the facility. The transformer contains dielectric oil that provides additional electrical insulation as well as cooling to prevent the equipment from overheating. **Table 1**, included as an attachment to 2007 SPCC Plan, identified the oil storage capacity of Transformer 7A as 3,894-gallons. Site reconnaissance for the 2013 update indicates the following oil storage capacities for Transformer 7A and associated appurtenances:

- ❖ The name plate for Transformer 7A lists the main belly tank as 3,253-gallons. The name plate for Transformer 7A also lists a 361-gallon radiator oil belly tank and a 280-gallon tap changer tank as integrated into the system.

Table 1 – Spill Scenario and Volume on the following page was updated to:

1. Accurately depict the Aboveground Storage Tanks (ASTs) and associated oil storage capacities for Transformer 7A,
2. Adjust the maximum potential oil discharges based on the updated AST oil storage capacities and;
3. Provide additional details on the potential spill pathways in the event of a release of oil at the facility.

TABLE 1
Spill Scenario and Volume
Cook Drive Substation

Equipment	Tank Capacity (gallons)	Secondary Containment	Tank Type/Description	*Maximum Anticipated Discharge (gallons)	Spill Route	Response Action
Transformer No. 7A	3,253	Concrete Integral Containment Dike	Aboveground (main belly tank for providing insulation for power distribution)	651	An uncontained spill would sheet flow to the northeast as shown in Figure 1 . A grass-lined swale/ earthen ditch borders the facility to the east. The grass-lined ditch ultimately drains to an earthen ditch adjacent to the railroad tracks northeast of the facility. The ditch ultimately discharges to the Roanoke River within 450-ft of the facility.	Contain spilled material with petroleum absorbents/earthen berms. Prevent all released oil from discharging to the earthen ditch parallel to the railroad tracks.
Transformer No. 7A	280	Concrete Integral Containment Dike	Aboveground (oil-filled belly tank supplying insulation to the tap changer integrated into the main unit)	56		
Transformer No. 7A	361	Concrete Integral Containment Dike	Aboveground (oil-filled belly tank supplying insulation to the radiator integrated into the main unit)	72		

*Based on release of all dielectric oil from an oil storage container and 20% of oil "sloshing" outside the containment structure.

AMENDMENT No. 3

Page 3, Section 4.1.2: Secondary Containment

Transformer 7A, including all oil storage tanks and associated piping, is contained within a specifically-sized secondary containment structure that consists of a concrete slab surrounded by concrete curbing that is 10 to 12-inches in height. The containment structure is designed to route liquids into an integrated, pre-cast concrete vault. The following amendment indicates the condition of the concrete curbing associated with the containment system as viewed during the 2013 site visit, and clarifies the containment requirements of oil-filled operational equipment as defined in the SPCC Rule [40 CFR Part 112.7(c)].

The concrete curbing for the containment system was installed in 2004 on the pre-existing concrete slabs to provide specifically-sized, secondary containment for the oil-filled operational equipment. The concrete containment systems were in good condition with no apparent signs of cracking or spalling. Thus, the dike is sufficiently impervious to oil as defined in the SPCC Rule.

Per the SPCC Rule, the single-walled steel, dielectric oil ASTs associated with the transformer is considered oil-filled operational equipment because the oil is solely used to support the function of the apparatus or device. Oil-filled operational equipment is not considered a bulk oil storage container per 40 CFR 112.2 and does not have to comply with specific requirements as described under 40 CFR 112.8 (c), 112.9(c), and 112.12(c). Examples of these requirements include (but are not limited to) specifically-sized secondary containment, fail safe engineering (such as high level alarms), and testing. However, oil filled equipment must meet the general requirements of 40 CFR 112.7.

Because the dielectric oil ASTs at the facility are considered oil-filled operational equipment, general secondary containment measures apply. The specifically-sized, containment system for the applicable regulated oil storage containers is designed to retain the storage capacity of the

single-largest, dielectric oil tank. As previously noted, the containment system is in good condition and sufficiently impervious to oil. Thus, it meets/exceeds the applicable containment requirements of the SPCC Rule.

AMENDMENT No. 4

Page 7, Section 5.1: Inspection and Maintenance

The original Plan describes the procedure for monthly routine inspections of the ASTs and discharge requirements for liquids present in the concrete vault for the secondary containment system for Transformer 7A. The following language clarifies the discharge procedures for the containment vault.

The containment vault is equipped with a telemetric high level alarm that remotely alerts City of Salem personnel when approximately 1.16-feet of liquid collects in the vault. When responding to a high level alarm, the designated person will visually inspect the liquid in the vault and containment area for signs of oil. If no oil is observed, the suction lift pump will be manually started to discharge the collected water in the containment vault to the ground surface. If oil is encountered during the vault inspection, the designated person **will not** engage the pump. The designated person will instead determine the source of oil, and handle and dispose of the oil in compliance with all local, state, and federal regulations. The facility SPCC Coordinator (the Electric Department Director) will be notified immediately to ensure that the clean-up is completed per SPCC guidelines. The SPCC Coordinator will also determine if the spill is reportable to applicable state and federal agencies as described in **Section 7.3** of the original Plan.

The 2007 SPCC Plan contained a Monthly Inspection Form in Appendix B. The subject form listed line items for inspecting and documenting the discharge of liquids that had accumulated in the containment system vault. Discharge events typically occur during or following precipitation events, which may occur more frequently than once a month depending on seasonal variations. The Dike Drainage Logs (included as **Attachment 1**) will replace the drainage line items on the 2007 Form to clarify the procedures required prior to engaging the pump. A drainage log record will be filled every time precipitation is discharged from the containment vault.

AMENDMENT No. 5

Page 7, Section 5.1: Inspection and Maintenance

The Environmental Protection Agency (EPA) indicates that it is a good engineering practice to have some form of visual inspection or monitoring for oil-filled equipment to prevent discharges as described in 40 CFR 112.1(b). The SPCC regulations require preventative maintenance of all oil handling equipment on an as needed basis and according to recommended practices. The integrity testing requirement of the SPCC Rule can be complied with by following an industry standard such as the Steel Tank Institute (STI) Standard SP001.

Per STI-SP001, all oil storage containers equal to or greater than 55-gallons must be inspected on a monthly and annual basis in accordance with the integrity testing requirements. The outside of the container(s) must be frequently inspected for signs of deterioration, and leaks. Records of the inspections and tests must be maintained at the facility. Blank copies of the monthly and annual facility inspection checklists for the regulated oil storage containers at this

facility are included as **Attachment 2**. Completed inspection checklists will be maintained on file in the Main Facility Building located at 730 West Main Street in Salem, Virginia. The monthly and annual inspection checklists must be retained, along with the SPCC Plan, for this facility for a minimum of three (3) years.

The SP001 Standard prescribes a testing procedure involving monthly and annual visual inspections, combined with potential periodic non-destructive testing following a schedule based on tank size, tank age, release detection methods, and presence of a release prevention barrier. In accordance with STI-SP001, the dielectric oil ASTs for Transformer 7A are considered Category 1 ASTs because they have spill control (i.e. the tanks have specifically-sized secondary containment) and a continual release detection method (CRDM). The STI-SP001 inspection requirements for Category 1 ASTs that are between 0- and 5,000-gallons are as follows:

- ❖ Monthly and annual visual inspections by facility personnel that are trained in oil handling procedures and familiar with the AST and associated components.

The periodic inspections are conducted and documented by facility personnel in accordance with **Section 6.0** of STI-SP001. Inspection personnel are knowledgeable of the City of Salem Electric Department storage operations, the ASTs and their associated components, and characteristics of the liquids stored (dielectric oil). Monthly inspections focus on structural integrity of the tank walls and bottom and the integrity of the tank foundation, secondary containment, piping and anchor bolts. Annual inspections of the ASTs will also be performed by facility personnel. Annual inspections will generally focus on similar action items included in the monthly checklist; however, a more rigorous visual inspection will be conducted on the tanks and associated appurtenances to ensure the system is suitable for continued service.

AMENDMENT No. 6

Page 12, Section 8.0: Plan Review and Amendment

The following action items must be implemented within six (6) months of the PE certified date of this plan to ensure compliance with the SPCC Rule.

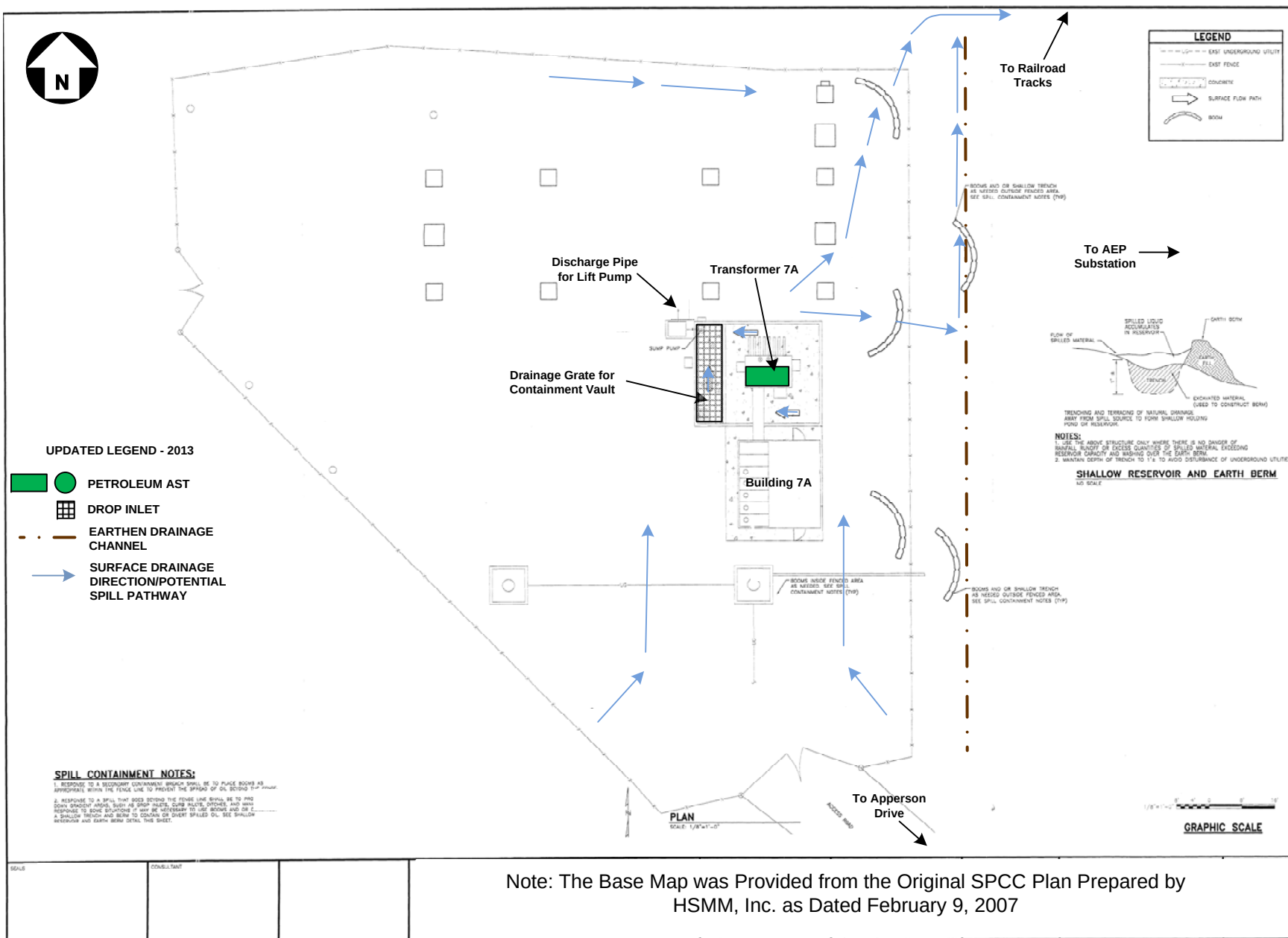
- ❖ Records of water discharge from each containment system vault are to be documented on the Dike Drainage Logs that are included as **Attachment 1**. These logs will replace the dike drainage line items provided on the 2007 Inspection Form.
- ❖ Conduct and document monthly and annual inspections in accordance with the requirements of 40 CFR Part 112 and STI-Standard SP001. Blank copies of the updated monthly and annual facility inspection checklists for steel containers are included as **Attachment 2**. Maintain all inspection forms with the SPCC Plan for a minimum of three years.
- ❖ Conduct annual SPCC training for maintenance personnel who are authorized to handle oil as noted in **Section 6.0** of the 2007 SPCC Plan.

AMENDMENT No. 7

Figure 1

The following amendment reflects revisions to **Figure 1**, which was updated to:

- ❖ Clearly depict surface drainage in the event of a release from the dielectric oil-filled transformer. Off-site drainage features were also added to the map to identify infrastructure that discharges to the City of Salem Stormwater System.
- ❖ Update the existing Legend to better illustrate the location of the ASTs and earthen ditches at the facility.



Attachment 1

Dike Drainage Log

RECORD OF DIKE DRAINAGE
City of Salem Electric Department – Cook Drive Substation – Transformer 7A

Instructions: This record will be completed by responsible personnel when rainwater collects in the secondary containment vault for Transformer 7A at the Cook Drive Substation. After inspecting for the presence of product or a sheen, collected water is authorized to be discharged directly to the ground surface using the suction lift pump. **DO NOT** discharge water if a sheen or standing oil is present. Attempt to absorb any pooled oil or sheen using absorbent pads and contact the facility SPCC Coordinator immediately.

Reason for Drainage (i.e. High Level Alarm, Routine Maintenance)	Date	Presence of Oily Sheen in Containment Vault? (Y/N)	Any Oil Seen Leaking from the Equipment or Accessories? (Y/N)	Time Started	Time Finished	Signature

Note: Provide copy to the Facility SPCC Coordinator

Attachment 2

Monthly and Annual Inspection Checklists

SPCC Monthly Inspection Sheet - Cook Drive Substation

[illegible]

SPCC Annual Inspection Sheet - Cook Drive Substation												
Inspection Date (Keep records for 3 years)												
Inspectors Name												
			Tanks Inspected									
Item			3,253-g Belly Tank for Transformer 7A			280-g Tap Changer Tank for Transformer 7A			361-g RadiatorTank for Transformer 7A			Comments
			Y	N	N/A	Y	N	N/A	Y	N	N/A	
1	Drainage pipes/valves fit for continued use? Closed? Locked?											
2	Tanks are rusted, pitted, of deteriorated. Evidence of paint failure.											
3	Tank shell distorted, buckling, dented, discolored, or bulging? Corrosion or cracking noted?											
4	Bolts, rivets, or seams are damaged, rusted or cracked?											
5	Grounding strap/wiring secured and in good condition?				X			X			X	
6	Welds are cracked or non-uniform?											
7	Cracking or spalling of concrete pad?											
8	Tank foundation has eroded or settled?											
9	Water able to drain away from tank?											
10	Tank supports are deteriorated or buckled?											
11	Vents and pressure release devices are obstructed?											
12	Emergency vent operable?				X			X			X	
13	Containment structure is in satisfactory condition/general secondary containment present?											
14	Evidence of coating cracking, peeling, or blistering?											
15	Does the tank liquid sensing device operate as required?											
16	Are overfill prevention devices in proper working condition?											
17	Is the electrical wiring for control boxes/lights in good condition?											
18	Standing water on roof or top of tank?											
19	Holes in roof or top of tank?											
20	Insulation missing?				X			X			X	
21	Noticable areas of moisture on the insulation?				X			X			X	
22	Mold on the insulation?				X			X			X	
23	Damage to insulation?				X			X			X	
24	Stripping of surface resin?				X			X			X	
25	Subsurface disbonding or other defects in the tank shell or chime area?											
26	Severe surface cracking of Hubs/Flanges, Nozzles, Man-ways, Pipe penetrations (3), on any other penetrations?											
27	Damage to insulation?				X			X			X	

Amendment to the Spill Prevention, Control, and Countermeasures Plan

**City of Salem Electric Department
Electric Road Substation
407 Electric Road
Salem, Virginia**

Prepared for:

City of Salem Electric Department
730 West Main Street
Salem, Virginia 24153

Prepared by:

EEE Consulting, Inc.
201 Church Street, S.E.
Blacksburg, VA 24060
(540) 953-0170
Project: 13-772

October 2013



EEE Consulting, Inc.

Environmental, Engineering and Educational Solutions

AMENDMENT TO THE SPCC PLAN

Facility Name: City of Salem Electric Department
Electric Road Substation
407 Electric Road
Salem, VA 24153

A. Amendment [40 CFR 112.5(a)]

The Spill Prevention, Control, and Countermeasure (SPCC) Plan shall be amended whenever there is a change in the facility design, construction, operation or maintenance that materially affects its potential for a discharge as described in 40 CFR 112.1(b). The amendment shall be prepared within six months and implemented as soon as possible but not later than six months following preparation.

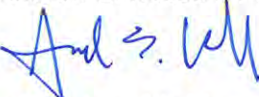
B. Certification [40 CFR 112.5(c)(3)]

If this plan requires amendment and the required amendment is a technical amendment, a Professional Engineer must certify the technical amendment in accordance with 40 CFR 112.3(d) and 40 CFR 112.5(c).

CERTIFICATION:

I hereby certify that the following technical amendments to the SPCC Plan prepared for the Electric Road Substation have been prepared in accordance with good engineering practices, including consideration of applicable industry standards, and with the requirements of the SPCC rule. Procedures for the required inspections and testing have been established and the plan is adequate for the facility.

Engineer: Andrew E. Kassoff, PE

Signature: 

Registration Number: 43711

State Registered: Virginia

Firm: EEE Consulting, Inc.

Address: 201 East Church Street, Suite C

City: Blacksburg State: VA Zip: 24060

Phone: 540-953-0170



The following amendments reflect changes in the following Sections of the original SPCC Plan dated February 13, 2004.

AMENDMENT No. 1

Page 1, Section 2.1: General Facility Information

The following amendment adds an additional point of contact for the City of Salem – Electric Road Substation

Point of Contact – Assistant SPCC Coordinator:

Mr. Mike Salmon – Electrical Engineer

Phone Number (Office): (540)-375-3030

Phone Number (Cell): (540)-815-0412

AMENDMENT No. 2

Page 2, Section 2.1: General Facility Information

Page 3, Section 4.1.1: Dielectric Oil Storage

The original plan identifies one (1) oil-filled transformer as the regulated oil storage container at the facility. The transformer contains dielectric oil that provides additional electrical insulation as well as cooling to prevent the equipment from overheating. **Table 1**, included as an attachment to the original plan, identifies the storage of the belly tank for Transformer 2A as 3,530-gallons.

Site reconnaissance for the 2013 update indicates the following oil storage capacities for the Transformer 2A and associated appurtenances:

- ❖ The name plate for Transformer 2A lists the main belly tank as having a dielectric oil storage capacity of 3,080-gallons. The subject name plate also lists a 450-gallon radiator oil belly tank and a 430-gallon tap changer tank as integrated into the system.

Table 1 – Spill Scenario and Volume (on the following page) was updated to:

1. Accurately depict the volume and number of the Aboveground Storage Tanks (ASTs) in each transformer,
2. Adjust the maximum potential oil discharges based on the updated AST oil storage capacities and;
3. Provide additional details on the potential spill pathways in the event of a release of oil at the facility.

TABLE 1 Spill Scenario and Volume Electric Road Substation						
Equipment	Tank Capacity (gallons)	Secondary Containment	Tank Type/Description	*Maximum Anticipated Discharge (gallons)	Spill Route	Response Action
Transformer No. 2A	3,080	Concrete Integral Containment Dike	Aboveground (main belly tank for providing insulation for power distribution)	616	An uncontained spill would sheet flow to the east/northeast as shown in Figure 1. A grass-lined swale/ earthen ditch borders the facility to the east. The grass-lined ditch ultimately drains to one of two culverts adjacent to Electric Road. The culverts discharge to a stormwater system maintained by the City of Salem. The stormwater system outfalls to Masons Creek within 200-ft of the facility.	Contain spilled material with petroleum absorbents/earthen berms. Prevent all released oil from entering the culverts located adjacent to Electric Road
Transformer No. 2A	430	Concrete Integral Containment Dike	Aboveground (oil-filled belly tank supplying insulation to the tap changer integrated into the main unit)	86		
Transformer No. 2A	450	Concrete Integral Containment Dike	Aboveground (oil-filled belly tank supplying insulation to the radiator integrated into the main unit)	90		

*Based on release of all dielectric oil from an oil storage container and 20% of oil "sloshing" outside the containment structure.

AMENDMENT No. 3

Page 3, Section 4.1.2: Secondary Containment

The following amendment updates the condition of the concrete curbing and clarifies the containment requirements of oil-filled operational equipment as defined in the SPCC Rule.

In 2004, the concrete curbing was installed to the pre-existing concrete slabs to provide specifically-sized secondary containment for the oil-filled operational equipment. Wooden planks were utilized to form the concrete curbing, and several of the forms were apparently left in place after construction of the curbing. It appears that the wooden forms have absorbed moisture and expanded in size, resulting in cracking and spalling to select sections of the concrete curbing and/or slab as follows:

- ❖ One section of the curbing for Transformer 2A contained cracks and spalled sections of concrete. The cracked area was near the eastern side of the transformer in the vicinity of the containment vault.

The cracked and/or spalled sections of concrete for the containment system are depicted on **Figure 1**. Please note that these sections have the potential to materially affect the ability of the system to be sufficiently impervious to oil.

Per the SPCC Rule, the single-walled steel, dielectric oil ASTs associated with Transformer 2A are considered oil-filled operational equipment because the oil stored is solely used to support the function of the apparatus or device. Oil-filled operational equipment is not considered a bulk oil storage container per 40 CFR 112.2 and does not have to comply with specific requirements as described under 40 CFR 112.8 (c), 112.9(c), and 112.12(c). Examples of these requirements include (but are not limited to) secondary containment, fail safe engineering (such as high level alarms), and testing. However, oil filled equipment must meet the general requirements of 40 CFR 112.7.

Because the dielectric oil ASTs at the facility are considered oil-filled operational equipment, general secondary containment measures apply. Each specifically-sized, containment system for the applicable regulated oil storage containers is designed to retain the storage capacity of the single-largest, dielectric oil tank.

As previously noted, the containment system for Transformer 2A contained cracked and/or spalled sections of concrete that could materially affect its ability to be sufficiently impervious to oil. Compliance options to ensure adequate secondary containment for the regulated oil storage containers staged at these locations is as follows:

1. Per 40 CFR 112.7, general secondary containment measures apply to oil-filled operational equipment, which must be capable of addressing the most likely discharge scenario(s). An overpack spill kit with an adequate supply of spill response materials (i.e. pads, booms, pillows, granular absorbent, etc.) could be staged proximate to Transformer 2A to address the most likely discharge scenario(s), which is a release from a leaking valve/fitting or during dielectric oil transfer events during routine maintenance.
2. In lieu of implementing general secondary containment measures, the City of Salem may elect to repair the compromised sections of concrete with hydraulic cement to ensure that they are sufficiently impervious to oil. Subsequently, the replaced or repaired sections should be lined with an epoxy sealant that is compatible with concrete and outdoor applications.

Please note that either option is acceptable to ensure SPCC compliance. However; upon implementation, the selected option should be reviewed by a Virginia-licensed Professional Engineer to ensure compliance with the applicable requirements of the SPCC Rule.

AMENDMENT No. 4

Pages 5 and 6, Section 4.2: Spill Scenarios

The original Plan lists several spill scenarios and predicts volumes and discharge rates. Per the original 2004 SPCC Plan, a release outside the secondary containment structure would most likely infiltrate into the gravel fill surrounding the equipment. During precipitation events, released oil could sheet flow across the surface with runoff. The following text replaces the description of surface flow in the event of released oil migrating off-site as described in **Sections 4.2.1, 4.2.2, and 4.2.3** of the 2004 SPCC Plan.

An uncontained spill would sheet flow to the east/northeast as shown in **Figure 1**. A grass-lined swale/ earthen ditch borders the facility to the east. The grass-lined ditch ultimately drains to one of two culverts adjacent to Electric Road. The culverts discharge to a stormwater system maintained by the City of Salem. The stormwater system outfalls to Masons Creek within 200-ft of the facility.

AMENDMENT No. 5

Pages 6 and 7, Section 5.1: Inspection and Maintenance

The original Plan describes the procedure for monthly routine inspections of the ASTs and discharge requirements for liquids present in the concrete vault for the secondary containment system. The following language clarifies the discharge procedures for the containment vaults.

Each containment vault is equipped with a telemetric high level alarm that remotely alerts City of Salem personnel when approximately 1.0-feet of liquid collects in the vault for Transformer 2A. When responding to a high water level alarm, the designated person will visually inspect the liquid in the vault and containment area for signs of oil. If no oil is observed, the suction lift pump will be manually started to discharge the collected water in the containment vault to the ground surface. If oil is encountered during the vault inspection, the designated person **will not** engage the pump. The designated person will instead determine the source of oil, and handle and dispose of the oil in compliance with all applicable local, state, and federal regulations. The facility SPCC Coordinator (the Electric Department Director) will be notified immediately to ensure that the clean-up is completed per SPCC guidelines. The SPCC Coordinator will also determine if the spill is reportable to applicable state and federal agencies as described in **Section 7.3** of the original Plan.

The 2004 SPCC Plan contained a Monthly Inspection Form in Appendix B. The subject form listed line items for inspecting and documenting the discharge of liquids that had accumulated in the containment system vault. Discharge events typically occur during or following precipitation events, which may occur more frequently than once a month depending on seasonal variations. The Dike Drainage Logs (included as **Attachment 1**) will replace the drainage line items on the 2004 Form to clarify the procedures required prior to engaging the pump. A drainage log record will be filled every time precipitation is discharged from a containment vault.

AMENDMENT No. 6

Page 7, Section 5.1: Inspection and Maintenance

The Environmental Protection Agency (EPA) believes that it is good engineering practice to have some form of visual inspection or monitoring for oil-filled equipment to prevent discharges as described in 40 CFR 112.1(b). The SPCC regulations require preventative maintenance of all oil handling equipment on an as needed basis and according to recommended practices. The integrity testing requirement of the SPCC Rule can be complied with by following an industry standard such as the Steel Tank Institute (STI) Standard SP001.

Per STI-SP001, all oil storage containers equal to or greater than 55-gallons must be inspected on a monthly and annual basis in accordance with the integrity testing requirements. The outside of the container(s) must be frequently inspected for signs of deterioration, and discharges. Records of the inspections and tests must be maintained at the facility. Blank copies of the monthly and annual facility inspection checklists for all oil storage containers are included in **Attachment 2**. Completed inspection checklists will be maintained on file in the Main Facility Building located at 730 West Main Street in Salem, Virginia. The monthly and annual inspection checklists must be retained along with the SPCC Plan for this facility for a minimum of three (3) years.

The SP001 Standard prescribes a testing procedure involving monthly and annual visual inspections, combined with potential periodic non-destructive testing following a schedule based on tank size, tank age, release detection methods, and presence of a release prevention barrier. In accordance with STI-SP001, the dielectric oil belly tanks for Transformer 2A are considered Category 1 ASTs because they have spill control (i.e. the tanks have secondary containment structures) and a continual release detection method (CRDM). The STI-SP001 inspection requirements for Category 1 ASTs that are between 0- and 5,000-gallons are as follows:

- ❖ Monthly and annual visual inspections by facility personnel that are trained in oil handling procedures and familiar with the AST and associated components.

The periodic inspections are conducted and documented by facility personnel in accordance with **Section 6.0** of STI-SP001. Inspection personnel are knowledgeable of the City of Salem Electric Department storage operations, the ASTs and their associated components, and characteristics of the liquids stored (dielectric oil). Monthly inspections focus on structural integrity of the tank walls and bottom and the integrity of the tank foundation, secondary containment, piping and anchor bolts. Annual inspections of the ASTs will also be performed by facility personnel. Annual inspections will generally focus on similar action items included in the monthly checklist; however, a more rigorous visual inspection will be conducted on the tanks and associated appurtenances to ensure the system is suitable for continued service.

AMENDMENT No. 7

Page 12, Section 8.0: Plan Review and Amendment

The following action items must be implemented within six (6) months of the PE certified date of this plan to ensure compliance with SPCC Rule.

- ❖ As previously noted, the containment system for Transformer No. 2A contained cracked and/or spalled sections of concrete that could materially affect its ability to be sufficiently impervious to oil. Compliance options to ensure adequate secondary containment for the regulated oil storage containers staged at these locations is as follows:
 1. Per 40 CFR 112.7, general secondary containment measures apply to oil-filled operational equipment, which must be capable of addressing the most likely discharge scenario(s). An overpack spill kit with an adequate supply of spill response materials (i.e. pads, booms, pillows, granular absorbent, etc.) could be staged proximate to Transformer 2A to address the most likely discharge scenario(s), which is a release from a leaking valve/fitting or during dielectric oil transfer events during routine maintenance.
 2. In lieu of implementing general secondary containment measures, the City of Salem may elect to repair the compromised sections of concrete with hydraulic cement to ensure that they are sufficiently impervious to oil. Subsequently, the replaced or repaired sections should be lined with an epoxy sealant that is compatible with concrete and outdoor applications.

Please note that either option is acceptable to ensure SPCC compliance. However; upon implementation, the selected option should be reviewed by a Virginia-licensed Professional Engineer to ensure compliance with the applicable requirements of the SPCC Rule.

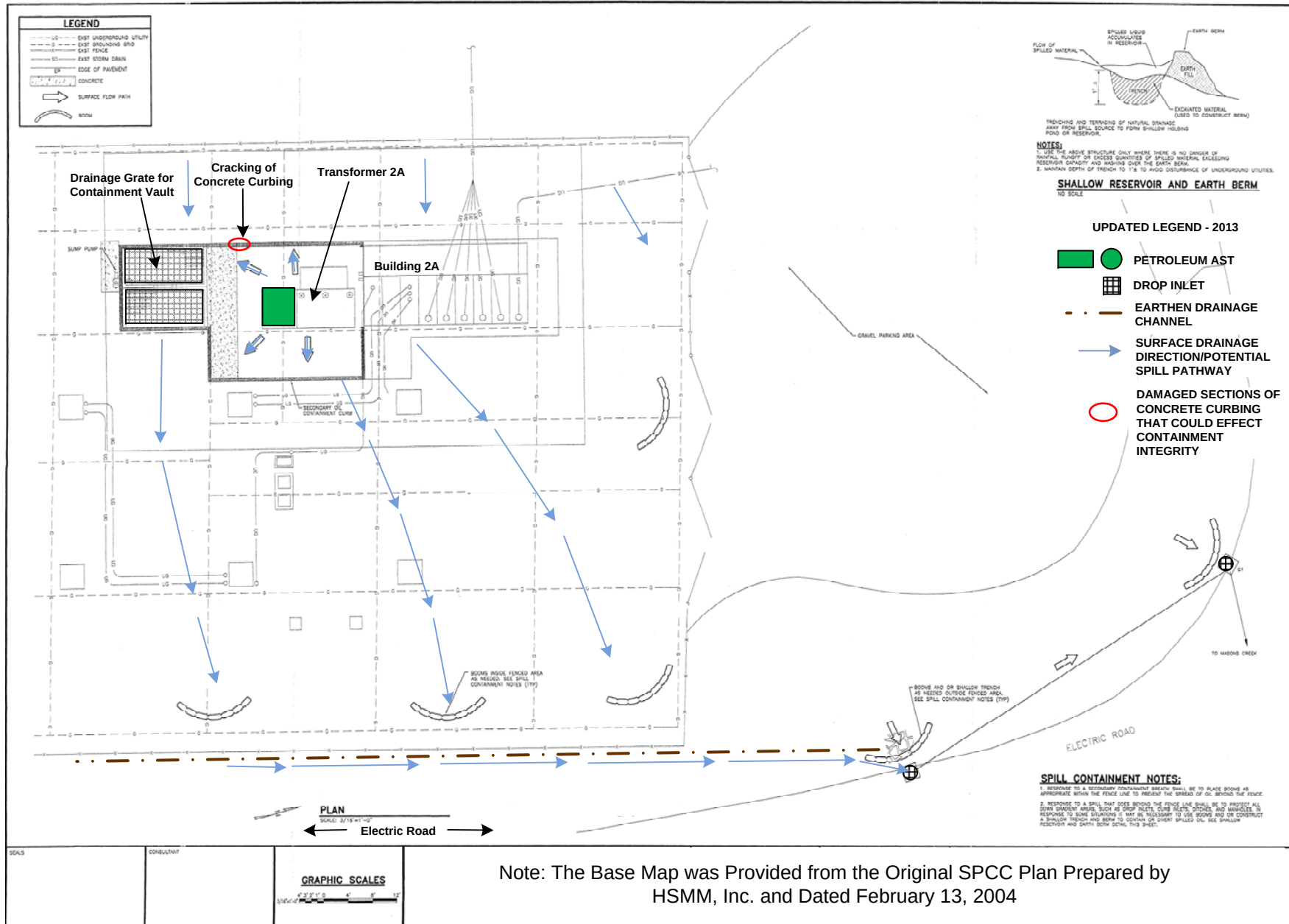
- ❖ Records of water discharge from the containment vaults are to be noted on the Dike Drainage Logs that are included as **Attachment 1**. These logs will replace the dike drainage line items provided on the 2004 Inspection Form.
- ❖ Conduct and document monthly and annual inspections in accordance with the requirements of 40 CFR Part 112 and STI-Standard SP001. Blank copies of updated monthly and annual facility inspection checklists for steel containers (fixed and portable) are included in **Attachment 2**. Maintain all inspection forms with the SPCC Plan for a minimum of three years.
- ❖ Conduct annual SPCC training for maintenance personnel who are authorized to handle oil as noted in **Section 6.0** of the original Plan.

AMENDMENT No. 8

Figure 1

The following amendment reflects revisions to **Figure 1**, which was updated to:

- ❖ Clearly depict surface drainage in the event of a release from the dielectric oil-filled transformers. Off-site drainage features were added to the map to help identify potential spill pathways.
- ❖ Depict the locations of cracked and/or spalled concrete in the containment structures for Transformer 2A.
- ❖ Update the existing Legend to clearly illustrate the locations of the ASTs, culverts, and earthen ditches at the facility.



EEE Consulting, Inc.
Environmental, Engineering and Educational Solutions



City of Salem Electrical Department
Electric Road Substation

FIGURE 1

Facility Layout

Oil Storage Containers and Drainage Patterns

13-772

September 2013

Attachment 1
Dike Drainage Log

RECORD OF DIKE DRAINAGE
City of Salem Electric Department – Electric Road Substation – Transformer 2A

Instructions: This record will be completed by responsible personnel when rainwater collects in the secondary containment vault for Transformer 2A at the Electric Road Substation. After inspecting for the presence of product or a sheen, collected water is authorized to be discharged directly to the ground surface using the suction lift pump. **DO NOT** discharge water if a sheen or standing oil is present. Attempt to absorb any pooled oil or sheen using absorbent pads and contact the facility SPCC Coordinator immediately.

Reason for Drainage (i.e. High Level Alarm, Routine Maintenance)	Date	Presence of Oily Sheen in Containment Vault? (Y/N)	Any Oil Seen Leaking from the Equipment or Accessories? (Y/N)	Time Started	Time Finished	Signature

Note: Provide copy to the Facility SPCC Coordinator

Attachment 2

Monthly and Annual Inspection Checklists

SPCC Monthly Inspection Sheet - Electric Road Substation

[illegible]

SPCC Annual Inspection Sheet - Electric Road Substation												
Inspection Date (Keep records for 3 years)												
Inspectors Name												
		Tanks Inspected										
Item		3,080-g Belly Tank for Transformer 2A			430-g Tap Changer Tank for Transformer 2A			450-g RadiatorTank for Transformer 2A			Comments	
		Y	N	N/A	Y	N	N/A	Y	N	N/A		
1	Drainage pipes/valves fit for continued use? Closed? Locked?											
2	Tanks are rusted, pitted, of deteriorated. Evidence of paint failure.											
3	Tank shell distorted, buckling, dented, discolored, or bulging? Corrosion or cracking noted?											
4	Bolts, rivets, or seams are damaged, rusted or cracked?											
5	Grounding strap/wiring secured and in good condition?			X			X			X		
6	Welds are cracked or non-uniform?											
7	Cracking or spalling of concrete pad?											
8	Tank foundation has eroded or settled?											
9	Water able to drain away from tank?											
10	Tank supports are deteriorated or buckled?											
11	Vents and pressure release devices are obstructed?											
12	Emergency vent operable?			X			X			X		
13	Containment structure is in satisfactory condition/general secondary containment present?											
14	Evidence of coating cracking, peeling, or blistering?											
15	Does the tank liquid sensing device operate as required?											
16	Are overfill prevention devices in proper working condition?											
17	Is the electrical wiring for control boxes/lights in good condition?											
18	Standing water on roof or top of tank?											
19	Holes in roof or top of tank?											
20	Insulation missing?			X			X			X		
21	Noticable areas of moisture on the insulation?			X			X			X		
22	Mold on the insulation?			X			X			X		
23	Damage to insulation?			X			X			X		
24	Stripping of surface resin?			X			X			X		
25	Subsurface disbonding or other defects in the tank shell or chime area?											
26	Severe surface cracking of Hubs/Flanges, Nozzles, Man-ways, Pipe penetrations (3), on any other penetrations?											
27	Damage to insulation?			X			X			X		

Spill Prevention, Control, and Countermeasures Plan

**City of Salem Electric Department -
Pole Yard
40 Dixie Drive
Salem, Virginia**

Prepared for:

City of Salem Electric Department
730 West Main Street
Salem, Virginia 24153

Prepared by:

EEE Consulting, Inc.
201 Church Street, S.E.
Blacksburg, VA 24060
(540) 953-0170
Project: 13-772

December 2013



EEE Consulting, Inc.

Environmental, Engineering and Educational Solutions

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Appendix A	Copy of Oil Pollution Prevention Regulations (40 CFR Part 112)
Appendix B	Certificate of Substantial Harm Determination
Appendix C	Precipitation Drainage Form
Appendix D	Monthly and Annual Inspection Checklists for Steel Tanks – STI SP001
Appendix E	General Training Guidelines
Appendix F	Notification Check-off List, Responsible Personnel and Oil Spill Reports
Appendix G	Accidental Release Reporting Form

SPILL PREVENTION, CONTROL AND COUNTERMEASURE PLAN**OWNER:** City of Salem Electric Department**OWNER ADDRESS:** 730 West Main Street
Salem, Virginia 24153**OPERATOR:** City of Salem

The following Oil Spill, Control, and Countermeasures Plan is prepared pursuant to Title 40 Code of Federal Regulations Part 112.

NAME OF FACILITY: City of Salem Electric Department**TYPE OF FACILITY:** Main Offices and Maintenance Shop**ADDRESS:** 40 Dixie Drive
Salem, Virginia 24153**PHONE NUMBERS:** (540) 375-3030 (Mr. A.K. Briele– Facility SPCC Coordinator)
(540) 815-0408 (Cell)
(540) 375-3030 (Mr. Mike Salmon – Assistant SPCC Coordinator)
(540) 815-0412 (Cell)

This plan is available for on-site inspection during normal working hours. Please contact Mr. A.K. Briele, Facility SPCC Coordinator, at the phone number listed above.

ENGINEER'S CERTIFICATION [112.3 (d)]

I hereby certify that, under my supervision, the facility has been inspected, and being familiar with the provisions of 40 CFR, Part 112, attest that this SPCC Plan has been prepared in accordance with good engineering practices.

This certification does not relieve the owner/operator of the responsibility to bring and keep this facility in compliance with this Plan.

Engineer: Andrew E. Kassoff, PE
Signature:

Registration Number: 43711
State Registered: Virginia
Firm: EEE Consulting, Inc.
Address: 201 Church Street, Suite C
City: Blacksburg State: VA
Zip: 24060
Phone: 540-953-0170



STATEMENT OF COMMITMENT

The City of Salem is committed to providing the manpower, equipment and materials required to expeditiously control and remove any harmful quantity of oil discharged from our facility. The City of Salem will also provide training and countermeasures to prevent the release of oil into the waters of the United States.

Director – City of Salem Electric Department

Date**APPROVAL**

I hereby certify that I have examined this plan, and being familiar with the facility, concur with the provisions and procedures discussed herein.

Director – City of Salem Electric Department

Date

**SPILL PREVENTION CONTROL AND COUNTERMEASURE COMPLIANCE
INSPECTION REVIEW**

The following table records the review and evaluation of the SPCC Plan for the City of Salem Electric Department – Pole Yard. The owner or operators must complete a review and evaluation of the SPCC Plan at least once every five (5) years. This SPCC Plan must also be amended whenever there is a change in the facility design, construction, operation, or maintenance that materially affects the facility's potential for discharging oil. A Professional Engineer (PE) certification is required for technical amendments only. PE certification is not required for non-technical amendments, such as changes to phone numbers, names, etc.

