SPILL PREVENTION, CONTROL, & COUNTERMEASURE (SPCC) PLAN

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SPCC Laws & Regulations

- The SPCC or oil pollution prevention regulations can be found in 40 CFR Part 112.
- The oil pollution prevention regulations apply to any facility engaged in drilling, producing, gathering, ***storing***, processing, refining, ***transferring***, ***distributing***, ***using***, or ***consuming*** oil and oil products (including fuels).
- A facility that meets the above description and has total aboveground storage capacity greater than 1,320 gallons or total underground storage capacity greater that 42,000 gallons is required to develop and implement a SPCC Plan.

SPCC Purpose

The purpose of an SPCC Plan is to form a comprehensive spill prevention program that minimizes the potential for oil discharges to the environment.

SPCC Training Requirements

In accordance with 40 CFR 112.7(f), at a minimum, oil-handling personnel must be trained in the following:

- 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.

SPCC Regulated Equipment

- ❑ Bulk Oil Storage Containers
- ❑ Mobile Oil Containers
- ❑ Oil-Filled Operational Equipment
- ❑ Loading/Unloading Rack
- ❑ Transfer Areas

Bulk Oil Storage Containers

- Bulk oil storage containers (≥ 55 gallons), including mobile or portable containers (e.g., drums, totes, etc.), require specific provisions and must be equipped with adequate secondary containment sized to contain the largest single oil container plus sufficient freeboard to contain precipitation, if necessary.

- Two types of secondary containment:
  - Passive Containment
  - Active Containment

Passive Containment

Passive Containment examples are provided below:

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

Active Containment

Active containment measures are those that require deployment or other specific action by the owner or operator. These measures may be deployed either before the start of an activity involving the handling of oil, or in reaction to a discharge, so long as the active measure is designed to prevent an oil spill from reaching navigable water or adjoining shorelines. Examples are provided below:

- Placing a storm drain cover over a drain in reaction to a discharge
- Using spill kits in the event of an oil discharge
- Use of spill response capability (spill response teams) in the event of an oil discharge

BULK OIL STORAGE TANK IN SECONDARY CONTAINMENT

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PORTABLE OIL CONTAINERS (E.G., DRUMS AND TOTES) IN SECONDARY CONTAINMENT

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Oil-Filled Operational Equipment

- Oil-filled operational equipment is equipment that includes an oil storage container (or multiple containers) where oil is present solely to support the function of the apparatus or device (e.g., hydraulic systems, transformers, etc.).
- The owner or operator of a facility with oil-filled operational equipment that meets the specific qualification criteria of §112.7(k)(1), which includes no single discharge from any oil-filled operational equipment exceeding 1,000 U.S. gallons and no two discharges from any oil-filled operational equipment each exceeding 42 U.S. gallons within any twelve-month period in the three years prior to the SPCC Plan certification date, may choose to implement the alternate requirements for qualified oil-filled operational equipment in lieu of the general secondary containment.

Oil-Filled Operational Equipment

- The alternative requirements include establishing and documenting facility procedures for inspections or use of a monitoring program to detect equipment failure and/or a discharge and providing in the SPCC Plan an oil spill contingency plan and a written commitment of manpower.

Oil-Filled Operational Equipment (e.g., Hydraulic Units)

Oil-Filled Operational Equipment (e.g., Transfomers)

Transfer Areas
(those not associated with loading/unloading rack)

- A transfer area is any area of a facility where oil is transferred between bulk storage containers and tank trucks or railroad cars.
- Transfer areas must comply with the general secondary containment requirements in 40 CFR 112.7(c), which require the typical failure mode and the most likely quantity of oil that would be discharged to be considered when determining the method, design, and capacity.
- Active or passive containment measures can be implemented to control discharges from these types of operations.

Transfer Areas
(those not associated with loading/unloading rack)

SPCC Plan Contents

- General Applicability
- Requirements to Prepare and Implement a SPCC Plan
- SPCC Plan Amendment Requirements
- SPCC Plan General Requirements
  - Facility Description, Layout, Oil Storage
  - Discharge Prevention Measures, Controls & Countermeasures
  - Discharge Notification and Contingency Plan
  - Containment and/or Diversionary Structures
  - Inspections, Testing, & Recordkeeping
  - Training
  - Security
  - Facility Drainage
  - Bulk Storage Containers
  - Facility Storage and Operations

SPCC Plan Contents

General Applicability

- Is your facility involved in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products (including fuels)?