<u>Signature</u>	<u>Date Reviewed</u>

COMPLIANCE SUMMARY FOR SPCC SITE COORDINATOR

The following items serve as a “User Guide” for the City of Salem SPCC Coordinator to assist with routine spill prevention compliance items:

- ❖ Ensure a signed copy of the SPCC Plan is maintained and readily accessible on-site. The “Statement of Commitment” must be signed by the designated City of Salem personnel and the “Registered Professional Engineer Certification” must be signed, sealed, and dated.
- ❖ Conduct and document monthly and annual inspections of **each** aboveground storage tank (AST) using the relevant checklist items. Retain records for 3-years.
- ❖ Contact EEE Consulting, Inc. for clarification of any SPCC related issues.
- ❖ Correct deficient items noted during the monthly and annual inspections.
- ❖ Conduct and document initial and/or annual training of all oil-handling personnel. Retain training records for 3-years.
- ❖ Ensure that changes in lot conditions, such as new drainage improvement, removed or added building, AST, etc., are reflected in the plan and P.E.-Certified or Self-Certified, as applicable.
- ❖ Periodically inspect the spill kits on site to ensure that material is not deteriorated.
- ❖ Ensure oil and/or water is removed from spill pallets and other secondary containment structures. All cleanup activities should be properly managed and documented.
- ❖ If tanks contain rust or failing paint, remove surface rust with a wire brush, then recoat.
- ❖ Action items for facility compliance specified in **Section 5.0** must be addressed within six (6) months of the certification date of this plan.

1.0 INTRODUCTION AND GENERAL SITE INFORMATION

This document presents the Oil Spill Prevention, Control, and Countermeasure (SPCC) Plan for the Pole Yard Storage Facility for the City of Salem Electric Department located at 40 Dixie Drive in Salem, Virginia (**see Figure 1**). This plan has been developed in accordance with United States Environmental Protection Agency (EPA) requirements set forth under Section 311 (j)(1)(c) of the Clean Water Act (CWA) and the relevant implementing regulations contained in 40 CFR Part 112. A summary of the recent SPCC amendments and a copy of the regulations are included in **Appendix A**.

This SPCC Plan is outlined in various sections in an effort to combine ease of use by facility personnel and compliance with regulatory requirements. To this end the document is structured in seven (7) main parts, as follows:

- ❖ Compliance Summary for SPCC Site Coordinator
- ❖ Certification, Statement of Commitment, and Approval Section
- ❖ Introduction and General Site Information
- ❖ Spill Prevention and Control
- ❖ Countermeasures for Discharge Discovery, Spill Response, and Cleanup
- ❖ Additional SPCC Plan Requirements
- ❖ Appendices with Supporting Information

1.1 FACILITY-SPECIFIC RESPONSE PLAN

According to 40 CFR Part 112, **Appendix A**, a facility that transfers oil over water or has a total oil storage capacity greater than or equal to 1 million gallons is required to prepare and submit a Facility-Specific Response Plan (FRP) to the EPA. If the facility does not meet the above criteria, a Certification of the Applicability of the Substantial Harm Criteria (CASHC) must be completed and maintained on file at the facility. The Pole Yard does not meet the FRP requirements and a signed Certification for this facility is included as **Appendix B**.

1.2 PAST SPILL EVENTS

Any facility subject to the requirements of a SPCC Plan must submit information on “reportable oil spills” along with their SPCC Plan to the EPA for review if they have discharged:

1. more than 1,000 U.S. gallons of oil into or upon the navigable waters of the United States or adjoining shorelines in a single spill event, or
2. over 42 gallons of oil into or upon the navigable waters of the United States or adjoining shorelines in two spill events occurring within any 12-month period. (Navigable waters are broadly defined under the Clean Water Act and Oil Pollution Act to include all waters that are used in interstate or foreign commerce, all interstate waters including wetlands, and all intrastate waters such as lakes, rivers, streams, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds. The term navigable water is interpreted to include any natural surface water in the US.

According to facility personnel, no “reportable oil spills” as defined above are known to have occurred at the facility.

1.3 DESCRIPTION OF PHYSICAL LAYOUT AND TYPE OF OIL IN EACH CONTAINER [112.7(a)(3)(i)]

The Pole Yard for the City of Salem Electric Department is a contiguous lot that generally contains storage areas for utility poles, surface and pole-mounted transformers, and scrap metal. These transformers are kept in stock for rapid deployment and replacement of faulty units that arise from unplanned events such as inclement weather, etc. The facility is typically unmanned and is accessed by two (2) locked gates along Dixie Drive. The gates are locked at all times when City of Salem personnel are not present at the facility to prevent vandalism. The Pole Yard is located on a 2.27-acre parcel of land west of the intersection of Dixie Drive and Longview Avenue within the City limits of Salem, Virginia as depicted on **Figure 1**.

Drainage patterns for the facility are depicted on **Figure 2**. Drainage from the facility predominately sheet flows south along the gravel lot prior to discharging to a concrete double box culvert as detailed in **Section 2.3.2** of this Plan. This culvert discharges to the storm water sewer system maintained by the City of Salem. This system ultimately discharges to the Roanoke River approximately 4,100-ft southeast of the Pole Yard.

All regulated oil ASTs at the facility are shop fabricated; therefore the provisions of 112.7(i) are not applicable. Oil storage at the facility is located on two concrete storage pads at one (1) main area on-site as described below:

Area 1 – Transformer Storage

- ❖ Approximately 60-65 transformers, each has a 75-gallon dielectric oil tank.
- ❖ Approximately 45-50 transformers, each has a 130-gallon dielectric oil tank.
- ❖ Approximately 50-55 transformers, each has a 133-gallon dielectric oil tank.
- ❖ Approximately 45-50 transformers, each has a 145-gallon dielectric oil tank.
- ❖ Approximately 3-5 transformers, each has 163-gallon dielectric oil tank.
- ❖ Approximately 15-20 transformers, each has a 170-gallon dielectric oil tank.
- ❖ Approximately 25-40 transformers, each has a 185-gallon dielectric oil tank.
- ❖ Approximately 5-10 transformers, each has a 380-gallon dielectric oil tank.
- ❖ Approximately 5-10 transformers, each has a 400-gallon dielectric oil tank.
- ❖ Approximately 3-5 transformers, each has a 490-gallon dielectric oil tank.
- ❖ One (1) transformer with a 550-gallon dielectric oil tank.

Figure 2 is a detailed Site Layout showing the location of the transformer oil storage tanks. **Table 1** on the following page provides further information on the oil storage containers located at the facility.

TABLE 1 Oil Storage Containers City of Salem Electric Department – Pole Yard					
Maximum Total Tank Capacity (in gallons)	Individual Tank Capacity (in gallons)	KVa¹ Rating	Tank Type	Contents	Secondary Containment
Area 1 – Transformer Storage					
4,875 ²	75	50	Single-walled steel tank supplying dielectric oil to transformer ³	Dielectric Oil	General ⁴
6,500 ²	130	75	Single-walled steel tank supplying dielectric oil to transformer ³	Dielectric Oil	General
7,315 ²	133	100	Single-walled steel tank supplying dielectric oil to transformer ³	Dielectric Oil	General
7,250 ²	145	167	Single-walled steel tank supplying dielectric oil to transformer ³	Dielectric Oil	General
815 ²	163	225	Single-walled steel tank supplying dielectric oil to transformer ³	Dielectric Oil	General
3,400 ²	170	250	Single-walled steel tank supplying dielectric oil to transformer ³	Dielectric Oil	General
2,775 ²	185	300	Single-walled steel tank supplying dielectric oil to transformer ³	Dielectric Oil	General
3,700 ²	185	333	Single-walled steel tank supplying dielectric oil to transformer ³	Dielectric Oil	General
3,700 ²	185	500	Single-walled steel tank supplying dielectric oil to transformer ³	Dielectric Oil	General
3,800 ²	380	750	Single-walled steel tank supplying dielectric oil to transformer ³	Dielectric Oil	General
4,000 ²	400	1,000	Single-walled steel tank supplying dielectric oil to transformer ³	Dielectric Oil	General
2,450 ²	490	1,500	Single-walled steel tank supplying dielectric oil to transformer ³	Dielectric Oil	General
550 ²	550	2,500	Single-walled steel tank supplying dielectric oil to transformer ³	Dielectric Oil	General
51,130	Maximum Total Storage Capacity				

¹ KV_a is a power rating unit used in description for commercial transformers. One KV_a is equal to 1,000 volt amps

² Because the units are kept in stock for use on an as needed basis, the total number and location may vary.

³ Each transformer contains dielectric oil that provides electrical insulation as well as cooling to prevent the equipment from overheating.

⁴ See **Section 2.1** for details pertaining to complying with the general secondary containment requirements of the SPCC Rule. In lieu of implementing general secondary containment measures, the facility may elect to utilize specifically-sized secondary containment as outlined in **Section 2.1**.

2.0 SPILL PREVENTION AND CONTROL

Spill prevention and control involves a combination of various elements, including:

- ❖ Proactive planning and actions by facility personnel.
- ❖ Periodic inspections of tanks and spill containment infrastructure by facility personnel and certified inspectors.
- ❖ Training of facility personnel.
- ❖ Reliance on tank monitoring/gauging equipment, secondary containment and diversionary structures.

The following sections outline the spill prevention and control elements in place at the Pole Yard for the City of Salem Electric Department. The format is constructed such that required elements of the regulation are addressed in a concise format, while still being usable by facility personnel. The first section (2.1) describes the main procedures, equipment, and structures used to prevent and control a spill within the main area where oil is stored and managed at the facility. The following section (2.3) provides detail on the predicted direction a spill would likely route if not contained, as well as the estimated volume and spill rates. The final sections (2.5-2.8) identify the inspection protocols used to detect problems with the tank systems or spills, the security measures in place to prevent or limit vandalism, and the integrity testing protocols used to ensure suitability for continued service of the tanks.

2.1 DISCHARGE PREVENTION/CONTROL, DRAINAGE DISCHARGE & CONTROLS, DIVERSIONARY STRUCTURES & EQUIPMENT, & FAIL SAFE SPILL PREVENTION

The following section addresses the regulatory requirements associated with the pertinent elements of the following parts of 40 CFR Part 112:

- ❖ Discharge prevention measures 112(a)(3)(ii)
- ❖ Discharge or drainage controls 112.7(a)(3)(iii)
- ❖ Diversionary structures or equipment that prevent spills from reaching navigable waters 112.7(c)
- ❖ Bulk Storage Secondary Containment Requirements 112.8(c)(2)
- ❖ Draining Rainwater from Diked Areas 112.8(c)(3)
- ❖ Fail-Safe Spill Prevention 112.8(c)(8)
- ❖ Secondary Containment Requirements for Loading/Unloading Racks 112.7(h)(1)

As detailed in the SPCC rule, the owner of an onshore facility must meet the General Requirements for SPCC Plans, under 40 CFR §112.7(c). According to §112.7(c), containment and/or diversionary structures or equipment must be provided for any oil storage containers that could reasonably be expected to discharge into or upon the navigable waters of the United States. 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;

- ❖ culverting, gutters, or other drainage systems;
- ❖ weirs, booms, or other barriers;
- ❖ spill diversion ponds;
- ❖ retention ponds; or
- ❖ sorbent materials

Listed below are the discharge prevention measures and/or drainage controls that are recommended for installation at the Pole Yard to minimize the potential for an oil release to migrate to a navigable body of water (i.e. the Roanoke River).

Area 1 – Transformer Storage

- ❖ The in-stock transformers are stored on two (2), elongated concrete pads in the western portion of the lot. Approximately 362 transformers with dielectric oil storage tanks are currently stored at the Pole Yard. However, several of these transformers are designed for installation on utility poles, which typically have oil storage capacities that are less than 55-gallons. **Table 1** provided on **Page 3** of this Plan only lists transformers with dielectric oil tanks that have storage capacities equal to or greater than 55-gallons (i.e. regulated oil storage tanks) as required by the SPCC Rule.
- ❖ Per the SPCC Rule, the regulated single-walled steel, dielectric oil tanks associated with the transformers are considered oil-filled operational equipment because the oil stored in each unit is solely used to support the function of the apparatus or device. Pieces of oil-filled operational equipment are not considered bulk oil storage containers per 40 CFR 112.2 and do not have to comply with the specific requirements as described under 40 CFR 112.8(c), 112.9(c), and 112.12(c). These requirements include, but are not limited to: 1) specifically-sized secondary containment to contain the contents of the single-largest oil storage tank; 2) fail safe engineering (such as high level alarms) and; 3) testing. However, oil filled equipment must meet the general secondary containment requirements as provided in 40 CFR 112.7.
- ❖ Per 40 CFR 112.7, general secondary containment measures must be capable of addressing the most likely discharge scenario(s). An overpack spill kit with an adequate supply of spill response materials (i.e. pads, booms, pillows, granular absorbents, etc.) could be staged proximate to both concrete pads to address the most likely discharge scenario(s), which is a release from a leaking valve or fitting or during transfer of a transformer(s) to/from the property.
- ❖ The spill kits should be staged near the southern ends of each concrete pad (see **Figure 1**) to ensure that spill response materials are available proximate to the double box culvert that is located in the southeastern corner of the property.
- ❖ In addition to utilizing spill kits for general secondary containment measures, a structural control such as an asphalt berm is highly recommended for this unmanned facility. The structure could be installed in the southeastern corner of the property and would be designed to contain a minimum capacity of 125% of the single-largest dielectric oil tank maintained on the property (i.e. 550-gallons). Therefore, the asphalt berm would be designed to retain approximately 700-gallons of liquids.

- ❖ Figure 2 presents a conceptual plan view of a potential berm structure. A drainage pipe with an in-line valve or an appropriately sized sump would likely be necessary to remove precipitation that accumulates in the bermed area. A drainage form would require completion prior to discharging accumulated precipitation to ensure that it does not contain an oily sheen (see **Appendix C**). Please note that specifically-sized secondary containment would minimize the potential for oil discharge to the storm water sewer system at this unmanned facility, thereby significantly reducing potential liability to the City of Salem.
- ❖ For uncontained spills, facility personnel will place absorbent materials/ booms around the spill to prevent sheet flow south/southeast towards the double box culvert that discharges to the storm water sewer system.

2.2 DISCHARGE OR DRAINAGE CONTROLS [112.7(a)(3)(iii)]

The discharge or drainage controls recommended for installation at the City of Salem Electric Department are described in **Section 2.1**.

2.3 PREDICTION OF THE NATURE OF POTENTIAL SPILLAGE [112.7(b)]

As part of spill control, it is critical to understand the spill potential of the oil stored, the direction of flow based on drainage features, as well as the potential spill quantities and flow rates. The following sections provide the details needed to understand where and how quickly a spill not retained by containment systems may route.

2.3.1 Spill Potential

Potential causes of spillage at the Pole Yard facility include:

- ❖ Leaking outer wall of aboveground storage tanks or piping,
- ❖ Leaking valve or fittings inside of the transformer units,
- ❖ Ruptures in the tank wall(s) while loading/unloading of the transformer units.

2.3.2 Facility Drainage Description and Direction of Flow

Drainage patterns for the facility are shown on **Figure 2**. Drainage from the transformer storage area predominately sheet flows south along the gravel lot prior to discharging to a concrete double box culvert that is installed in the southeastern corner of the property. This culvert discharges to the storm water system maintained by the City of Salem. This system ultimately discharges to the Roanoke River approximately 4,100 southeast of the Pole Yard.

2.3.3 Potential Fuel Flow Rate

In the unlikely event that the integrity of a dielectric oil tank is compromised during the transfer of a transformer to/from the Pole Yard, the entire capacity of the dielectric oil AST could be instantaneously released. Flow rates of punctured or corroded tanks are expected to be much slower as holes in sidewalls/ tank bottoms occur over time.

2.3.4 *Quantity*

Capacities of the aboveground storage tanks are listed in **Table 1**. The maximum potential quantity of fuel that could be released in a single incident includes the following:

- ❖ One (1) 75-gallon dielectric oil belly tank
- ❖ One (1) 130-gallon dielectric oil belly tank
- ❖ One (1) 133-gallon dielectric oil belly tank
- ❖ One (1) 145-gallon dielectric oil belly tank
- ❖ One (1) 163-gallon dielectric oil belly tank
- ❖ One (1) 170-gallon dielectric oil belly tank
- ❖ One (1) 185-gallon dielectric oil belly tank
- ❖ One (1) 380-gallon dielectric oil belly tank
- ❖ One (1) 400-gallon dielectric oil belly tank
- ❖ One (1) 490-gallon dielectric oil belly tank
- ❖ One (1) 550-gallon dielectric oil belly tank

2.4 **DIVERSIONARY STRUCTURES OR EQUIPMENT THAT PREVENT SPILLS FROM REACHING NAVIGABLE WATERS [112.7(c)]**

The diversionary structures and/or equipment that are recommended to prevent spills from reaching navigable waters are described in **Section 2.1**.

2.5 **INSPECTIONS, TESTS, AND RECORDS [112.7(e)]**

The SPCC regulations require preventative maintenance of all oil handling equipment on an as needed basis and according to recommended practices. Steel-walled, aboveground petroleum storage containers equal to or greater than 55-gallons must be inspected on a monthly and annual basis in accordance with the integrity testing requirements of Steel Tank Institute (STI) Standard SP001. Blank copies of the monthly and annual facility inspection checklists for steel containers (fixed and portable) are included in **Appendix D**. Completed inspection checklists will be maintained on file at the City of Salem Electric Department Main facility that is located at 730 West Main Street, Salem, Virginia. The monthly and annual inspection checklists must be retained along with the SPCC Plan for a minimum of three years.

2.6 **PERSONNEL, TRAINING, AND DISCHARGE PREVENTION PROCEDURES [112.7(f)(1)]**

The Facility SPCC Coordinator (Director of the Electric Department) is responsible for the proper care and use of equipment, for the containment and cleanup of small spills, and for the implementation of procedures described here in the event of a major spill.

All oil-handling personnel must be trained in the proper operation and maintenance of equipment; discharge procedure protocols; applicable pollution control laws, rules and regulations; general facility operations; and the contents of the facility SPCC Plan. Prevention briefings must be scheduled and conducted for oil-handling personnel at least

once a year to assure adequate understanding of the SPCC Plan for the facility. General training guidelines are included as **Appendix E**. A signed roster of attendees for the annual SPCC training session must be retained along with the SPCC Plan for a minimum of three years.

2.7 SECURITY [112.7(g)]

The Pole Yard is entirely enclosed by a gated, chain-link fence (see **Figure 2**). The yard has two (2) main access gates along Dixie Drive. The gated security fence is locked at all times when the lot is unattended. Facility lighting along Dixie Drive is adequate so that a discharge occurring outside of business hours can be identified by facility personnel and others.

2.8 INTEGRITY TESTING FOR ABOVEGROUND STORAGE CONTAINERS [112.8 (c)(6)]

The following sections reflect the integrity testing requirements for the regulated oil storage containers at the City of Salem Electric Department – Pole Yard.

2.8.1 Fixed Petroleum ASTs – Shop Fabricated Steel Tanks

Each aboveground storage container must be tested for integrity on a regular schedule, and whenever material repairs are made. Comparison records must be kept, and container supports and foundations must be inspected. In addition, the outside of the container(s) must be frequently inspected for signs of deterioration, and discharges. Records of the inspections and tests must be maintained at the facility. The integrity testing requirement of the SPCC rule can be complied with by following an industry standard such as the STI Standard SP001.

The SP001 Standard prescribes a testing procedure involving monthly and annual visual inspections, combined with potential periodic non-destructive testing following a schedule based on tank size, tank age, release detection methods, and presence of a release prevention barrier.

In accordance with STI-SP001, the regulated dielectric oil tanks at the Pole Yard will be classified as Category 1 ASTs upon meeting the general or specifically-sized secondary containment requirements as described in **Section 2.1**. A Category 1 AST is defined by STI-SP001 as having spill control (i.e. spill kits and/or containment berm) and a continual release detection method (CRDM). The transformers are equipped with CRDM because they are staged on concrete pads. The STI-SP001 inspection requirements for a Category 1 AST that is between 0- and 1,100-gallons are as follows:

- ❖ Monthly and annual visual inspections by facility personnel that are trained in oil handling procedures and familiar with the ASTs and associated components.

The periodic inspections will be conducted and documented by facility personnel in accordance with **Section 6.0** of STI-SP001. Inspection personnel will be knowledgeable of the City of Salem Electric Department – Pole Yard storage operations, the ASTs and their associated components, and characteristics of the liquid stored (i.e. dielectric oil). Monthly inspections focus on structural integrity of the tank walls and bottom and the integrity of the tank foundation, secondary containment, piping and anchor bolts.

Annual inspections of the ASTs will also be performed by facility personnel. Annual inspections will generally focus on similar action items included in the monthly checklist; however, a more rigorous visual inspection will be conducted on the AST and associated appurtenances to ensure the system is suitable for continued service. Copies of the monthly and annual inspection forms are included as **Appendix D**.

3.0 COUNTERMEASURES FOR DISCHARGE DISCOVERY, SPILL RESPONSE AND CLEANUP [112.7(a)(3)(iv)]

3.1 SPILL RESPONSE

3.1.1 *Small Spills*

Small spills will be contained and cleaned up by facility personnel using spill response equipment and materials. Regardless of the selected containment option (i.e. general or specifically-sized secondary containment), two (2) spill kits are recommended on-site to address small spills. The infrastructure is in place to provide facility personnel training on the use and proper disposal of spill equipment.

3.1.2 *Large Spills*

In the event of a “reportable oil spill” or “discharge”, the following procedures should be initiated:

1. Survey the area carefully before proceeding to prevent endangering yourself or your fellow employees.
2. Ensure the spill has been adequately contained by secondary containment or diversionary structures.
3. Notify the Facility SPCC Coordinator, the spill response contractor, the local police and fire departments, and federal, state and local organizations as appropriate.
4. Deploy absorbent materials downstream from the spill to block all migration pathways to the double box culvert that discharges stormwater off-site. If necessary, place booms across and/or around the box culvert to prevent the discharge of oil to the storm water sewer system.

5. Oil collected or standing in any drainage pathway must be prevented from flowing or being carried off-site.

3.1.3 Spill Clean Up

Arrange for recovery of spilled product and clean-up of affected areas after the source of the spill has been stopped, and the released product is contained. Quick clean-up of a released substance substantially reduces the potential for the product to migrate downward through the soil or to migrate off-site.

Free product must be pumped into a tank truck or an appropriate storage container and properly recycled or disposed. Contaminated soils must be excavated and placed in drums or roll-off containers. After excavation has been completed to the satisfaction of supervisory personnel, the remaining soils must be sampled to ensure that all affected soils were removed. Soils placed in drums and roll-off containers must also be sampled to determine the proper method of disposal. DEQ and EPA guidelines must be followed for characterization and disposal of all excavated soils.

3.1.4 Contact List and Phone Numbers [112.7(a)(3)(vi)]

Appendix F provides a complete list of contacts in the event of a spill.

3.1.5 Methods of Disposal of Recovered Materials [112.7(a)(3)(v)]

Any contaminated containment or absorbent materials, and disposable protective equipment must be placed in drums and properly disposed. Reusable equipment can be decontaminated prior to storage. Liquids used to rinse equipment during decontamination must be contained and placed into drums for proper disposal. All recovered materials must be properly disposed in accordance with applicable regulations.

3.2 RESPONSE PROCEDURES [112.7(a)(4)]

Response procedures in the event of a spill are provided on the notification sheets for the Virginia Department of Emergency Management, National Response Center and the Coast Guard (see **Appendix F**). As required by 40 CFR 112.7(a)(4), the information to be gathered and reported includes:

- ❖ Date and time of the discharge;
- ❖ Type of material discharged;
- ❖ Estimate of the total material discharged;
- ❖ Source of the discharge;
- ❖ Description of affected media;
- ❖ Cause of the discharge;
- ❖ 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 required; and
- ❖ Names of individuals and/or organizations who have been contacted.

3.3 OIL SPILL EMERGENCY PLAN [112.7(a)(4-5)]

In the event of a reportable spill at the Pole Yard, the actions prescribed in **Section 3.1.2** and **Appendix F** will be implemented by facility personnel and/or their designated agents. Thus, immediate implementation of these actions will serve as the **Oil Spill Emergency Plan** as required by the SPCC Rule.

NOTIFY THE VIRGINIA DEQ (during normal working hours) OR THE VIRGINIA DEPARTMENT OF EMERGENCY MANAGEMENT (24-hours) WHEN:

All spills meeting the following regulatory definition are reportable as required by the Code of Virginia per § 62.1-44.34:19:

A. Any person discharging, or causing, or permitting a discharge of oil into or upon state waters, lands, or storm drain systems within the Commonwealth or discharging or causing or permitting a discharge of oil which may reasonably be expected to enter state waters, lands, or storm drain systems within the Commonwealth, and any operator of any facility, vehicle or vessel from which there is a discharge of oil into state waters, lands, or storm drain systems, or from which there is a discharge of oil which may reasonably be expected to enter state waters, lands, or storm drain systems, shall, immediately upon learning of the discharge, notify the Board, the director or coordinator of emergency services appointed pursuant to § 44-146.19 for the political subdivision in which the discharge occurs and any other political subdivision reasonably expected to be affected by the discharge, and appropriate federal authorities of such discharge.

B. Notice will be deemed to have been given under this section for any discharge of oil to state lands in amounts less than twenty-five gallons if the recordkeeping requirements of subsection C of § 62.1-44.34:19.2 have been met and the oil has been cleaned up in accordance with the requirements of this article.

The reporting requirement of Subsection C is:

§ 62.1-44.34:19.2. Recordkeeping and access to records and facilities.

C. A record of all discharges of oil to state lands in amounts less than twenty-five gallons shall be established and maintained for a period of five years in accordance with subsections A and B of this section.

All discharges of oil from a facility are reportable to the Virginia DEQ if the release is 25 gallons or greater or if the spill reaches state waters. Releases that are 25 gallons or less do not have to be reported if a discharge record is kept over a period of 5 years and the spill is promptly cleaned up in accordance with applicable state regulations.

Any release will be reported to the Facility SPCC Coordinator (the Director of the City of Salem Electric Department). The Accidental Release Reporting Form (**Appendix G**) will be completed for all releases of petroleum at the facility to maintain the records required by the Code of Virginia. Release records must be kept for 5 years to maintain

compliance under § 62.1-44.34:19.2. All releases, regardless of size, must be cleaned up immediately in accordance with the facility's waste materials management manual procedures, and incident records retained as required by Article 11 of the Virginia State Water Control Law.

NOTIFY THE NATIONAL RESPONSE CENTER WHEN:

- ❖ You have a discharge of oil that violates applicable water quality standards; or
- ❖ A discharge of oil causes a film or sheen upon or discoloration of the surface of the water or adjoining shorelines; or
- ❖ A discharge causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

The National Response Center will notify the Coast Guard and the EPA, if necessary.

See **Appendix F** for the Responsible Personnel and Notification Check-off list.

SUBMIT THE SPCC PLAN AND INFORMATION ON THE SPILL TO THE EPA WHEN:

- ❖ More than 1,000 U.S. gallons of oil into or upon the navigable waters of the United States or adjoining shorelines in a single spill event, or
- ❖ Over 42 gallons of oil into or upon the navigable waters of the United States or adjoining shorelines in two spill events occurring within any 12-month period.

4.0 MISCELLANEOUS SPCC REGULATORY REQUIREMENTS

Amendment of the SPCC Plan by Owners or Operators [112.5(a)(b)(c)]

The owner or operators must complete a review and evaluation of the SPCC Plan at least once every five years. This SPCC Plan must also be amended whenever there is a change in the facility design, construction, operation, or maintenance that materially affects the facility's potential for discharging oil. A Professional Engineer (PE) certification is required for technical amendments only. PE certification is not required for non-technical amendments, such as changes to phone numbers, names, etc. A 5-year compliance inspection review signature sheet is included as **Page V** in this document.

Internal Heating Coils [112.8(c)(7)]

Not applicable. The SPCC regulated oil containers at the Pole Yard do not have internal heating coils.

Fail-Safe Spill Prevention [112.8(c)(8)]

The fail safe spill prevention procedures are not required for oil filled operational equipment as described in **Section 2.1**.

Effluent Treatment Facilities [112.8(c)(9)]

Not applicable. No effluent treatment facilities are present at the Pole Yard.

Visible Oil Leaks [112.8(c)(10)]

Visual discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets and bolts must be promptly corrected.

Mobile or Portable Oil Storage Containers [112.8(c)(11)]

Not applicable. There are no mobile or portable oil storage containers currently in use at the Pole Yard.

Facility Transfer Operations, Pumping, and Facility Processes [112.8(d)]:**Existing Buried Piping [112.8(d)(1)]**

Not applicable. There is currently no existing buried piping located at the facility.

Out-of-Service Piping [112.8(d)(2)]

Not applicable. There is currently no out-of-service oil transfer piping located at the facility.

Pipe Supports [112.8(d)(3)]

Not applicable. There is currently no aboveground piping conveying oil products in use at the facility.

Inspection of Aboveground Valves, Piping and Appurtenances [112.8(d)(4)]

All aboveground valves, piping and appurtenances are regularly inspected, assessing the general condition of flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves and metal surfaces. Inspection of the AST piping is included during the monthly inspections.

Warning of Aboveground Piping [112.8(d)(5)]

Any piping and/or valves are located internally in the individual transformer units where damage from vehicles and other machinery is unlikely.

Field-Constructed AST Brittle Fracture Analysis [112.7(i)]

Not applicable.

Conformance with State Requirements [112.7(j)]

The Virginia Department of Environmental Quality (DEQ) Facility and Aboveground Storage Tank (AST) Regulation, 9 VAC 25-91-10 et. seq., requires the registration of all oil ASTs that exceed 660-gallons in storage capacity. Aboveground storage tanks that are 660 gallons and less and tanks used to store non-petroleum hydrocarbon-based animal and vegetable oils are exempt from 9 VAC 25-91-10 and are not required to be registered with the DEQ. All oil storage containers at this facility have storage capacities that are less than 660-gallons.

SPCC PLAN REQUIREMENTS FOR ONSHORE FACILITIES (112.8)

Systems and procedures in use or recommended at the facility that will minimize spills and provide containment and clean-up are described in **Section 1**.

Facility Drainage [112.8(b)]

Facility drainage characteristics are described in **Section 2.3.2**.

Bulk Storage Containers [112.8(c)(1)]

All of the petroleum storage tanks at the facility are compatible with the product contained within them and the conditions of storage.

Bulk Storage Secondary Containment Requirements [112.8(c)(2)]

The bulk storage secondary containment requirements are addressed in **Section 1**.

Draining Rainwater from Diked Areas [112.8(c)(3)]

In lieu of utilizing spill kits for general secondary containment measures, a structural control such as an asphalt berm could be installed in the southeastern corner of the property. The structure could be installed in the southeastern corner of the property and would be designed to contain a minimum capacity of 125% of the single-largest dielectric oil tank maintained on the property (i.e. 550-gallons). Therefore, the asphalt berm would be designed to retain approximately 700-gallons of liquids.

A valued drainage pipe or drop inlet would likely be necessary to remove precipitation that accumulates in the bermed area. A drainage form would require completion prior to discharging accumulated precipitation to ensure that it does not contain an oily sheen (see **Appendix C**). Please note that specifically-size secondary containment would minimize the potential for oil discharge to the storm water sewer system at this unmanned facility.

Completely Buried Metallic Tanks [112.8(c)(4)]

Not applicable. Underground storage tanks (USTs) are not utilized at this facility.

Partially Buried Metallic Tanks [112.8(c)(5)]

Not applicable. There are no partially buried or bunkered tanks at the facility.

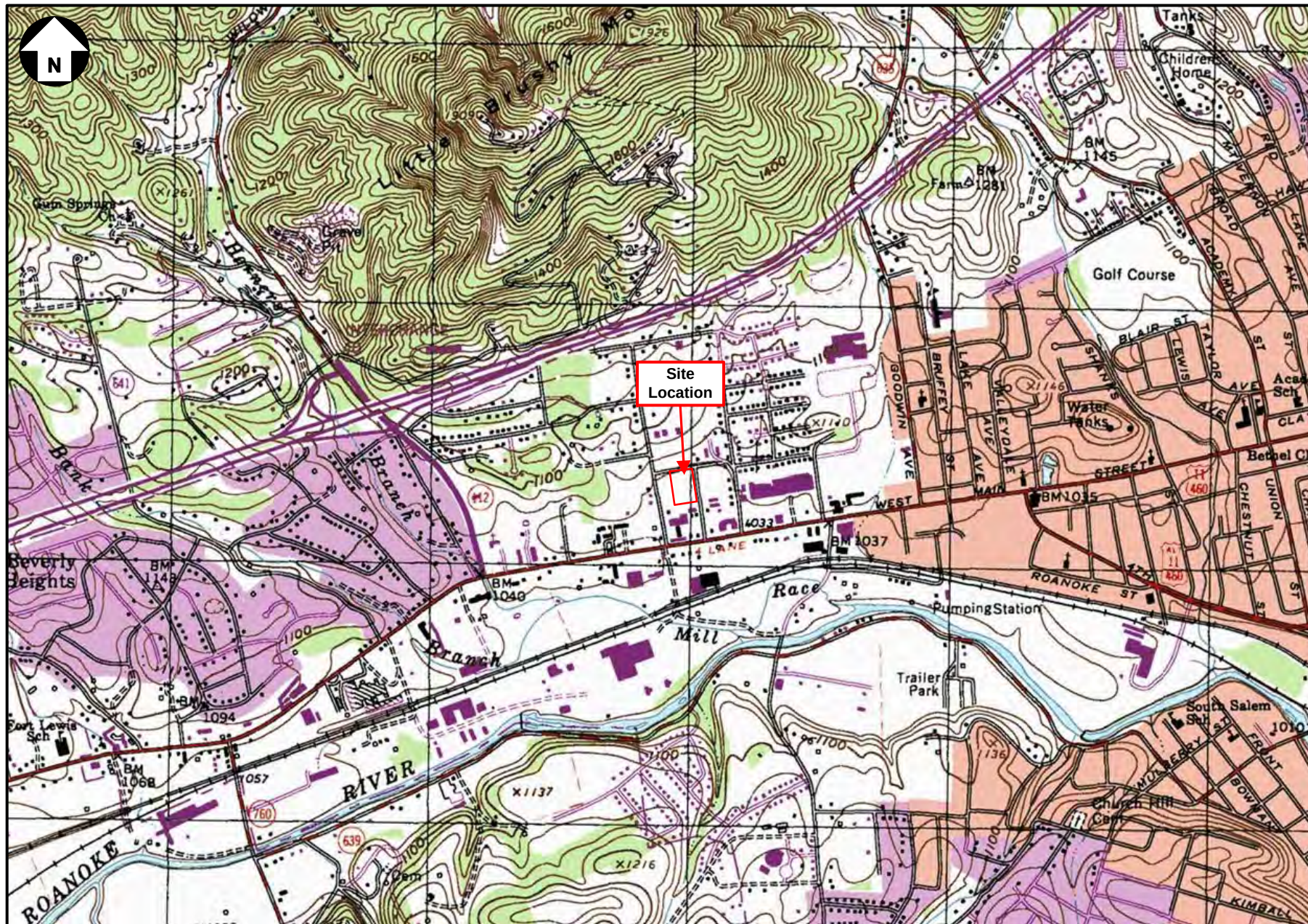
Facility Tank Car and Tank Truck Loading/Unloading Rack [112.7(h)]

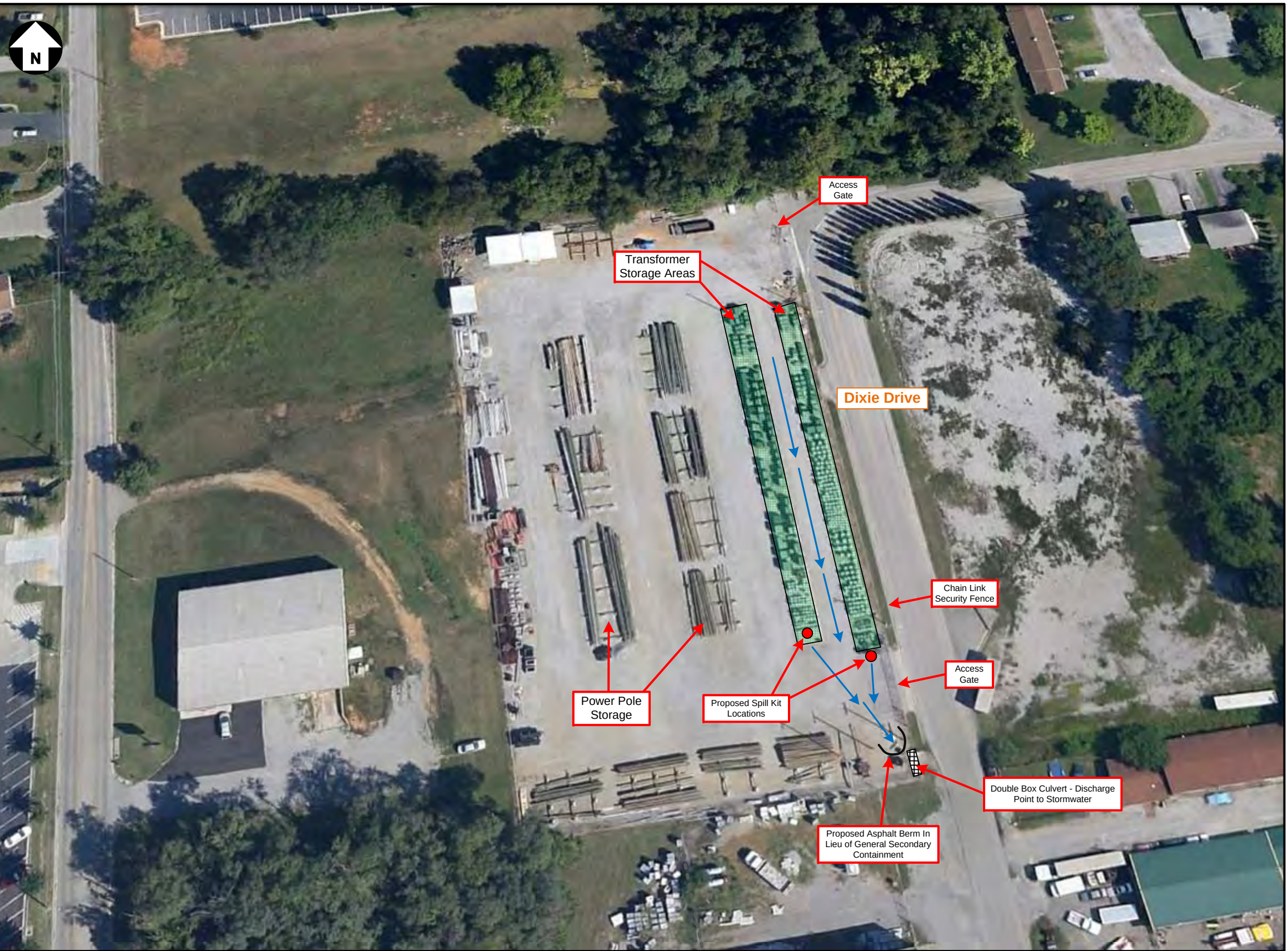
Not applicable. There is no loading/unloading rack at this facility.

5.0 ACTION ITEMS FOR FACILITY COMPLIANCE

The following action items must be implemented within six (6) months of the PE certified date of this plan to ensure compliance with SPCC Rule.

- ❖ Conduct and document monthly and annual AST inspections in accordance with the SPCC requirements. Integrity testing standard STI-SP001 will be followed for all steel ASTs (monthly and annual visual inspections). Blank tank inspection forms are included as **Appendix D** of this document.
- ❖ The Certificate of Substantial Harm Determination requires signature by an authorized agent for the City of Salem. The Certification is located in **Appendix B**.
- ❖ Provide annual SPCC training for all oil handling personnel. Fill out a roster of attendees provided in **Appendix E** and include as an attachment to this document.
- ❖ Per the SPCC Rule, the single-walled steel, dielectric oil ASTs associated with the transformers are considered oil-filled operational equipment because the oil stored in each unit is solely used to support the function of the apparatus or device. At a minimum, oil-filled operation equipment must meet the general secondary containment requirements of 40 CFR 112.7.
- ❖ An overpack spill kit with an adequate supply of spill response materials (i.e. pads, booms, pillows, granular absorbents, etc.) could be staged proximate to both concrete pads to address the most likely discharge scenario(s), which is a release from a leaking valve or fitting or during transfer of the transformers to/from the Pole Yard.
- ❖ In addition to utilizing spill kits for general secondary containment measures, a structural control such as an asphalt berm is highly recommended for this unmanned facility. The structure could be installed in the southeastern corner of the property and would be designed to contain a minimum capacity of 125% of the single-largest dielectric oil tank maintained on the property (i.e. 550-gallons). Therefore, the asphalt berm would be designed to retain approximately 700-gallons of liquids.
- ❖ A drainage pipe with an in-line valve or an appropriately sized sump would likely be necessary to remove precipitation that accumulates in the bermed area. A drainage form would require completion prior to discharging accumulated precipitation to ensure that it does not contain an oily sheen (see **Appendix C**). Please note that specifically-size secondary containment would minimize the potential for oil discharge to the storm water sewer system at this unmanned facility, thereby significantly reducing potential liability to the City of Salem.





Appendix A
Copy of Oil Pollution Prevention Regulations (40 CFR Part 112)
Summary of Recent SPCC Amendments

SUMMARY OF RECENT SPCC AMENDMENTS

On July 17, 2002, the EPA issued a final rule amending the Oil Pollution Prevention regulation, which addresses requirements for SPCC Plans. The new SPCC rule became effective August 16, 2002. According to the new rule, this regulation no longer applies to the following:

- ❖ Completely buried tanks that are subject to all Underground Storage Tank technical requirements in 40 CFR parts 280 and 281; and
- ❖ Containers with a storage capacity of less than 55 gallons.