- Does your facility have the capacity to store more than 1,320 gallons of oil and oil products in aboveground containers (when considering only containers > 55 gallons) or does your facility have completely buried storage capacity of > 42,000 gallons?

- If these criteria are true, then the facility is subject to the SPCC regulations in 40 CFR Part 112 and must develop and maintain a SPCC Plan.

SPCC Plan Contents

Requirements to Prepare and Implement a SPCC Plan

- A facility subject to 40 CFR Part 112 must prepare a SPCC Plan in writing, and in accordance with §112.7.
- A licensed Professional Engineer is required to prepare, review, and certify most SPCC Plans.
- Facility management must sign the Plan stating that adequate resources will be provided to control and remove discharged oil and oil products in an environmentally safe manner and as required by the regulations.

SPCC Plan Contents

SPCC Plan Amendment Requirements

- For oil releases of more than 1,000 gallons in a single discharge or two (2) discharges of more than 42 gallons each within any twelve (12) month period, the facility is required to amend the Plan and submit the following information to EPA within 60 days of the release:
  - Facility Name, Description, and Location
  - Oil Storage Capacity
  - Cause of Discharge, Corrective Actions and Countermeasures Taken
  - Preventive Measures to Minimize Recurrence

SPCC Plan Contents

SPCC Plan Amendment Requirements (continued)

- The facility is also required to amend the Plan when there is a change in the facility's design, construction, operation, or maintenance that affects the potential for an oil discharge.

- Examples of changes that may require a Plan amendment include, but are not limited to:

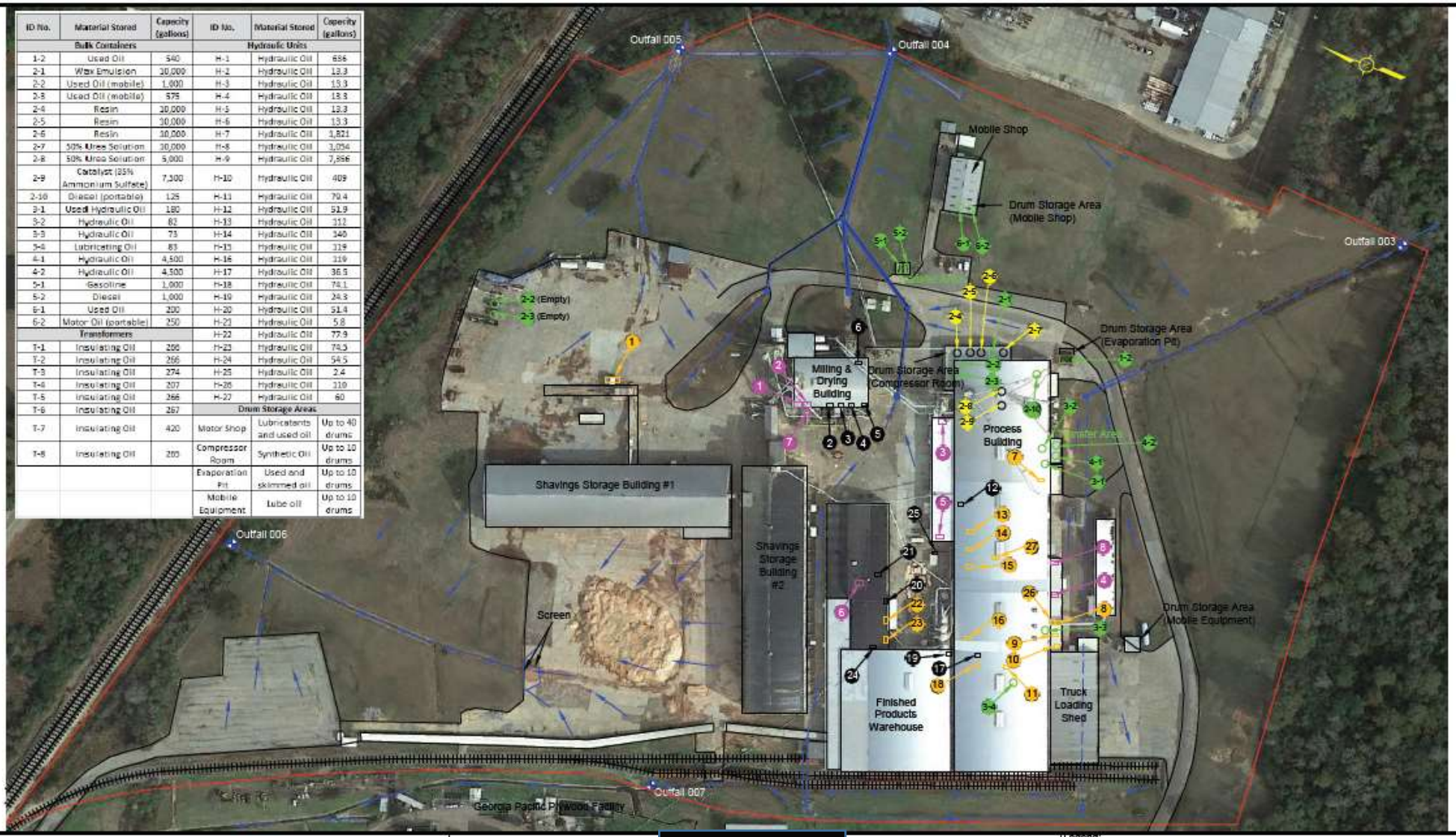
  Commissioning or decommissioning containers; replacement, reconstruction, or movement of containers; reconstruction, replacement or installation of piping systems; construction or demolition that might alter secondary containment structures; changes of product or service; or revision of standard operation or maintenance procedures at a facility.