On December 26, 2006, the EPA issued another final rule amending the Oil Pollution Prevention Regulation, which addresses requirements for SPCC Plans. The new SPCC rule is effective as of February 26, 2007. According to the new amendment, the following regulation changes may be applicable to the City of Salem Electric Department:

- ❖ Specifically-sized secondary containment is no longer required for mobile refuelers. Mobile refuelers still must comply with general secondary containment and other rule requirements.
- ❖ A facility may prepare a self-certified SPCC Plan if the aggregate aboveground oil storage capacity in containers equal to or greater than 55-gallons is 10,000-gallons or less. **This amendment only applies if the facility has had no single discharge exceeding 1,000-gallons or no two discharges each exceeding 42-gallons in any 12-month period of the past three years.**
- ❖ An oil spill contingency plan with a written commitment of manpower, equipment and materials, and an inspection and monitoring program may be utilized in lieu of secondary containment for oil-filled operational equipment. Oil filled operational equipment is defined as equipment which includes an oil storage container or containers in which the oil is present solely to support the function of the apparatus or device, for example, pump or compressor lubricating systems, gear boxes, transformers, and Electric switches. **This amendment only applies if the facility has had no single discharge exceeding 1,000-gallons or no two discharges each exceeding 42-gallons in any 12-month period of the past three years from oil-filled operational equipment.**

On October 15, 2007, the EPA issued a proposed amendment to the Oil Pollution Prevention Regulation, which addresses requirements for SPCC Plans. The new SPCC rule was finalized on December 5, 2008. The effective date for a facility to come into compliance with the applicable requirements of the December 2008 SPCC Amendment is November 10, 2010. According to the 2008 SPCC rule, the following regulation changes may apply to the Pole Yard for the City of Salem Electric Department:

- ❖ The rule extends the exemption from the sized-secondary containment requirement for mobile refuelers provided in the December 2006 SPCC Amendment to non-transportation-related tank trucks at a facility subject to the SPCC Rule.
- ❖ The rule amends the general secondary containment requirement at §112.7(c) to make clear that the scope of secondary containment takes into consideration the typical failure mode, and most likely quantity of oil that would be discharged, consistent with current EPA guidance.
- ❖ The rule amends the facility security requirements at §112.7(g) to allow an owner or operator to tailor his security measures to the facility's specific characteristics and location.
- ❖ The rule amends the requirements of §112.8(c)(6) and 112.12(c)(6) to provide flexibility in complying with bulk storage container integrity testing requirements. Specifically, EPA will allow an owner or operator to consult and rely on industry standards to determine the appropriate qualifications for tank inspectors/testing personnel and the type/frequency of integrity testing required for a particular container size and configuration.

112 of the Code of Federal Regulations, is amended as follows:

PART 112—OIL POLLUTION PREVENTION

1. The authority for part 112 continues to read as follows:

Authority: 33 U.S.C. 1251 *et seq.*; 33 U.S.C. 2720; E.O. 12777 (October 18, 1991), 3 CFR, 1991 Comp., p. 351.

2. Part 112 is amended by designating §§ 112.1 through 112.7 as subpart A, adding a subpart heading and revising newly designated subpart A to read as follows:

Subpart A—Applicability, Definitions, and General Requirements For All Facilities and All Types of Oils

Sec.

- 112.1 General applicability.
- 112.2 Definitions.
- 112.3 Requirement to prepare and implement a Spill Prevention, Control, and Countermeasure Plan.
- 112.4 Amendment of Spill Prevention, Control, and Countermeasure Plan by Regional Administrator.
- 112.5 Amendment of Spill Prevention, Control, and Countermeasure Plan by owners or operators.
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- 112.7 General requirements for Spill Prevention, Control, and Countermeasure Plans.

Subpart A—Applicability, Definitions, and General Requirements for All Facilities and All Types of Oils

§ 112.1 General applicability.

(a)(1) This part establishes procedures, methods, equipment, and other requirements to prevent the discharge of oil from non-transportation-related onshore and offshore facilities into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act).

(2) As used in this part, words in the singular also include the plural and words in the masculine gender also include the feminine and vice versa, as the case may require.

(b) Except as provided in paragraph (d) of this section, this part applies to any owner or operator of a non-transportation-related onshore or offshore facility engaged in drilling, producing, gathering, storing,

processing, refining, transferring, distributing, using, or consuming oil and oil products, which due to its location, could reasonably be expected to discharge oil in quantities that may be harmful, as described in part 110 of this chapter, into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer

Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act) that has oil in:

- (1) Any aboveground container;
- (2) Any completely buried tank as defined in § 112.2;
- (3) Any container that is used for standby storage, for seasonal storage, or for temporary storage, or not otherwise "permanently closed" as defined in § 112.2;

(4) Any "bunkered tank" or "partially buried tank" as defined in § 112.2, or any container in a vault, each of which is considered an aboveground storage container for purposes of this part.

(c) As provided in section 313 of the Clean Water Act (CWA), departments, agencies, and instrumentalities of the Federal government are subject to this part to the same extent as any person.

(d) Except as provided in paragraph (f) of this section, this part does not apply to:

(1) The owner or operator of any facility, equipment, or operation that is not subject to the jurisdiction of the Environmental Protection Agency (EPA) under section 311(j)(1)(C) of the CWA, as follows:

(i) Any onshore or offshore facility, that due to its location, could not reasonably be expected to have a discharge as described in paragraph (b) of this section. This determination must be based solely upon consideration of the geographical and location aspects of the facility (such as proximity to navigable waters or adjoining shorelines, land contour, drainage, etc.) and must exclude consideration of manmade features such as dikes, equipment or other structures, which may serve to restrain, hinder, contain, or otherwise prevent a discharge as described in paragraph (b) of this section.

(ii) Any equipment, or operation of a vessel or transportation-related onshore or offshore facility which is subject to the authority and control of the U.S. Department of Transportation, as defined in the Memorandum of

Understanding between the Secretary of Transportation and the Administrator of EPA, dated November 24, 1971 (Appendix A of this part).

(iii) Any equipment, or operation of a vessel or onshore or offshore facility which is subject to the authority and control of the U.S. Department of Transportation or the U.S. Department of the Interior, as defined in the Memorandum of Understanding between the Secretary of Transportation, the Secretary of the Interior, and the Administrator of EPA, dated November 8, 1993 (Appendix B of this part).

(2) Any facility which, although otherwise subject to the jurisdiction of EPA, meets both of the following requirements:

(i) The completely buried storage capacity of the facility is 42,000 gallons or less of oil. For purposes of this exemption, the completely buried storage capacity of a facility excludes the capacity of a completely buried tank, as defined in § 112.2, and connected underground piping, underground ancillary equipment, and containment systems, that is currently subject to all of the technical requirements of part 280 of this chapter or all of the technical requirements of a State program approved under part 281 of this chapter. The completely buried storage capacity of a facility also excludes the capacity of a container that is "permanently closed," as defined in § 112.2.

(ii) The aggregate aboveground storage capacity of the facility is 1,320 gallons or less of oil. For purposes of this exemption, only containers of oil with a capacity of 55 gallons or greater are counted. The aggregate aboveground storage capacity of a facility excludes the capacity of a container that is "permanently closed," as defined in § 112.2.

(3) Any offshore oil drilling, production, or workover facility that is subject to the notices and regulations of the Minerals Management Service, as specified in the Memorandum of Understanding between the Secretary of Transportation, the Secretary of the Interior, and the Administrator of EPA, dated November 8, 1993 (Appendix B of this part).

(4) Any completely buried storage tank, as defined in § 112.2, and connected underground piping, underground ancillary equipment, and containment systems, at any facility, that is subject to all of the technical requirements of part 280 of this chapter or a State program approved under part 281 of this chapter, except that such a tank must be marked on the facility diagram as provided in § 112.7(a)(3), if

the facility is otherwise subject to this part.

(5) Any container with a storage capacity of less than 55 gallons of oil.

(6) Any facility or part thereof used exclusively for wastewater treatment and not used to satisfy any requirement of this part. The production, recovery, or recycling of oil is not wastewater treatment for purposes of this paragraph.

(e) This part establishes requirements for the preparation and implementation of Spill Prevention, Control, and Countermeasure (SPCC) Plans. SPCC Plans are designed to complement existing laws, regulations, rules, standards, policies, and procedures pertaining to safety standards, fire prevention, and pollution prevention rules. The purpose of an SPCC Plan is to form a comprehensive Federal/State spill prevention program that minimizes the potential for discharges. The SPCC Plan must address all relevant spill prevention, control, and countermeasures necessary at the specific facility. Compliance with this part does not in any way relieve the owner or operator of an onshore or an offshore facility from compliance with other Federal, State, or local laws.

(f) Notwithstanding paragraph (d) of this section, the Regional Administrator may require that the owner or operator of any facility subject to the jurisdiction of EPA under section 311(j) of the CWA prepare and implement an SPCC Plan, or any applicable part, to carry out the purposes of the CWA.

(1) Following a preliminary determination, the Regional Administrator must provide a written notice to the owner or operator stating the reasons why he must prepare an SPCC Plan, or applicable part. The Regional Administrator must send such notice to the owner or operator by certified mail or by personal delivery. If the owner or operator is a corporation, the Regional Administrator must also mail a copy of such notice to the registered agent, if any and if known, of the corporation in the State where the facility is located.

(2) Within 30 days of receipt of such written notice, the owner or operator may provide information and data and may consult with the Agency about the need to prepare an SPCC Plan, or applicable part.

(3) Within 30 days following the time under paragraph (b)(2) of this section within which the owner or operator may provide information and data and consult with the Agency about the need to prepare an SPCC Plan, or applicable part, the Regional Administrator must make a final determination regarding

whether the owner or operator is required to prepare and implement an SPCC Plan, or applicable part. The Regional Administrator must send the final determination to the owner or operator by certified mail or by personal delivery. If the owner or operator is a corporation, the Regional Administrator must also mail a copy of the final determination to the registered agent, if any and if known, of the corporation in the State where the facility is located.

(4) If the Regional Administrator makes a final determination that an SPCC Plan, or applicable part, is necessary, the owner or operator must prepare the Plan, or applicable part, within six months of that final determination and implement the Plan, or applicable part, as soon as possible, but not later than one year after the Regional Administrator has made a final determination.

(5) The owner or operator may appeal a final determination made by the Regional Administrator requiring preparation and implementation of an SPCC Plan, or applicable part, under this paragraph. The owner or operator must make the appeal to the Administrator of EPA within 30 days of receipt of the final determination under paragraph (b)(3) of this section from the Regional Administrator requiring preparation and/or implementation of an SPCC Plan, or applicable part. The owner or operator must send a complete copy of the appeal to the Regional Administrator at the time he makes the appeal to the Administrator. The appeal must contain a clear and concise statement of the issues and points of fact in the case. In the appeal, the owner or operator may also provide additional information. The additional information may be from any person. The Administrator may request additional information from the owner or operator. The Administrator must render a decision within 60 days of receiving the appeal or additional information submitted by the owner or operator and must serve the owner or operator with the decision made in the appeal in the manner described in paragraph (f)(1) of this section.

§ 112.2 Definitions.

For the purposes of this part:

Adverse weather means weather conditions that make it difficult for response equipment and personnel to clean up or remove spilled oil, and that must be considered when identifying response systems and equipment in a response plan for the applicable operating environment. Factors to consider include significant wave height as specified in Appendix E to this part

(as appropriate), ice conditions, temperatures, weather-related visibility, and currents within the area in which the systems or equipment is intended to function.

Alteration means any work on a container involving cutting, burning, welding, or heating operations that changes the physical dimensions or configuration of the container.

Animal fat means a non-petroleum oil, fat, or grease of animal, fish, or marine mammal origin.

Breakout tank means a container used to relieve surges in an oil pipeline system or to receive and store oil transported by a pipeline for reinjection and continued transportation by pipeline.

Bulk storage container means any container used to store oil. These containers are used for purposes including, but not limited to, the storage of oil prior to use, while being used, or prior to further distribution in commerce. Oil-filled electrical, operating, or manufacturing equipment is not a bulk storage container.

Bunkered tank means a container constructed or placed in the ground by cutting the earth and re-covering the container in a manner that breaks the surrounding natural grade, or that lies above grade, and is covered with earth, sand, gravel, asphalt, or other material. A bunkered tank is considered an aboveground storage container for purposes of this part.

Completely buried tank means any container completely below grade and covered with earth, sand, gravel, asphalt, or other material. Containers in vaults, bunkered tanks, or partially buried tanks are considered aboveground storage containers for purposes of this part.

Complex means a facility possessing a combination of transportation-related and non-transportation-related components that is subject to the jurisdiction of more than one Federal agency under section 311(j) of the CWA.

Contiguous zone means the zone established by the United States under Article 24 of the Convention of the Territorial Sea and Contiguous Zone, that is contiguous to the territorial sea and that extends nine miles seaward from the outer limit of the territorial area.

Contract or other approved means means:

(1) A written contractual agreement with an oil spill removal organization that identifies and ensures the availability of the necessary personnel and equipment within appropriate response times; and/or

(2) A written certification by the owner or operator that the necessary personnel and equipment resources, owned or operated by the facility owner or operator, are available to respond to a discharge within appropriate response times; and/or

(3) Active membership in a local or regional oil spill removal organization that has identified and ensures adequate access through such membership to necessary personnel and equipment to respond to a discharge within appropriate response times in the specified geographic area; and/or

(4) Any other specific arrangement approved by the Regional Administrator upon request of the owner or operator.

Discharge includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping of oil, but excludes discharges in compliance with a permit under section 402 of the CWA; discharges resulting from circumstances identified, reviewed, and made a part of the public record with respect to a permit issued or modified under section 402 of the CWA, and subject to a condition in such permit; or continuous or anticipated intermittent discharges from a point source, identified in a permit or permit application under section 402 of the CWA, that are caused by events occurring within the scope of relevant operating or treatment systems. For purposes of this part, the term discharge shall not include any discharge of oil that is authorized by a permit issued under section 13 of the River and Harbor Act of 1899 (33 U.S.C. 407).

Facility means any mobile or fixed, onshore or offshore building, structure, installation, equipment, pipe, or pipeline (other than a vessel or a public vessel) used in oil well drilling operations, oil production, oil refining, oil storage, oil gathering, oil processing, oil transfer, oil distribution, and waste treatment, or in which oil is used, as described in Appendix A to this part. The boundaries of a facility depend on several site-specific factors, including, but not limited to, the ownership or operation of buildings, structures, and equipment on the same site and the types of activity at the site.

Fish and wildlife and sensitive environments means areas that may be identified by their legal designation or by evaluations of Area Committees (for planning) or members of the Federal On-Scene Coordinator's spill response structure (during responses). These areas may include wetlands, National and State parks, critical habitats for endangered or threatened species, wilderness and natural resource areas, marine sanctuaries and estuarine

reserves, conservation areas, preserves, wildlife areas, wildlife refuges, wild and scenic rivers, recreational areas, national forests, Federal and State lands that are research national areas, heritage program areas, land trust areas, and historical and archaeological sites and parks. These areas may also include unique habitats such as aquaculture sites and agricultural surface water intakes, bird nesting areas, critical biological resource areas, designated migratory routes, and designated seasonal habitats.

Injury means a measurable adverse change, either long- or short-term, in the chemical or physical quality or the viability of a natural resource resulting either directly or indirectly from exposure to a discharge, or exposure to a product of reactions resulting from a discharge.

Maximum extent practicable means within the limitations used to determine oil spill planning resources and response times for on-water recovery, shoreline protection, and cleanup for worst case discharges from onshore non-transportation-related facilities in adverse weather. It includes the planned capability to respond to a worst case discharge in adverse weather, as contained in a response plan that meets the requirements in § 112.20 or in a specific plan approved by the Regional Administrator.

Navigable waters means the waters of the United States, including the territorial seas.

(1) The term includes:

(i) All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide;

(ii) All interstate waters, including interstate wetlands;

(iii) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters;

(A) That are or could be used by interstate or foreign travelers for recreational or other purposes; or

(B) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or,

(C) That are or could be used for industrial purposes by industries in interstate commerce;

(iv) All impoundments of waters otherwise defined as waters of the United States under this section;

(v) Tributaries of waters identified in paragraphs (1)(i) through (iv) of this definition;

(vi) The territorial sea; and

(vii) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraph (1) of this definition.

(2) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds which also meet the criteria of this definition) are not waters of the United States. Navigable waters do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with EPA.

Non-petroleum oil means oil of any kind that is not petroleum-based, including but not limited to: Fats, oils, and greases of animal, fish, or marine mammal origin; and vegetable oils, including oils from seeds, nuts, fruits, and kernels.

Offshore facility means any facility of any kind (other than a vessel or public vessel) located in, on, or under any of the navigable waters of the United States, and any facility of any kind that is subject to the jurisdiction of the United States and is located in, on, or under any other waters.

Oil means oil of any kind or in any form, including, but not limited to: fats, oils, or greases of animal, fish, or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and, other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil.

Oil Spill Removal Organization means an entity that provides oil spill response resources, and includes any for-profit or not-for-profit contractor, cooperative, or in-house response resources that have been established in a geographic area to provide required response resources.

Onshore facility means any facility of any kind located in, on, or under any land within the United States, other than submerged lands.

Owner or operator means any person owning or operating an onshore facility or an offshore facility, and in the case of any abandoned offshore facility, the person who owned or operated or maintained the facility immediately prior to such abandonment.

Partially buried tank means a storage container that is partially inserted or constructed in the ground, but not entirely below grade, and not

completely covered with earth, sand, gravel, asphalt, or other material. A partially buried tank is considered an aboveground storage container for purposes of this part.

Permanently closed means any container or facility for which:

(1) All liquid and sludge has been removed from each container and connecting line; and

(2) All connecting lines and piping have been disconnected from the container and blanked off, all valves (except for ventilation valves) have been closed and locked, and conspicuous signs have been posted on each container stating that it is a permanently closed container and noting the date of closure.

Person includes an individual, firm, corporation, association, or partnership.

Petroleum oil means petroleum in any form, including but not limited to crude oil, fuel oil, mineral oil, sludge, oil refuse, and refined products.

Production facility means all structures (including but not limited to wells, platforms, or storage facilities), piping (including but not limited to flowlines or gathering lines), or equipment (including but not limited to workover equipment, separation equipment, or auxiliary non-transportation-related equipment) used in the production, extraction, recovery, lifting, stabilization, separation or treating of oil, or associated storage or measurement, and located in a single geographical oil or gas field operated by a single operator.

Regional Administrator means the Regional Administrator of the Environmental Protection Agency, in and for the Region in which the facility is located.

Repair means any work necessary to maintain or restore a container to a condition suitable for safe operation, other than that necessary for ordinary, day-to-day maintenance to maintain the functional integrity of the container and that does not weaken the container.

Spill Prevention, Control, and Countermeasure Plan; SPCC Plan, or Plan means the document required by § 112.3 that details the equipment, workforce, procedures, and steps to prevent, control, and provide adequate countermeasures to a discharge.

Storage capacity of a container means the shell capacity of the container.

Transportation-related and non-transportation-related, as applied to an onshore or offshore facility, are defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of the Environmental Protection Agency, dated

November 24, 1971, (Appendix A of this part).

United States means the States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, Guam, American Samoa, the U.S. Virgin Islands, and the Pacific Island Governments.

Vegetable oil means a non-petroleum oil or fat of vegetable origin, including but not limited to oils and fats derived from plant seeds, nuts, fruits, and kernels.

Vessel means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water, other than a public vessel.

Wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include playa lakes, swamps, marshes, bogs, and similar areas such as sloughs, prairie potholes, wet meadows, prairie river overflows, mudflats, and natural ponds.

Worst case discharge for an onshore non-transportation-related facility means the largest foreseeable discharge in adverse weather conditions as determined using the worksheets in Appendix D to this part.

§ 112.3 Requirement to prepare and implement a Spill Prevention, Control, and Countermeasure Plan.

The owner or operator of an onshore or offshore facility subject to this section must prepare a Spill Prevention, Control, and Countermeasure Plan (hereafter "SPCC Plan" or "Plan"), in writing, and in accordance with § 112.7, and any other applicable section of this part.

(a) If your onshore or offshore facility was in operation on or before August 16, 2002, you must maintain your Plan, but must amend it, if necessary to ensure compliance with this part, on or before February 17, 2003, and must implement the amended Plan as soon as possible, but not later than August 18, 2003. If your onshore or offshore facility becomes operational after August 16, 2002, through August 18, 2003, and could reasonably be expected to have a discharge as described in § 112.1(b), you must prepare a Plan on or before August 18, 2003, and fully implement it as soon as possible, but not later than August 18, 2003.

(b) If you are the owner or operator of an onshore or offshore facility that becomes operational after August 18,

2003, and could reasonably be expected to have a discharge as described in § 112.1(b), you must prepare and implement a Plan before you begin operations.

(c) If you are the owner or operator of an onshore or offshore mobile facility, such as an onshore drilling or workover rig, barge mounted offshore drilling or workover rig, or portable fueling facility, you must prepare, implement, and maintain a facility Plan as required by this section. This provision does not require that you prepare a new Plan each time you move the facility to a new site. The Plan may be a general plan. When you move the mobile or portable facility, you must locate and install it using the discharge prevention practices outlined in the Plan for the facility. You may not operate a mobile or portable facility subject to this part unless you have implemented the Plan. The Plan is applicable only while the facility is in a fixed (non-transportation) operating mode.

(d) A licensed Professional Engineer must review and certify a Plan for it to be effective to satisfy the requirements of this part.

(1) By means of this certification the Professional Engineer attests:

(i) That he is familiar with the requirements of this part;

(ii) That he or his agent has visited and examined the facility;

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

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

(v) That the Plan is adequate for the facility.

(2) Such certification shall in no way relieve the owner or operator of a facility of his duty to prepare and fully implement such Plan in accordance with the requirements of this part.

(e) If you are the owner or operator of a facility for which a Plan is required under this section, you must:

(1) Maintain a complete copy of the Plan at the facility if the facility is normally attended at least four hours per day, or at the nearest field office if the facility is not so attended, and

(2) Have the Plan available to the Regional Administrator for on-site review during normal working hours.

(f) *Extension of time.* (1) The Regional Administrator may authorize an extension of time for the preparation and full implementation of a Plan, or any amendment thereto, beyond the time permitted for the preparation, implementation, or amendment of a

Plan under this part, when he finds that the owner or operator of a facility subject to this section, cannot fully comply with the requirements as a result of either nonavailability of qualified personnel, or delays in construction or equipment delivery beyond the control and without the fault of such owner or operator or his agents or employees.

(2) If you are an owner or operator seeking an extension of time under paragraph (f)(1) of this section, you may submit a written extension request to the Regional Administrator. Your request must include:

- (i) A full explanation of the cause for any such delay and the specific aspects of the Plan affected by the delay;
- (ii) A full discussion of actions being taken or contemplated to minimize or mitigate such delay; and
- (iii) A proposed time schedule for the implementation of any corrective actions being taken or contemplated, including interim dates for completion of tests or studies, installation and operation of any necessary equipment, or other preventive measures. In addition you may present additional oral or written statements in support of your extension request.

(3) The submission of a written extension request under paragraph (f)(2) of this section does not relieve you of your obligation to comply with the requirements of this part. The Regional Administrator may request a copy of your Plan to evaluate the extension request. When the Regional Administrator authorizes an extension of time for particular equipment or other specific aspects of the Plan, such extension does not affect your obligation to comply with the requirements related to other equipment or other specific aspects of the Plan for which the Regional Administrator has not expressly authorized an extension.

§ 112.4 Amendment of Spill Prevention, Control, and Countermeasure Plan by Regional Administrator.

If you are the owner or operator of a facility subject to this part, you must:

(a) Notwithstanding compliance with § 112.3, whenever your facility has discharged more than 1,000 U.S. gallons of oil in a single discharge as described in § 112.1(b), or discharged more than 42 U.S. gallons of oil in each of two discharges as described in § 112.1(b), occurring within any twelve month period, submit the following information to the Regional Administrator within 60 days from the time the facility becomes subject to this section:

(1) Name of the facility;

(2) Your name;

(3) Location of the facility;

(4) Maximum storage or handling capacity of the facility and normal daily throughput;

(5) Corrective action and countermeasures you have taken, including a description of equipment repairs and replacements;

(6) An adequate description of the facility, including maps, flow diagrams, and topographical maps, as necessary;

(7) The cause of such discharge as described in § 112.1(b), including a failure analysis of the system or subsystem in which the failure occurred;

(8) Additional preventive measures you have taken or contemplated to minimize the possibility of recurrence; and

(9) Such other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge.

(b) Take no action under this section until it applies to your facility. This section does not apply until the expiration of the time permitted for the initial preparation and implementation of the Plan under § 112.3, but not including any amendments to the Plan.

(c) Send to the appropriate agency or agencies in charge of oil pollution control activities in the State in which the facility is located a complete copy of all information you provided to the Regional Administrator under paragraph (a) of this section. Upon receipt of the information such State agency or agencies may conduct a review and make recommendations to the Regional Administrator as to further procedures, methods, equipment, and other requirements necessary to prevent and to contain discharges from your facility.

(d) Amend your Plan, if after review by the Regional Administrator of the information you submit under paragraph (a) of this section, or submission of information to EPA by the State agency under paragraph (c) of this section, or after on-site review of your Plan, the Regional Administrator requires that you do so. The Regional Administrator may require you to amend your Plan if he finds that it does not meet the requirements of this part or that amendment is necessary to prevent and contain discharges from your facility.

(e) Act in accordance with this paragraph when the Regional Administrator proposes by certified mail or by personal delivery that you amend your SPCC Plan. If the owner or operator is a corporation, he must also notify by mail the registered agent of such corporation, if any and if known,

in the State in which the facility is located. The Regional Administrator must specify the terms of such proposed amendment. Within 30 days from receipt of such notice, you may submit written information, views, and arguments on the proposed amendment. After considering all relevant material presented, the Regional Administrator must either notify you of any amendment required or rescind the notice. You must amend your Plan as required within 30 days after such notice, unless the Regional Administrator, for good cause, specifies another effective date. You must implement the amended Plan as soon as possible, but not later than six months after you amend your Plan, unless the Regional Administrator specifies another date.

(f) If you appeal a decision made by the Regional Administrator requiring an amendment to an SPCC Plan, send the appeal to the EPA Administrator in writing within 30 days of receipt of the notice from the Regional Administrator requiring the amendment under paragraph (e) of this section. You must send a complete copy of the appeal to the Regional Administrator at the time you make the appeal. The appeal must contain a clear and concise statement of the issues and points of fact in the case. It may also contain additional information from you, or from any other person. The EPA Administrator may request additional information from you, or from any other person. The EPA Administrator must render a decision within 60 days of receiving the appeal and must notify you of his decision.

§ 112.5 Amendment of Spill Prevention, Control, and Countermeasure Plan by owners or operators.

If you are the owner or operator of a facility subject to this part, you must:

(a) Amend the SPCC Plan for your facility in accordance with the general requirements in § 112.7, and with any specific section of this part applicable to your facility, when there is a change in the facility design, construction, operation, or maintenance that materially affects its potential for a discharge as described in § 112.1(b). Examples of changes that may require amendment of the Plan include, but are not limited to: 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; or revision of standard operation or maintenance procedures at

a facility. An amendment made under this section must be prepared within six months, and implemented as soon as possible, but not later than six months following preparation of the amendment.

(b) Notwithstanding compliance with paragraph (a) of this section, complete a review and evaluation of the SPCC Plan at least once every five years from the date your facility becomes subject to this part; or, if your facility was in operation on or before August 16, 2002, five years from the date your last review was required under this part. As a result of this review and evaluation, you must amend your SPCC Plan within six months of the review to include more effective prevention and control technology if the technology has been field-proven at the time of the review and will significantly reduce the likelihood of a discharge as described in § 112.1(b) from the facility. You must implement any amendment as soon as possible, but not later than six months following preparation of any amendment. You must document your completion of the review and evaluation, and must sign a statement as to whether you will amend the Plan, either at the beginning or end of the Plan or in a log or an appendix to the Plan. The following words will suffice, "I have completed review and evaluation of the SPCC Plan for (name of facility) on (date), and will (will not) amend the Plan as a result."

(c) Have a Professional Engineer certify any technical amendment to your Plan in accordance with § 112.3(d).

§ 112.6 [Reserved]

§ 112.7 General requirements for Spill Prevention, Control, and Countermeasure Plans.

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. As detailed elsewhere in this section, you must also:

(a)(1) Include a discussion of your facility's conformance with the requirements listed in this part.
(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), 112.10(c), 112.12(c)(2), 112.12(c)(11), 112.13(c)(2), and 112.14(c), 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 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), 112.12(c)(11), 112.13(c)(2), and 112.14(c), 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).

(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. You must also address in your Plan:

(i) The type of oil in each container and its storage capacity;

(ii) Discharge prevention measures including procedures for routine handling of products (loading, unloading, and facility transfers, etc.);

(iii) Discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of a discharge;

(iv) Countermeasures for discharge discovery, response, and cleanup (both the facility's capability and those that might be required of a contractor);

(v) Methods of disposal of recovered materials in accordance with applicable legal requirements; and

(vi) 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).

(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.

(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.

(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.

(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 cleanup 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) For offshore facilities:
 (i) Curbing or drip pans; or
 (ii) Sumps and collection systems.
 (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), 112.12(c)(11), 112.13(c)(2), and 112.14(c) 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.

(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.

(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.

(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.

(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.

(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.

(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.

3. Part 112 is amended adding subpart B consisting of §§ 112.8 through 112.11 to read as follows:

Subpart B—Requirements for Petroleum Oils and Non-Petroleum Oils, Except Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and Vegetable Oils (Including Oils from Seeds, Nuts, Fruits, and Kernels)

Sec.

112.8 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities).

112.9 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil production facilities.

112.10 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities.

112.11 Spill Prevention, Control, and Countermeasure Plan requirements for offshore oil drilling, production, or workover facilities.

Subpart B—Requirements for Petroleum Oils and Non-Petroleum Oils, Except Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and Vegetable Oils (Including Oils from Seeds, Nuts, Fruits, and Kernels)

§ 112.8 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities).

If you are the owner or operator of an onshore facility (excluding a production facility), you must:

(a) Meet the general requirements for the Plan listed under § 112.7, and the specific discharge prevention and containment procedures listed in this section.

(b) *Facility drainage.* (1) 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.

(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.

(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.

(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 with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.

(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 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.

(c) *Bulk storage containers.* (1) 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.

(2) Construct all bulk storage container installations 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.

(3) 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.

(4) 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.

(5) 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.

(6) Test each aboveground container for integrity on a regular schedule, and whenever you make material repairs. 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, acoustic 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 tests kept under usual and customary business practices will suffice for purposes of this paragraph.

(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.

(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 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.

(v) You must regularly test liquid level sensing devices to ensure proper operation.

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

(10) 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.

(11) Position or locate mobile or portable oil storage containers to prevent a discharge as described in § 112.1(b). 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.

(d) *Facility transfer operations, pumping, and facility process.* (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.

(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.

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

(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.

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

§ 112.9 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil production facilities.

If you are the owner or operator of an onshore production facility, you must:

(a) Meet the general requirements for the Plan listed under § 112.7, and the specific discharge prevention and containment procedures listed under this section.

(b) Oil production facility drainage.

(1) At tank batteries and separation and treating areas where there is a reasonable possibility of a discharge as described in § 112.1(h), close and seal at all times drains of dikes or drains of equivalent measures required under § 112.7(c)(1), except when draining uncontaminated rainwater. Prior to drainage, you must inspect the diked area and take action as provided in § 112.8(c)(3)(ii), (iii), and (iv). You must remove accumulated oil on the rainwater and return it to storage or dispose of it in accordance with legally approved methods.

(2) Inspect at regularly scheduled intervals field drainage systems (such as drainage ditches or road ditches), and oil traps, sumps, or skimmers, for an accumulation of oil that may have resulted from any small discharge. You must promptly remove any accumulations of oil.

(c) *Oil production facility bulk storage containers.* (1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and the conditions of storage.

(2) Provide all tank battery, separation, and treating facility

installations with a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must safely confine drainage from undiked areas in a catchment basin or holding pond.

(3) Periodically and upon a regular schedule visually inspect each container of oil for deterioration and maintenance needs, including the foundation and support of each container that is on or above the surface of the ground.

(4) Engineer or update new and old tank battery installations in accordance with good engineering practice to prevent discharges. You must provide at least one of the following:

(i) Container capacity adequate to assure that a container will not overflow if a pumper/gauger is delayed in making regularly scheduled rounds.

(ii) Overflow equalizing lines between containers so that a full container can overflow to an adjacent container.

(iii) Vacuum protection adequate to prevent container collapse during a pipeline run or other transfer of oil from the container.

(iv) High level sensors to generate and transmit an alarm signal to the computer where the facility is subject to a computer production control system.

(d) *Facility transfer operations, oil production facility.* (1) Periodically and upon a regular schedule inspect all aboveground valves and piping associated with transfer operations for the general condition of flange joints, valve glands and bodies, drip pans, pipe supports, pumping well polish rod stuffing boxes, bleeder and gauge valves, and other such items.

(2) Inspect saltwater (oil field brine) disposal facilities often, particularly following a sudden change in atmospheric temperature, to detect possible system upsets capable of causing a discharge.

(3) Have a program of flowline maintenance to prevent discharges from each flowline.

§ 112.10 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities.

If you are the owner or operator of an onshore oil drilling and workover facility, you must:

(a) Meet the general requirements listed under § 112.7, and also meet the specific discharge prevention and containment procedures listed under this section.

(b) Position or locate mobile drilling or workover equipment so as to prevent a discharge as described in § 112.1(b).

(c) Provide catchment basins or diversion structures to intercept and

contain discharges of fuel, crude oil, or oily drilling fluids.

(d) Install a blowout prevention (BOP) assembly and well control system before drilling below any casing string or during workover operations. The BOP assembly and well control system must be capable of controlling any well-head pressure that may be encountered while that BOP assembly and well control system are on the well.

§ 112.11 Spill Prevention, Control, and Countermeasure Plan requirements for offshore oil drilling, production, or workover facilities.

If you are the owner or operator of an offshore oil drilling, production, or workover facility, you must:

(a) Meet the general requirements listed under § 112.7, and also meet the specific discharge prevention and containment procedures listed under this section.

(b) Use oil drainage collection equipment to prevent and control small oil discharges around pumps, glands, valves, flanges, expansion joints, hoses, drain lines, separators, treaters, tanks, and associated equipment. You must control and direct facility drains toward a central collection sump to prevent the facility from having a discharge as described in § 112.1(b). Where drains and sumps are not practicable, you must remove oil contained in collection equipment as often as necessary to prevent overflow.

(c) For facilities employing a sump system, provide adequately sized sump and drains and make available a spare pump to remove liquid from the sump and assure that oil does not escape. You must employ a regularly scheduled preventive maintenance inspection and testing program to assure reliable operation of the liquid removal system and pump start-up device. Redundant automatic sump pumps and control devices may be required on some installations.

(d) At facilities with areas where separators and treaters are equipped with dump valves which predominantly fail in the closed position and where pollution risk is high, specially equip the facility to prevent the discharge of oil. You must prevent the discharge of oil by:

(1) Extending the flare line to a diked area if the separator is near shore;

(2) Equipping the separator with a high liquid level sensor that will automatically shut in wells producing to the separator; or

(3) Installing parallel redundant dump valves.

(e) Equip atmospheric storage or surge containers with high liquid level

sensing devices that activate an alarm or control the flow, or otherwise prevent discharges.

(f) Equip pressure containers with high and low pressure sensing devices that activate an alarm or control the flow.

(g) Equip containers with suitable corrosion protection.

(h) Prepare and maintain at the facility a written procedure within the Plan for inspecting and testing pollution prevention equipment and systems.

(i) Conduct testing and inspection of the pollution prevention equipment and systems at the facility on a scheduled periodic basis, commensurate with the complexity, conditions, and circumstances of the facility and any other appropriate regulations. You must use simulated discharges for testing and inspecting human and equipment pollution control and countermeasure systems.

(j) Describe in detailed records surface and subsurface well shut-in valves and devices in use at the facility for each well sufficiently to determine their method of activation or control, such as pressure differential, change in fluid or flow conditions, combination of pressure and flow, manual or remote control mechanisms.

(k) Install a BOP assembly and well control system during workover operations and before drilling below any casing string. The BOP assembly and well control system must be capable of controlling any well-head pressure that may be encountered while the BOP assembly and well control system are on the well.

(l) Equip all manifolds (headers) with check valves on individual flowlines.

(m) Equip the flowline with a high pressure sensing device and shut-in valve at the wellhead if the shut-in well pressure is greater than the working pressure of the flowline and manifold valves up to and including the header valves. Alternatively you may provide a pressure relief system for flowlines.

(n) Protect all piping appurtenant to the facility from corrosion, such as with protective coatings or cathodic protection.

(o) Adequately protect sub-marine piping appurtenant to the facility against environmental stresses and other activities such as fishing operations.

(p) Maintain sub-marine piping appurtenant to the facility in good operating condition at all times. You must periodically and according to a schedule inspect or test such piping for failures. You must document and keep a record of such inspections or tests at the facility.

4. Part 112 is amended by adding subpart C consisting of §§ 112.12 through 112.15 to read as follows:

Subpart C—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

Sec.

112.12 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities).

112.13 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil production facilities.

112.14 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities.

112.15 Spill Prevention, Control, and Countermeasure Plan requirements for offshore oil drilling, production, or workover facilities.

Subpart C—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 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities)

If you are the owner or operator of an onshore facility (excluding a production facility), you must:

(a) Meet the general requirements for the Plan listed under § 112.7, and the specific discharge prevention and containment procedures listed in this section.

(b) *Facility drainage.* (1) 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.

(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, subject to the requirements of paragraphs (c)(3)(ii), (iii), and (iv) of this section.

(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.

(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 with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.

(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 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.

(c) *Bulk storage containers.* (1) 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.

(2) Construct all bulk storage container installations 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.

(3) 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.

(4) 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.

(5) 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.

(6) Test each aboveground container for integrity on a regular schedule, and whenever you make material repairs. 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, acoustic 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 tests kept under usual and customary business practices will suffice for purposes of this paragraph.

(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.

(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 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.

(v) You must regularly test liquid level sensing devices to ensure proper operation.

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

(10) 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.

(11) Position or locate mobile or portable oil storage containers to prevent a discharge as described in § 112.1(b). 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.

(d) *Facility transfer operations, pumping, and facility process.* (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.

(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.

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

(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.

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

§ 112.13 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil production facilities.

If you are the owner or operator of an onshore production facility, you must:

(a) Meet the general requirements for the Plan listed under § 112.7, and the specific discharge prevention and containment procedures listed under this section.

(b) *Oil production facility drainage.*

(1) At tank batteries and separation and treating areas where there is a reasonable possibility of a discharge as described in § 112.1(b), close and seal at all times drains of dikes or drains of equivalent measures required under § 112.7(c)(1), except when draining uncontaminated rainwater. Prior to drainage, you must inspect the diked area and take action as provided in § 112.12(c)(3)(ii), (iii), and (iv). You must remove accumulated oil on the rainwater and return it to storage or dispose of it in accordance with legally approved methods.

(2) Inspect at regularly scheduled intervals field drainage systems (such as drainage ditches or road ditches), and oil traps, sumps, or skimmers, for an accumulation of oil that may have resulted from any small discharge. You must promptly remove any accumulations of oil.

(c) *Oil production facility bulk storage containers.* (1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and the conditions of storage.

(2) Provide all tank battery, separation, and treating facility installations with a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must safely confine drainage from undiked areas in a catchment basin or holding pond.

(3) Periodically and upon a regular schedule visually inspect each container of oil for deterioration and maintenance needs, including the foundation and support of each container that is on or above the surface of the ground.

(4) Engineer or update new and old tank battery installations in accordance with good engineering practice to prevent discharges. You must provide at least one of the following:

(i) Container capacity adequate to assure that a container will not overflow if a pumper/gauger is delayed in making regularly scheduled rounds.

(ii) Overflow equalizing lines between containers so that a full container can overflow to an adjacent container.

(iii) Vacuum protection adequate to prevent container collapse during a

pipeline run or other transfer of oil from the container.

(iv) High level sensors to generate and transmit an alarm signal to the computer where the facility is subject to a computer production control system.

(d) *Facility transfer operations, oil production facility.* (1) Periodically and upon a regular schedule inspect all aboveground valves and piping associated with transfer operations for the general condition of flange joints, valve glands and bodies, drip pans, pipe supports, pumping well polish rod stuffing boxes, bleeder and gauge valves, and other such items.

(2) Inspect saltwater (oil field brine) disposal facilities often, particularly following a sudden change in atmospheric temperature, to detect possible system upsets capable of causing a discharge.

(3) Have a program of flowline maintenance to prevent discharges from each flowline.

§ 112.14 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities.

If you are the owner or operator of an onshore oil drilling and workover facility, you must:

(a) Meet the general requirements listed under § 112.7, and also meet the specific discharge prevention and containment procedures listed under this section.

(b) Position or locate mobile drilling or workover equipment so as to prevent a discharge as described in § 112.1(b).

(c) Provide catchment basins or diversion structures to intercept and contain discharges of fuel, crude oil, or oily drilling fluids.

(d) Install a blowout prevention (BOP) assembly and well control system before drilling below any casing string or during workover operations. The BOP assembly and well control system must be capable of controlling any well-head pressure that may be encountered while that BOP assembly and well control system are on the well.

§ 112.15 Spill Prevention, Control, and Countermeasure Plan requirements for offshore oil drilling, production, or workover facilities.

If you are the owner or operator of an offshore oil drilling, production, or workover facility, you must:

(a) Meet the general requirements listed under § 112.7, and also meet the specific discharge prevention and containment procedures listed under this section.

(b) Use oil drainage collection equipment to prevent and control small oil discharges around pumps, glands, valves, flanges, expansion joints, hoses,

drain lines, separators, treaters, tanks, and associated equipment. You must control and direct facility drains toward a central collection sump to prevent the facility from having a discharge as described in § 112.1(b). Where drains and sumps are not practicable, you must remove oil contained in collection equipment as often as necessary to prevent overflow.

(c) For facilities employing a sump system, provide adequately sized sump and drains and make available a spare pump to remove liquid from the sump and assure that oil does not escape. You must employ a regularly scheduled preventive maintenance inspection and testing program to assure reliable operation of the liquid removal system and pump start-up device. Redundant automatic sump pumps and control devices may be required on some installations.

(d) At facilities with areas where separators and treaters are equipped with dump valves which predominantly fail in the closed position and where pollution risk is high, specially equip the facility to prevent the discharge of oil. You must prevent the discharge of oil by:

(1) Extending the flare line to a diked area if the separator is near shore;

(2) Equipping the separator with a high liquid level sensor that will automatically shut in wells producing to the separator; or

(3) Installing parallel redundant dump valves.

(e) Equip atmospheric storage or surge containers with high liquid level sensing devices that activate an alarm or control the flow, or otherwise prevent discharges.

(f) Equip pressure containers with high and low pressure sensing devices that activate an alarm or control the flow.

(g) Equip containers with suitable corrosion protection.

(h) Prepare and maintain at the facility a written procedure within the Plan for inspecting and testing pollution prevention equipment and systems.

(i) Conduct testing and inspection of the pollution prevention equipment and systems at the facility on a scheduled periodic basis, commensurate with the complexity, conditions, and circumstances of the facility and any other appropriate regulations. You must use simulated discharges for testing and inspecting human and equipment pollution control and countermeasure systems.

(j) Describe in detailed records surface and subsurface well shut-in valves and devices in use at the facility for each well sufficiently to determine their

method of activation or control, such as pressure differential, change in fluid or flow conditions, combination of pressure and flow, manual or remote control mechanisms.

(k) Install a BOP assembly and well control system during workover operations and before drilling below any casing string. The BOP assembly and well control system must be capable of controlling any well-head pressure that may be encountered while that BOP assembly and well control system are on the well.

(l) Equip all manifolds (headers) with check valves on individual flowlines.

(m) Equip the flowline with a high pressure sensing device and shut-in valve at the wellhead if the shut-in well pressure is greater than the working pressure of the flowline and manifold valves up to and including the header valves. Alternatively you may provide a pressure relief system for flowlines.

(n) Protect all piping appurtenant to the facility from corrosion, such as with protective coatings or cathodic protection.

(o) Adequately protect sub-marine piping appurtenant to the facility against environmental stresses and other activities such as fishing operations.

(p) Maintain sub-marine piping appurtenant to the facility in good operating condition at all times. You must periodically and according to a schedule inspect or test such piping for failures. You must document and keep a record of such inspections or tests at the facility.

5. Part 112 is amended by designating §§ 112.20 and 112.21 as subpart D, and adding a subpart heading as follows:

Subpart D—Response Requirements

Sec.

112.20 Facility response plans.

112.21 Facility response training and drills/exercises.

Subpart D—Response Requirements

6. Section 112.20 is amended by revising the first sentence of paragraph (h) to read as follows:

§ 112.20 Facility response plans.

* * * * *

(h) A response plan shall follow the format of the model facility-specific response plan included in Appendix F to this part, unless you have prepared an equivalent response plan acceptable to the Regional Administrator to meet State or other Federal requirements. * *

* * * * *

Appendix C—[Amended]

7. Appendix C of part 112 is amended by:

- a. Revising the first sentence of section 2.1; and
- b. Revising the title and first sentence of section 2.4.

Appendix C to Part 112—Substantial Harm Criteria

* * * * *

2.1 Non-Transportation-Related Facilities With a Total Oil Storage Capacity Greater Than or Equal to 42,000 Gallons Where Operations Include Over-Water Transfers of Oil

A non-transportation-related facility with a total oil storage capacity greater than or equal to 42,000 gallons that transfers oil over water to or from vessels must submit a response plan to EPA. * * *

* * * * *

2.4 Proximity to Public Drinking Water Intakes at Facilities with a Total Oil Storage Capacity Greater than or Equal to 1 Million Gallons

A facility with a total oil storage capacity greater than or equal to 1 million gallons must submit its response plan if it is located at a distance such that a discharge from the facility would shut down a public drinking water intake, which is analogous to a public water system as described at 40 CFR 143.2(c). * * *

* * * * *

Appendix D—[Amended]

8. Appendix D of part 112 is amended by revising footnote 2 to section A.2 of Part A to read as follows:

Appendix D to Part 112—Determination of a Worst Case Discharge Planning Volume

* * * * *

Part A * * *

* * * * *

A.2 Secondary Containment—Multiple-Tank Facilities

* * * * *

Secondary containment is described in 40 CFR part 112, subparts A through C. Acceptable methods and structures for containment are also given in 40 CFR 112.7(c)(1).

* * * * *

Appendix F—[Amended]

9. Appendix F of part 112 is amended by:

- a. Revising section 1.2.7;
- b. Revising the second and last sentences of section 1.4.3;

c. Revising paragraph (7) and the undesignated paragraph and NOTE following paragraph (7) in section 1.7.3;

d. Revising section 1.8.1;

e. Revising the first two sentences of section 1.8.1.1. introductory text;

f. Revising the next to the last sentence of section 1.8.1.3;

g. Revising the next to last sentence of section 1.10.;

h. Revising paragraph (6) of section 2.1;

i. Remove the acronym "SIC" in section 3.0, and add in alphabetical order the acronym "NAICS"; and

j. Remove the reference to "Standard Industrial Classification (SIC) Code" in Attachment F-1, General Information, and add in in alphabetical order a reference to "North American Industrial Classification System (NAICS) Code."

The revisions read as follows:

Appendix F to Part 112—Facility-Specific Response Plan

* * * * *

1.2.7 Current Operation

Briefly describe the facility's operations and include the North American Industrial Classification System (NAICS) code.

* * * * *

1.4.3 Analysis of the Potential for an Oil Discharge

* * * This analysis shall incorporate factors such as oil discharge history, horizontal range of a potential discharge, and vulnerability to natural disaster, and shall, as appropriate, incorporate other factors such as tank age. * * * The owner or operator may need to research the age of the tanks the oil discharge history at the facility.

* * * * *

1.7.3 Containment and Drainage Planning

* * * * *

(7) Other cleanup materials.

In addition, a facility owner or operator must meet the inspection and monitoring requirements for drainage contained in 40 CFR part 112, subparts A through C. A copy of the containment and drainage plans that are required in 40 CFR part 112, subparts A through C may be inserted in this section, including any diagrams in those plans.

Note: The general permit for stormwater drainage may contain additional requirements.

* * * * *

1.8.1 Facility Self-Inspection

Under 40 CFR 112.7(e), you must include the written procedures and records of inspections for each facility in the SPCC

Plan. You must include the inspection records for each container, secondary containment, and item of response equipment at the facility. You must cross-reference the records of inspections of each container and secondary containment required by 40 CFR 112.7(e) in the facility response plan. The inspection record of response equipment is a new requirement in this plan. Facility self-inspection requires two-steps: (1) a checklist of things to inspect; and (2) a method of recording the actual inspection and its findings. You must note the date of each inspection. You must keep facility response plan records for five years. You must keep SPCC records for three years.

* * * * *

1.8.1.1. Tank Inspection

The tank inspection checklist presented below has been included as guidance during inspections and monitoring. Similar requirements exist in 40 CFR part 112, subparts A through C. * * *

* * * * *

1.8.1.3 Secondary Containment Inspection

* * * * *

* * * Similar requirements exist in 40 CFR part 112, subparts A through C. * * *

* * * * *

1.10 Security

According to 40 CFR 112.7(g) facilities are required to maintain a certain level of security, as appropriate. * * *

* * * * *

2.1 General Information

* * * * *

(6) North American Industrial Classification System (NAICS) Code: Enter the facility's NAICS code as determined by the Office of Management and Budget (this information may be obtained from public library resources.)

* * * * *

3.0 Acronyms

* * * * *

NAICS: North American Industrial Classification System

* * * * *

Attachments to Appendix F

Attachment F-1—Response Plan Cover Sheet

* * * * *

General Information

* * * * *

North American Industrial Classification System (NAICS) Code:

* * * * *

[FR Doc. 02-16852 Filed 7-16-02; 8:45 am]

BILLING CODE 6560-50-P

Appendix B
Certificate of Substantial Harm Determination

Certification of the Applicability of the Substantial Harm Criteria

Facility Name: City of Salem Electric Department

Facility Address: 40 Dixie Drive; Salem, Virginia 24153

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 ground 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 (as calculated using the appropriate formula in Attachment C-III to this appendix or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E to this part, section 10, for availability) and the applicable Area Contingency Plan.
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 (as calculated using the appropriate formula in Attachment C-III to this appendix or a comparable formula) such that a discharge from the facility would shut down a public drinking 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 completed.

Signature

Printed Name

Title

Date

Appendix C
Precipitation Drainage Form

RECORD OF DIKE DRAINAGE **City of Salem Electric Department – Pole Yard**

Instructions: This record will be completed by responsible personnel if rainwater collects in the asphalt berm for the Pole Yard in a volume that requires draining. After inspecting for the presence of product or a sheen, collected water is authorized to be discharged directly to the ground surface (if needed).

Tank/Dike Area	Date	Presence of Oily Sheen? (Y/N)	Where Drained? (Ground surface, treatment system, or retention pond)	Time Started	Time Finished	Signature

Note: Provide copy to the Facility SPCC Coordinator

Appendix D
Monthly and Annual Inspection Checklists for Steel ASTs– STI SP001

Appendix E
General Training Guidelines

GENERAL TRAINING GUIDELINES

Training should be provided for all oil-handling personnel at the following times:

- at system start-up;
- within the first week of employment for new personnel; and
- annually thereafter.

At a minimum, oil-handling personnel must be trained in the following:

1. operation and maintenance of equipment to prevent discharges
2. discharge procedure protocols;
3. applicable pollution control laws, rules and regulations;
4. general facility operations; and
5. the contents of the facility SPCC Plan.

[illegible]

Appendix F

Notification Check-off List, Responsible Personnel and Oil Spill Report

City of Salem Electric Department – Pole Yard**Oil Spill Response Procedures**

In the event of oil spill, be **S.M.A.R.T.**

- I.** **S**urvey the area carefully before proceeding, to prevent endangering yourself or your fellow employees. Evacuate the area and adjacent area if needed.

For all spills:

In the event of a spill, contact the following Local and County Emergency Departments, and City of Salem personnel:

City of Salem	Contact
Emergency Management	City of Salem Police Department 911 or (540) 375-3078 City of Salem Fire-EMS Department 911 or (540) 375-3080
Electric Department Contacts	Mr. A.K. Briele, Facility SPCC Coordinator (540) 375-3030 (Office) (540) 815-0408 (Cell) Mr. Mike Salmon, Electric Engineer (540) 375-3030 (Office) (540) 815-0412 (Cell)

- II.** **M**aterial Safety Data Sheets (MSDS) should be reviewed for safety precaution, proper handling, and the necessary personal protective equipment.
- III.** **A**ction must be taken to prevent further release of material. (Use spill pillows or booms to block all nearby sumps, sewers, and drains). Also, a berm may be constructed using absorbents or dirt down gradient of the spill.

- IV. Responsibility:** If there is a petroleum release to the environment (i.e. spilled to the drainage channels), the City of Salem has the responsibility to clean-up the release and report the release to the appropriate regulatory agency. Responsibilities for addressing the petroleum release are identified in the table below:

Individual	Responsibility
Facility Representative	Contact one of the following cleanup contractor for emergency services: Primary Contacts: W.E.L., Inc. 800 Liberty Road NE Roanoke, VA 24012 (540) 561-0735 (Office) (800) 847-2455 (24-Hour Response) LCM Corporation 3321 Shenandoah Avenue NE Roanoke, VA 24017 (540) 344-5583 (Office) (800) 774-5583 (24-Hour Response) Secondary Contact: EEE Consulting, Inc. 201 Church Street, SE Blacksburg, VA 24060 (540) 953-0170 (Office) (540) 798-7900 (Cell) Contact Person: Andy Kassoff The facility is also responsible for contracting with the emergency response cleanup contractor.

Individual	Responsibility
SPCC Site Coordinator	1. Notify the Virginia Department of Emergency Management when: Petroleum is released into and/or observed in the environment. UNLESS: The release is less than 25 gallons, does not reach state waters or cause petroleum sheen on surface water, and the release is cleaned up immediately. Records still must be kept for a period of five years for clean-up of a petroleum release of less than 25 gallons. 2. Notify the National Response Center when: A discharge of oil causes a film, sheen, or discoloration upon the surface of the water or adjoining shorelines or A discharge causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines. The National Response Center will notify the Coast Guard and the EPA if required. 3. Notify the Virginia Department of Environmental Quality (DEQ) when: If either of the above agencies is contacted, the DEQ should also be contacted to relay release and response information, as well as discuss additional reporting or documentation they may require. 4. Checklist and Report Forms Attached are the following forms to assist the Hazardous Material Coordinator in reporting the oil spill to the necessary regulatory agencies. ▪ Notification Check-Off List ▪ Oil Spill Report for regulatory agencies

- V. **T**ime is critical. Quick actions taken as soon as a spill is discovered can prevent a major release and clean-up. Time is also critical for reporting oil spills and getting the necessary help. Do not waste time getting every detail before you call.

NOTIFICATION CHECK-OFF LIST

AGENCY	<u>DATE</u> <u>TIME</u>	CONTACT NAME
Spill Response Contractor - W.E.L., Inc. (540) 561-0735 (Office) (800) 847-2455 (24-Hour Response)	_____	_____
Virginia Department of Emergency Management (800) 468-8892 (24-hour)	_____	_____
National Response Center (800) 424-8802 (24-hour)	_____	_____
Virginia Department of Environmental Quality BRRO - Roanoke Office (540) 562-6700	_____	_____
City of Salem Fire-EMS Department 911 or (540) 375-3080	_____	_____
City of Salem Police Department 911 or (540) 375-3078	_____	_____

OIL SPILL REPORT

Write out report before calling the regulatory agency and READ it to the person receiving your call.

I am reporting an oil spill on behalf of the City of Salem Electric Department – Pole Yard located at 40 Dixie Drive in Salem, Virginia.

My name is: _____

The spill occurred at (location, date, time): _____

I estimate the quantity of the spill to be (gallons or barrels and type of oil): _____

Source of the discharge: _____

Description of the affected media (i.e. soil, storm-water, river): _____

Cause of the discharge: _____

Damages or injuries caused by the discharge: _____

Actions being used to stop, remove, and mitigate the effects of the discharge: _____

Was an evacuation of the area required? _____

Name of person who completed report: _____

List below any further discussion other than the message you read to them (use reverse side if more space is needed.)

Appendix G
Accidental Release Reporting Form

Accidental Oil Release Form
City of Salem Electric Department - Pole Yard

Reporter Name:	
Position:	
Type of Material Discharged:	
Quantity of Material Discharged:	
<u>Incident Description</u>	
Date:	
Time:	
Container Involved:	
Any Material Released Off-site?:	
Any Damages?:	
Actions Taken to Mitigate Release:	
Comments:	

Amendment to the Spill Prevention, Control, and Countermeasures Plan

**City of Salem Electric Department
Indiana Street Substation
1650 Indiana Street
Salem, Virginia**

Prepared for:

City of Salem Electric Department
730 West Main Street
Salem, Virginia 24153

Prepared by:

EEE Consulting, Inc.
201 Church Street, S.E.
Blacksburg, VA 24060
(540) 953-0170
Project: 13-772

October 2013

AMENDMENT TO THE SPCC PLAN

Facility Name: City of Salem Electric Department
Indiana Street Substation
1650 Indiana Street
Salem, VA 24153

A. Amendment [40 CFR 112.5(a)]

The Spill Prevention, Control, and Countermeasure (SPCC) Plan shall be amended whenever there is a change in the facility design, construction, operation or maintenance that materially affects its potential for a discharge as described in 40 CFR 112.1(b). The amendment shall be prepared within six months and implemented as soon as possible but not later than six months following preparation.

B. Certification [40 CFR 112.5(c)(3)]

If this plan requires amendment and the required amendment is a technical amendment, a Professional Engineer must certify the technical amendment in accordance with 40 CFR 112.3(d) and 40 CFR 112.5(c).

CERTIFICATION:

I hereby certify that the following technical amendments to the SPCC Plan prepared for the Indiana Street Substation have been prepared in accordance with good engineering practices, including consideration of applicable industry standards, and with the requirements of the SPCC rule. Procedures for the required inspections and testing have been established and the plan is adequate for the facility.

Engineer: Andrew E. Kassoff, PE

Signature:

Registration Number: 43711

State Registered: Virginia

Firm: EEE Consulting, Inc.

Address: 201 East Church Street, Suite C

City: Blacksburg State: VA Zip: 24060

Phone: 540-953-0170



The following amendments reflect changes in the following Sections of the original SPCC Plan dated February 13, 2004.

AMENDMENT No. 1

Page 1, Section 2.1: General Facility Information

The following amendment adds an additional point of contact for the City of Salem – Indiana Street Substation

Point of Contact – Assistant SPCC Coordinator:

Mr. Mike Salmon – Electrical Engineer

Phone Number (Office): (540)-375-3030

Phone Number (Cell): (540)-815-0412

AMENDMENT No. 2

Page 1, Section 2.1: General Facility Information

Pages 3 and 4, Section 4.1.1: Dielectric Oil Storage

The original Plan identifies two (2) oil-filled transformers and one (1) circuit breaker as the regulated oil storage containers at the facility. The transformers contain dielectric oil that provides additional electrical insulation as well as cooling to prevent the equipment from overheating. **Table 1**, included as an attachment to the 2004 SPCC Plan, identified the oil storage capacities of Transformer 3A and Transformer 3B as 5,000-gallons and 4,100-gallons, respectively. The original Plan also notes that the circuit breaker was scheduled to be removed as part of Phase II construction. The oil-filled circuit breaker and temporary containment structure have been removed from the facility.

Site reconnaissance for the 2013 update indicates the following oil storage capacities for the Transformers and associated appurtenances:

- ❖ The name plate for Transformer 3A lists the main belly tank as having a dielectric oil storage capacity of 4,550-gallons. The subject name plate also lists a 375-gallon radiator oil belly tank and a 430-gallon tap changer tank as integrated into the system.
- ❖ The name plate for Transformer 3B lists the main belly tank as having a dielectric oil storage capacity of 4,100-gallons. The subject name plate also lists a 150-gallon tap changer tank as integrated into the system.

Table 1 – Spill Scenario and Volume (on the following page) was updated to:

1. Accurately depict the volume and number of the Aboveground Storage Tanks (ASTs) in each transformer,
2. Remove the 330-gallon circuit breaker AST that was removed from the site during Phase II construction,
3. Adjust the maximum potential oil discharges based on the updated AST oil storage capacities and;
4. Provide additional details on the potential spill pathways in the event of a release of oil at the facility.

TABLE 1
Spill Scenario and Volume
Indiana Street Substation

Equipment	Tank Capacity (gallons)	Secondary Containment	Tank Type/Description	*Maximum Anticipated Discharge (gallons)	Spill Route	Response Action
Transformer No. 3A	4,550	Concrete Integral Containment Dike	Aboveground (main belly tank for providing insulation for power distribution)	910	An uncontained spill would sheet flow to the north/northwest as shown in Figure 1. A grass-lined swale/earthen ditch borders the facility to the north. The ditch directs stormwater to the west along Indiana Street. The ditch ultimately discharges to the stormwater system maintained by the City of Salem. The stormwater system outfalls to the Roanoke River within 1,000-ft of the facility.	Contain spilled material with petroleum absorbents/earthen berms. Prevent all released oil from traveling off-site towards the drainage ditch along Indiana Street.
Transformer No. 3A	430	Concrete Integral Containment Dike	Aboveground (oil-filled belly tank supplying insulation to the tap changer integrated into the main unit)	86		
Transformer No. 3A	375	Concrete Integral Containment Dike	Aboveground (oil-filled belly tank supplying insulation to the radiator integrated into the main unit)	75		
Transformer No. 3B	4,100	Concrete Integral Containment Dike	Aboveground (main belly tank for providing insulation for power distribution)	820		
Transformer No. 3B	150	Concrete Integral Containment Dike	Aboveground (oil-filled belly tank supplying insulation to the tap changer integrated into the main unit)	30		

*Based on release of all dielectric oil and 20% of oil "sloshing" outside the containment structure.

AMENDMENT No. 3

Page 3, Section 4.1.2: Secondary Containment

The following amendment updates the condition of the concrete curbing and clarifies the containment requirements of oil-filled operational equipment as defined in the SPCC Rule.

Both transformers, including all oil storage tanks and associated piping, are contained with a specifically-sized secondary containment structure that consists of a concrete slab surrounded by concrete curbing that is approximately 10-12-inches in height. Each containment structure is designed to route liquids into an integrated, pre-cast concrete vault. The 2004 Plan denotes that the concrete vaults are located adjacent to each slab. Field reconnaissance of the containment structures as part of the 2013 SPCC update indicates the following:

- ❖ The vaults associated with Transformer Nos. 3A & 3B are integrated into the concrete support pad. The recessed vaults are covered by metal grating to facilitate liquid accumulation.

Figure 1, attached at the end of this amendment, has been updated to illustrate the location of the vaults in relation to the containment structures for Transformers 3A and 3B.

In 2004, the concrete curbing was installed to the pre-existing concrete slabs to provide specifically-sized secondary containment for the oil-filled operational equipment. Wooden planks were utilized to form the concrete curbing, and several of the forms were apparently left in place after construction of the curbing. It appears that the wooden forms have absorbed moisture and expanded in size, resulting in cracking and spalling to select sections of the concrete curbing and/or slab as follows:

- ❖ Two (2) sections of the curbing for Transformer 3A contained cracks and spalled sections of concrete.

The cracked and/or spalled sections of concrete for the containment system for Transformer 3A are depicted on **Figure 1**. Please note that these sections have the potential to materially affect the ability of each system to be sufficiently impervious to oil.

Per the SPCC Rule, the single-walled steel, dielectric oil ASTs associated with the transformers are considered oil-filled operational equipment because the oil stored is solely used to support the function of the apparatus or device. Oil-filled operational equipment is not considered a bulk oil storage container per 40 CFR 112.2 and does not have to comply with specific requirements as described under 40 CFR 112.8 (c), 112.9(c), and 112.12(c). Examples of these requirements include (but are not limited to) secondary containment, fail safe engineering (such as high level alarms), and testing. However, oil filled equipment must meet the general requirements of 40 CFR 112.7.

Because the dielectric oil ASTs at the facility are considered oil-filled operational equipment, general secondary containment measures apply. Each specifically-sized, containment system for the applicable regulated oil storage containers is designed to retain the storage capacity of the single-largest, dielectric oil tank. The containment system for Transformer No. 3B is in good condition and sufficiently impervious to oil. Thus, it meets/exceeds the applicable containment requirements of the SPCC Rule.

As previously noted, the containment systems for Transformer No. 3A contained cracked and/or spalled sections of concrete that could materially affect their ability to be sufficiently impervious to oil. Compliance options to ensure adequate secondary containment for the regulated oil storage containers staged at this location is as follows:

1. Per 40 CFR 112.7, general secondary containment measures apply to oil-filled operational equipment, which must be capable of addressing the most likely discharge scenario(s). An overpack spill kit with an adequate supply of spill response materials (i.e. pads, booms, pillows, granular absorbent, etc.) could be staged proximate to Transformer 3A to address the most likely discharge scenario(s), which is a release from a leaking valve/fitting or during dielectric oil transfer events during routine maintenance.
2. In lieu of implementing general secondary containment measures, the City of Salem may elect to repair the compromised sections of concrete with hydraulic cement to ensure that they are sufficiently impervious to oil. Subsequently, the replaced or repaired sections should be lined with an epoxy sealant that is compatible with concrete and outdoor applications.

Please note that either option is acceptable to ensure SPCC compliance. However; upon implementation, the selected option should be reviewed by a Virginia-licensed Professional Engineer to ensure compliance with the applicable requirements of the SPCC Rule.

AMENDMENT No. 4

Pages 5 and 6, Section 4.2: Spill Scenarios

The original Plan lists several spill scenarios and predicts volumes and discharge rates. Per the original 2004 SPCC Plan, a release outside the secondary containment structure would most likely infiltrate into the gravel fill surrounding the equipment. During precipitation events, released oil could sheet flow across the surface with runoff. The following text replaces the description of surface flow in the event of released oil migrating off-site as described in **Sections 4.2.1, 4.2.2, and 4.2.3** of the 2004 SPCC Plan.

An uncontained spill would sheet flow to the north/northwest as shown in **Figure 1**. A grass-lined swale/earthen ditch borders the facility to the north. The ditch directs stormwater to the west along Indiana Street. The ditch ultimately discharges to the stormwater system maintained by the City of Salem. The stormwater system outfalls to the Roanoke River within 1,000-ft of the facility.

AMENDMENT No. 5

Page 7, Section 5.1: Inspection and Maintenance

The original Plan describes the procedure for monthly routine inspections of the ASTs and discharge requirements for liquids present in the concrete vault(s) for the secondary containment system(s). The following language clarifies the discharge procedures for the containment vaults.

Each containment vault is equipped with a telemetric high level alarm that remotely alerts City of Salem personnel when approximately 1.0-foot of liquid collects in the vaults for Transformers 3A and 3B, respectively. When responding to a high water level alarm, the designated person will visually inspect the liquid in the vault(s) and containment area(s) for signs of oil. If no oil is observed, the suction lift pump(s) will be manually started to discharge the collected water in the containment vault(s) to the ground surface. If oil is encountered during the vault inspection, the designated person **will not** engage the pump(s). The designated person will instead determine the source of oil, and handle and dispose of the oil in compliance with all applicable local, state, and federal regulations. The facility SPCC Coordinator (the Electric Department Director) will be notified immediately to ensure that the clean-up is completed per SPCC guidelines. The SPCC Coordinator will also determine if the spill is reportable to applicable state and federal agencies as described in **Section 7.3** of the original Plan.

The 2004 SPCC Plan contained a Monthly Inspection Form in Appendix B. The subject form listed line items for inspecting and documenting the discharge of liquids that had accumulated in the containment system vaults. Discharge events typically occur during or following precipitation events, which may occur more frequently than once a month depending on seasonal variations. The Dike Drainage Logs (included as **Attachment 1**) will replace the drainage line items on the 2004 Form to clarify the procedures required prior to engaging the pumps. A drainage log record will be filled every time precipitation is discharged from a containment vault.

AMENDMENT No. 6

Pages 7 and 8, Section 5.1: Inspection and Maintenance

The Environmental Protection Agency (EPA) believes that it is good engineering practice to have some form of visual inspection or monitoring for oil-filled equipment to prevent discharges as described in 40 CFR 112.1(b). The SPCC regulations require preventative maintenance of all oil handling equipment on an as needed basis and according to recommended practices. The integrity testing requirement of the SPCC Rule can be complied with by following an industry standard such as the Steel Tank Institute (STI) Standard SP001.

Per STI-SP001, all oil storage containers equal to or greater than 55-gallons must be inspected on a monthly and annual basis in accordance with the integrity testing requirements. The outside of the container(s) must be frequently inspected for signs of deterioration, and discharges. Records of the inspections and tests must be maintained at the facility. Blank copies of the monthly and annual facility inspection checklists for all oil storage containers are included in **Attachment 2**. Completed inspection checklists will be maintained on file in the Main Facility Building located at 730 West Main Street in Salem, Virginia. The monthly and annual inspection checklists must be retained along with the SPCC Plan for this facility for a minimum of three (3) years.

The SP001 Standard prescribes a testing procedure involving monthly and annual visual inspections, combined with potential periodic non-destructive testing following a schedule based on tank size, tank age, release detection methods, and presence of a release prevention barrier. In accordance with STI-SP001, the dielectric oil belly tanks for Transformers 3A and 3B are considered Category 1 ASTs because they have spill control (i.e. the tanks have secondary containment structures) and a continual release detection method (CRDM). The STI-SP001 inspection requirements for Category 1 ASTs that are between 0- and 5,000-gallons are as follows:

- ❖ Monthly and annual visual inspections by facility personnel that are trained in oil handling procedures and familiar with the AST and associated components.

The periodic inspections are conducted and documented by facility personnel in accordance with **Section 6.0** of STI-SP001. Inspection personnel are knowledgeable of the City of Salem Electric Department storage operations, the ASTs and their associated components, and characteristics of the liquids stored (dielectric oil). Monthly inspections focus on structural integrity of the tank walls and bottom and the integrity of the tank foundation, secondary containment, piping and anchor bolts. Annual inspections of the ASTs will also be performed by facility personnel. Annual inspections will generally focus on similar action items included in the monthly checklist; however, a more rigorous visual inspection will be conducted on the tanks and associated appurtenances to ensure the system is suitable for continued service.

AMENDMENT No. 7

Page 12, Section 8.0: Plan Review and Amendment

The following action items must be implemented within six (6) months of the PE certified date of this plan to ensure compliance with SPCC Rule.

- ❖ As previously noted, the containment systems for Transformer No. 3A contained cracked and/or spalled sections of concrete that could materially affect their ability to be sufficiently impervious to oil. Compliance options to ensure adequate secondary containment for the regulated oil storage containers staged at this location is as follows:
 1. Per 40 CFR 112.7, general secondary containment measures apply to oil-filled operational equipment, which must be capable of addressing the most likely discharge scenario(s). An overpack spill kit with an adequate supply of spill response materials (i.e. pads, booms, pillows, granular absorbent, etc.) could be staged proximate to Transformer 3A to address the most likely discharge scenario(s), which is a release from a leaking valve/fitting or during dielectric oil transfer events during routine maintenance.
 2. In lieu of implementing general secondary containment measures, the City of Salem may elect to repair the compromised sections of concrete with hydraulic cement to ensure that they are sufficiently impervious to oil. Subsequently, the replaced or repaired sections should be lined with an epoxy sealant that is compatible with concrete and outdoor applications.

Please note that either option is acceptable to ensure SPCC compliance. However; upon implementation, the selected option should be reviewed by a Virginia-licensed Professional Engineer to ensure compliance with the applicable requirements of the SPCC Rule.

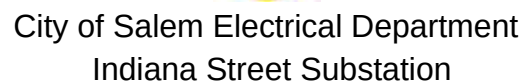
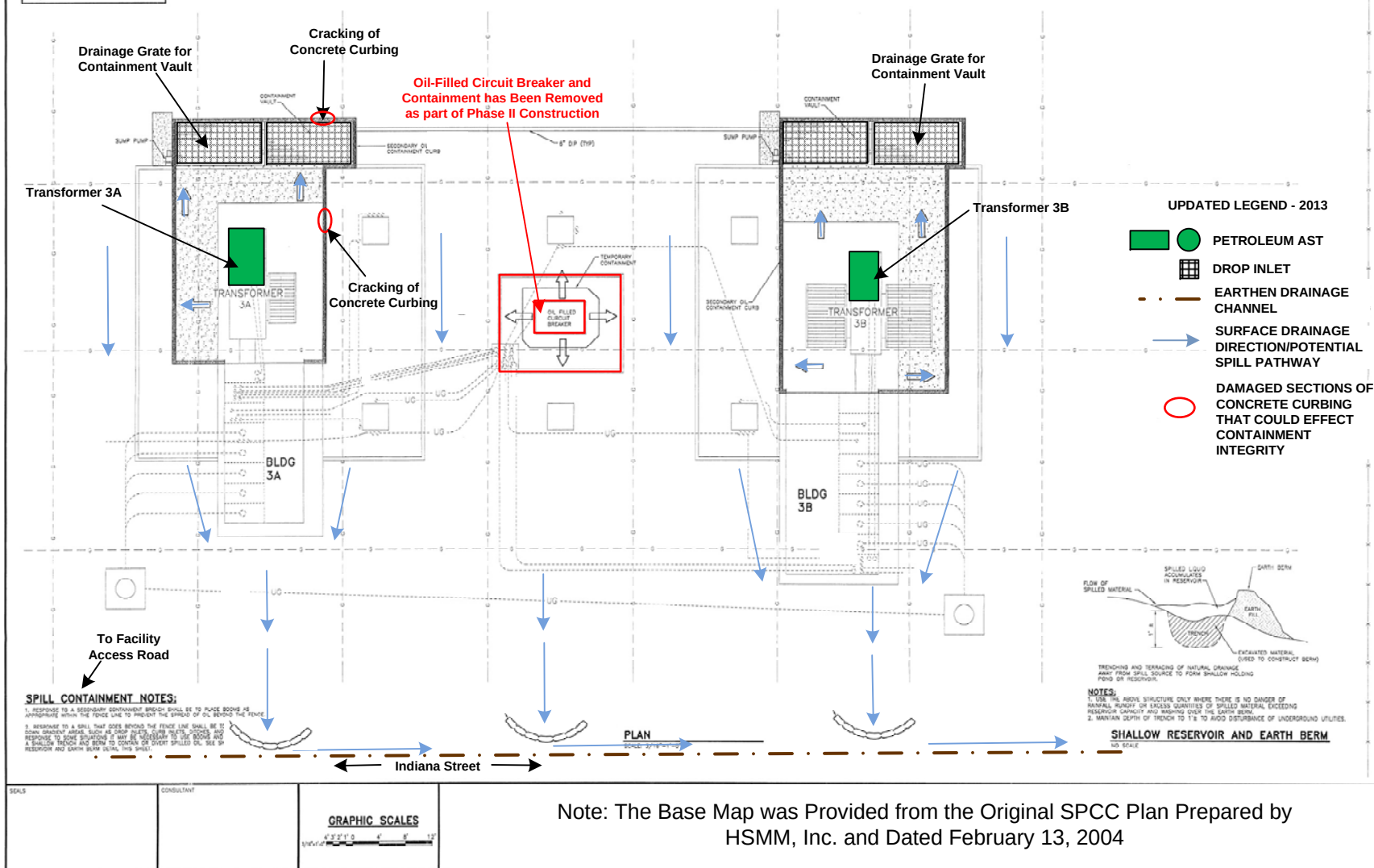
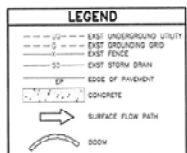
- ❖ Records of water discharge from the containment vaults are to be noted on the Dike Drainage Logs that are included as **Attachment 1**. These logs will replace the dike drainage line items provided on the 2004 Inspection Form.
- ❖ Conduct and document monthly and annual inspections in accordance with the requirements of 40 CFR Part 112 and STI-Standard SP001. Blank copies of updated monthly and annual facility inspection checklists for steel containers (fixed and portable) are included in **Attachment 2**. Maintain all inspection forms with the SPCC Plan for a minimum of three years.
- ❖ Conduct annual SPCC training for maintenance personnel who are authorized to handle oil as noted in **Section 6.0** of the original Plan.

AMENDMENT No. 8

Figure 1

The following amendment reflects revisions to **Figure 1**, which was updated to:

- ❖ Remove the circuit breaker with the 330-gallon AST and containment dike.
- ❖ Clearly predict potential surface drainage in the event of a release from the dielectric oil-filled transformers. Off-site drainage features were added to the map to help determine potential spill pathways.
- ❖ Depict the locations of cracked and/or spalled concrete in the containment structures for Transformer 3A
- ❖ Update the existing Legend to better illustrate the location of the ASTs, culverts, and earthen ditches at the facility.



Facility Layout

Oil Storage Containers and Drainage Patterns

September 2013

Attachment 1

Dike Drainage Log

RECORD OF DIKE DRAINAGE
City of Salem Electric Department – Indiana Street Substation – Transformer 3A

Instructions: This record will be completed by responsible personnel when rainwater collects in the secondary containment vault for Transformer 3A at the Indiana Street Substation. After inspecting for the presence of product or a sheen, collected water is authorized to be discharged directly to the ground surface using the suction lift pump. **DO NOT** discharge water if a sheen or standing oil is present. Attempt to absorb any pooled oil or sheen using absorbent pads and contact the facility SPCC Coordinator immediately.

Reason for Drainage (i.e. High Level Alarm, Routine Maintenance)	Date	Presence of Oily Sheen in Containment Vault? (Y/N)	Any Oil Seen Leaking from the Equipment or Accessories? (Y/N)	Time Started	Time Finished	Signature

Note: Provide copy to the Facility SPCC Coordinator

RECORD OF DIKE DRAINAGE
City of Salem Electric Department – Indiana Street Substation – Transformer 3B

Instructions: This record will be completed by responsible personnel when rainwater collects in the secondary containment vault for Transformer 3B at the Indiana Street Substation. After inspecting for the presence of product or a sheen, collected water is authorized to be discharged directly to the ground surface using the suction lift pump. **DO NOT** discharge water if a sheen or standing oil is present. Attempt to absorb any pooled oil or sheen using absorbent pads and contact the facility SPCC Coordinator immediately.

Reason for Drainage (i.e. High Level Alarm, Routine Maintenance)	Date	Presence of Oily Sheen in Containment Vault? (Y/N)	Any Oil Seen Leaking from the Equipment or Accessories? (Y/N)	Time Started	Time Finished	Signature

Note: Provide copy to the Facility SPCC Coordinator

Attachment 2

Monthly and Annual Inspection Checklists

SPCC Monthly Inspection Sheet - Indiana Street Substation																				
Inspection Date (Keep records for 3 years)																				
Inspector's Name																				
		Tanks Inspected																		
Item		4,550-g Belly Tank for Transformer 3A			430-g Tap Changer Tank for Transformer 3A			375-g RadiatorTank for Transformer 3A			4,100-g Belly Tank for Transformer 3B			150-g Tap Changer Tank for Transformer 3B			Comments			
		Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A				
1	Signs of leakage around the tank/ equipment pad?																			
2	Are there any cracks in the pad or the concrete walls?																			
3	Valves, pipes, lines or hoses leaking or deteriorated?																			
4	Drain valves operable and closed when not in use?																			
6	Tank openings properly sealed?																			
7	Liquids accumulated in secondary containment, interstice, or spill container?																			
8	Debris or fire hazard in containment?																			
9	Containment egress pathways clear?																			
10	Are there other conditions that should be addressed for continued safe operation or that may affect the site SPCC Plan?																			

SPCC Annual Inspection Sheet - Indiana Street Substation																		
Inspection Date (Keep records for 3 years)																		
Inspectors Name																		
			Tanks Inspected															
Item			4,550-g Belly Tank for Transformer 3A			430-g Tap Changer Tank for Transformer 3A			375-g RadiatorTank for Transformer 3A			4,100-g Belly Tank for Transformer 3B			150-g Tap Changer Tank for Transformer 3B			Comments
			Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A	
1	Drainage pipes/valves fit for continued use? Closed? Locked?																	
2	Tanks are rusted, pitted, of deteriorated. Evidence of paint failure.																	
3	Tank shell distorted, buckling, dented, discolored, or bulging? Corrosion or cracking noted?																	
4	Bolts, rivets, or seams are damaged, rusted or cracked?																	
5	Grounding strap/wiring secured and in good condition?				X			X			X			X			X	
6	Welds are cracked or non-uniform?																	
7	Cracking or spalling of concrete pad?																	
8	Tank foundation has eroded or settled?																	
9	Water able to drain away from tank?																	
10	Tank supports are deteriorated or buckled?																	
11	Vents and pressure release devices are obstructed?																	
12	Emergency vent operable?				X			X			X			X			X	
13	Containment structure is in satisfactory condition/general secondary containment present?																	
14	Evidence of coating cracking, peeling, or blistering?																	
15	Does the tank liquid sensing device operate as required?																	
16	Are overfill prevention devices in proper working condition?																	
17	Is the electrical wiring for control boxes/lights in good condition?																	
18	Standing water on roof or top of tank?																	
19	Holes in roof or top of tank?																	
20	Insulation missing?				X			X			X			X			X	
21	Noticable areas of moisture on the insulation?				X			X			X			X			X	
22	Mold on the insulation?				X			X			X			X			X	
23	Damage to insulation?				X			X			X			X			X	
24	Stripping of surface resin?				X			X			X			X			X	
25	Subsurface disbonding or other defects in the tank shell or chime area?																	
26	Severe surface cracking of Hubs/Flanges, Nozzles, Man-ways, Pipe penetrations (3), on any other penetrations?																	
27	Damage to insulation?				X			X			X			X			X	

Amendment to the Spill Prevention, Control, and Countermeasures Plan

**City of Salem Electric Department
Industrial Drive Substation
2180 Industrial Drive
Salem, Virginia**

Prepared for:

City of Salem Electric Department
730 West Main Street
Salem, Virginia 24153

Prepared by:

EEE Consulting, Inc.
201 Church Street, S.E.
Blacksburg, VA 24060
(540) 953-0170
Project: 13-772

October 2013



EEE Consulting, Inc.