SPCC Plan Contents

Facility Description, Layout, Oil Storage

- The SPCC Plan must provide a description of the facility, locations of oil storage areas, and a description of oil storage capabilities.
- The following slides show an example of a Facility Diagram and the Facility Oil Storage Table.

ID No.	Material Stored	Capacity (gallons)	ID No.	Material Stored	Capacity (gallons)
	Bulk Containers			**Hydraulic Units**	
1-2	Used Oil	540	H-1	Hydraulic Oil	686
2-1	Wax Emulsion	30,000	H-2	Hydraulic Oil	13.3
2-2	Used Oil (mobile)	1,000	H-3	Hydraulic Oil	13.3
2-3	Used Oil (mobile)	575	H-4	Hydraulic Oil	13.3
2-4	Resin	30,000	H-5	Hydraulic Oil	13.3
2-5	Resin	30,000	H-6	Hydraulic Oil	13.3
2-6	Resin	30,000	H-7	Hydraulic Oil	1,821
2-7	50% Urea Solution	30,000	H-8	Hydraulic Oil	1,054
2-8	50% Urea Solution	5,000	H-9	Hydraulic Oil	7,866
2-9	Catalyst (25% Ammonium Sulfate)	7,300	H-10	Hydraulic Oil	409
2-10	Diesel (portable)	125	H-11	Hydraulic Oil	79.4
3-1	Used Hydraulic Oil	180	H-12	Hydraulic Oil	51.9
3-2	Hydraulic Oil	82	H-13	Hydraulic Oil	312
3-3	Hydraulic Oil	73	H-14	Hydraulic Oil	340
3-4	Lubricating Oil	83	H-15	Hydraulic Oil	319
4-1	Hydraulic Oil	4,500	H-16	Hydraulic Oil	319
4-2	Hydraulic Oil	4,500	H-17	Hydraulic Oil	36.5
5-1	Gasoline	1,000	H-18	Hydraulic Oil	74.1
5-2	Diesel	1,000	H-19	Hydraulic Oil	24.3
6-1	Used Oil	200	H-20	Hydraulic Oil	51.4
6-2	Motor Oil (portable)	250	H-21	Hydraulic Oil	5.8
	Transformers		H-22	Hydraulic Oil	77.9
T-1	Insulating Oil	266	H-23	Hydraulic Oil	74.3
T-2	Insulating Oil	266	H-24	Hydraulic Oil	54.5
T-3	Insulating Oil	274	H-25	Hydraulic Oil	2.4
T-4	Insulating Oil	207	H-26	Hydraulic Oil	110
T-5	Insulating Oil	266	H-27	Hydraulic Oil	60
T-6	Insulating Oil	267		**Drum Storage Areas**	
T-7	Insulating Oil	420	Motor Shop	Lubricatents and used oil	Up to 40 drums
T-8	Insulating Oil	266	Compressor Room	Synthetic Oil	Up to 10 drums
			Evaporation Pit	Used and skimmed oil	Up to 10 drums
			Mobile Equipment	Lube oil	Up to 10 drums