Environmental, Engineering and Educational Solutions

AMENDMENT TO THE SPCC PLAN

Facility Name: City of Salem Electric Department
Industrial Drive Substation
2180 Industrial Drive
Salem, VA 24153

A. Amendment [40 CFR 112.5(a)]

The Spill Prevention, Control, and Countermeasure (SPCC) Plan shall be amended whenever there is a change in the facility design, construction, operation or maintenance that materially affects its potential for a discharge as described in 40 CFR 112.1(b). The amendment shall be prepared within six months and implemented as soon as possible but not later than six months following preparation.

B. Certification [40 CFR 112.5(c)(3)]

If this plan requires amendment and the required amendment is a technical amendment, a Professional Engineer must certify the technical amendment in accordance with 40 CFR 112.3(d) and 40 CFR 112.5(c).

CERTIFICATION:

I hereby certify that the following technical amendments to the SPCC Plan prepared for the Industrial Drive Substation have been prepared in accordance with good engineering practices, including consideration of applicable industry standards, and with the requirements of the SPCC rule. Procedures for the required inspections and testing have been established and the plan is adequate for the facility.

Engineer: Andrew E. Kassoff, PE

Signature:

Registration Number: 43711

State Registered: Virginia

Firm: EEE Consulting, Inc.

Address: 201 East Church Street, Suite C

City: Blacksburg State: VA Zip: 24060

Phone: 540-953-0170



The following amendments reflect changes in the following Sections of the original SPCC Plan dated February 9, 2007.

AMENDMENT No. 1

Page 1, Section 2.1: General Facility Information

The following amendment adds an additional point of contact for the City of Salem – Industrial Drive Substation

Point of Contact – Assistant SPCC Coordinator:

Mr. Mike Salmon – Electrical Engineer

Phone Number (Office): (540)-375-3030

Phone Number (Cell): (540)-815-0412

AMENDMENT No. 2

Page 2, Section 2.1: General Facility Information

Page 3, Section 4.1.1: Dielectric Oil Storage

The original plan identifies two (2) oil-filled transformers and 2 circuit breakers as the regulated oil storage containers at the facility. The transformers/ circuit breakers contain dielectric oil that provides additional electrical insulation as well as cooling to prevent the equipment from overheating. **Table 1**, included as an attachment to the 2007 SPCC Plan, identified the oil storage capacities of Transformer 4A and Transformer 4B as 4,100-gallons and 3,611-gallons, respectively. Each circuit breaker was listed as having a primary oil storage capacity of 355-gallons.

Site reconnaissance for the 2013 update indicates the following oil storage capacities for the Transformers and associated appurtenances:

- ❖ The name plate for Transformer 4A lists the main belly tank as having a dielectric oil storage capacity of 4,100-gallons. The subject name plate also lists a 150-gallon tap changer tank as integrated into the system.
- ❖ The name plate for Transformer 4B lists the main belly tank as having a dielectric oil storage capacity of 2,990-gallons. The subject name plate also lists a 341-gallon radiator oil belly tank and a 280-gallon tap changer tank as integrated into the system.
- ❖ Each circuit breaker is listed as having a dielectric oil storage capacity of 372-gallons.

Table 1 – Spill Scenario and Volume (on the following page) was updated to:

1. Accurately depict the volume and number of the Aboveground Storage Tanks (ASTs) in each transformer/ circuit breaker,
2. Adjust the maximum potential oil discharges based on the update AST/ circuit breaker oil storage capacities and;
3. Provide additional details on the potential spill pathways in the event of a release of oil at the facility.

TABLE 1 Spill Scenario and Volume Industrial Drive Substation						
Equipment	Tank Capacity (gallons)	Secondary Containment	Tank Type/Description	*Maximum Anticipated Discharge (gallons)	Spill Route	Response Action
Transformer No. 4A	4,100	Concrete Integral Containment Dike	Aboveground (main belly tank for providing insulation for power distribution)	820	An uncontained spill would sheet flow to the north/northeast as shown in attached Figure 1. An earthen drainage ditch adjacent to the railroad tracks borders the facility to the north. The drainage ditch directs flow to the southwest and ultimately discharges to the Roanoke River.	Contain spilled material with petroleum absorbents/earthen berms. Prevent all released oil from entering the earthen drainage ditch located north/northeast of the facility
Transformer No.4A	150	Concrete Integral Containment Dike	Aboveground (oil-filled belly tank supplying insulation to the tap changer integrated into the main unit)	30		
Transformer No. 4B	2,990	Concrete Integral Containment Dike	Aboveground (main belly tank for providing insulation for power distribution)	598		
Transformer No. 4B	280	Concrete Integral Containment Dike	Aboveground (oil-filled belly tank supplying insulation to the tap changer integrated into the main unit)	56		
Transformer No. 4B	341	Concrete Integral Containment Dike	Aboveground (oil-filled belly tank supplying insulation to the radiator integrated into the main unit)	68		
Circuit Breaker 1	372	Concrete Integral Containment Dike	Aboveground (oil-filled circuit breakers providing insulation for power distribution)	74		
Circuit Breaker 2	372	Concrete Integral Containment Dike	Aboveground (oil-filled circuit breakers providing insulation for power distribution)	74		

*Based on release of all dielectric oil from a circuit breaker and 20% of oil "sloshing" outside the containment structure.

AMENDMENT No. 3

Page 4, Section 4.1.2: Secondary Containment

Each transformer and circuit breaker, including all oil storage tanks and associated piping, are contained with a specifically-sized secondary containment structure that consists of a concrete slab surrounded by concrete curbing that is approximately 10-12-inches in height. Each containment structure is designed to route liquids into an integrated, pre-cast concrete vault. The 2007 Plan denotes that the concrete vaults are located adjacent to each slab. Field reconnaissance of the containment structures as part of the 2013 SPCC update indicates the following:

- ❖ The vaults associated with Transformer Nos. 4A & 4B are integrated into the concrete support pad. The recessed vaults are covered by metal grating to facilitate liquid accumulation.

- ❖ The containment pads for the circuit breakers are each equipped with a drain that connects to a subsurface drainage line. This drainage line is designed to discharge liquids into the containment vault for Transformer 4A.

Figure 1, attached at the end of this amendment, has been updated to illustrate the location of the vaults in relation to the containment structures for Transformers 4A and 4B.

The following amendment updates the condition of the concrete curbing and clarifies the containment requirements of oil-filled operational equipment as defined in the SPCC Rule.

In 2004, the concrete curbing was installed to the pre-existing concrete slabs to provide specifically-sized secondary containment for the oil-filled operational equipment. Wooden planks were utilized to form the concrete curbing, and several of the forms were apparently left in place after construction of the curbing. It appears that the wooden forms have absorbed moisture and expanded in size, resulting in cracking and spalling to select sections of the concrete curbing and/or slab as follows:

- ❖ Two (2) sections of the curbing for Transformer 4A contained cracks and spalled sections of concrete. The floor of this containment system also contained numerous cracks in the northwestern section of the dike, proximate to the metal grate that covers the pre-cast vault.
- ❖ The containment system for the westernmost circuit breaker also contained cracks in the concrete floor, which was localized to the northern portion of the containment system.

The cracked and/or spalled sections of concrete for both containment systems are depicted on **Figure 1**. Please note that these sections have the potential to materially affect the ability of each system to be sufficiently impervious to oil.

Per the SPCC Rule, the single-walled steel, dielectric oil ASTs associated with the transformers/circuit breakers are considered oil-filled operational equipment because the oil stored is solely used to support the function of the apparatus or device. Oil-filled operational equipment is not considered a bulk oil storage container per 40 CFR 112.2 and does not have to comply with specific requirements as described under 40 CFR 112.8 (c), 112.9(c), and 112.12(c). Examples of these requirements include (but are not limited to) secondary containment, fail safe engineering (such as high level alarms), and testing. However, oil filled equipment must meet the general requirements of 40 CFR 112.7.

Because the dielectric oil ASTs at the facility are considered oil-filled operational equipment, general secondary containment measures apply. Each specifically-sized, containment system for the applicable regulated oil storage containers is designed to retain the storage capacity of the single-largest, dielectric oil tank. The containment systems for Transformer No. 4B and the easternmost circuit breaker are in good condition and sufficiently impervious to oil. Thus, they meet/exceed the applicable containment requirements of the SPCC Rule.

As previously noted, the containment systems for Transformer No. 4A and the westernmost circuit breaker contained cracked and/or spalled sections of concrete that could materially affect their ability to be sufficiently impervious to oil. Compliance options to ensure adequate secondary containment for the regulated oil storage containers staged at these locations is as follows:

1. Per 40 CFR 112.7, general secondary containment measures apply to oil-filled operational equipment, which must be capable of addressing the most likely discharge scenario(s). An overpack spill kit with an adequate supply of spill response materials (i.e. pads, booms, pillows, granular absorbent, etc.) could be staged proximate to Transformer 4A and the easternmost circuit breaker to address the most likely discharge scenario(s), which is a release from a leaking valve/fitting or during dielectric oil transfer events during routine maintenance.
2. In lieu of implementing general secondary containment measures, the City of Salem may elect to repair the compromised sections of concrete with hydraulic cement to ensure that they are sufficiently impervious to oil. Subsequently, the replaced or repaired sections should be lined with an epoxy sealant that is compatible with concrete and outdoor applications.

Please note that either option is acceptable to ensure SPCC compliance. However; upon implementation, the selected option should be reviewed by a Virginia-licensed Professional Engineer to ensure compliance with the applicable requirements of the SPCC Rule.

AMENDMENT No. 4

Pages 5 and 6, Section 4.2: Spill Scenarios

The original Plan lists several spill scenarios and predicts volumes and discharge rates. Per the original 2007 SPCC Plan, a release outside the secondary containment structure would most likely infiltrate into the gravel fill surrounding the equipment. During precipitation events, released oil could sheet flow across the surface with runoff. The following text replaces the description of surface flow in the event of released oil migrating off-site as described in **Sections 4.2.1, 4.2.2, and 4.2.3 of the 2007 SPCC Plan.**

An uncontained spill would sheet flow north/northeast as shown in **Figure 1**. An earthen drainage ditch adjacent to the railroad tracks borders the facility to the north. The drainage ditch directs flow to the west/southwest and ultimately discharges to the Roanoke River.

AMENDMENT No. 5

Page 7, Section 5.1: Inspection and Maintenance

The original Plan describes the procedure for monthly routine inspections of the ASTs and discharge requirements for liquids present in the concrete vault(s) for the secondary containment system(s). The following language clarifies the discharge procedures for the containment vaults.

Each containment vault is equipped with a telemetric high level alarm that remotely alerts City of Salem personnel when approximately 1.5-feet and 1.2 feet of liquid collects in the vaults for Transformer 4A and 4B, respectively. As previously noted in Amendment No. 3, the

containment system for each circuit breaker discharges to the pre-cast concrete vault for Transformer 4A. When responding to a high water level alarm, the designated person will visually inspect the liquid in the vault(s) and containment area(s) for signs of oil. If no oil is observed, the suction lift pump(s) will be manually started to discharge the collected water in the containment vault(s) to the ground surface. If oil is encountered during the vault inspection, the designated person **will not** engage the pump(s). The designated person will instead determine the source of oil, and handle and dispose of the oil in compliance with all applicable local, state, and federal regulations. The facility SPCC Coordinator (the Electric Department Director) will be notified immediately to ensure that the clean-up is completed per SPCC guidelines. The SPCC Coordinator will also determine if the spill is reportable to applicable state and federal agencies as described in **Section 7.3** of the original Plan.

The 2007 SPCC Plan contained a Monthly Inspection Form in Appendix B. The subject form listed line items for inspecting and documenting the discharge of liquids that had accumulated in the containment system vaults. Discharge events typically occur during or following precipitation events, which may occur more frequently than once a month depending on seasonal variations. The Dike Drainage Logs (included as **Attachment 1**) will replace the drainage line items on the 2007 Form to clarify the procedures required prior to engaging the pumps. A drainage log record will be filled every time precipitation is discharged from a containment vault.

AMENDMENT No. 6

Page 7, Section 5.1: Inspection and Maintenance

The Environmental Protection Agency (EPA) believes that it is good engineering practice to have some form of visual inspection or monitoring for oil-filled equipment to prevent discharges as described in 40 CFR 112.1(b). The SPCC regulations require preventative maintenance of all oil handling equipment on an as needed basis and according to recommended practices. The integrity testing requirement of the SPCC Rule can be complied with by following an industry standard such as the Steel Tank Institute (STI) Standard SP001.

Per STI-SP001, all oil storage containers equal to or greater than 55-gallons must be inspected on a monthly and annual basis in accordance with the integrity testing requirements. The outside of the container(s) must be frequently inspected for signs of deterioration, and discharges. Records of the inspections and tests must be maintained at the facility. Blank copies of the monthly and annual facility inspection checklists for all oil storage containers are included in **Attachment 2**. Completed inspection checklists will be maintained on file in the Main Facility Building located at 730 West Main Street in Salem, Virginia. The monthly and annual inspection checklists must be retained along with the SPCC Plan for this facility for a minimum of three (3) years.

The SP001 Standard prescribes a testing procedure involving monthly and annual visual inspections, combined with potential periodic non-destructive testing following a schedule based on tank size, tank age, release detection methods, and presence of a release prevention barrier. In accordance with STI-SP001, the dielectric oil belly tanks for Transformers 4A and 4B and both circuit breakers are considered Category 1 ASTs because they have spill control (i.e. the tanks have secondary containment structures) and a continual release detection method (CRDM). The STI-SP001 inspection requirements for Category 1 ASTs that are between 0- and 5,000-gallons are as follows:

- ❖ Monthly and annual visual inspections by facility personnel that are trained in oil handling procedures and familiar with the AST and associated components.

The periodic inspections are conducted and documented by facility personnel in accordance with **Section 6.0** of STI-SP001. Inspection personnel are knowledgeable of the City of Salem Electric Department storage operations, the ASTs and their associated components, and characteristics of the liquids stored (dielectric oil). Monthly inspections focus on structural integrity of the tank walls and bottom and the integrity of the tank foundation, secondary containment, piping and anchor bolts. Annual inspections of the ASTs will also be performed by facility personnel. Annual inspections will generally focus on similar action items included in the monthly checklist; however, a more rigorous visual inspection will be conducted on the tanks and associated appurtenances to ensure the system is suitable for continued service.

AMENDMENT No. 7

Page 12, Section 8.0: Plan Review and Amendment

The following action items must be implemented within six (6) months of the PE certified date of this plan to ensure compliance with SPCC Rule.

- ❖ As previously noted, the containment systems for Transformer No. 4A and the westernmost circuit breaker contained cracked and/or spalled sections of concrete that could materially affect their ability to be sufficiently impervious to oil. Compliance options to ensure adequate secondary containment for the regulated oil storage containers staged at these locations is as follows:
 1. Per 40 CFR 112.7, general secondary containment measures apply to oil-filled operational equipment, which must be capable of addressing the most likely discharge scenario(s). An overpack spill kit with an adequate supply of spill response materials (i.e. pads, booms, pillows, granular absorbent, etc.) could be staged proximate to Transformer 4A and the westernmost circuit breaker to address the most likely discharge scenario(s), which is a release from a leaking valve/fitting or during dielectric oil transfer events during routine maintenance.
 2. In lieu of implementing general secondary containment measures, the City of Salem may elect to repair the compromised sections of concrete with hydraulic cement to ensure that they are sufficiently impervious to oil. Subsequently, the replaced or repaired sections should be lined with an epoxy sealant that is compatible with concrete and outdoor applications.

Please note that either option is acceptable to ensure SPCC compliance. However; upon implementation, the selected option should be reviewed by a Virginia-licensed Professional Engineer to ensure compliance with the applicable requirements of the SPCC Rule.

- ❖ Records of water discharge from the containment vaults are to be noted on the Dike Drainage Logs that are included as **Attachment 1**. These logs will replace the dike drainage line items provided on the 2007 Inspection Form.
- ❖ Conduct and document monthly and annual inspections in accordance with the requirements of 40 CFR Part 112 and STI-Standard SP001. Blank copies of updated

monthly and annual facility inspection checklists for steel containers (fixed and portable) are included in **Attachment 2**. Maintain all inspection forms with the SPCC Plan for a minimum of three years.

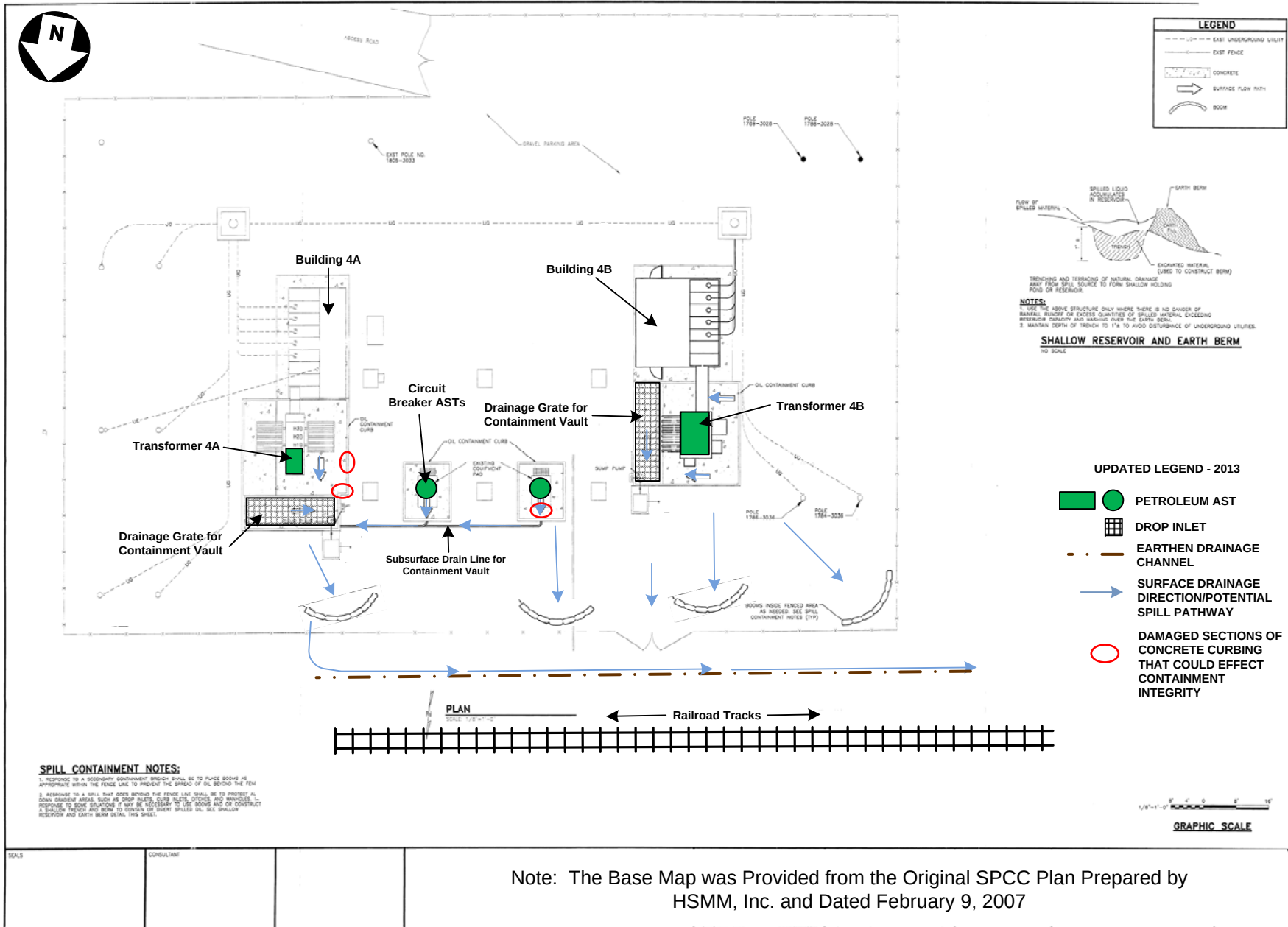
- ❖ Conduct annual SPCC training for maintenance personnel who are authorized to handle oil as noted in **Section 6.0** of the original Plan.

AMENDMENT No. 8

Figure 1

The following amendment reflects revisions to **Figure 1**, which was updated to:

- ❖ Clearly depict surface drainage in the event of a release from the dielectric oil-filled transformers/ circuit breakers. Off-site drainage features were added to the map to help identify potential spill pathways.
- ❖ Clearly depict the locations of the pre-cast containment vaults for Transformers 4A and 4B.
- ❖ Depict the locations of cracked and/or spalled concrete in the containment structures for Transformer 4A and the westernmost circuit breaker
- ❖ Update the existing Legend to clearly illustrate the locations of the ASTs, culverts, and earthen ditches at the facility.



Attachment 1
Dike Drainage Logs

RECORD OF DIKE DRAINAGE
City of Salem Electric Department – Industrial Drive Substation – Transformer 4A

Instructions: This record will be completed by responsible personnel when rainwater collects in the secondary containment vault for Transformer 4A at the Industrial Drive Substation. After inspecting for the presence of product or a sheen, collected water is authorized to be discharged directly to the ground surface using the suction lift pump. **DO NOT** discharge water if a sheen or standing oil is present. Attempt to absorb any pooled oil or sheen using absorbent pads and contact the facility SPCC Coordinator immediately.

Reason for Drainage (i.e. High Level Alarm, Routine Maintenance)	Date	Presence of Oily Sheen in Containment Vault? (Y/N)	Any Oil Seen Leaking from the Equipment or Accessories? (Y/N)	Time Started	Time Finished	Signature

Note: Provide copy to the Facility SPCC Coordinator

RECORD OF DIKE DRAINAGE
City of Salem Electric Department – Industrial Drive Substation – Transformer 4B

Instructions: This record will be completed by responsible personnel when rainwater collects in the secondary containment vault for Transformer 4B at the Industrial Drive Substation. After inspecting for the presence of product or a sheen, collected water is authorized to be discharged directly to the ground surface using the suction lift pump. **DO NOT** discharge water if a sheen or standing oil is present. Attempt to absorb any pooled oil or sheen using absorbent pads and contact the facility SPCC Coordinator immediately.

Reason for Drainage (i.e. High Level Alarm, Routine Maintenance)	Date	Presence of Oily Sheen in Containment Vault? (Y/N)	Any Oil Seen Leaking from the Equipment or Accessories? (Y/N)	Time Started	Time Finished	Signature

Note: Provide copy to the Facility SPCC Coordinator

Attachment 2

Monthly and Annual Inspection Checklists

SPCC Monthly Inspection Sheet - Industrial Drive Substation

[illegible]

[illegible]

Amendment to the Spill Prevention, Control, and Countermeasures Plan

**City of Salem Electric Department
Union Street Substation
930 Union Street
Salem, Virginia**

Prepared for:

City of Salem Electric Department
730 West Main Street
Salem, Virginia 24153

Prepared by:

EEE Consulting, Inc.
201 Church Street, S.E.
Blacksburg, VA 24060
(540) 953-0170
Project: 13-772

October 2013



EEE Consulting, Inc.

Environmental, Engineering and Educational Solutions

AMENDMENT TO THE SPCC PLAN

Facility Name: City of Salem Electric Department
Union Street Substation
930 Union Street
Salem, VA 24153

A. Amendment [40 CFR 112.5(a)]

The Spill Prevention, Control, and Countermeasure (SPCC) Plan shall be amended whenever there is a change in the facility design, construction, operation or maintenance that materially affects its potential for a discharge as described in 40 CFR 112.1(b). The amendment shall be prepared within six months and implemented as soon as possible but not later than six months following preparation.

B. Certification [40 CFR 112.5(c)(3)]

If this plan requires amendment and the required amendment is a technical amendment, a Professional Engineer must certify the technical amendment in accordance with 40 CFR 112.3(d) and 40 CFR 112.5(c).

CERTIFICATION:

I hereby certify that the following technical amendments to the SPCC Plan prepared for the Union Street Substation have been prepared in accordance with good engineering practices, including consideration of applicable industry standards, and with the requirements of the SPCC rule. Procedures for the required inspections and testing have been established and the plan is adequate for the facility.

Engineer: Andrew E. Kassoff, PE

Signature:

Registration Number: 43711

State Registered: Virginia

Firm: EEE Consulting, Inc.

Address: 201 East Church Street, Suite C

City: Blacksburg State: VA Zip: 24060

Phone: 540-953-0170



The following amendments reflect changes in the following Sections of the original SPCC Plan dated February 9, 2007.

AMENDMENT No. 1

Page 1, Section 2.1: General Facility Information

The following amendment adds an additional point of contact for the City of Salem – Union Street Substation

Point of Contact – Assistant SPCC Coordinator:

Mr. Mike Salmon – Electrical Engineer

Phone Number (Office): (540)-375-3030

Phone Number (Cell): (540)-815-0412

AMENDMENT No. 2

Page 2, Section 2.1: General Facility Information

Page 3, Section 4.1.1: Dielectric Oil Storage

The original plan identifies one (1) oil-filled transformer as the regulated oil storage container at the facility. The transformer contains dielectric oil that provides additional electrical insulation as well as cooling to prevent the equipment from overheating. **Table 1**, included as an attachment to 2007 SPCC Plan, identified the oil storage capacity of Transformer 8A as 3,894-gallons. Site reconnaissance for the 2013 update indicates the following oil storage capacities for Transformer 8A and associated appurtenances:

- ❖ The name plate for Transformer 8A lists the main belly tank as 3,253-gallons. The name plate for Transformer 8A also lists a 361-gallon radiator oil belly tank and a 280-gallon tap changer tank as integrated into the system.

Table 1 – Spill Scenario and Volume on the following page was updated to:

1. Accurately depict the Aboveground Storage Tanks (ASTs) and associated oil storage capacities for Transformer 8A,
2. Adjust the maximum potential oil discharges based on the updated AST oil storage capacities and;
3. Provide additional details on the potential spill pathways in the event of a release of oil at the facility.

TABLE 1
Spill Scenario and Volume
Union Street Substation

Equipment	Tank Capacity (gallons)	Secondary Containment	Tank Type/Description	*Maximum Anticipated Discharge (gallons)	Spill Route	Response Action
Transformer No. 8A	3,253	Concrete Integral Containment Dike	Aboveground (main belly tank for providing insulation for power distribution)	651	An uncontained spill would sheet flow to the north/northeast as shown in Figure 1 . A grass-lined swale/ earthen ditch borders the facility to the north/northwest. The grass-lined ditch directs stormwater to the southwest and ultimately discharges directly to the Roanoke River within 500-ft of the facility.	Contain spilled material with petroleum absorbents/earthen berms. Prevent all released oil from discharging to the grass-lined swale
Transformer No. 8A	280	Concrete Integral Containment Dike	Aboveground (oil-filled belly tank supplying insulation to the tap changer integrated into the main unit)	56		
Transformer No. 8A	361	Concrete Integral Containment Dike	Aboveground (oil-filled belly tank supplying insulation to the radiator integrated into the main unit)	72		

*Based on release of all dielectric oil from a circuit breaker and 20% of oil "sloshing" outside the containment structure.

AMENDMENT No. 3

Page 3, Section 4.1.2: Secondary Containment

Transformer 8A, including all oil storage tanks and associated piping, is contained within a specifically-sized secondary containment structure that consists of a concrete slab surrounded by concrete curbing that is 10 to 12-inches in height. The containment structure is designed to route liquids into an integrated, pre-cast concrete vault. The following amendment indicates the condition of the concrete curbing associated with the containment system as viewed during the 2013 site visit, and clarifies the containment requirements of oil-filled operational equipment as defined in the SPCC Rule [40 CFR Part 112.7(c)].

The concrete curbing for the containment system was installed in 2004 on the pre-existing concrete slabs to provide specifically-sized, secondary containment for the oil-filled operational equipment. The concrete containment systems were in good condition with no apparent signs of cracking or spalling. Thus, the dike is sufficiently impervious to oil as defined in the SPCC Rule.

Per the SPCC Rule, the single-walled steel, dielectric oil ASTs associated with the transformer is considered oil-filled operational equipment because the oil is solely used to support the function of the apparatus or device. Oil-filled operational equipment is not considered a bulk oil storage container per 40 CFR 112.2 and does not have to comply with specific requirements as described under 40 CFR 112.8 (c), 112.9(c), and 112.12(c). Examples of these requirements include (but are not limited to) specifically-sized secondary containment, fail safe engineering (such as high level alarms), and testing. However, oil filled equipment must meet the general requirements of 40 CFR 112.7.

Because the dielectric oil ASTs at the facility are considered oil-filled operational equipment, general secondary containment measures apply. The specifically-sized, containment system for the applicable regulated oil storage containers is designed to retain the storage capacity of the

single-largest, dielectric oil tank. As previously noted, the containment system is in good condition and sufficiently impervious to oil. Thus, it meets/exceeds the applicable containment requirements of the SPCC Rule.

AMENDMENT No. 4

Page 7, Section 5.1: Inspection and Maintenance

The original Plan describes the procedure for monthly routine inspections of the ASTs and discharge requirements for liquids present in the concrete vault for the secondary containment system for Transformer 8A. The following language clarifies the discharge procedures for the containment vault.

The containment vault is equipped with a telemetric high level alarm that remotely alerts City of Salem personnel when approximately 1.0-feet of liquid collects in the vault. When responding to a high level alarm, the designated person will visually inspect the liquid in the vault and containment area for signs of oil. If no oil is observed, the suction lift pump will be manually started to discharge the collected water in the containment vault to the ground surface. If oil is encountered during the vault inspection, the designated person **will not** engage the pump. The designated person will instead determine the source of oil, and handle and dispose of the oil in compliance with all local, state, and federal regulations. The facility SPCC Coordinator (the Electric Department Director) will be notified immediately to ensure that the clean-up is completed per SPCC guidelines. The SPCC Coordinator will also determine if the spill is reportable to applicable state and federal agencies as described in **Section 7.3** of the original Plan.

The 2007 SPCC Plan contained a Monthly Inspection Form in Appendix B. The subject form listed line items for inspecting and documenting the discharge of liquids that had accumulated in the containment system vault. Discharge events typically occur during or following precipitation events, which may occur more frequently than once a month depending on seasonal variations. The Dike Drainage Logs (included as **Attachment 1**) will replace the drainage line items on the 2007 Form to clarify the procedures required prior to engaging the pump. A drainage log record will be filled every time precipitation is discharged from the containment vault.

AMENDMENT No. 5

Page 7, Section 5.1: Inspection and Maintenance

The Environmental Protection Agency (EPA) indicates that it is a good engineering practice to have some form of visual inspection or monitoring for oil-filled equipment to prevent discharges as described in 40 CFR 112.1(b). The SPCC regulations require preventative maintenance of all oil handling equipment on an as needed basis and according to recommended practices. The integrity testing requirement of the SPCC Rule can be complied with by following an industry standard such as the Steel Tank Institute (STI) Standard SP001.

Per STI-SP001, all oil storage containers equal to or greater than 55-gallons must be inspected on a monthly and annual basis in accordance with the integrity testing requirements. The outside of the container(s) must be frequently inspected for signs of deterioration, and leaks. Records of the inspections and tests must be maintained at the facility. Blank copies of the monthly and annual facility inspection checklists for the regulated oil storage containers at this

facility are included as **Attachment 2**. Completed inspection checklists will be maintained on file in the Main Facility Building located at 730 West Main Street in Salem, Virginia. The monthly and annual inspection checklists must be retained, along with the SPCC Plan, for this facility for a minimum of three (3) years.

The SP001 Standard prescribes a testing procedure involving monthly and annual visual inspections, combined with potential periodic non-destructive testing following a schedule based on tank size, tank age, release detection methods, and presence of a release prevention barrier. In accordance with STI-SP001, the dielectric oil ASTs for Transformer 8A are considered Category 1 ASTs because they have spill control (i.e. the tanks have specifically-sized secondary containment) and a continual release detection method (CRDM). The STI-SP001 inspection requirements for Category 1 ASTs that are between 0- and 5,000-gallons are as follows:

- ❖ Monthly and annual visual inspections by facility personnel that are trained in oil handling procedures and familiar with the AST and associated components.

The periodic inspections are conducted and documented by facility personnel in accordance with **Section 6.0** of STI-SP001. Inspection personnel are knowledgeable of the City of Salem Electric Department storage operations, the ASTs and their associated components, and characteristics of the liquids stored (dielectric oil). Monthly inspections focus on structural integrity of the tank walls and bottom and the integrity of the tank foundation, secondary containment, piping and anchor bolts. Annual inspections of the ASTs will also be performed by facility personnel. Annual inspections will generally focus on similar action items included in the monthly checklist; however, a more rigorous visual inspection will be conducted on the tanks and associated appurtenances to ensure the system is suitable for continued service.

AMENDMENT No. 6

Page 12, Section 8.0: Plan Review and Amendment

The following action items must be implemented within six (6) months of the PE certified date of this plan to ensure compliance with the SPCC Rule.

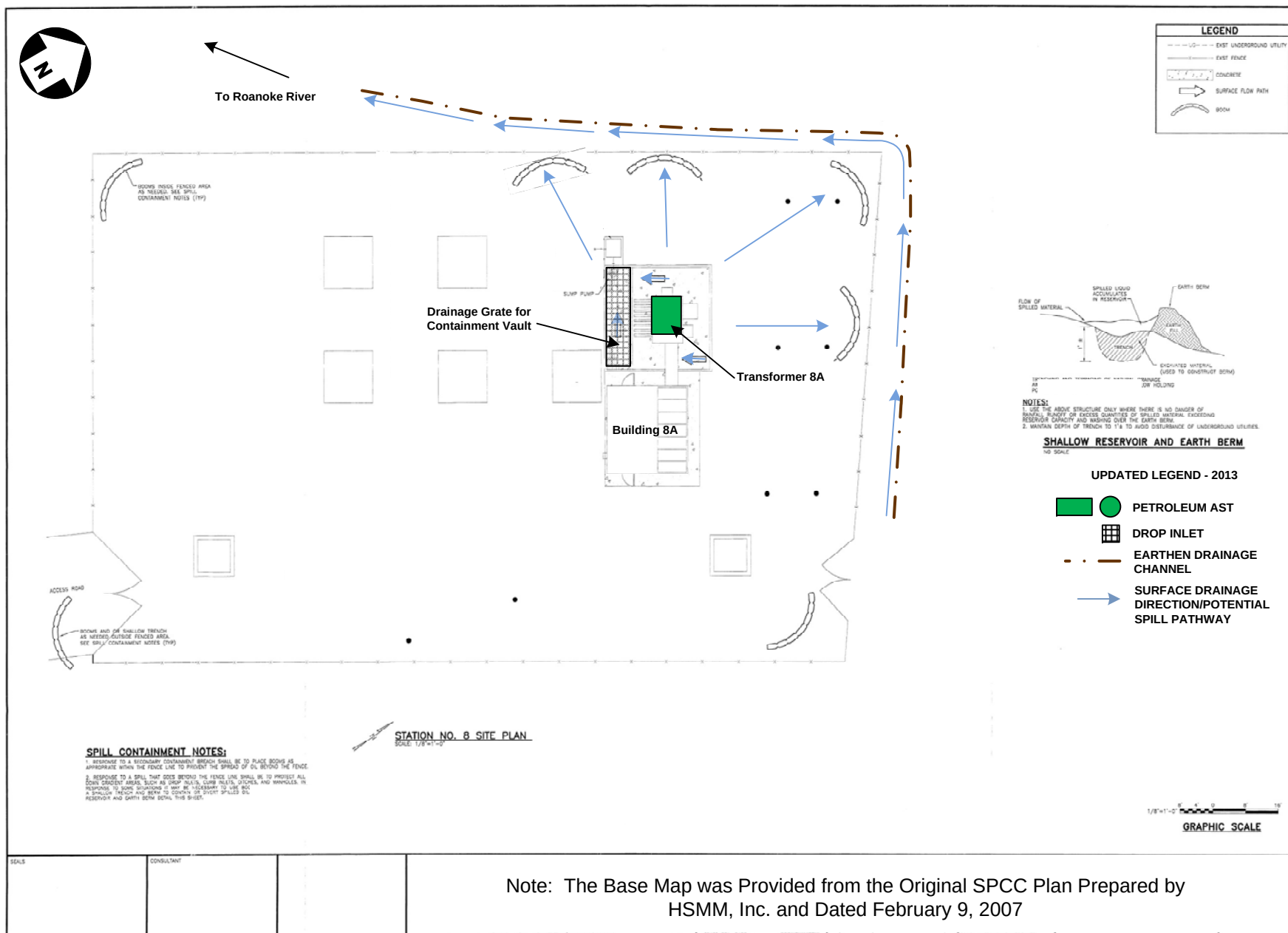
- ❖ Records of water discharge from each containment system vault are to be documented on the Dike Drainage Logs that are included as **Attachment 1**. These logs will replace the dike drainage line items provided on the 2007 Inspection Form.
- ❖ Conduct and document monthly and annual inspections in accordance with the requirements of 40 CFR Part 112 and STI-Standard SP001. Blank copies of the updated monthly and annual facility inspection checklists for steel containers are included as **Attachment 2**. Maintain all inspection forms with the SPCC Plan for a minimum of three years.
- ❖ Conduct annual SPCC training for maintenance personnel who are authorized to handle oil as noted in **Section 6.0** of the 2004 SPCC Plan.

AMENDMENT No. 7

Figure 1

The following amendment reflects revisions to **Figure 1**, which was updated to:

- ❖ Clearly depict surface drainage in the event of a release from the dielectric oil-filled transformer. Off-site drainage features were also added to the map to identify infrastructure that discharges to the City of Salem Stormwater System.
- ❖ Update the existing Legend to better illustrate the location of the ASTs and earthen ditches at the facility.



Attachment 1

Dike Drainage Log

RECORD OF DIKE DRAINAGE
City of Salem Electric Department – Union Street Substation – Transformer 8A

Instructions: This record will be completed by responsible personnel when rainwater collects in the secondary containment vault for Transformer 8A at the Union Street Substation. After inspecting for the presence of product or a sheen, collected water is authorized to be discharged directly to the ground surface using the suction lift pump. **DO NOT** discharge water if a sheen or standing oil is present. Attempt to absorb any pooled oil or sheen using absorbent pads and contact the facility SPCC Coordinator immediately.

Reason for Drainage (i.e. High Level Alarm, Routine Maintenance)	Date	Presence of Oily Sheen in Containment Vault? (Y/N)	Any Oil Seen Leaking from the Equipment or Accessories? (Y/N)	Time Started	Time Finished	Signature

Note: Provide copy to the Facility SPCC Coordinator

Attachment 2

Monthly and Annual Inspection Checklists

SPCC Monthly Inspection Sheet - Union Street Substation

[illegible]

SPCC Annual Inspection Sheet - Union Street Substation												
Inspection Date (Keep records for 3 years)												
Inspectors Name												
		Tanks Inspected										
Item		3,253-g Belly Tank for Transformer 8A			280-g Tap Changer Tank for Transformer 8A			361-g RadiatorTank for Transformer 8A			Comments	
		Y	N	N/A	Y	N	N/A	Y	N	N/A		
1	Drainage pipes/valves fit for continued use? Closed? Locked?											
2	Tanks are rusted, pitted, of deteriorated. Evidence of paint failure.											
3	Tank shell distorted, buckling, dented, discolored, or bulging? Corrosion or cracking noted?											
4	Bolts, rivets, or seams are damaged, rusted or cracked?											
5	Grounding strap/wiring secured and in good condition?			X			X			X		
6	Welds are cracked or non-uniform?											
7	Cracking or spalling of concrete pad?											
8	Tank foundation has eroded or settled?											
9	Water able to drain away from tank?											
10	Tank supports are deteriorated or buckled?											
11	Vents and pressure release devices are obstructed?											
12	Emergency vent operable?			X			X			X		
13	Containment structure is in satisfactory condition/general secondary containment present?											
14	Evidence of coating cracking, peeling, or blistering?											
15	Does the tank liquid sensing device operate as required?											
16	Are overfill prevention devices in proper working condition?											
17	Is the electrical wiring for control boxes/lights in good condition?											
18	Standing water on roof or top of tank?											
19	Holes in roof or top of tank?											
20	Insulation missing?			X			X			X		
21	Noticable areas of moisture on the insulation?			X			X			X		
22	Mold on the insulation?			X			X			X		
23	Damage to insulation?			X			X			X		
24	Stripping of surface resin?			X			X			X		
25	Subsurface disbonding or other defects in the tank shell or chime area?											
26	Severe surface cracking of Hubs/Flanges, Nozzles, Man-ways, Pipe penetrations (3), on any other penetrations?											
27	Damage to insulation?			X			X			X		

Spill Prevention, Control, and Countermeasures Plan

**City of Salem Electric Department
Main Facility
730 West Main Street
Salem, Virginia**

Prepared for:

City of Salem Electric Department
730 West Main Street
Salem, Virginia 24153

Prepared by:

EEE Consulting, Inc.
201 Church Street, S.E.
Blacksburg, VA 24060
(540) 953-0170
Project: 13-772

October 2013



EEE Consulting, Inc.