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[redacted]

Facility Diagram

Appendix C | Project No.: N/A

Legend:
- Storm Water Outfall
- Storm Water Flow
- Underground Flow
- Property Boundary
- Concrete Culvert
- Hydraulic Units
- Non-Oil Storage Containers
- Transformers
- Bulk Oil Storage Containers
- Units Under 55 Gallons Of Oil

Scale: NTS
Drawn By: CAJ | Date: 11/14/2018

FACILITY OIL STORAGE

Oil Storage Information						Equipment Failure Predictions				Secondary Containment Information[1]		
ID No.	Description	Container Capacity (gallons)	Material Stored	Container Material	Overfill Protection[2]	Potential Event	Potential Discharge Volume (gallons)	Flow Direction	Maximum Rate (gal/min)[3]	Material	Dimensions (L x W x H)	Volume (gallons)
Bulk Storage Containers												
1	Engine Oil Storage Tank	15,000	Engine Oil	Steel	HLL-A, DAS	Rupture, leak, or overfill	15,000	West to Basin 1	Rupture – 500 Leak – <1 Overfill – 100	Formed concrete containment	60'x48'x4'	86,169
2	VPA/Glycol Storage Tank	1,500	VPA/ Glycol	Steel	HLL-V, DAS	Rupture, leak, or overfill	1,500	West to Basin 1	Rupture – 50 Leak – <1 Overfill – 100	Formed concrete containment	60'x48'x4'	86,169
3	Diesel Fuel Storage Tank	15,000	Diesel	Steel	HLL-A, DAS	Rupture, leak, or overfill	15,000	West to Basin 1	Rupture – 500 Leak – <1 Overfill – 100	Formed concrete containment	60'x48'x4'	86,169
4	VPA/Glycol Storage Tank	1,500	VPA/ Glycol	Steel	HLL-V, DAS	Rupture, leak, or overfill	1,500	West to Basin 1	Rupture – 50 Leak – <1 Overfill – 100	Formed concrete containment	60'x48'x4'	86,169
5	Engine Oil Storage Tank	9,000	Engine Oil	Steel	HLL-A, DAS	Rupture, leak, or overfill	9,000	West to Basin 1	Rupture – 300 Leak – <1 Overfill – 100	Formed concrete containment	60'x48'x4'	86,169
6-7	(2) Motor Oil Day Tanks	60 (each)	Motor Oil	Steel	DAS	Rupture, leak, or overfill	60	West to Basin 1	Rupture – 2 Leak – <1 Overfill – <20	Pre-fabricated spill pallet or pan	N/A	75
8-9	Oil and Transmissio	275 (each)	Oil/ Transmissi on Fluid	Plastic/ Steel	DAS	Rupture, leak, or overfill	275	West to Basin 1	Rupture – 9 Leak – <1	Pre-fabricated	N/A	360