Environmental, Engineering and Educational Solutions

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Appendix B	Certificate of Substantial Harm Determination
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SPILL PREVENTION, CONTROL AND COUNTERMEASURE PLAN**OWNER:** City of Salem Electric Department**OWNER ADDRESS:** 730 West Main Street
Salem, Virginia 24153**OPERATOR:** City of Salem

The following Oil Spill, Control, and Countermeasures Plan is prepared pursuant to Title 40 Code of Federal Regulations Part 112.

NAME OF FACILITY: City of Salem Electric Department**TYPE OF FACILITY:** Main Offices and Maintenance Shop**ADDRESS:** 730 West Main Street
Salem, Virginia 24153**PHONE NUMBERS:** (540) 375-3030 (Mr. A.K. Briele– Facility SPCC Coordinator)
(540) 815-0408 (Cell)
(540) 375-3030 (Mr. Mike Salmon – Assistant SPCC Coordinator)
(540) 815-0412 (Cell)

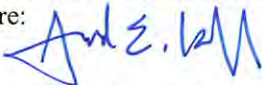
This plan is available for on-site inspection during normal working hours. Please contact Mr. A.K. Briele, Facility SPCC Coordinator, at the phone number listed above.

ENGINEER'S CERTIFICATION [112.3 (d)]

I hereby certify that, under my supervision, the facility has been inspected, and being familiar with the provisions of 40 CFR, Part 112, attest that this SPCC Plan has been prepared in accordance with good engineering practices.

This certification does not relieve the owner/operator of the responsibility to bring and keep this facility in compliance with this Plan.

Engineer: Andrew E. Kassoff, PE

Signature: 

Registration Number: 43711

State Registered: Virginia

Firm: EEE Consulting, Inc.

Address: 201 Church Street, Suite C

City: Blacksburg State: VA

Zip: 24060

Phone: 540-953-0170



STATEMENT OF COMMITMENT

The City of Salem is committed to providing the manpower, equipment and materials required to expeditiously control and remove any harmful quantity of oil discharged from our facility. The City of Salem will also provide training and countermeasures to prevent the release of oil into the waters of the United States.

Director – City of Salem Electric Department

Date**APPROVAL**

I hereby certify that I have examined this plan, and being familiar with the facility, concur with the provisions and procedures discussed herein.

Director – City of Salem Electric Department

Date

**SPILL PREVENTION CONTROL AND COUNTERMEASURE COMPLIANCE
INSPECTION REVIEW**

The following table records the review and evaluation of the SPCC Plan for the City of Salem Electric Department – Main Facility. The owner or operators must complete a review and evaluation of the SPCC Plan at least once every five (5) years. This SPCC Plan must also be amended whenever there is a change in the facility design, construction, operation, or maintenance that materially affects the facility's potential for discharging oil. A Professional Engineer (PE) certification is required for technical amendments only. PE certification is not required for non-technical amendments, such as changes to phone numbers, names, etc.

<u>Signature</u>	<u>Date Reviewed</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

COMPLIANCE DETERMINATION REGARDING A STORMWATER POLLUTION PREVENTION PLAN

EEE Consulting, Inc. performed a municipal separate stormwater systems (MS4) compliance assessment for the City of Salem Electric Department on July 15, 2013. The purpose of the assessment was to determine if the facility would be considered a high-priority facility according to the small MS4 General Permit, and subsequently if a Stormwater Pollution Prevention Plan (SWPPP) would be required.

According to the MS4 Permit, high-priority facilities include equipment storage and maintenance facilities, which is the general purpose of the subject site. However, upon review of the facility the only potential pollutant generating activity is petroleum storage. This SPCC plan has been developed to ensure that petroleum products are stored, handled and managed properly at the City of Salem Electric Department. This SPCC Plan includes good housekeeping and spill response procedures as well as a site-specific map that depicts drainage/flow pathways. Therefore, the MS4 Program has determined that this plan fulfills the intent and purpose of a site-specific SWPPP. With a certified SPCC Plan in place, a SWPPP is not necessary for the City of Salem Electric Department at this time. If the facility determines that a SPCC Plan is no longer necessary and/or the activities at the facility change, the MS4 Program will re-evaluate the need for a SWPPP.

COMPLIANCE SUMMARY FOR SPCC SITE COORDINATOR

The following items serve as a “User Guide” for the City of Salem SPCC Coordinator to assist with routine spill prevention compliance items:

- ❖ Ensure a signed copy of the SPCC Plan is maintained and readily accessible on-site. The “Statement of Commitment” must be signed by the designated City of Salem personnel and the “Registered Professional Engineer Certification” must be signed, sealed, and dated.
- ❖ Conduct and document monthly and annual inspections of **each** aboveground storage tank (AST) using the relevant checklist items. Retain records for 3-years.
- ❖ Contact EEE Consulting, Inc. for clarification of any SPCC related issues.
- ❖ Correct deficient items noted during the monthly and annual inspections.
- ❖ Conduct and document initial and/or annual training of all oil-handling personnel. Retain training records for 3-years.
- ❖ Ensure that changes in lot conditions, such as new drainage improvement, removed or modified/constructed building, AST, etc., are reflected in the plan and P.E.-Certified or Self-Certified, as applicable.
- ❖ Periodically inspect the spill kits on site to ensure that material is not deteriorated.
- ❖ Ensure oil and/or water is removed from spill pallets and other secondary containment structures. All cleanup activities should be properly managed and documented.
- ❖ If tanks contain rust or failing paint, remove surface rust with a wire brush, then recoat.
- ❖ Action items for facility compliance specified in **Section 5.0** must be addressed within six (6) months of the certification date of this plan.

1.0 INTRODUCTION AND GENERAL SITE INFORMATION

This document presents the Oil Spill Prevention, Control, and Countermeasure (SPCC) Plan for the City of Salem Electric Department located at 730 West Main Street in Salem, Virginia (**see Figure 1**). This plan has been developed in accordance with United States Environmental Protection Agency (EPA) requirements set forth under Section 311 (j)(1)(c) of the Clean Water Act (CWA) and the relevant implementing regulations contained in 40 CFR Part 112. A summary of the recent SPCC amendments and a copy of the regulations are included in **Appendix A**.

This SPCC Plan is outlined in various sections in an effort to combine ease of use by facility personnel and compliance with regulatory requirements. To this end the document is structured in seven (7) main parts, as follows:

- ❖ Compliance Summary for SPCC Site Coordinator
- ❖ Certification, Statement of Commitment, and Approval Section
- ❖ Introduction and General Site Information
- ❖ Spill Prevention and Control
- ❖ Countermeasures for Discharge Discovery, Spill Response, and Cleanup
- ❖ Additional SPCC Plan Requirements
- ❖ Appendices with Supporting Information

1.1 FACILITY-SPECIFIC RESPONSE PLAN

According to 40 CFR Part 112, **Appendix A**, a facility that transfers oil over water or has a total oil storage capacity greater than or equal to 1 million gallons is required to prepare and submit a Facility-Specific Response Plan (FRP) to the EPA. If the facility does not meet the above criteria, a Certification of the Applicability of the Substantial Harm Criteria (CASHC) must be completed and maintained on file at the facility. The City of Salem Electric Department does not meet the FRP requirements and a signed Certification for this facility is included as **Appendix B**.

1.2 PAST SPILL EVENTS

Any facility subject to the requirements of a SPCC Plan must submit information on “reportable oil spills” along with their SPCC Plan to the EPA for review if they have discharged:

1. more than 1,000 U.S. gallons of oil into or upon the navigable waters of the United States or adjoining shorelines in a single spill event, or
2. over 42 gallons of oil into or upon the navigable waters of the United States or adjoining shorelines in two spill events occurring within any 12-month period. (Navigable waters are broadly defined under the Clean Water Act and Oil Pollution Act to include all waters that are used in interstate or foreign commerce, all interstate waters including wetlands, and all intrastate waters such as lakes, rivers, streams, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or

natural ponds. The term navigable water is interpreted to include any natural surface water in the US.

According to facility personnel, no “reportable oil spills” as defined above are known to have occurred at the facility.

1.3 DESCRIPTION OF PHYSICAL LAYOUT AND TYPE OF OIL IN EACH CONTAINER [112.7(a)(3)(i)]

The City of Salem Electric Department is comprised of the Main Office, two (2) Shop/Storage Buildings, an Oil Drum Storage Building, and asphalt/concrete access ways and parking areas. The City of Salem Electric Department has been located at 730 West Main Street since the building was constructed in 2010. The facility serves as the administrative offices for the City of Salem Electric Department. The facility also maintains a shop for the maintenance and storage of Electric transformer equipment and vehicles.

Normal staffed office hours are four days-per-week Monday through Thursday, from 7:30 am to 5:30 pm. The facility is typically manned six (6) days a week to provide field services or equipment maintenance as needed. The City of Salem Electric Department is located on a parcel of land at the southeast corner of the intersection of West Main Street (Route 460) and West 4th Street (Route 11). The parcel of land comprising the City of Salem Electric Department is located within the City limits of Salem, Virginia as depicted on **Figure 1**.

Drainage patterns for the facility are depicted on **Figure 2**. Drainage from the facility is predominately directed to several storm water drop inlets, which are installed in the concrete access way south of the Main Building as detailed in **Section 2.3.2** of this Plan. Subsurface piping connects these structures to the City of Salem storm water sewer system. This system ultimately discharges to the Roanoke River, which is located approximately 5,300-ft southeast of the City of Salem Electric Department.

All regulated oil ASTs at the facility are shop fabricated; therefore the provisions of 112.7(i) are not applicable. Oil storage at the facility is located at the following three (3) areas on-site as described below:

Area 1 – Oil Drum Storage

- ❖ Approximately 10 to 15, 55-gallon drums of inhibited transformer oil
- ❖ Approximately 1 to 2, 55-gallon drums of various used oils
- ❖ Approximately 2 to 3, 55-gallon drums of hydraulic oil
- ❖ Two (2) 55-gallon drums of kerosene

Area 2 – Emergency Generator

- ❖ 3,000-gallon belly tank that supplies diesel fuel to an emergency generator

Area 3 – Main Facility Building

- ❖ 96-gallon hydraulic oil reservoir that services an elevator

Figure 2 is a detailed Site Layout showing the location of the oil storage tanks. **Table 1** below provides further information on the regulated oil storage containers at the facility.

TABLE 1 Oil Storage Containers City of Salem Electric Department			
Tank Capacity (in gallons)	Tank Type	Contents	Secondary Containment
Area 1 – Oil Drum Storage			
550 to 825 ¹	55-gallon Oil Drums	Transformer Oil	Containment Building
55 to 110 ¹	55-gallon Oil Drums	Used Oil	Containment Building
110 to 165 ¹	55-gallon Oil Drums	Hydraulic Oil	Containment Building
110	55-gallon Oil Drums	Kerosene	Staged on Spill Pallets ²
Area 2 – Emergency Generator			
3,000	Aboveground (fuel supply for a generator that serves as a back-up source of electrical power)	Diesel Fuel	Double-Walled Tank
Area 3 – Main Facility Building			
96	Aboveground (hydraulic oil reservoir for elevator inside the main building)	Hydraulic Oil	General

¹Due to the transportability of 55-gallon drums, the total number and their location may vary.

²The spill pallets observed during the August 2013 site visit were not sized to contain the entire contents of 55-gallon drum. Compliance options are presented in **Section 2.1**.

2.0 SPILL PREVENTION AND CONTROL

Spill prevention and control involves a combination of various elements, including:

- ❖ Proactive planning and actions by facility personnel.
- ❖ Periodic inspections of tanks and spill containment infrastructure by facility personnel and certified inspectors.
- ❖ Training of facility personnel.
- ❖ Reliance on tank monitoring/gauging equipment, secondary containment and diversionary structures.

The following sections outline the spill prevention and control elements in place at the City of Salem Electric Department. The format is constructed such that required elements of the regulation are addressed in a concise format, while still being usable by facility personnel. The first section (2.1) describes the main procedures, equipment, and structures used to prevent and control a spill within the three (3) main areas where oil is stored and managed at the facility. The following section (2.3) provides detail on the predicted direction a spill would likely route if not contained, as well as the estimated

volume and spill rates. The final sections (2.5-2.8) identify the inspection protocols used to detect problems with the tank systems or spills, the security measures in place to prevent or limit vandalism, and the integrity testing protocols used to ensure suitability for continued service of the tanks.

2.1 DISCHARGE PREVENTION/CONTROL, DRAINAGE DISCHARGE & CONTROLS, DIVERSIONARY STRUCTURES & EQUIPMENT, & FAIL SAFE SPILL PREVENTION

The following section addresses the regulatory requirements associated with the pertinent elements of the following parts of 40 CFR Part 112:

- ❖ Discharge prevention measures 112(a)(3)(ii)
- ❖ Discharge or drainage controls 112.7(a)(3)(iii)
- ❖ Diversionary structures or equipment that prevent spills from reaching navigable waters 112.7(c)
- ❖ Bulk Storage Secondary Containment Requirements 112.8(c)(2)
- ❖ Draining Rainwater from Diked Areas 112.8(c)(3)
- ❖ Fail-Safe Spill Prevention 112.8(c)(8)
- ❖ Secondary Containment Requirements for Loading/Unloading Racks 112.7(h)(1)

As detailed in the SPCC rule, the owner of an onshore facility must meet the General Requirements for SPCC Plans, under 40 CFR §112.7(c). According to §112.7(c), containment and/or diversionary structures or equipment must be provided for any oil storage containers that could reasonably be expected to discharge into or upon the navigable waters of the United States. 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;
- ❖ culverting, gutters, or other drainage systems;
- ❖ weirs, booms, or other barriers;
- ❖ spill diversion ponds;
- ❖ retention ponds; or
- ❖ sorbent materials

Listed below are the discharge prevention measures, drainage controls, and the spill prevention and potential spill containment and diversionary systems in place at the three (3) oil storage areas at the City of Salem Electric Department.

Area 1 – Oil Drum Storage

Containment Building

- ❖ The majority of the regulated 55-gallon oil drums are stored on-site in an enclosed metal building staged proximate to the southeast corner of the facility. Typically, the building contains 10-15 regulated oil drums for the storage of various dielectric oils and hydraulic oil. The dielectric oils are used to service and maintain electrical transformers throughout the City of Salem.
- ❖ The building also contains one regulated drum to store used dielectric oil, which is generated during electrical transformer maintenance and repairs. The oil stored in this drum is tested for polychlorinated biphenyl (PCB) concentrations to ensure it is disposed of in accordance with the applicable requirements of the Toxic Substances Control Act (TSCA).
- ❖ The floor of the building consists of a steel, recessed containment trough that is covered by steel grating. The City of Salem Electric Department provided the As Built drawing of the building during the site inspection. The As Built drawing indicated that the trough is designed to retain 757-gallons of oil. Therefore, the containment trough is capable of retaining the entire contents of a 55-gallon oil drum.
- ❖ The regulated oil drums and associated containment trough are not exposed to precipitation. The containment trough will be checked for the presence of oil during the required monthly and annual inspections.
- ❖ Spill response materials are kept in a storage room on the second floor of the Main Building. These materials include a 55-gallon spill kit as well as additional boxes of oil absorbent booms, socks, and pads. All of the materials are oil-only and will absorb oil and repel water.
- ❖ For uncontained spills, facility personnel will place absorbent materials/ booms around the spill to prevent flow northwest towards the drop inlets that discharge to the City of Salem storm water sewer system. Absorbent materials should also be placed topographically up-gradient of the proximate drop inlets to inhibit the discharge of oil to the storm water sewer system.

55-gallon Drum Storage at the Wash Bay

- ❖ Two (2) steel, 55-gallon drums of kerosene are stored inside a Wash Bay that occupies a portion of the building located proximate to southeastern corner of the property. The kerosene is used to fuel a steam jenny that is stored in the Wash Bay. The contents of the unlabeled kerosene drum should be confirmed by site personnel and appropriately labeled.
- ❖ The subject drums are currently stored on individual containment pallets that will not contain the entire contents of a 55-gallon oil drum. As required by 40 CFR 112.7(c), containment and/or diversionary structures or equipment must be provided for any oil storage containers that could reasonably be expected to discharge oil into or upon the navigable waters of the United States.

- ❖ Compliance options to provide suitable, specifically-sized secondary containment for the 55-gallon kerosene drums include:
 1. Store both 55-gallon drums on a spill containment pallet(s) that are designed to contain a minimum of 55-gallons of oil.
 2. Relocate the drums to the Oil Drum Storage Building.
- ❖ For spills: Released product will pool on the finished concrete floor of the Wash Bay prior to discharging to a grated floor drain located in the middle of the bay. This floor drain discharges to the municipal sanitary sewer for the City of Salem. Utilize sorbent materials including booms and socks to prevent product from sheet flowing towards the floor drain.
- ❖ Drums in active use at Area 1 contain manual, top-mounted pumps to facilitate the dispensing of product. Oil transferred to and from the drums will be performed by City of Salem personnel that are trained in oil handling procedures.

Area 2 – Emergency Generator

- ❖ A large emergency generator is staged on concrete surface cover in the southwestern portion of the facility. The generator provides emergency electrical power in the event of a power disruption at the facility.
- ❖ The generator is equipped with a 3,000-gallon, double-wall, steel belly tank for the storage of diesel fuel. The interstitial volume created by the outer steel wall provides secondary containment designed to retain the primary tank contents in the event of an inner wall structural failure.
- ❖ The belly tank has a fill port and direct vision gauge that are both accessible by the panel doors on the outside of the generator. A normal vent for the primary tank was observed extending above the roofline for the generator.
- ❖ The direct vision gauge is used to determine the available freeboard prior to the transfer of diesel fuel. All fuel transfer events will be monitored by the City of Salem personnel that are trained in oil handling procedures.
- ❖ The interstitial tank is not currently equipped with a gauge or alarm to monitor for the presence of liquids in the secondary tank. Personnel at the City of Salem Electric Department indicated that the interstitial tank will be equipped with an automated system to monitor for the presence of liquids. This alarm/monitoring system will be wired into an existing display panel in the Main office. The subject system will be checked for operability during the monthly and annual inspections for the 3,000-gallon AST.
- ❖ Monthly and annual inspections are conducted to ensure the tank and ancillary equipment are in proper working order and fit for continued service.
- ❖ For all spills: Place sorbent material around the leaking belly tank, fitting, or fuel transfer hose, placement of booms as needed to prevent product from flowing east/southeast to several drop inlets that discharge to the storm water sewer system. Absorbent materials should also be placed topographically up-gradient of the proximate drop inlets to inhibit the discharge of oil to the storm water sewer system.

Area 3 – Main Facility Building

Hydraulic Oil Reservoir – Elevator

- ❖ A 96-gallon, single-wall steel AST serves as the hydraulic oil reservoir for the elevator in the Main Facility Building. The AST is staged in a maintenance closet in the central portion of the building. The single-walled AST and associated piping is considered oil-filled operational equipment because the hydraulic oil is solely utilized to operate the elevator.
- ❖ A portable spill kit and various types of absorbent materials are kept in a storage room on the second floor of the Main Building. These materials are adequate to address the most likely discharge scenario(s), which is leak from a faulty valve/fitting or during hydraulic oil transfer events.
- ❖ For all spills: Place sorbent material around the leaking valve and fitting, placement of booms around pooled product on the concrete floor to prevent product from exiting the maintenance closet.

OWS for the Main Facility Building

- ❖ The Main Facility Building has a multi-bay shop for the maintenance of vehicles and equipment operated by the City of Salem Electric Department. The shop has two (2) elongated floor drains that discharge to a subsurface oil/water separator (OWS). The OWS is installed in the concrete parking lot south of the building (**see Figure 2**).
- ❖ The OWS is constructed of concrete, has an approximate retention capacity of 695-gallons, and discharges treated effluent to the sanitary sewer system. The OWS is not subject to SPCC Rule requirements because it is solely utilized for wastewater treatment and does not provide secondary containment for regulated oil storage containers at the facility.

Fuel Delivery Tankers

- ❖ Facility personnel will be present to monitor the transfer of diesel fuel to the 3,000-gallon belly tank for the emergency generator. The direct vision gauge should be used to determine the available freeboard prior to the transfer of diesel fuel.
- ❖ Facility personnel will also be present to monitor oil recovery events from the OWS.
- ❖ Facility personnel will require operators to utilize the interlock braking system and/or employ wheel chocks to prevent vehicles from departing before flexible or fixed oil transfer lines are disconnected.
- ❖ The vendors will carry spill response materials for the cleanup of small spills.
- ❖ For all spills: Place sorbent material around, and downgradient of, the leaking container; containment material should be placed between the spill and any drainage pathways that ultimately discharge to drainage ditches or intermittent streams off-site.

2.2 DISCHARGE OR DRAINAGE CONTROLS [112.7(a)(3)(iii)]

The discharge or drainage controls employed at the City of Salem Electric Department are described in **Section 2.1**.

2.3 PREDICTION OF THE NATURE OF POTENTIAL SPILLAGE [112.7(b)]

As part of spill control, it is critical to understand the spill potential of the oil stored, the direction of flow based on drainage features, as well as the potential spill quantities and flow rates. The following sections provide the details needed to understand where and how quickly a spill not retained by containment systems may route.

2.3.1 *Spill Potential*

Potential causes of spillage at the facility include:

- ❖ Leaking outer wall or secondary containment of aboveground storage tanks or piping,
- ❖ Overfilling of ASTs,
- ❖ Tank truck spill/transfer hose leak or rupture during diesel fuel loading/unloading events,
- ❖ Vacuum truck spill/transfer hose leak or rupture during used oil recovery.

2.3.2 *Facility Drainage Description and Direction of Flow*

Drainage patterns for the facility are depicted on **Figure 2**. Drainage from the facility is predominately directed to several storm water drop inlets, which are installed in the concrete access way south of the Main Building. Subsurface piping connects these structures to the City of Salem storm water sewer system. This system ultimately discharges to the Roanoke River, which is located approximately 5,300-ft southeast of the City of Salem Electric Department.

Drainage patterns at each facility oil storage location are summarized below:

Area 1 – Oil Drum Storage

- ❖ If a spill occurs in a manner that cannot be contained from the Oil Storage Building, product would sheet flow northwest towards several storm water drop inlets installed proximate to southeast corner of the Main Facility Building.
- ❖ If a spill occurs in a manner that cannot be contained from the 55-gallon drums inside the Wash Bay, released product will flow to a grated floor drain located in the middle of the bay. This floor drain discharges to the municipal sanitary sewer for the City of Salem.

Area 2 – Emergency Generator

- ❖ If a spill occurs in a manner that cannot be contained, product would sheet flow to several storm water drop inlets installed east-southeast of the generator.

Area 3 – Main Facility Building

- ❖ If a hydraulic oil release were to occur inside the maintenance closet, it would likely pool on the concrete flooring inside the room. The volume of released oil would not

likely be sufficient to migrate to the floor drains inside the maintenance bays that discharge to the OWS.

2.3.3 Potential Fuel Flow Rate

In the unlikely event that a tanker transfer hose is not properly attached to an AST fill pipe, a spill of up to 200 gallons per minute could occur. Flow rates of punctured or corroded tanks or drums are expected to be much slower as holes in sidewalls/ tank bottoms occur over time.

2.3.4 Quantity

Capacities of the aboveground storage tanks are listed in **Table 1**. The maximum potential quantity of fuel that could be released in a single incident includes the following:

- ❖ One diesel fuel belly tank for the emergency generator (3,000-gallons)
- ❖ One 55-gallon oil drum (55-gallons)
- ❖ One hydraulic oil reservoir for the elevator (96-gallons)
- ❖ Fuel delivery tanker (~3,000-gallons, largest single compartment)
- ❖ Vacuum Truck (~1,500-gallons, largest single compartment)

2.4 DIVERSIONARY STRUCTURES OR EQUIPMENT THAT PREVENT SPILLS FROM REACHING NAVIGABLE WATERS [112.7(c)]

The diversionary structures or equipment that prevents spills from reaching navigable waters are described in **Section 2.1**.

2.5 INSPECTIONS, TESTS, AND RECORDS [112.7(e)]

The SPCC regulations require preventative maintenance of all oil handling equipment on an as needed basis and according to recommended practices. Steel-walled, aboveground petroleum storage containers equal to or greater than 55-gallons must be inspected on a monthly and annual basis in accordance with the integrity testing requirements of Steel Tank Institute (STI) Standard SP001. Blank copies of the monthly and annual facility inspection checklists for steel containers (fixed and portable) are included in **Appendix C**. Completed inspection checklists are maintained on file in the Main Facility Building. The monthly and annual inspection checklists must be retained along with the SPCC Plan for a minimum of three years.

2.6 PERSONNEL, TRAINING, AND DISCHARGE PREVENTION PROCEDURES **[112.7(f)(1)]**

The Facility SPCC Coordinator is responsible for the proper care and use of equipment, for the containment and cleanup of small spills, and for the implementation of procedures described here in the event of a major spill.

All oil-handling personnel must be trained in the proper operation and maintenance of equipment; discharge procedure protocols; applicable pollution control laws, rules and regulations; general facility operations; and the contents of the facility SPCC Plan. Prevention briefings must be scheduled and conducted for oil-handling personnel at least once a year to assure adequate understanding of the SPCC Plan for the facility. General training guidelines are included as **Appendix D**. A signed roster of attendees for the annual SPCC training session must be retained along with the SPCC Plan for a minimum of three years.

2.7 SECURITY [112.7(g)]

The regulated oil storage areas at the facility are surrounded by a gated, chain-link fence (see **Figure 2**). The facility has two (2) main access gates on the northeast and southeast portions of the lot. The gated security fence is locked when the facility is unattended, which restricts access to unauthorized personnel. Facility lighting is adequate so that a discharge occurring outside of business hours can be identified by facility personnel and others.

2.8 INTEGRITY TESTING FOR ABOVEGROUND STORAGE CONTAINERS **[112.8 (c)(6)]**

The following sections reflect the integrity testing requirements for the regulated oil storage containers at the City of Salem Electric Department.

2.8.1 Fixed Petroleum ASTs – Shop Fabricated Steel Tanks

Each aboveground storage container must be tested for integrity on a regular schedule, and whenever material repairs are made. Comparison records must be kept, and container's supports and foundations must be inspected. In addition, the outside of the container must be frequently inspected for signs of deterioration, and discharges. Records of the inspections and tests must be maintained at the facility. The integrity testing requirement of the SPCC rule can be complied with by following an industry standard such as the STI Standard SP001.

The SP001 Standard prescribes a testing procedure involving monthly and annual visual inspections, combined with potential periodic non-destructive testing following a schedule based on tank size, tank age, release detection methods, and presence of a release prevention barrier.

In accordance with STI-SP001, the 3,000-gallon diesel fuel belly tank for the emergency generator is considered a Category 1 AST because it has spill control (i.e. the tank is

double-walled) and a continual release detection method (CRDM). The STI-SP001 inspection requirements for a Category 1 AST that is between 1,101- and 5,000-gallons are as follows:

- ❖ Monthly and annual visual inspections by facility personnel that are trained in oil handling procedures and familiar with the AST and associated components.

In accordance with STI-SP001, the 96-gallon hydraulic oil reservoir is also considered a Category 1 AST because it has spill control and CRDM. A Category 1 AST that is less than 1,100-gallons can be inspected by authorized facility personnel on a monthly and annual basis to satisfy the integrity testing requirements of STI-SP001.

The periodic inspections will be conducted and documented by facility personnel in accordance with **Section 6.0** of STI-SP001. Inspection personnel are knowledgeable of the City of Salem Electric Department storage operations, the ASTs and their associated components, and characteristics of the liquids stored (diesel fuel and hydraulic oil). Monthly inspections focus on structural integrity of the tank walls and bottom and the integrity of the tank foundation, secondary containment, piping and anchor bolts. Annual inspections of the ASTs will also be performed by facility personnel. Annual inspections will generally focus on similar action items included in the monthly checklist; however, a more rigorous visual inspection will be conducted on the AST and associated appurtenances to ensure the system is suitable for continued service. Copies of the monthly and annual inspection forms are included as **Appendix C**.

2.8.2 Portable Steel Containers – Shop Fabricated

55-Gallon Oil Drums

The 55-gallon oil drums stored inside the Oil Storage Building are considered Category 1 portable steel containers because they have spill control (i.e. stored inside the containment shed) and a CRDM. A Category 1 portable steel container can be inspected by authorized City of Salem personnel on a monthly and annual basis to satisfy the integrity testing requirements of STI-SP001. As previously stated, inspection personnel must be knowledgeable of the storage operation, the drums and their associated components, and characteristics of the liquids stored (dielectric oil, hydraulic oil, and used oil). The monthly and annual inspections must be performed and documented in accordance with Section 6.0 of STI-SP001 (see **Appendix C**).

The two drums stored inside the Wash Bay are not currently staged on pallets that can contain the entire contents of a 55-gallon drum. In accordance with STI-SP001, both drums are considered Category 3 portable steel containers because they do not have adequate spill control. A Category 3 portable steel container must be inspected on a monthly and annual basis by authorized facility personnel. Additionally, a Category 3 portable steel container must be discontinued from use or re-tested/certified per Department of Transportation requirements every 12 years.

It should be noted that the requirements for a Category 1 portable steel container will be met upon the implementation of specifically-sized secondary containment (i.e. spill pallet) that is capable of retaining the entire contents of a 55-gallon drum. A Category 1 portable steel container only requires inspection on a monthly and annual basis by authorized facility personnel. The monthly and annual inspections must be performed and documented in accordance with Section 6.0 of STI-SP001 (see **Appendix C**).

3.0 COUNTERMEASURES FOR DISCHARGE DISCOVERY, SPILL RESPONSE AND CLEANUP [112.7(a)(3)(iv)]

3.1 SPILL RESPONSE

3.1.1 *Small Spills*

Small spills will be contained and cleaned up by facility personnel using spill response equipment and materials. The infrastructure is in place to provide facility personnel training on the use and proper disposal of spill equipment. A spill kit and extra absorbent materials are located in the storage room on the second floor of the Main Building as shown on **Figure 2**.

3.1.2 *Large Spills*

In the event of a “reportable oil spill” or “discharge”, the following procedures should be initiated:

1. Survey the area carefully before proceeding to prevent endangering yourself or your fellow employees.
2. Ensure the spill has been adequately contained by secondary containment or diversionary structures.
3. Notify the Facility SPCC Coordinator, the spill response contractor, the local police and fire departments, and federal, state and local organizations as appropriate.
4. Deploy absorbent materials downstream from the spill to block all migration pathways (primarily drains and drop inlets) that discharge to the City of Salem storm water sewer system. If necessary, place booms across and/or around applicable drainage ditches, drop inlets, and culvert pipes.
5. Oil collected or standing in any drainage pathway must be prevented from flowing or being carried off-site.

3.1.3 *Spill Clean Up*

Arrange for recovery of spilled product and clean-up of affected areas after the source of the spill has been stopped, and the released product is contained. Quick clean-up of a

released substance substantially reduces the potential for the product to migrate downward through the soil or to migrate off-site.

Free product must be pumped into a tank truck or an appropriate storage container and properly recycled or disposed. Contaminated soils must be excavated and placed in drums or roll-off containers. After excavation has been completed to the satisfaction of supervisory personnel, the remaining soils must be sampled to ensure that all affected soils were removed. Soils placed in drums and roll-off containers must also be sampled to determine the proper method of disposal. DEQ and EPA guidelines must be followed for characterization and disposal of all excavated soils.

3.1.4 Contact List and Phone Numbers [112.7(a)(3)(vi)]

Appendix E provides a complete list of contacts in the event of a spill.

3.1.5 Methods of Disposal of Recovered Materials [112.7(a)(3)(v)]

Any contaminated containment or absorbent materials, and disposable protective equipment must be placed in drums and properly disposed. Reusable equipment can be decontaminated prior to storage. Liquids used to rinse equipment during decontamination must be contained and placed into drums for proper disposal. All recovered materials must be properly disposed in accordance with applicable regulations.

3.2 RESPONSE PROCEDURES [112.7(a)(4)]

Response procedures in the event of a spill are provided on the notification sheets for the Virginia Department of Emergency Management, National Response Center and the Coast Guard (see **Appendix E**). As required by 40 CFR 112.7(a)(4), the information to be gathered and reported includes:

- ❖ Date and time of the discharge;
- ❖ Type of material discharged;
- ❖ Estimate of the total material discharged;
- ❖ Source of the discharge;
- ❖ Description of affected media;
- ❖ Cause of the discharge;
- ❖ 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 required; and
- ❖ Names of individuals and/or organizations who have been contacted.

3.3 OIL SPILL EMERGENCY PLAN [112.7(a)(4-5)]

In the event of a reportable spill at the City of Salem Electric Department, the actions prescribed in **Section 3.1.2** and **Appendix E** will be implemented by facility personnel and/or their designated agents. Thus, immediate implementation of these actions will serve as the **Oil Spill Emergency Plan** as required by the SPCC Rule.

NOTIFY THE VIRGINIA DEQ (during normal working hours) OR THE VIRGINIA DEPARTMENT OF EMERGENCY MANAGEMENT (24-hours) WHEN:

All spills meeting the following regulatory definition are reportable as required by the Code of Virginia per § 62.1-44.34:19:

A. Any person discharging, or causing, or permitting a discharge of oil into or upon state waters, lands, or storm drain systems within the Commonwealth or discharging or causing or permitting a discharge of oil which may reasonably be expected to enter state waters, lands, or storm drain systems within the Commonwealth, and any operator of any facility, vehicle or vessel from which there is a discharge of oil into state waters, lands, or storm drain systems, or from which there is a discharge of oil which may reasonably be expected to enter state waters, lands, or storm drain systems, shall, immediately upon learning of the discharge, notify the Board, the director or coordinator of emergency services appointed pursuant to § 44-146.19 for the political subdivision in which the discharge occurs and any other political subdivision reasonably expected to be affected by the discharge, and appropriate federal authorities of such discharge.

B. Notice will be deemed to have been given under this section for any discharge of oil to state lands in amounts less than twenty-five gallons if the recordkeeping requirements of subsection C of § 62.1-44.34:19.2 have been met and the oil has been cleaned up in accordance with the requirements of this article.

The reporting requirement of Subsection C is:

§ 62.1-44.34:19.2. Recordkeeping and access to records and facilities.

C. A record of all discharges of oil to state lands in amounts less than twenty-five gallons shall be established and maintained for a period of five years in accordance with subsections A and B of this section.

All discharges of oil from a facility are reportable to the Virginia DEQ if the release is 25 gallons or greater or if the spill reaches state waters. Releases that are 25 gallons or less do not have to be reported if a discharge record is kept over a period of 5 years and the spill is promptly cleaned up in accordance with applicable state regulations.

Any release will be reported to the Facility SPCC Coordinator. The Accidental Release Reporting Form (see **Appendix F**) will be completed for all releases of petroleum at the facility to maintain the records required by the Code of Virginia. Release records must be kept for 5 years to maintain compliance under § 62.1-44.34:19.2. All releases, regardless of size, must be cleaned up immediately in accordance with the facility's waste

materials management manual procedures, and incident records retained as required by Article 11 of the Virginia State Water Control Law.

NOTIFY THE NATIONAL RESPONSE CENTER WHEN:

- ❖ You have a discharge of oil that violates applicable water quality standards; or
- ❖ A discharge of oil causes a film or sheen upon or discoloration of the surface of the water or adjoining shorelines; or
- ❖ A discharge causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

The National Response Center will notify the Coast Guard and the EPA, if necessary.

See **Appendix E** for the Responsible Personnel and Notification Check-off list.

SUBMIT THE SPCC PLAN AND INFORMATION ON THE SPILL TO THE EPA WHEN:

- ❖ More than 1,000 U.S. gallons of oil into or upon the navigable waters of the United States or adjoining shorelines in a single spill event, or
- ❖ Over 42 gallons of oil into or upon the navigable waters of the United States or adjoining shorelines in two spill events occurring within any 12-month period.

4.0 MISCELLANEOUS SPCC REGULATORY REQUIREMENTS

Amendment of the SPCC Plan by Owners or Operators [112.5(a)(b)(c)]

The owner or operators must complete a review and evaluation of the SPCC Plan at least once every five years. This SPCC Plan must also be amended whenever there is a change in the facility design, construction, operation, or maintenance that materially affects the facility's potential for discharging oil. A Professional Engineer (PE) certification is required for technical amendments only. PE certification is not required for non-technical amendments, such as changes to phone numbers, names, etc. A 5-year compliance inspection review signature sheet is included as **Page V** of this document.

Internal Heating Coils [112.8(c)(7)]

Not applicable. The regulated oil containers at the City of Salem Electric Department do not have internal heating coils.

Fail-Safe Spill Prevention [112.8(c)(8)]

The fail safe spill prevention procedures are described in **Section 2.1**.

Effluent Treatment Facilities [112.8(c)(9)]

The OWS that treats effluent from the shop floor drains is not subject to the applicable requirements of 40 CFR Part 112 because it is solely utilized for wastewater treatment and does not provide secondary containment for oil storage containers at the facility.

Visible Oil Leaks [112.8(c)(10)]

Visual discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets and bolts must be promptly corrected.

Mobile or Portable Oil Storage Containers [112.8(c)(11)]

All 55-gallon drums containing oil products will be stored in accordance with the spill prevention and containment guidelines previously discussed in **Section 2.1**. There are no other mobile oil storage containers currently in use at the facility.

Facility Transfer Operations, Pumping, and Facility Processes [112.8(d)]:**Existing Buried Piping [112.8(d)(1)]**

Not applicable. There is currently no buried oil conveyance piping in use at the facility.

Out-of-Service Piping [112.8(d)(2)]

Not applicable. There is currently no out-of-service piping located at the facility.

Pipe Supports [112.8(d)(3)]

The nozzles and piping associated with the belly tank for the emergency generator and the hydraulic oil reservoir are adequately supported and meet the requirements of the regulation.

Inspection of Aboveground Valves, Piping and Appurtenances [112.8(d)(4)]

All aboveground valves, piping and appurtenances are regularly inspected, assessing the general condition of flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves and metal surfaces. Inspection of the AST piping is included during the monthly inspections.

Warning of Aboveground Piping [112.8(d)(5)]

Aboveground piping and valves are located in secure areas (typically inside containment structures or buildings) where damage from vehicles and other machinery is unlikely.

Field-Constructed AST Brittle Fracture Analysis [112.7(i)]

Not Applicable.

Conformance with State Requirements [112.7(j)]

The Virginia Department of Environmental Quality (DEQ) Facility and Aboveground Storage Tank (AST) Regulation, 9 VAC 25-91-10 et. seq., requires the registration of all oil ASTs that exceed 660-gallons in storage capacity. Aboveground storage tanks that are 660 gallons and less and tanks used to store non-petroleum hydrocarbon-based animal and vegetable oils are exempt from 9 VAC 25-91-10 and are not required to be registered with the DEQ. All oil storage containers at this facility with the exception of the 3,000-gallon diesel AST for the emergency generator have storage capacities that are less than 660-gallons.

Per 9 VAC 25-91-30.14, equipment or machinery that contains oil for operational purposes, including but not limited to lubricating systems, hydraulic systems, and heat transfer systems are also exempt from the regulation and are not required to be registered with the DEQ. The belly tank for the emergency generator is solely used for the operation of the unit. In accordance with the regulation, the 3,000-gallon diesel AST for the emergency generator is not required to be registered with the DEQ.

SPCC PLAN REQUIREMENTS FOR ONSHORE FACILITIES (112.8)

Systems and procedures in use or recommended at the facility that will minimize spills and provide containment and clean-up are described in **Section 1**.

Facility Drainage [112.8(b)]

Facility drainage characteristics are described in **Section 2.3.2**.

Bulk Storage Containers [112.8(c)(1)]

All of the petroleum storage tanks at the facility are compatible with the product contained within them and the conditions of storage.

Bulk Storage Secondary Containment Requirements [112.8(c)(2)]

The bulk storage secondary containment requirements are addressed in **Section 1**.

Draining Rainwater from Diked Areas [112.8(c)(3)]

Not Applicable. All of the double-walled ASTs contain interstices that are not exposed to precipitation. The containment basin for the oil storage building is integrated into the building structure and does not retain precipitation. Therefore, it does not have a drain valve installed to remove collected rainwater from the basin.

Completely Buried Metallic Tanks [112.8(c)(4)]

Not applicable. The facility does not maintain or operate underground storage tanks (USTs).

Partially Buried Metallic Tanks [112.8(c)(5)]

Not applicable. There are no partially buried or bunkered tanks at the facility.

Facility Tank Car and Tank Truck Loading/Unloading Rack [112.7(h)]

Not applicable. There is no loading/unloading rack at this facility.

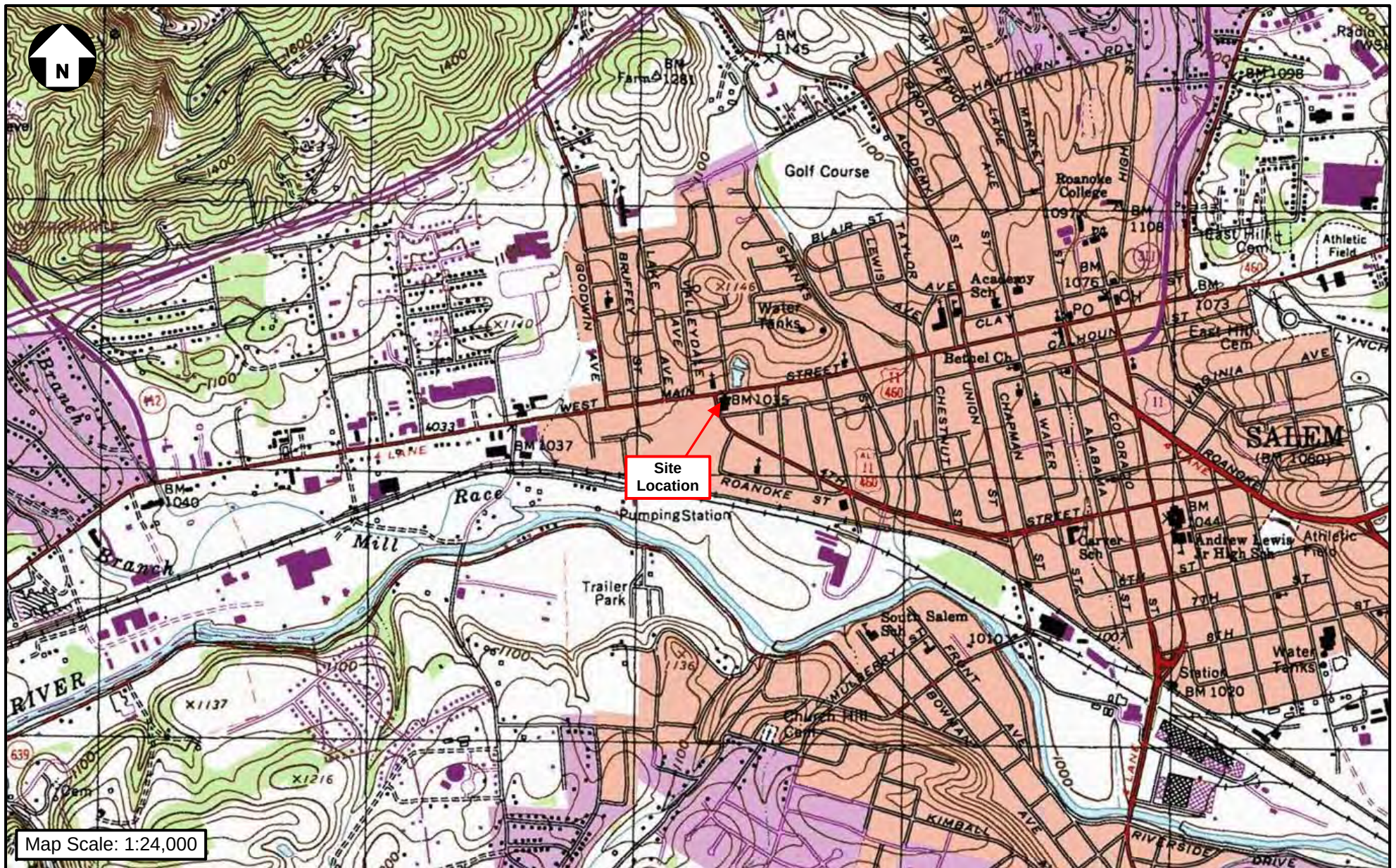
5.0 ACTION ITEMS FOR FACILITY COMPLIANCE

The following action items must be implemented within six (6) months of the PE certified date of this plan to ensure compliance with SPCC Rule.

- ❖ Conduct and document monthly and annual AST inspections in accordance with the SPCC requirements. Integrity testing standard STI-SP001 will be followed for all steel ASTs; blank tank inspection forms are included as **Appendix C** of this document.
- ❖ The Certificate of Substantial Harm Determination requires signature by an authorized agent for the City of Salem. The Certification is located in **Appendix B**.
- ❖ Provide annual SPCC training for all oil handling personnel.
- ❖ The 55-gallon oil drums stored in the Wash Bay are currently stored on individual containment pallets that will not contain the entire contents of a 55-gallon drum. As required by 40 CFR 112.7(c), containment and/or diversionary structures or equipment must be provided for bulk oil storage containers that could reasonably be expected to discharge into or upon the navigable waters of the United States.
- ❖ Compliance options for the 55-gallon drums inside the Wash Bay include:
 1. Place both drums on a spill containment pallet designed to contain the entire contents of a 55-gallon drum.
 2. Store the drums inside the Oil Storage Building, which has appropriately sized secondary containment.
- ❖ The interstitial tank for the 3,000-gallon diesel fuel AST is not currently equipped with a gauge or alarm to monitor for the presence of liquids in the secondary tank. Personnel at the City of Salem Electric Department indicated that the interstitial tank will be equipped with automated system to monitor for the presence of liquids. This alarm/monitoring system will be wired into an existing display panel in the Main office.

The following action item is recommended as Best Management Practice (BMPs), and is not specifically required for SPCC Rule compliance.

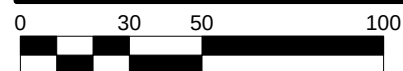
- ❖ While not a specific requirement of the SPCC Rule, the facility should consider the acquisition of a self-sealing mat that is designed to cover a storm water drop inlet. There are several drop inlets on the facility that could potentially be impacted by a release from a regulated oil storage container. A self-sealing mat could be utilized to cover the inlet most likely to be impacted in the event of a substantial release on-site.





LEGEND

- PETROLEUM UST
- PETROLEUM AST
- 55 GALLON OIL DRUM STORAGE
- OIL/WATER SEPARATOR OWS
- DROP INLET
- PORTABLE SPILL KIT
- SURFACE DRAINAGE DIRECTION/POTENTIAL SPILL PATHWAY



Note: Scale is Approximate



FIGURE 2

Aerial Photograph of the 730 West Main Street Facility Showing Aboveground Oil Storage

Appendix A
Copy of Oil Pollution Prevention Regulations (40 CFR Part 112)
Summary of Recent SPCC Amendments

SUMMARY OF RECENT SPCC AMENDMENTS

On July 17, 2002, the EPA issued a final rule amending the Oil Pollution Prevention regulation, which addresses requirements for SPCC Plans. The new SPCC rule became effective August 16, 2002. According to the new rule, this regulation no longer applies to the following:

- ❖ Completely buried tanks that are subject to all Underground Storage Tank technical requirements in 40 CFR parts 280 and 281; and
- ❖ Containers with a storage capacity of less than 55 gallons.

On December 26, 2006, the EPA issued another final rule amending the Oil Pollution Prevention Regulation, which addresses requirements for SPCC Plans. The new SPCC rule is effective as of February 26, 2007. According to the new amendment, the following regulation changes may be applicable to the City of Salem Electric Department:

- ❖ Specifically-sized secondary containment is no longer required for mobile refuelers. Mobile refuelers still must comply with general secondary containment and other rule requirements.
- ❖ A facility may prepare a self-certified SPCC Plan if the aggregate aboveground oil storage capacity in containers equal to or greater than 55-gallons is 10,000-gallons or less. **This amendment only applies if the facility has had no single discharge exceeding 1,000-gallons or no two discharges each exceeding 42-gallons in any 12-month period of the past three years.**
- ❖ An oil spill contingency plan with a written commitment of manpower, equipment and materials, and an inspection and monitoring program may be utilized in lieu of secondary containment for oil-filled operational equipment. Oil filled operational equipment is defined as equipment which includes an oil storage container or containers in which the oil is present solely to support the function of the apparatus or device, for example, pump or compressor lubricating systems, gear boxes, transformers, and Electric switches. **This amendment only applies if the facility has had no single discharge exceeding 1,000-gallons or no two discharges each exceeding 42-gallons in any 12-month period of the past three years from oil-filled operational equipment.**

On October 15, 2007, the EPA issued a proposed amendment to the Oil Pollution Prevention Regulation, which addresses requirements for SPCC Plans. The new SPCC rule was finalized on December 5, 2008. The effective date for a facility to come into compliance with the applicable requirements of the December 2008 SPCC Amendment is November 10, 2010. According to the 2008 SPCC rule, the following regulation changes may apply to the City of Salem Electric Department:

- ❖ The rule extends the exemption from the sized-secondary containment requirement for mobile refuelers provided in the December 2006 SPCC Amendment to non-transportation-related tank trucks at a facility subject to the SPCC Rule.
- ❖ The rule amends the general secondary containment requirement at §112.7(c) to make clear that the scope of secondary containment takes into consideration the typical failure mode, and most likely quantity of oil that would be discharged, consistent with current EPA guidance.
- ❖ The rule amends the facility security requirements at §112.7(g) to allow an owner or operator to tailor his security measures to the facility's specific characteristics and location.
- ❖ The rule amends the requirements of §112.8(c)(6) and 112.12(c)(6) to provide flexibility in complying with bulk storage container integrity testing requirements. Specifically, EPA will allow an owner or operator to consult and rely on industry standards to determine the appropriate qualifications for tank inspectors/testing personnel and the type/frequency of integrity testing required for a particular container size and configuration.

112 of the Code of Federal Regulations, is amended as follows:

PART 112—OIL POLLUTION PREVENTION

1. The authority for part 112 continues to read as follows:

Authority: 33 U.S.C. 1251 *et seq.*; 33 U.S.C. 2720; E.O. 12777 (October 18, 1991), 3 CFR, 1991 Comp., p. 351.

2. Part 112 is amended by designating §§ 112.1 through 112.7 as subpart A, adding a subpart heading and revising newly designated subpart A to read as follows:

Subpart A—Applicability, Definitions, and General Requirements For All Facilities and All Types of Oils

Sec.

112.1 General applicability.

112.2 Definitions.

112.3 Requirement to prepare and implement a Spill Prevention, Control, and Countermeasure Plan.

112.4 Amendment of Spill Prevention, Control, and Countermeasure Plan by Regional Administrator.

112.5 Amendment of Spill Prevention, Control, and Countermeasure Plan by owners or operators.

112.6 [Reserved].

112.7 General requirements for Spill Prevention, Control, and Countermeasure Plans.

Subpart A—Applicability, Definitions, and General Requirements for All Facilities and All Types of Oils

§ 112.1 General applicability.

(a)(1) This part establishes procedures, methods, equipment, and other requirements to prevent the discharge of oil from non-transportation-related onshore and offshore facilities into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act).

(2) As used in this part, words in the singular also include the plural and words in the masculine gender also include the feminine and vice versa, as the case may require.

(b) Except as provided in paragraph (d) of this section, this part applies to any owner or operator of a non-transportation-related onshore or offshore facility engaged in drilling, producing, gathering, storing,

processing, refining, transferring, distributing, using, or consuming oil and oil products, which due to its location, could reasonably be expected to discharge oil in quantities that may be harmful, as described in part 110 of this chapter, into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer

Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act) that has oil in:

(1) Any aboveground container;

(2) Any completely buried tank as defined in § 112.2;

(3) Any container that is used for standby storage, for seasonal storage, or for temporary storage, or not otherwise "permanently closed" as defined in § 112.2;

(4) Any "bunkered tank" or "partially buried tank" as defined in § 112.2, or any container in a vault, each of which is considered an aboveground storage container for purposes of this part.

(c) As provided in section 313 of the Clean Water Act (CWA), departments, agencies, and instrumentalities of the Federal government are subject to this part to the same extent as any person.

(d) Except as provided in paragraph (f) of this section, this part does not apply to:

(1) The owner or operator of any facility, equipment, or operation that is not subject to the jurisdiction of the Environmental Protection Agency (EPA) under section 311(j)(1)(C) of the CWA, as follows:

(i) Any onshore or offshore facility, that due to its location, could not reasonably be expected to have a discharge as described in paragraph (b) of this section. This determination must be based solely upon consideration of the geographical and location aspects of the facility (such as proximity to navigable waters or adjoining shorelines, land contour, drainage, etc.) and must exclude consideration of manmade features such as dikes, equipment or other structures, which may serve to restrain, hinder, contain, or otherwise prevent a discharge as described in paragraph (b) of this section.

(ii) Any equipment, or operation of a vessel or transportation-related onshore or offshore facility which is subject to the authority and control of the U.S. Department of Transportation, as defined in the Memorandum of

Understanding between the Secretary of Transportation and the Administrator of EPA, dated November 24, 1971 (Appendix A of this part).

(iii) Any equipment, or operation of a vessel or onshore or offshore facility which is subject to the authority and control of the U.S. Department of Transportation or the U.S. Department of the Interior, as defined in the Memorandum of Understanding between the Secretary of Transportation, the Secretary of the Interior, and the Administrator of EPA, dated November 8, 1993 (Appendix B of this part).

(2) Any facility which, although otherwise subject to the jurisdiction of EPA, meets both of the following requirements:

(i) The completely buried storage capacity of the facility is 42,000 gallons or less of oil. For purposes of this exemption, the completely buried storage capacity of a facility excludes the capacity of a completely buried tank, as defined in § 112.2, and connected underground piping, underground ancillary equipment, and containment systems, that is currently subject to all of the technical requirements of part 280 of this chapter or all of the technical requirements of a State program approved under part 281 of this chapter. The completely buried storage capacity of a facility also excludes the capacity of a container that is "permanently closed," as defined in § 112.2.

(ii) The aggregate aboveground storage capacity of the facility is 1,320 gallons or less of oil. For purposes of this exemption, only containers of oil with a capacity of 55 gallons or greater are counted. The aggregate aboveground storage capacity of a facility excludes the capacity of a container that is "permanently closed," as defined in § 112.2.

(3) Any offshore oil drilling, production, or workover facility that is subject to the notices and regulations of the Minerals Management Service, as specified in the Memorandum of Understanding between the Secretary of Transportation, the Secretary of the Interior, and the Administrator of EPA, dated November 8, 1993 (Appendix B of this part).

(4) Any completely buried storage tank, as defined in § 112.2, and connected underground piping, underground ancillary equipment, and containment systems, at any facility, that is subject to all of the technical requirements of part 280 of this chapter or a State program approved under part 281 of this chapter, except that such a tank must be marked on the facility diagram as provided in § 112.7(a)(3), if

the facility is otherwise subject to this part.

(5) Any container with a storage capacity of less than 55 gallons of oil.

(6) Any facility or part thereof used exclusively for wastewater treatment and not used to satisfy any requirement of this part. The production, recovery, or recycling of oil is not wastewater treatment for purposes of this paragraph.

(e) This part establishes requirements for the preparation and implementation of Spill Prevention, Control, and Countermeasure (SPCC) Plans. SPCC Plans are designed to complement existing laws, regulations, rules, standards, policies, and procedures pertaining to safety standards, fire prevention, and pollution prevention rules. The purpose of an SPCC Plan is to form a comprehensive Federal/State spill prevention program that minimizes the potential for discharges. The SPCC Plan must address all relevant spill prevention, control, and countermeasures necessary at the specific facility. Compliance with this part does not in any way relieve the owner or operator of an onshore or an offshore facility from compliance with other Federal, State, or local laws.

(f) Notwithstanding paragraph (d) of this section, the Regional Administrator may require that the owner or operator of any facility subject to the jurisdiction of EPA under section 311(j) of the CWA prepare and implement an SPCC Plan, or any applicable part, to carry out the purposes of the CWA.

(1) Following a preliminary determination, the Regional Administrator must provide a written notice to the owner or operator stating the reasons why he must prepare an SPCC Plan, or applicable part. The Regional Administrator must send such notice to the owner or operator by certified mail or by personal delivery. If the owner or operator is a corporation, the Regional Administrator must also mail a copy of such notice to the registered agent, if any and if known, of the corporation in the State where the facility is located.

(2) Within 30 days of receipt of such written notice, the owner or operator may provide information and data and may consult with the Agency about the need to prepare an SPCC Plan, or applicable part.

(3) Within 30 days following the time under paragraph (b)(2) of this section within which the owner or operator may provide information and data and consult with the Agency about the need to prepare an SPCC Plan, or applicable part, the Regional Administrator must make a final determination regarding

whether the owner or operator is required to prepare and implement an SPCC Plan, or applicable part. The Regional Administrator must send the final determination to the owner or operator by certified mail or by personal delivery. If the owner or operator is a corporation, the Regional Administrator must also mail a copy of the final determination to the registered agent, if any and if known, of the corporation in the State where the facility is located.

(4) If the Regional Administrator makes a final determination that an SPCC Plan, or applicable part, is necessary, the owner or operator must prepare the Plan, or applicable part, within six months of that final determination and implement the Plan, or applicable part, as soon as possible, but not later than one year after the Regional Administrator has made a final determination.

(5) The owner or operator may appeal a final determination made by the Regional Administrator requiring preparation and implementation of an SPCC Plan, or applicable part, under this paragraph. The owner or operator must make the appeal to the Administrator of EPA within 30 days of receipt of the final determination under paragraph (b)(3) of this section from the Regional Administrator requiring preparation and/or implementation of an SPCC Plan, or applicable part. The owner or operator must send a complete copy of the appeal to the Regional Administrator at the time he makes the appeal to the Administrator. The appeal must contain a clear and concise statement of the issues and points of fact in the case. In the appeal, the owner or operator may also provide additional information. The additional information may be from any person. The Administrator may request additional information from the owner or operator. The Administrator must render a decision within 60 days of receiving the appeal or additional information submitted by the owner or operator and must serve the owner or operator with the decision made in the appeal in the manner described in paragraph (f)(1) of this section.

§ 112.2 Definitions.

For the purposes of this part:

Adverse weather means weather conditions that make it difficult for response equipment and personnel to clean up or remove spilled oil, and that must be considered when identifying response systems and equipment in a response plan for the applicable operating environment. Factors to consider include significant wave height as specified in Appendix E to this part

(as appropriate), ice conditions, temperatures, weather-related visibility, and currents within the area in which the systems or equipment is intended to function.

Alteration means any work on a container involving cutting, burning, welding, or heating operations that changes the physical dimensions or configuration of the container.

Animal fat means a non-petroleum oil, fat, or grease of animal, fish, or marine mammal origin.

Breakout tank means a container used to relieve surges in an oil pipeline system or to receive and store oil transported by a pipeline for reinjection and continued transportation by pipeline.

Bulk storage container means any container used to store oil. These containers are used for purposes including, but not limited to, the storage of oil prior to use, while being used, or prior to further distribution in commerce. Oil-filled electrical, operating, or manufacturing equipment is not a bulk storage container.

Bunkered tank means a container constructed or placed in the ground by cutting the earth and re-covering the container in a manner that breaks the surrounding natural grade, or that lies above grade, and is covered with earth, sand, gravel, asphalt, or other material. A bunkered tank is considered an aboveground storage container for purposes of this part.

Completely buried tank means any container completely below grade and covered with earth, sand, gravel, asphalt, or other material. Containers in vaults, bunkered tanks, or partially buried tanks are considered aboveground storage containers for purposes of this part.

Complex means a facility possessing a combination of transportation-related and non-transportation-related components that is subject to the jurisdiction of more than one Federal agency under section 311(j) of the CWA.

Contiguous zone means the zone established by the United States under Article 24 of the Convention of the Territorial Sea and Contiguous Zone, that is contiguous to the territorial sea and that extends nine miles seaward from the outer limit of the territorial area.

Contract or other approved means means:

(1) A written contractual agreement with an oil spill removal organization that identifies and ensures the availability of the necessary personnel and equipment within appropriate response times; and/or

(2) A written certification by the owner or operator that the necessary personnel and equipment resources, owned or operated by the facility owner or operator, are available to respond to a discharge within appropriate response times; and/or

(3) Active membership in a local or regional oil spill removal organization that has identified and ensures adequate access through such membership to necessary personnel and equipment to respond to a discharge within appropriate response times in the specified geographic area; and/or

(4) Any other specific arrangement approved by the Regional Administrator upon request of the owner or operator.

Discharge includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping of oil, but excludes discharges in compliance with a permit under section 402 of the CWA; discharges resulting from circumstances identified, reviewed, and made a part of the public record with respect to a permit issued or modified under section 402 of the CWA, and subject to a condition in such permit; or continuous or anticipated intermittent discharges from a point source, identified in a permit or permit application under section 402 of the CWA, that are caused by events occurring within the scope of relevant operating or treatment systems. For purposes of this part, the term discharge shall not include any discharge of oil that is authorized by a permit issued under section 13 of the River and Harbor Act of 1899 (33 U.S.C. 407).

Facility means any mobile or fixed, onshore or offshore building, structure, installation, equipment, pipe, or pipeline (other than a vessel or a public vessel) used in oil well drilling operations, oil production, oil refining, oil storage, oil gathering, oil processing, oil transfer, oil distribution, and waste treatment, or in which oil is used, as described in Appendix A to this part. The boundaries of a facility depend on several site-specific factors, including, but not limited to, the ownership or operation of buildings, structures, and equipment on the same site and the types of activity at the site.

Fish and wildlife and sensitive environments means areas that may be identified by their legal designation or by evaluations of Area Committees (for planning) or members of the Federal On-Scene Coordinator's spill response structure (during responses). These areas may include wetlands, National and State parks, critical habitats for endangered or threatened species, wilderness and natural resource areas, marine sanctuaries and estuarine

reserves, conservation areas, preserves, wildlife areas, wildlife refuges, wild and scenic rivers, recreational areas, national forests, Federal and State lands that are research national areas, heritage program areas, land trust areas, and historical and archaeological sites and parks. These areas may also include unique habitats such as aquaculture sites and agricultural surface water intakes, bird nesting areas, critical biological resource areas, designated migratory routes, and designated seasonal habitats.

Injury means a measurable adverse change, either long- or short-term, in the chemical or physical quality or the viability of a natural resource resulting either directly or indirectly from exposure to a discharge, or exposure to a product of reactions resulting from a discharge.

Maximum extent practicable means within the limitations used to determine oil spill planning resources and response times for on-water recovery, shoreline protection, and cleanup for worst case discharges from onshore non-transportation-related facilities in adverse weather. It includes the planned capability to respond to a worst case discharge in adverse weather, as contained in a response plan that meets the requirements in § 112.20 or in a specific plan approved by the Regional Administrator.

Navigable waters means the waters of the United States, including the territorial seas.

(1) The term includes:

(i) All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide;

(ii) All interstate waters, including interstate wetlands;

(iii) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters;

(A) That are or could be used by interstate or foreign travelers for recreational or other purposes; or

(B) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or,

(C) That are or could be used for industrial purposes by industries in interstate commerce;

(iv) All impoundments of waters otherwise defined as waters of the United States under this section;

(v) Tributaries of waters identified in paragraphs (1)(i) through (iv) of this definition;

(vi) The territorial sea; and

(vii) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraph (1) of this definition.

(2) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds which also meet the criteria of this definition) are not waters of the United States. Navigable waters do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with EPA.

Non-petroleum oil means oil of any kind that is not petroleum-based, including but not limited to: Fats, oils, and greases of animal, fish, or marine mammal origin; and vegetable oils, including oils from seeds, nuts, fruits, and kernels.

Offshore facility means any facility of any kind (other than a vessel or public vessel) located in, on, or under any of the navigable waters of the United States, and any facility of any kind that is subject to the jurisdiction of the United States and is located in, on, or under any other waters.

Oil means oil of any kind or in any form, including, but not limited to: fats, oils, or greases of animal, fish, or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and, other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil.

Oil Spill Removal Organization means an entity that provides oil spill response resources, and includes any for-profit or not-for-profit contractor, cooperative, or in-house response resources that have been established in a geographic area to provide required response resources.

Onshore facility means any facility of any kind located in, on, or under any land within the United States, other than submerged lands.

Owner or operator means any person owning or operating an onshore facility or an offshore facility, and in the case of any abandoned offshore facility, the person who owned or operated or maintained the facility immediately prior to such abandonment.

Partially buried tank means a storage container that is partially inserted or constructed in the ground, but not entirely below grade, and not

completely covered with earth, sand, gravel, asphalt, or other material. A partially buried tank is considered an aboveground storage container for purposes of this part.

Permanently closed means any container or facility for which:

- (1) All liquid and sludge has been removed from each container and connecting line; and
- (2) All connecting lines and piping have been disconnected from the container and blanked off, all valves (except for ventilation valves) have been closed and locked, and conspicuous signs have been posted on each container stating that it is a permanently closed container and noting the date of closure.

Person includes an individual, firm, corporation, association, or partnership.

Petroleum oil means petroleum in any form, including but not limited to crude oil, fuel oil, mineral oil, sludge, oil refuse, and refined products.

Production facility means all structures (including but not limited to wells, platforms, or storage facilities), piping (including but not limited to flowlines or gathering lines), or equipment (including but not limited to workover equipment, separation equipment, or auxiliary non-transportation-related equipment) used in the production, extraction, recovery, lifting, stabilization, separation or treating of oil, or associated storage or measurement, and located in a single geographical oil or gas field operated by a single operator.

Regional Administrator means the Regional Administrator of the Environmental Protection Agency, in and for the Region in which the facility is located.

Repair means any work necessary to maintain or restore a container to a condition suitable for safe operation, other than that necessary for ordinary, day-to-day maintenance to maintain the functional integrity of the container and that does not weaken the container.

Spill Prevention, Control, and Countermeasure Plan; SPCC Plan, or Plan means the document required by § 112.3 that details the equipment, workforce, procedures, and steps to prevent, control, and provide adequate countermeasures to a discharge.

Storage capacity of a container means the shell capacity of the container.

Transportation-related and non-transportation-related, as applied to an onshore or offshore facility, are defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of the Environmental Protection Agency, dated

November 24, 1971, (Appendix A of this part).

United States means the States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, Guam, American Samoa, the U.S. Virgin Islands, and the Pacific Island Governments.

Vegetable oil means a non-petroleum oil or fat of vegetable origin, including but not limited to oils and fats derived from plant seeds, nuts, fruits, and kernels.

Vessel means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water, other than a public vessel.

Wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include playa lakes, swamps, marshes, bogs, and similar areas such as sloughs, prairie potholes, wet meadows, prairie river overflows, mudflats, and natural ponds.

Worst case discharge for an onshore non-transportation-related facility means the largest foreseeable discharge in adverse weather conditions as determined using the worksheets in Appendix D to this part.

§ 112.3 Requirement to prepare and implement a Spill Prevention, Control, and Countermeasure Plan.

The owner or operator of an onshore or offshore facility subject to this section must prepare a Spill Prevention, Control, and Countermeasure Plan (hereafter "SPCC Plan" or "Plan"), in writing, and in accordance with § 112.7, and any other applicable section of this part.

(a) If your onshore or offshore facility was in operation on or before August 16, 2002, you must maintain your Plan, but must amend it, if necessary to ensure compliance with this part, on or before February 17, 2003, and must implement the amended Plan as soon as possible, but not later than August 18, 2003. If your onshore or offshore facility becomes operational after August 16, 2002, through August 18, 2003, and could reasonably be expected to have a discharge as described in § 112.1(b), you must prepare a Plan on or before August 18, 2003, and fully implement it as soon as possible, but not later than August 18, 2003.

(b) If you are the owner or operator of an onshore or offshore facility that becomes operational after August 18,

2003, and could reasonably be expected to have a discharge as described in § 112.1(b), you must prepare and implement a Plan before you begin operations.

(c) If you are the owner or operator of an onshore or offshore mobile facility, such as an onshore drilling or workover rig, barge mounted offshore drilling or workover rig, or portable fueling facility, you must prepare, implement, and maintain a facility Plan as required by this section. This provision does not require that you prepare a new Plan each time you move the facility to a new site. The Plan may be a general plan. When you move the mobile or portable facility, you must locate and install it using the discharge prevention practices outlined in the Plan for the facility. You may not operate a mobile or portable facility subject to this part unless you have implemented the Plan. The Plan is applicable only while the facility is in a fixed (non-transportation) operating mode.

(d) A licensed Professional Engineer must review and certify a Plan for it to be effective to satisfy the requirements of this part.

(1) By means of this certification the Professional Engineer attests:

- (i) That he is familiar with the requirements of this part;
- (ii) That he or his agent has visited and examined the facility;
- (iii) That the Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of this part;
- (iv) That procedures for required inspections and testing have been established; and
- (v) That the Plan is adequate for the facility.

(2) Such certification shall in no way relieve the owner or operator of a facility of his duty to prepare and fully implement such Plan in accordance with the requirements of this part.

(e) If you are the owner or operator of a facility for which a Plan is required under this section, you must:

- (1) Maintain a complete copy of the Plan at the facility if the facility is normally attended at least four hours per day, or at the nearest field office if the facility is not so attended, and
- (2) Have the Plan available to the Regional Administrator for on-site review during normal working hours.

(f) *Extension of time.* (1) The Regional Administrator may authorize an extension of time for the preparation and full implementation of a Plan, or any amendment thereto, beyond the time permitted for the preparation, implementation, or amendment of a

Plan under this part, when he finds that the owner or operator of a facility subject to this section, cannot fully comply with the requirements as a result of either nonavailability of qualified personnel, or delays in construction or equipment delivery beyond the control and without the fault of such owner or operator or his agents or employees.

(2) If you are an owner or operator seeking an extension of time under paragraph (f)(1) of this section, you may submit a written extension request to the Regional Administrator. Your request must include:

(i) A full explanation of the cause for any such delay and the specific aspects of the Plan affected by the delay;

(ii) A full discussion of actions being taken or contemplated to minimize or mitigate such delay; and

(iii) A proposed time schedule for the implementation of any corrective actions being taken or contemplated, including interim dates for completion of tests or studies, installation and operation of any necessary equipment, or other preventive measures. In addition you may present additional oral or written statements in support of your extension request.

(3) The submission of a written extension request under paragraph (f)(2) of this section does not relieve you of your obligation to comply with the requirements of this part. The Regional Administrator may request a copy of your Plan to evaluate the extension request. When the Regional Administrator authorizes an extension of time for particular equipment or other specific aspects of the Plan, such extension does not affect your obligation to comply with the requirements related to other equipment or other specific aspects of the Plan for which the Regional Administrator has not expressly authorized an extension.

§ 112.4 Amendment of Spill Prevention, Control, and Countermeasure Plan by Regional Administrator.

If you are the owner or operator of a facility subject to this part, you must:

(a) Notwithstanding compliance with § 112.3, whenever your facility has discharged more than 1,000 U.S. gallons of oil in a single discharge as described in § 112.1(b), or discharged more than 42 U.S. gallons of oil in each of two discharges as described in § 112.1(b), occurring within any twelve month period, submit the following information to the Regional Administrator within 60 days from the time the facility becomes subject to this section:

(1) Name of the facility;

(2) Your name;

(3) Location of the facility;

(4) Maximum storage or handling capacity of the facility and normal daily throughput;

(5) Corrective action and countermeasures you have taken, including a description of equipment repairs and replacements;

(6) An adequate description of the facility, including maps, flow diagrams, and topographical maps, as necessary;

(7) The cause of such discharge as described in § 112.1(b), including a failure analysis of the system or subsystem in which the failure occurred;

(8) Additional preventive measures you have taken or contemplated to minimize the possibility of recurrence; and

(9) Such other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge.

(b) Take no action under this section until it applies to your facility. This section does not apply until the expiration of the time permitted for the initial preparation and implementation of the Plan under § 112.3, but not including any amendments to the Plan.

(c) Send to the appropriate agency or agencies in charge of oil pollution control activities in the State in which the facility is located a complete copy of all information you provided to the Regional Administrator under paragraph (a) of this section. Upon receipt of the information such State agency or agencies may conduct a review and make recommendations to the Regional Administrator as to further procedures, methods, equipment, and other requirements necessary to prevent and to contain discharges from your facility.

(d) Amend your Plan, if after review by the Regional Administrator of the information you submit under paragraph (a) of this section, or submission of information to EPA by the State agency under paragraph (c) of this section, or after on-site review of your Plan, the Regional Administrator requires that you do so. The Regional Administrator may require you to amend your Plan if he finds that it does not meet the requirements of this part or that amendment is necessary to prevent and contain discharges from your facility.

(e) Act in accordance with this paragraph when the Regional Administrator proposes by certified mail or by personal delivery that you amend your SPCC Plan. If the owner or operator is a corporation, he must also notify by mail the registered agent of such corporation, if any and if known,

in the State in which the facility is located. The Regional Administrator must specify the terms of such proposed amendment. Within 30 days from receipt of such notice, you may submit written information, views, and arguments on the proposed amendment. After considering all relevant material presented, the Regional Administrator must either notify you of any amendment required or rescind the notice. You must amend your Plan as required within 30 days after such notice, unless the Regional Administrator, for good cause, specifies another effective date. You must implement the amended Plan as soon as possible, but not later than six months after you amend your Plan, unless the Regional Administrator specifies another date.

(f) If you appeal a decision made by the Regional Administrator requiring an amendment to an SPCC Plan, send the appeal to the EPA Administrator in writing within 30 days of receipt of the notice from the Regional Administrator requiring the amendment under paragraph (e) of this section. You must send a complete copy of the appeal to the Regional Administrator at the time you make the appeal. The appeal must contain a clear and concise statement of the issues and points of fact in the case. It may also contain additional information from you, or from any other person. The EPA Administrator may request additional information from you, or from any other person. The EPA Administrator must render a decision within 60 days of receiving the appeal and must notify you of his decision.

§ 112.5 Amendment of Spill Prevention, Control, and Countermeasure Plan by owners or operators.

If you are the owner or operator of a facility subject to this part, you must:

(a) Amend the SPCC Plan for your facility in accordance with the general requirements in § 112.7, and with any specific section of this part applicable to your facility, when there is a change in the facility design, construction, operation, or maintenance that materially affects its potential for a discharge as described in § 112.1(b). Examples of changes that may require amendment of the Plan include, but are not limited to: 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; or revision of standard operation or maintenance procedures at

a facility. An amendment made under this section must be prepared within six months, and implemented as soon as possible, but not later than six months following preparation of the amendment.

(b) Notwithstanding compliance with paragraph (a) of this section, complete a review and evaluation of the SPCC Plan at least once every five years from the date your facility becomes subject to this part; or, if your facility was in operation on or before August 16, 2002, five years from the date your last review was required under this part. As a result of this review and evaluation, you must amend your SPCC Plan within six months of the review to include more effective prevention and control technology if the technology has been field-proven at the time of the review and will significantly reduce the likelihood of a discharge as described in § 112.1(b) from the facility. You must implement any amendment as soon as possible, but not later than six months following preparation of any amendment. You must document your completion of the review and evaluation, and must sign a statement as to whether you will amend the Plan, either at the beginning or end of the Plan or in a log or an appendix to the Plan. The following words will suffice, "I have completed review and evaluation of the SPCC Plan for (name of facility) on (date), and will (will not) amend the Plan as a result."

(c) Have a Professional Engineer certify any technical amendment to your Plan in accordance with § 112.3(d).

§ 112.6 [Reserved]

§ 112.7 General requirements for Spill Prevention, Control, and Countermeasure Plans.

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. As detailed elsewhere in this section, you must also:

(a)(1) Include a discussion of your facility's conformance with the requirements listed in this part.
(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), 112.10(c), 112.12(c)(2), 112.12(c)(11), 112.13(c)(2), and 112.14(c), 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 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), 112.12(c)(11), 112.13(c)(2), and 112.14(c), 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).

(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. You must also address in your Plan:

(i) The type of oil in each container and its storage capacity;

(ii) Discharge prevention measures including procedures for routine handling of products (loading, unloading, and facility transfers, etc.);

(iii) Discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of a discharge;

(iv) Countermeasures for discharge discovery, response, and cleanup (both the facility's capability and those that might be required of a contractor);

(v) Methods of disposal of recovered materials in accordance with applicable legal requirements; and

(vi) 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).

(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.

(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.

(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.

(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 cleanup 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) For offshore facilities:
 (i) Curbing or drip pans; or
 (ii) Sumps and collection systems.
 (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), 112.12(c)(11), 112.13(c)(2), and 112.14(c) 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.

(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.

(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.

(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.

(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.

(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.

(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.

3. Part 112 is amended adding subpart B consisting of §§ 112.8 through 112.11 to read as follows:

Subpart B—Requirements for Petroleum Oils and Non-Petroleum Oils, Except Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and Vegetable Oils (Including Oils from Seeds, Nuts, Fruits, and Kernels)

Sec.

112.8 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities).

112.9 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil production facilities.

112.10 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities.

112.11 Spill Prevention, Control, and Countermeasure Plan requirements for offshore oil drilling, production, or workover facilities.

Subpart B—Requirements for Petroleum Oils and Non-Petroleum Oils, Except Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and Vegetable Oils (Including Oils from Seeds, Nuts, Fruits, and Kernels)

§ 112.8 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities).

If you are the owner or operator of an onshore facility (excluding a production facility), you must:

(a) Meet the general requirements for the Plan listed under § 112.7, and the specific discharge prevention and containment procedures listed in this section.

(b) *Facility drainage.* (1) 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.

(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.

(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.

(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 with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.

(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 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.

(c) *Bulk storage containers.* (1) 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.

(2) Construct all bulk storage container installations 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.

(3) 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.

(4) 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.

(5) 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.

(6) Test each aboveground container for integrity on a regular schedule, and whenever you make material repairs. 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, acoustic 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 tests kept under usual and customary business practices will suffice for purposes of this paragraph.

(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.

(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 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.

(v) You must regularly test liquid level sensing devices to ensure proper operation.

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

(10) 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.

(11) Position or locate mobile or portable oil storage containers to prevent a discharge as described in § 112.1(b). 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.

(d) *Facility transfer operations, pumping, and facility process.* (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.

(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.

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

(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.

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

§ 112.9 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil production facilities.

If you are the owner or operator of an onshore production facility, you must:

(a) Meet the general requirements for the Plan listed under § 112.7, and the specific discharge prevention and containment procedures listed under this section.

(b) Oil production facility drainage.

(1) At tank batteries and separation and treating areas where there is a reasonable possibility of a discharge as described in § 112.1(h), close and seal at all times drains of dikes or drains of equivalent measures required under § 112.7(c)(1), except when draining uncontaminated rainwater. Prior to drainage, you must inspect the diked area and take action as provided in § 112.8(c)(3)(ii), (iii), and (iv). You must remove accumulated oil on the rainwater and return it to storage or dispose of it in accordance with legally approved methods.

(2) Inspect at regularly scheduled intervals field drainage systems (such as drainage ditches or road ditches), and oil traps, sumps, or skimmers, for an accumulation of oil that may have resulted from any small discharge. You must promptly remove any accumulations of oil.

(c) *Oil production facility bulk storage containers.* (1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and the conditions of storage.

(2) Provide all tank battery, separation, and treating facility

installations with a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must safely confine drainage from undiked areas in a catchment basin or holding pond.

(3) Periodically and upon a regular schedule visually inspect each container of oil for deterioration and maintenance needs, including the foundation and support of each container that is on or above the surface of the ground.

(4) Engineer or update new and old tank battery installations in accordance with good engineering practice to prevent discharges. You must provide at least one of the following:

(i) Container capacity adequate to assure that a container will not overflow if a pumper/gauger is delayed in making regularly scheduled rounds.

(ii) Overflow equalizing lines between containers so that a full container can overflow to an adjacent container.

(iii) Vacuum protection adequate to prevent container collapse during a pipeline run or other transfer of oil from the container.

(iv) High level sensors to generate and transmit an alarm signal to the computer where the facility is subject to a computer production control system.

(d) *Facility transfer operations, oil production facility.* (1) Periodically and upon a regular schedule inspect all aboveground valves and piping associated with transfer operations for the general condition of flange joints, valve glands and bodies, drip pans, pipe supports, pumping well polish rod stuffing boxes, bleeder and gauge valves, and other such items.

(2) Inspect saltwater (oil field brine) disposal facilities often, particularly following a sudden change in atmospheric temperature, to detect possible system upsets capable of causing a discharge.

(3) Have a program of flowline maintenance to prevent discharges from each flowline.

§ 112.10 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities.

If you are the owner or operator of an onshore oil drilling and workover facility, you must:

(a) Meet the general requirements listed under § 112.7, and also meet the specific discharge prevention and containment procedures listed under this section.

(b) Position or locate mobile drilling or workover equipment so as to prevent a discharge as described in § 112.1(b).

(c) Provide catchment basins or diversion structures to intercept and

contain discharges of fuel, crude oil, or oily drilling fluids.

(d) Install a blowout prevention (BOP) assembly and well control system before drilling below any casing string or during workover operations. The BOP assembly and well control system must be capable of controlling any well-head pressure that may be encountered while that BOP assembly and well control system are on the well.

§ 112.11 Spill Prevention, Control, and Countermeasure Plan requirements for offshore oil drilling, production, or workover facilities.

If you are the owner or operator of an offshore oil drilling, production, or workover facility, you must:

(a) Meet the general requirements listed under § 112.7, and also meet the specific discharge prevention and containment procedures listed under this section.

(b) Use oil drainage collection equipment to prevent and control small oil discharges around pumps, glands, valves, flanges, expansion joints, hoses, drain lines, separators, treaters, tanks, and associated equipment. You must control and direct facility drains toward a central collection sump to prevent the facility from having a discharge as described in § 112.1(b). Where drains and sumps are not practicable, you must remove oil contained in collection equipment as often as necessary to prevent overflow.

(c) For facilities employing a sump system, provide adequately sized sump and drains and make available a spare pump to remove liquid from the sump and assure that oil does not escape. You must employ a regularly scheduled preventive maintenance inspection and testing program to assure reliable operation of the liquid removal system and pump start-up device. Redundant automatic sump pumps and control devices may be required on some installations.