FACILITY OIL STORAGE

Oil Storage Information						Equipment Failure Predictions				Secondary Containment Information[1]		
ID No.	Description	Container Capacity (gallons)	Material Stored	Container Material	Overfill Protection[2]	Potential Event	Potential Discharge Volume (gallons)	Flow Direction	Maximum Rate (gal/min)[3]	Material	Dimensions (L x W x H)	Volume (gallons)
31	Standby Generator (500 kw)	800	Diesel	Steel	DAS	Rupture, leak, or overfill	800	North to Basin 2	Rupture – 27 Leak – <1 Overfill – <20	Steel	Double-walled	>800
32	Emergency Generator (15 kw)	100	Diesel	Steel	DAS	Rupture, leak, or overfill	100	North to Basin 3	Rupture – 3 Leak – <1 Overfill – <20	Steel	Double-walled	>100
33	Diesel Fire Pump (179 kw)	300	Diesel	Steel	DAS	Rupture, leak, or overfill	300	West to Basin 1	Rupture – 10 Leak – <1 Overfill – <20	Steel	Double-walled	>300
Oil-Filled Operational Equipment												
34-52	(19) Hydraulic Oil Tanks	350 (each)	Hydraulic Oil	Steel	DAS	Rupture, leak, or overfill	350	East to Basin 3	Rupture – 12 Leak – <1 Overfill – <20	N/A[4]		
53-81	(29) Hydraulic Oil Tanks	350 (each)	Hydraulic Oil	Steel	DAS	Rupture, leak, or overfill	350	East to Basin 3	Rupture – 12 Leak – <1 Overfill – <20	N/A[4]		
82	Yard Spotting Truck	150	Diesel	Steel	DAS	Rupture, leak, or overfill	150	Varies based on use	Rupture – 5 Leak – <1 Overfill – <20	N/A[4]		

FACILITY OIL STORAGE

Oil Storage Information						Equipment Failure Predictions				Secondary Containment Information[1]		
ID No.	Description	Container Capacity (gallons)	Material Stored	Container Material	Overfill Protection[2]	Potential Event	Potential Discharge Volume (gallons)	Flow Direction	Maximum Rate (gal/min)[3]	Material	Dimensions (L x W x H)	Volume (gallons)
Transformers												
83	Pad-Mounted Transformer	~100	Envirotemp FR3	Steel	DAS	Rupture, leak, or overfill	~100	West to Basin 1	Rupture – 3 Leak – <1 Overfill – <20	N/A[4]		
84	Pad-Mounted Transformer	~100	Envirotemp FR3	Steel	DAS	Rupture, leak, or overfill	~100	West to Basin 1	Rupture – 3 Leak – <1 Overfill – <20	N/A[4]		
85	Pad-Mounted Transformer	~100	Envirotemp FR3	Steel	DAS	Rupture, leak, or overfill	~100	North to Basin 2	Rupture – 3 Leak – <1 Overfill – <20	N/A[4]		
Transfer Areas (Non-Loading Rack)												
86	Tank Farm Unloading Area	N/A	N/A	N/A	N/A	Rupture, leak, or overfill	~9,000	West to Basin 1	Rupture – 300 Leak – <1 Overfill – 100	Formed concrete quick drainage system	60'x16'x0.5'	3,590 (plus 86,169)

1. Containment capacities are approximated (displacement of tanks and pads considered unless negligible).
2. Abbreviations as follows: N/A – Not Applicable, AST – Aboveground Storage Tank, UST – Underground Storage Tank, DW – Double Wall, HLL-A – High Liquid Level Alarm (Audible), HLL-V High Liquid Level Alarm (Visual), AAV – Audible Air Vent, HLLP CO – High Liquid Level Pump Cutoff device, DAS – Direct Audible Signal, CCS = Computer Control System.
3. Maximum release rate is assumed to be one (1) gallon per minute (gpm) for a leak, based on pump rate for overfill, and based on the capacity of the largest container released over a thirty (30) minute time period for a rupture.
4. Secondary containment structures for qualified oil-filled operational equipment and transformers are not required as long as manpower is available and contingency plan is provided.
5. Spill kit locations are provided in Figure 3.

Tank Integrity Inspection and Testing

- Tank integrity testing and/or inspections for bulk storage tanks is required by the regulation and should be conducted for all bulk containers in accordance with the Steel Tank Institute's (STI) Standard for the Inspection of Aboveground Storage Tanks (SP001) or other applicable standards and guidelines (e.g., API 653).

- All tank integrity testing and/or inspections shall be completed by a certified inspector.