(d) At facilities with areas where separators and treaters are equipped with dump valves which predominantly fail in the closed position and where pollution risk is high, specially equip the facility to prevent the discharge of oil. You must prevent the discharge of oil by:

(1) Extending the flare line to a diked area if the separator is near shore;

(2) Equipping the separator with a high liquid level sensor that will automatically shut in wells producing to the separator; or

(3) Installing parallel redundant dump valves.

(e) Equip atmospheric storage or surge containers with high liquid level

sensing devices that activate an alarm or control the flow, or otherwise prevent discharges.

(f) Equip pressure containers with high and low pressure sensing devices that activate an alarm or control the flow.

(g) Equip containers with suitable corrosion protection.

(h) Prepare and maintain at the facility a written procedure within the Plan for inspecting and testing pollution prevention equipment and systems.

(i) Conduct testing and inspection of the pollution prevention equipment and systems at the facility on a scheduled periodic basis, commensurate with the complexity, conditions, and circumstances of the facility and any other appropriate regulations. You must use simulated discharges for testing and inspecting human and equipment pollution control and countermeasure systems.

(j) Describe in detailed records surface and subsurface well shut-in valves and devices in use at the facility for each well sufficiently to determine their method of activation or control, such as pressure differential, change in fluid or flow conditions, combination of pressure and flow, manual or remote control mechanisms.

(k) Install a BOP assembly and well control system during workover operations and before drilling below any casing string. The BOP assembly and well control system must be capable of controlling any well-head pressure that may be encountered while the BOP assembly and well control system are on the well.

(l) Equip all manifolds (headers) with check valves on individual flowlines.

(m) Equip the flowline with a high pressure sensing device and shut-in valve at the wellhead if the shut-in well pressure is greater than the working pressure of the flowline and manifold valves up to and including the header valves. Alternatively you may provide a pressure relief system for flowlines.

(n) Protect all piping appurtenant to the facility from corrosion, such as with protective coatings or cathodic protection.

(o) Adequately protect sub-marine piping appurtenant to the facility against environmental stresses and other activities such as fishing operations.

(p) Maintain sub-marine piping appurtenant to the facility in good operating condition at all times. You must periodically and according to a schedule inspect or test such piping for failures. You must document and keep a record of such inspections or tests at the facility.

4. Part 112 is amended by adding subpart C consisting of §§ 112.12 through 112.15 to read as follows:

Subpart C—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

Sec.

112.12 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities).

112.13 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil production facilities.

112.14 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities.

112.15 Spill Prevention, Control, and Countermeasure Plan requirements for offshore oil drilling, production, or workover facilities.

Subpart C—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 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities)

If you are the owner or operator of an onshore facility (excluding a production facility), you must:

(a) Meet the general requirements for the Plan listed under § 112.7, and the specific discharge prevention and containment procedures listed in this section.

(b) *Facility drainage.* (1) 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.

(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, subject to the requirements of paragraphs (c)(3)(ii), (iii), and (iv) of this section.

(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.

(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 with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.

(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 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.

(c) *Bulk storage containers.* (1) 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.

(2) Construct all bulk storage container installations 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.

(3) 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.

(4) 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.

(5) 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.

(6) Test each aboveground container for integrity on a regular schedule, and whenever you make material repairs. 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, acoustic 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 tests kept under usual and customary business practices will suffice for purposes of this paragraph.

(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.

(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 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.

(v) You must regularly test liquid level sensing devices to ensure proper operation.

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

(10) 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.

(11) Position or locate mobile or portable oil storage containers to prevent a discharge as described in § 112.1(b). 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.

(d) *Facility transfer operations, pumping, and facility process.* (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.

(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.

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

(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.

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

§ 112.13 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil production facilities.

If you are the owner or operator of an onshore production facility, you must:

(a) Meet the general requirements for the Plan listed under § 112.7, and the specific discharge prevention and containment procedures listed under this section.

(b) *Oil production facility drainage.*

(1) At tank batteries and separation and treating areas where there is a reasonable possibility of a discharge as described in § 112.1(b), close and seal at all times drains of dikes or drains of equivalent measures required under § 112.7(c)(1), except when draining uncontaminated rainwater. Prior to drainage, you must inspect the diked area and take action as provided in § 112.12(c)(3)(ii), (iii), and (iv). You must remove accumulated oil on the rainwater and return it to storage or dispose of it in accordance with legally approved methods.

(2) Inspect at regularly scheduled intervals field drainage systems (such as drainage ditches or road ditches), and oil traps, sumps, or skimmers, for an accumulation of oil that may have resulted from any small discharge. You must promptly remove any accumulations of oil.

(c) *Oil production facility bulk storage containers.* (1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and the conditions of storage.

(2) Provide all tank battery, separation, and treating facility installations with a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must safely confine drainage from undiked areas in a catchment basin or holding pond.

(3) Periodically and upon a regular schedule visually inspect each container of oil for deterioration and maintenance needs, including the foundation and support of each container that is on or above the surface of the ground.

(4) Engineer or update new and old tank battery installations in accordance with good engineering practice to prevent discharges. You must provide at least one of the following:

(i) Container capacity adequate to assure that a container will not overflow if a pumper/gauger is delayed in making regularly scheduled rounds.

(ii) Overflow equalizing lines between containers so that a full container can overflow to an adjacent container.

(iii) Vacuum protection adequate to prevent container collapse during a

pipeline run or other transfer of oil from the container.

(iv) High level sensors to generate and transmit an alarm signal to the computer where the facility is subject to a computer production control system.

(d) *Facility transfer operations, oil production facility.* (1) Periodically and upon a regular schedule inspect all aboveground valves and piping associated with transfer operations for the general condition of flange joints, valve glands and bodies, drip pans, pipe supports, pumping well polish rod stuffing boxes, bleeder and gauge valves, and other such items.

(2) Inspect saltwater (oil field brine) disposal facilities often, particularly following a sudden change in atmospheric temperature, to detect possible system upsets capable of causing a discharge.

(3) Have a program of flowline maintenance to prevent discharges from each flowline.

§ 112.14 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities.

If you are the owner or operator of an onshore oil drilling and workover facility, you must:

(a) Meet the general requirements listed under § 112.7, and also meet the specific discharge prevention and containment procedures listed under this section.

(b) Position or locate mobile drilling or workover equipment so as to prevent a discharge as described in § 112.1(b).

(c) Provide catchment basins or diversion structures to intercept and contain discharges of fuel, crude oil, or oily drilling fluids.

(d) Install a blowout prevention (BOP) assembly and well control system before drilling below any casing string or during workover operations. The BOP assembly and well control system must be capable of controlling any well-head pressure that may be encountered while that BOP assembly and well control system are on the well.

§ 112.15 Spill Prevention, Control, and Countermeasure Plan requirements for offshore oil drilling, production, or workover facilities.

If you are the owner or operator of an offshore oil drilling, production, or workover facility, you must:

(a) Meet the general requirements listed under § 112.7, and also meet the specific discharge prevention and containment procedures listed under this section.

(b) Use oil drainage collection equipment to prevent and control small oil discharges around pumps, glands, valves, flanges, expansion joints, hoses,

drain lines, separators, treaters, tanks, and associated equipment. You must control and direct facility drains toward a central collection sump to prevent the facility from having a discharge as described in § 112.1(b). Where drains and sumps are not practicable, you must remove oil contained in collection equipment as often as necessary to prevent overflow.

(c) For facilities employing a sump system, provide adequately sized sump and drains and make available a spare pump to remove liquid from the sump and assure that oil does not escape. You must employ a regularly scheduled preventive maintenance inspection and testing program to assure reliable operation of the liquid removal system and pump start-up device. Redundant automatic sump pumps and control devices may be required on some installations.

(d) At facilities with areas where separators and treaters are equipped with dump valves which predominantly fail in the closed position and where pollution risk is high, specially equip the facility to prevent the discharge of oil. You must prevent the discharge of oil by:

(1) Extending the flare line to a diked area if the separator is near shore;

(2) Equipping the separator with a high liquid level sensor that will automatically shut in wells producing to the separator; or

(3) Installing parallel redundant dump valves.

(e) Equip atmospheric storage or surge containers with high liquid level sensing devices that activate an alarm or control the flow, or otherwise prevent discharges.

(f) Equip pressure containers with high and low pressure sensing devices that activate an alarm or control the flow.

(g) Equip containers with suitable corrosion protection.

(h) Prepare and maintain at the facility a written procedure within the Plan for inspecting and testing pollution prevention equipment and systems.

(i) Conduct testing and inspection of the pollution prevention equipment and systems at the facility on a scheduled periodic basis, commensurate with the complexity, conditions, and circumstances of the facility and any other appropriate regulations. You must use simulated discharges for testing and inspecting human and equipment pollution control and countermeasure systems.

(j) Describe in detailed records surface and subsurface well shut-in valves and devices in use at the facility for each well sufficiently to determine their

method of activation or control, such as pressure differential, change in fluid or flow conditions, combination of pressure and flow, manual or remote control mechanisms.

(k) Install a BOP assembly and well control system during workover operations and before drilling below any casing string. The BOP assembly and well control system must be capable of controlling any well-head pressure that may be encountered while that BOP assembly and well control system are on the well.

(l) Equip all manifolds (headers) with check valves on individual flowlines.

(m) Equip the flowline with a high pressure sensing device and shut-in valve at the wellhead if the shut-in well pressure is greater than the working pressure of the flowline and manifold valves up to and including the header valves. Alternatively you may provide a pressure relief system for flowlines.

(n) Protect all piping appurtenant to the facility from corrosion, such as with protective coatings or cathodic protection.

(o) Adequately protect sub-marine piping appurtenant to the facility against environmental stresses and other activities such as fishing operations.

(p) Maintain sub-marine piping appurtenant to the facility in good operating condition at all times. You must periodically and according to a schedule inspect or test such piping for failures. You must document and keep a record of such inspections or tests at the facility.

5. Part 112 is amended by designating §§ 112.20 and 112.21 as subpart D, and adding a subpart heading as follows:

Subpart D—Response Requirements

Sec.

112.20 Facility response plans.

112.21 Facility response training and drills/exercises.

Subpart D—Response Requirements

6. Section 112.20 is amended by revising the first sentence of paragraph (h) to read as follows:

§ 112.20 Facility response plans.

* * * * *

(h) A response plan shall follow the format of the model facility-specific response plan included in Appendix F to this part, unless you have prepared an equivalent response plan acceptable to the Regional Administrator to meet State or other Federal requirements. * *

* * * * *

Appendix C—[Amended]

7. Appendix C of part 112 is amended by:

- a. Revising the first sentence of section 2.1; and
- b. Revising the title and first sentence of section 2.4.

Appendix C to Part 112—Substantial Harm Criteria

* * * * *

2.1 Non-Transportation-Related Facilities With a Total Oil Storage Capacity Greater Than or Equal to 42,000 Gallons Where Operations Include Over-Water Transfers of Oil

A non-transportation-related facility with a total oil storage capacity greater than or equal to 42,000 gallons that transfers oil over water to or from vessels must submit a response plan to EPA. * * *

* * * * *

2.4 Proximity to Public Drinking Water Intakes at Facilities with a Total Oil Storage Capacity Greater than or Equal to 1 Million Gallons

A facility with a total oil storage capacity greater than or equal to 1 million gallons must submit its response plan if it is located at a distance such that a discharge from the facility would shut down a public drinking water intake, which is analogous to a public water system as described at 40 CFR 143.2(c). * * *

* * * * *

Appendix D—[Amended]

8. Appendix D of part 112 is amended by revising footnote 2 to section A.2 of Part A to read as follows:

Appendix D to Part 112—Determination of a Worst Case Discharge Planning Volume

* * * * *

Part A * * *

* * * * *

A.2 Secondary Containment—Multiple-Tank Facilities

* * * * *

Secondary containment is described in 40 CFR part 112, subparts A through C. Acceptable methods and structures for containment are also given in 40 CFR 112.7(c)(1).

* * * * *

Appendix F—[Amended]

9. Appendix F of part 112 is amended by:

- a. Revising section 1.2.7;
- b. Revising the second and last sentences of section 1.4.3;

c. Revising paragraph (7) and the undesignated paragraph and NOTE following paragraph (7) in section 1.7.3;

d. Revising section 1.8.1;

e. Revising the first two sentences of section 1.8.1.1. introductory text;

f. Revising the next to the last sentence of section 1.8.1.3;

g. Revising the next to last sentence of section 1.10.;

h. Revising paragraph (6) of section 2.1;

i. Remove the acronym "SIC" in section 3.0, and add in alphabetical order the acronym "NAICS"; and

j. Remove the reference to "Standard Industrial Classification (SIC) Code" in Attachment F-1, General Information, and add in in alphabetical order a reference to "North American Industrial Classification System (NAICS) Code."

The revisions read as follows:

Appendix F to Part 112—Facility-Specific Response Plan

* * * * *

1.2.7 Current Operation

Briefly describe the facility's operations and include the North American Industrial Classification System (NAICS) code.

* * * * *

1.4.3 Analysis of the Potential for an Oil Discharge

* * * This analysis shall incorporate factors such as oil discharge history, horizontal range of a potential discharge, and vulnerability to natural disaster, and shall, as appropriate, incorporate other factors such as tank age. * * * The owner or operator may need to research the age of the tanks the oil discharge history at the facility.

* * * * *

1.7.3 Containment and Drainage Planning

* * * * *

(7) Other cleanup materials.

In addition, a facility owner or operator must meet the inspection and monitoring requirements for drainage contained in 40 CFR part 112, subparts A through C. A copy of the containment and drainage plans that are required in 40 CFR part 112, subparts A through C may be inserted in this section, including any diagrams in those plans.

Note: The general permit for stormwater drainage may contain additional requirements.

* * * * *

1.8.1 Facility Self-Inspection

Under 40 CFR 112.7(e), you must include the written procedures and records of inspections for each facility in the SPCC

Plan. You must include the inspection records for each container, secondary containment, and item of response equipment at the facility. You must cross-reference the records of inspections of each container and secondary containment required by 40 CFR 112.7(e) in the facility response plan. The inspection record of response equipment is a new requirement in this plan. Facility self-inspection requires two-steps: (1) a checklist of things to inspect; and (2) a method of recording the actual inspection and its findings. You must note the date of each inspection. You must keep facility response plan records for five years. You must keep SPCC records for three years.

* * * * *

1.8.1.1. Tank Inspection

The tank inspection checklist presented below has been included as guidance during inspections and monitoring. Similar requirements exist in 40 CFR part 112, subparts A through C. * * *

* * * * *

1.8.1.3 Secondary Containment Inspection

* * * * *

* * * Similar requirements exist in 40 CFR part 112, subparts A through C. * * *

* * * * *

1.10 Security

According to 40 CFR 112.7(g) facilities are required to maintain a certain level of security, as appropriate. * * *

* * * * *

2.1 General Information

* * * * *

(6) North American Industrial Classification System (NAICS) Code: Enter the facility's NAICS code as determined by the Office of Management and Budget (this information may be obtained from public library resources.)

* * * * *

3.0 Acronyms

* * * * *

NAICS: North American Industrial Classification System

* * * * *

Attachments to Appendix F

Attachment F-1—Response Plan Cover Sheet

* * * * *

General Information

* * * * *

North American Industrial Classification System (NAICS) Code:

* * * * *

[FR Doc. 02-16852 Filed 7-16-02; 8:45 am]

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Appendix B
Certificate of Substantial Harm Determination

Certification of the Applicability of the Substantial Harm Criteria

Facility Name: City of Salem Electric Department

Facility Address: 730 West Main Street; Salem, Virginia 24153

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 ground 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 (as calculated using the appropriate formula in Attachment C-III to this appendix or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E to this part, section 10, for availability) and the applicable Area Contingency Plan.
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 (as calculated using the appropriate formula in Attachment C-III to this appendix or a comparable formula) such that a discharge from the facility would shut down a public drinking 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 completed.

Signature

Printed Name

Title

Date

Appendix C
Monthly and Annual Inspection Checklists for Steel ASTs– STI SP001

SPCC Annual Inspection Sheet - City of Salem Electric Department - 730 West Main Street														
Inspection Date (Keep records for 3 years)														
Inspectors Name														
		Tanks Inspected												
Item		55-g Drums Containment Building			55-g Drums in Wash Bay			3,000-g Generator			96-g Hydraulic Oil Reservoir for Elevator			Comments
		Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A	
1	Drainage pipes/valves fit for continued use? Closed? Locked?													
2	Tanks are rusted, pitted, of deteriorated. Evidence of paint failure.													
3	Tank shell distorted, buckling, dented, discolored, or bulging? Corrosion or cracking noted?													
4	Bolts, rivets, or seams are damaged, rusted or cracked?													
5	Grounding strap/wiring secured and in good condition?			X			X						X	
6	Welds are cracked or non-uniform?													
7	Cracking or spalling of concrete pad?									X			X	
8	Tank foundation has eroded or settled?													
9	Water able to drain away from tank?													
10	Tank supports are deteriorated or buckled?													
11	Vents and pressure release devices are obstructed?													
12	Emergency vent operable?													
13	Containment structure is in satisfactory condition/general secondary containment present?													
14	Evidence of coating cracking, peeling, or blistering?													
15	Does the tank liquid sensing device operate as required?													
16	Are overfill prevention devices in proper working condition?													
17	Is the electrical wiring for control boxes/lights in good condition?													
18	Standing water on roof or top of tank?													
19	Holes in roof or top of tank?													
20	Insulation missing?			X			X			X			X	
21	Noticable areas of moisture on the insulation?			X			X			X			X	
22	Mold on the insulation?			X			X			X			X	
23	Damage to insulation?			X			X			X			X	
24	Stripping of surface resin?			X			X			X			X	
25	Subsurface disbonding or other defects in the tank shell or chime area?													
26	Severe surface cracking of Hubs/Flanges, Nozzles, Man-ways, Pipe penetrations (3), on any other penetrations?													
27	Damage to insulation?			X			X			X			X	

Appendix D
General Training Guidelines

GENERAL TRAINING GUIDELINES

Training should be provided for all oil-handling personnel at the following times:

- at system start-up;
- within the first week of employment for new personnel; and
- annually thereafter.

At a minimum, oil-handling personnel must be trained in the following:

1. operation and maintenance of equipment to prevent discharges
2. discharge procedure protocols;
3. applicable pollution control laws, rules and regulations;
4. general facility operations; and
5. the contents of the facility SPCC Plan.

[illegible]

Appendix E

Notification Check-off List, Responsible Personnel and Oil Spill Report

City of Salem Electric Department**Oil Spill Response Procedures**

In the event of oil spill, be **S.M.A.R.T.**

- I.** **S**urvey the area carefully before proceeding, to prevent endangering yourself or your fellow employees. Evacuate the area and adjacent area if needed.

For all spills:

In the event of a spill, contact the following Local and County Emergency Departments, and City of Salem personnel:

City of Salem	Contact
Emergency Management	City of Salem Police Department 911 or (540) 375-3078 City of Salem Fire-EMS Department 911 or (540) 375-3080
Electric Department Contacts	Mr. A.K. Briele, Facility SPCC Coordinator (540) 375-3030 (Office) (540) 815-0408 (Cell) Mr. Mike Salmon, Electric Engineer (540) 375-3030 (Office) (540) 815-0412 (Cell)

- II.** **M**aterial Safety Data Sheets (MSDS) should be reviewed for safety precaution, proper handling, and the necessary personal protective equipment.
- III.** **A**ction must be taken to prevent further release of material. (Use spill pillows or booms to block all nearby sumps, sewers, and drains). Also, a berm may be constructed using absorbents or dirt down gradient of the spill.

- IV. Responsibility:** If there is a petroleum release to the environment (i.e. spilled to the drainage channels), the City of Salem has the responsibility to clean-up the release and report the release to the appropriate regulatory agency. Responsibilities for addressing the petroleum release are identified in the table below:

Individual	Responsibility
Facility Representative	Contact one of the following cleanup contractor for emergency services: Primary Contacts: W.E.L., Inc. 800 Liberty Road NE Roanoke, VA 24012 (540) 561-0735 (Office) (800) 847-2455 (24-Hour Response) LCM Corporation 3321 Shenandoah Avenue NE Roanoke, VA 24017 (540) 344-5583 (Office) (800) 774-5583 (24-Hour Response) Secondary Contact: EEE Consulting, Inc. 201 Church Street, SE Blacksburg, VA 24060 (540) 953-0170 (Office) (540) 798-7900 (Cell) Contact Person: Andy Kassoff The facility is also responsible for contracting with the emergency response cleanup contractor.

Individual	Responsibility
SPCC Site Coordinator	1. Notify the Virginia Department of Emergency Management when: Petroleum is released into and/or observed in the environment. UNLESS: The release is less than 25 gallons, does not reach state waters or cause petroleum sheen on surface water, and the release is cleaned up immediately. Records still must be kept for a period of five years for clean-up of a petroleum release of less than 25 gallons. 2. Notify the National Response Center when: A discharge of oil causes a film, sheen, or discoloration upon the surface of the water or adjoining shorelines or A discharge causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines. The National Response Center will notify the Coast Guard and the EPA if required. 3. Notify the Virginia Department of Environmental Quality (DEQ) when: If either of the above agencies is contacted, the DEQ should also be contacted to relay release and response information, as well as discuss additional reporting or documentation they may require. 4. Checklist and Report Forms Attached are the following forms to assist the Hazardous Material Coordinator in reporting the oil spill to the necessary regulatory agencies. ▪ Notification Check-Off List ▪ Oil Spill Report for regulatory agencies

- V. **T**ime is critical. Quick actions taken as soon as a spill is discovered can prevent a major release and clean-up. Time is also critical for reporting oil spills and getting the necessary help. Do not waste time getting every detail before you call.

NOTIFICATION CHECK-OFF LIST

AGENCY	<u>DATE</u> <u>TIME</u>	CONTACT NAME
Spill Response Contractor - W.E.L., Inc. (540) 561-0735 (Office) (800) 847-2455 (24-Hour Response)	_____	_____
Virginia Department of Emergency Management (800) 468-8892 (24-hour)	_____	_____
National Response Center (800) 424-8802 (24-hour)	_____	_____
Virginia Department of Environmental Quality BRRO - Roanoke Office (540) 562-6700	_____	_____
City of Salem Fire-EMS Department 911 or (540) 375-3080	_____	_____
City of Salem Police Department 911 or (540) 375-3078	_____	_____

OIL SPILL REPORT

Write out report before calling the regulatory agency and READ it to the person receiving your call.

I am reporting an oil spill on behalf of the City of Salem Electric Department located at 730 West Main Street in Salem, Virginia.

My name is: _____

The spill occurred at (location, date, time): _____

I estimate the quantity of the spill to be (gallons or barrels and type of oil): _____

Source of the discharge: _____

Description of the affected media (i.e. soil, storm-water, river): _____

Cause of the discharge: _____

Damages or injuries caused by the discharge: _____

Actions being used to stop, remove, and mitigate the effects of the discharge: _____

Was an evacuation of the area required? _____

Name of person who completed report: _____

List below any further discussion other than the message you read to them (use reverse side if more space is needed.)

Appendix F
Accidental Release Reporting Form

**Accidental Oil Release Form
City of Salem Electric Department**

Reporter Name:	
Position:	
Type of Material Discharged:	
Quantity of Material Discharged:	
<u>Incident Description</u>	
Date:	
Time:	
Container Involved:	
Any Material Released Off-site?:	
Any Damages?:	
Actions Taken to Mitigate Release:	
Comments:	

Amendment to the Spill Prevention, Control, and Countermeasures Plan

**City of Salem Electric Department
Wortham Street Substation
40 Wortham Street
Salem, Virginia**

Prepared for:

City of Salem Electric Department
730 West Main Street
Salem, Virginia 24153

Prepared by:

EEE Consulting, Inc.
201 Church Street, S.E.
Blacksburg, VA 24060
(540) 953-0170
Project: 13-772

October 2013

AMENDMENT TO THE SPCC PLAN

Facility Name: City of Salem Electric Department
Worham Street Substation
40 Worham Street
Salem, VA 24153

A. Amendment [40 CFR 112.5(a)]

The Spill Prevention, Control, and Countermeasure (SPCC) Plan shall be amended whenever there is a change in the facility design, construction, operation or maintenance that materially affects its potential for a discharge as described in 40 CFR 112.1(b). The amendment shall be prepared within six months and implemented as soon as possible but not later than six months following preparation.

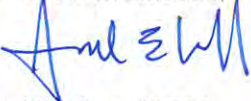
B. Certification [40 CFR 112.5(c)(3)]

If this plan requires amendment and the required amendment is a technical amendment, a Professional Engineer must certify the technical amendment in accordance with 40 CFR 112.3(d) and 40 CFR 112.5(c).

CERTIFICATION:

I hereby certify that the following technical amendments to the SPCC Plan prepared for the Worham Street Substation have been prepared in accordance with good engineering practices, including consideration of applicable industry standards, and with the requirements of the SPCC rule. Procedures for the required inspections and testing have been established and the plan is adequate for the facility.

Engineer: Andrew E. Kassoff, PE

Signature: 

Registration Number: 43711

State Registered: Virginia

Firm: EEE Consulting, Inc.

Address: 201 East Church Street, Suite C

City: Blacksburg State: VA Zip: 24060

Phone: 540-953-0170



The following amendments reflect changes in the following Sections of the original SPCC Plan dated February 13, 2004.

AMENDMENT No. 1

Page 1, Section 2.1: General Facility Information

The following amendment adds an additional point of contact for the City of Salem – Wortham Street Substation

Point of Contact – Assistant SPCC Coordinator:

Mr. Mike Salmon – Electrical Engineer
Phone Number (Office): (540)-375-3030
Phone Number (Cell): (540)-815-0412

AMENDMENT No. 2

Page 3, Section 4.1.1: Dielectric Oil Storage

The original plan identifies four (4) oil-filled circuit breakers as the regulated oil storage containers at the facility. The circuit breakers contain dielectric mineral oil that provides additional electrical insulation as well as cooling to prevent the equipment from overheating. **Table 1**, included as an attachment to the 2004 SPCC Plan, identifies the storage of the belly tank for the oil-filled operational equipment as 330-gallons per unit.

Site reconnaissance for the 2013 update indicates the following oil storage capacities for the four (4) circuit breakers and associated appurtenances:

- ❖ The name plate for each circuit breaker is listed as having a dielectric oil storage capacity of 372-gallons.

Table 1 – Spill Scenario and Volume (on the following page) was updated to:

1. Accurately depict the volume and number of the Aboveground Storage Tanks (ASTs) in each circuit breaker,
2. Adjust the maximum potential oil discharges based on the updated AST/ circuit breaker oil storage capacities and;
3. Provide additional details on the potential spill pathways in the event of a release of oil at the facility.

TABLE 1 Spill Scenario and Volume Wortham Street Substation						
Equipment	Tank Capacity (gallons)	Secondary Containment	Tank Type/Description	*Maximum Anticipated Discharge (gallons)	Spill Route	Response Action
Circuit Breaker 1	372	Concrete Integral Containment Dike	Aboveground (oil-filled circuit breakers providing insulation for power distribution)	75	An uncontained spill would sheet flow to the north as shown in attached Figure 1. Two (2) earthen drainage ditches border the facility to the north. The drainage ditches discharge to two (2) drop inlets on both sides of Wortham Street. The drop inlets drain to the stormwater system maintained by the City of Salem.	Contain spilled material with petroleum absorbents/earthen berms. Prevent all released oil from entering the stormwater drainage system
Circuit Breaker 2	372	Concrete Integral Containment Dike	Aboveground (oil-filled circuit breakers providing insulation for power distribution)	75		
Circuit Breaker 3	372	Concrete Integral Containment Dike	Aboveground (oil-filled circuit breakers providing insulation for power distribution)	75		
Circuit Breaker 4	372	Concrete Integral Containment Dike	Aboveground (oil-filled circuit breakers providing insulation for power distribution)	75		

*Based on release of all dielectric oil from a circuit breaker and 20% of oil "sloshing" outside the containment structure.

AMENDMENT No. 3

Page 3, Section 4.1.2: Secondary Containment

The following amendment updates the condition of the concrete curbing and clarifies the containment requirements of oil-filled operational equipment as defined in the SPCC Rule:

The four (4) circuit breakers, including all oil storage and piping, are contained within secondary containment structures that consist of a concrete slab under and around each circuit breaker with a 10-inch high concrete curb. Any accumulated liquid within the containment dike(s) drains into a pre-cast concrete vault via subsurface piping. The pre-cast concrete vault collects rainwater and potential oil discharge from all four (4) containment structures.

In 2004, the concrete curbing was installed to the pre-existing concrete slabs to provide specifically-sized secondary containment for the oil-filled operational equipment. Wooden planks were utilized to form the concrete curbing, and several of the forms were apparently left in place after construction of the curbing. It appears that the wooden forms have absorbed moisture and expanded in size, resulting in cracking and spalling to select sections of the concrete curbing and/or slab as follows:

- ❖ Two (2) sections of the curbing for Circuit Breaker #3 contained cracks and spalled sections of concrete. Minor cracks were also noted localized to the northern portion in the concrete floor of the containment pad.

The cracked and/or spalled sections of concrete for the containment system for Circuit Breaker #3 are depicted on **Figure 1**. Please note that these sections have the potential to materially affect the ability of that particular system to be sufficiently impervious to oil.

Per the SPCC Rule, the single-walled steel, dielectric oil ASTs associated with the circuit breakers are considered oil-filled operational equipment because the oil stored is solely used to support the function of the apparatus or device. Oil-filled operational equipment is not considered a bulk oil storage container per 40 CFR 112.2 and does not have to comply with specific requirements as described under 40 CFR 112.8 (c), 112.9(c), and 112.12(c). Examples of these requirements include (but are not limited to) secondary containment, fail safe engineering (such as high level alarms), and testing. However, oil filled equipment must meet the general requirements of 40 CFR 112.7.

Because the dielectric oil ASTs at the facility are considered oil-filled operational equipment, general secondary containment measures apply. Each specifically-sized, containment system for the applicable regulated oil storage containers is designed to retain the storage capacity of the single-largest, dielectric oil tank. The containment systems for Circuit Breaker #1, Circuit Breaker #2, and Circuit Breaker #4 are in good condition and sufficiently impervious to oil. Thus, they meet/exceed the applicable containment requirements of the SPCC Rule.

As previously noted, the containment system for Circuit Breaker #3 contained cracked and/or spalled sections of concrete that could materially affect their ability to be sufficiently impervious to oil. Compliance options to ensure adequate secondary containment for the regulated oil storage containers staged at these locations is as follows:

1. Per 40 CFR 112.7, general secondary containment measures apply to oil-filled operational equipment, which must be capable of addressing the most likely discharge scenario(s). An overpack spill kit with an adequate supply of spill response materials (i.e. pads, booms, pillows, granular absorbent, etc.) could be staged proximate to Circuit Breaker #3 to address the most likely discharge scenario(s), which is a release from a leaking valve/fitting or during dielectric oil transfer events during routine maintenance.
2. In lieu of implementing general secondary containment measures, the City of Salem may elect to repair the compromised sections of concrete with hydraulic cement to ensure that they are sufficiently impervious to oil. Subsequently, the replaced or repaired sections should be lined with an epoxy sealant that is compatible with concrete and outdoor applications.

Please note that either option is acceptable to ensure SPCC compliance. However; upon implementation, the selected option should be reviewed by a Virginia-licensed Professional Engineer to ensure compliance with the applicable requirements of the SPCC Rule.

AMENDMENT No. 4

Pages 6 and 7, Section 5.1: Inspection and Maintenance

The original Plan describes the procedure for monthly routine inspections of the ASTs and discharge requirements for liquids present in the concrete vault(s) for the secondary containment system(s). The following language clarifies the discharge procedures for the containment vaults.

The containment vault is equipped with a telemetric high level alarm that remotely alerts City of Salem personnel when approximately 1.0-feet of liquid collects in the vault. When responding to a high water level alarm, the designated person will visually inspect the liquid in the vault and

containment area for signs of oil. If no oil is observed, the suction lift pump will be manually started to discharge the collected water in the containment vault to the ground surface. If oil is encountered during the vault inspection, the designated person **will not** engage the pump. The designated person will instead determine the source of oil, and handle and dispose of the oil in compliance with all applicable local, state, and federal regulations. The facility SPCC Coordinator (the Electric Department Director) will be notified immediately to ensure that the clean-up is completed per SPCC guidelines. The SPCC Coordinator will also determine if the spill is reportable to applicable state and federal agencies as described in **Section 7.3** of the original Plan.

The 2004 SPCC Plan contained a Monthly Inspection Form in Appendix B. The subject form listed line items for inspecting and documenting the discharge of liquids that had accumulated in the containment system vault. Discharge events typically occur during or following precipitation events, which may occur more frequently than once a month depending on seasonal variations. The Dike Drainage Log (included as **Attachment 1**) will replace the drainage line items on the 2004 Form to clarify the procedures required prior to engaging the pumps. A drainage log record will be filled every time precipitation is discharged from the containment vault.

AMENDMENT No. 5

Page 7, Section 5.1: Inspection and Maintenance

The Environmental Protection Agency (EPA) believes that it is good engineering practice to have some form of visual inspection or monitoring for oil-filled equipment to prevent discharges as described in 40 CFR 112.1(b). The SPCC regulations require preventative maintenance of all oil handling equipment on an as needed basis and according to recommended practices. The integrity testing requirement of the SPCC Rule can be complied with by following an industry standard such as the Steel Tank Institute (STI) Standard SP001.

Per STI-SP001, all oil storage containers equal to or greater than 55-gallons must be inspected on a monthly and annual basis in accordance with the integrity testing requirements. The outside of the container(s) must be frequently inspected for signs of deterioration, and discharges. Records of the inspections and tests must be maintained at the facility. Blank copies of the monthly and annual facility inspection checklists for all oil storage containers are included in **Attachment 2**. Completed inspection checklists will be maintained on file in the Main Facility Building located at 730 West Main Street in Salem, Virginia. The monthly and annual inspection checklists must be retained along with the SPCC Plan for this facility for a minimum of three (3) years.

The SP001 Standard prescribes a testing procedure involving monthly and annual visual inspections, combined with potential periodic non-destructive testing following a schedule based on tank size, tank age, release detection methods, and presence of a release prevention barrier. In accordance with STI-SP001, the dielectric oil belly tanks for all four circuit breakers are considered Category 1 ASTs because they have spill control (i.e. the tanks have secondary containment structures) and a continual release detection method (CRDM). The STI-SP001 inspection requirements for Category 1 ASTs that are between 0- and 5,000-gallons are as follows:

- ❖ Monthly and annual visual inspections by facility personnel that are trained in oil handling procedures and familiar with the AST and associated components.

The periodic inspections are conducted and documented by facility personnel in accordance with **Section 6.0** of STI-SP001. Inspection personnel are knowledgeable of the City of Salem Electric Department storage operations, the ASTs and their associated components, and characteristics of the liquids stored (dielectric oil). Monthly inspections focus on structural integrity of the tank walls and bottom and the integrity of the tank foundation, secondary containment, piping and anchor bolts. Annual inspections of the ASTs will also be performed by facility personnel. Annual inspections will generally focus on similar action items included in the monthly checklist; however, a more rigorous visual inspection will be conducted on the tanks and associated appurtenances to ensure the system is suitable for continued service.

AMENDMENT No. 6

Page 11, Section 8.0: Plan Review and Amendment

The following action items must be implemented within six (6) months of the PE certified date of this plan to ensure compliance with SPCC Rule.

- ❖ As previously noted, the containment system for Circuit Breaker #3 contained cracked and/or spalled sections of concrete that could materially affect its ability to be sufficiently impervious to oil. Compliance options to ensure adequate secondary containment for the regulated oil storage containers staged at these locations is as follows:
 1. Per 40 CFR 112.7, general secondary containment measures apply to oil-filled operational equipment, which must be capable of addressing the most likely discharge scenario(s). An overpack spill kit with an adequate supply of spill response materials (i.e. pads, booms, pillows, granular absorbent, etc.) could be staged proximate to Circuit Breaker #3 to address the most likely discharge scenario(s), which is a release from a leaking valve/fitting or during dielectric oil transfer events during routine maintenance.
 2. In lieu of implementing general secondary containment measures, the City of Salem may elect to repair the compromised sections of concrete with hydraulic cement to ensure that they are sufficiently impervious to oil. Subsequently, the replaced or repaired sections should be lined with an epoxy sealant that is compatible with concrete and outdoor applications.

Please note that either option is acceptable to ensure SPCC compliance. However; upon implementation, the selected option should be reviewed by a Virginia-licensed Professional Engineer to ensure compliance with the applicable requirements of the SPCC Rule.

- ❖ A record of water discharge from the containment vault is to be noted on the Dike Drainage Log that is included as **Attachment 1**. This log will replace the dike drainage line items provided on the 2004 Inspection Form.
- ❖ Conduct and document monthly and annual inspections in accordance with the requirements of 40 CFR Part 112 and STI-Standard SP001. Blank copies of updated monthly and annual facility inspection checklists for steel containers (fixed and portable) are included in **Attachment 2**. Maintain all inspection forms with the SPCC Plan for a minimum of three years.

- ❖ Conduct annual SPCC training for maintenance personnel who are authorized to handle oil as noted in **Section 6.0** of the original Plan.

AMENDMENT No. 7

Figure 1

The following amendment reflects revisions to **Figure 1**, which was updated to:

- ❖ Clearly predict potential surface drainage in the event of a release from the dielectric oil filled circuit breakers.
- ❖ Depict the locations of significant cracking in the containment structures for Circuit Breaker #3.
- ❖ Update the exiting Legend to better illustrate the location of the ASTs, drop inlets, and earthen ditches at the facility.

Attachment 1

Dike Drainage Log

RECORD OF DIKE DRAINAGE
City of Salem Electric Department – Wortham Street Substation

Instructions: This record will be completed by responsible personnel when rainwater collects in the secondary containment vault for the four (4) 372-gallon circuit breakers. After inspecting for the presence of product or a sheen, collected water is authorized to be discharged directly to the ground surface using the lift pump. **DO NOT** discharge water if a sheen or standing oil is present. Attempt to absorb any pooled oil or sheen using absorbent pads and contact the facility SPCC Coordinator immediately.

Reason for Drainage (i.e. High Level Alarm, Routine Maintenance)	Date	Presence of Oily Sheen in Containment Vault? (Y/N)	Any Oil Seen Leaking from the Equipment or Accessories? (Y/N)	Time Started	Time Finished	Signature

Note: Provide copy to the Facility SPCC Coordinator

Attachment 2

Monthly and Annual Inspection Checklists

SPCC Monthly Inspection Sheet - Wortham Street Substation

Inspection Date (Keep records for 3 years)														
Inspector's Name														
		Tanks Inspected												
Item		372-g Belly Tank for Circuit Breaker No. 1			372-g Belly Tank for Circuit Breaker No. 2			372-g Belly Tank for Circuit Breaker No. 3			372-g Belly Tank for Circuit Breaker No. 4			Comments
		Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A	
1	Signs of leakage around the tank/ equipment pad?													
2	Are there any cracks in the pad or the concrete walls?													
3	Valves, pipes, lines or hoses leaking or deteriorated?													
4	Drain valves operable and closed when not in use?													
6	Tank openings properly sealed?													
7	Liquids accumulated in secondary containment, interstice, or spill container?													
8	Debris or fire hazard in containment?													
9	Containment egress pathways clear?													
10	Are there other conditions that should be addressed for continued safe operation or that may affect the site SPCC Plan?													

SPCC Annual Inspection Sheet - Wortham Street Substation															
Inspection Date (Keep records for 3 years)															
Inspectors Name															
		Tanks Inspected													
Item		372-g Belly Tank for Circuit Breaker No. 1			372-g Belly Tank for Circuit Breaker No. 2			372-g Belly Tank for Circuit Breaker No. 3			372-g Belly Tank for Circuit Breaker No. 4			Comments	
		Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A		
1	Drainage pipes/valves fit for continued use? Closed? Locked?														
2	Tanks are rusted, pitted, of deteriorated. Evidence of paint failure.														
3	Tank shell distorted, buckling, dented, discolored, or bulging? Corrosion or cracking noted?														
4	Bolts, rivets, or seams are damaged, rusted or cracked?														
5	Grounding strap/wiring secured and in good condition?			X			X			X			X		
6	Welds are cracked or non-uniform?														
7	Cracking or spalling of concrete pad?														
8	Tank foundation has eroded or settled?														
9	Water able to drain away from tank?														
10	Tank supports are deteriorated or buckled?														
11	Vents and pressure release devices are obstructed?														
12	Emergency vent operable?			X			X			X			X		
13	Containment structure is in satisfactory condition/general secondary containment present?														
14	Evidence of coating cracking, peeling, or blistering?														
15	Does the tank liquid sensing device operate as required?														
16	Are overfill prevention devices in proper working condition?														
17	Is the electrical wiring for control boxes/lights in good condition?														
18	Standing water on roof or top of tank?														
19	Holes in roof or top of tank?														
20	Insulation missing?			X			X			X			X		
21	Noticable areas of moisture on the insulation?			X			X			X			X		
22	Mold on the insulation?			X			X			X			X		
23	Damage to insulation?			X			X			X			X		
24	Stripping of surface resin?			X			X			X			X		
25	Subsurface disbonding or other defects in the tank shell or chime area?														
26	Severe surface cracking of Hubs/Flanges, Nozzles, Man-ways, Pipe penetrations (3), on any other penetrations?														
27	Damage to insulation?			X			X			X			X		