Steel Tank Institute (STI) Example Requirements

TANK INSPECTION TYPE AND FREQUENCY				
TANK TYPE AND SIZE (GALLONS)		CATEGORY 1	CATEGORY 2	CATEGORY 3
PORTABLE CONTAINERS		P	P	P
Shop-fabricated ASTs	0 – 1,100	P	P	P, E&L (10)
	1,101 – 5,000	P	P, E&L (10)	P, E&L (5), I (10) or P, L (2), E (5)
	*5,001 – 30,000	P, E (20)	P, E (10), I (20) or P, E (5), L (10)	P, E&L (5), I (10) or P, L (1), E (5)
	30,001 – 50,000	P, E (20)	P, E&L (5), I (10)	P, E&L (5), I (10)
Field-erected ASTs	N/A	P, E(5), **I(10)	P, E&L (5), **I(10)	P, E&L (5), **I(10)

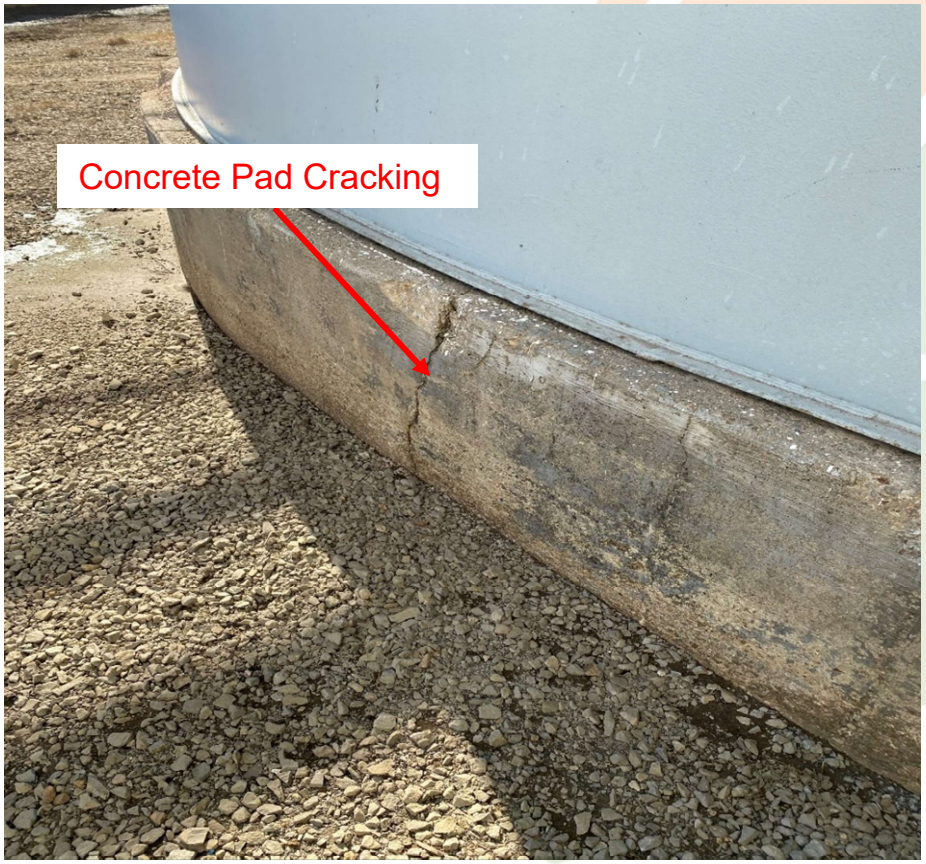
P - Periodic (Monthly and Formal Annual) AST Inspections.
E - Formal external inspection by certified inspector.
I - Formal internal inspection by certified inspector. *For field-erected ASTs, when the corrosion rates are established, the corrosion rate may govern the internal inspection interval, which may be longer or shorter than the values shown.
L - Leak test by owner/operator or designee.
() – Indicates maximum inspection interval in years for initial inspection. For example, E (5) indicates formal external inspection within 5 years of installation.
* Based on EPA guidance provided in May 25, 2004 letter to Petroleum Marketers Association, shop-built tanks with containment, CRDM, and elevated so all sides can be viewed do not require a formal external inspection.
** The routine periodic inspections are considered equivalent environmental protection.
For field-erected ASTs, when the corrosion rates are established, the corrosion rate may govern the internal inspection interval, which may be longer or shorter than the referenced numbers shown.

Examples of Integrity Issues

Free of tank settlement or foundation washout?

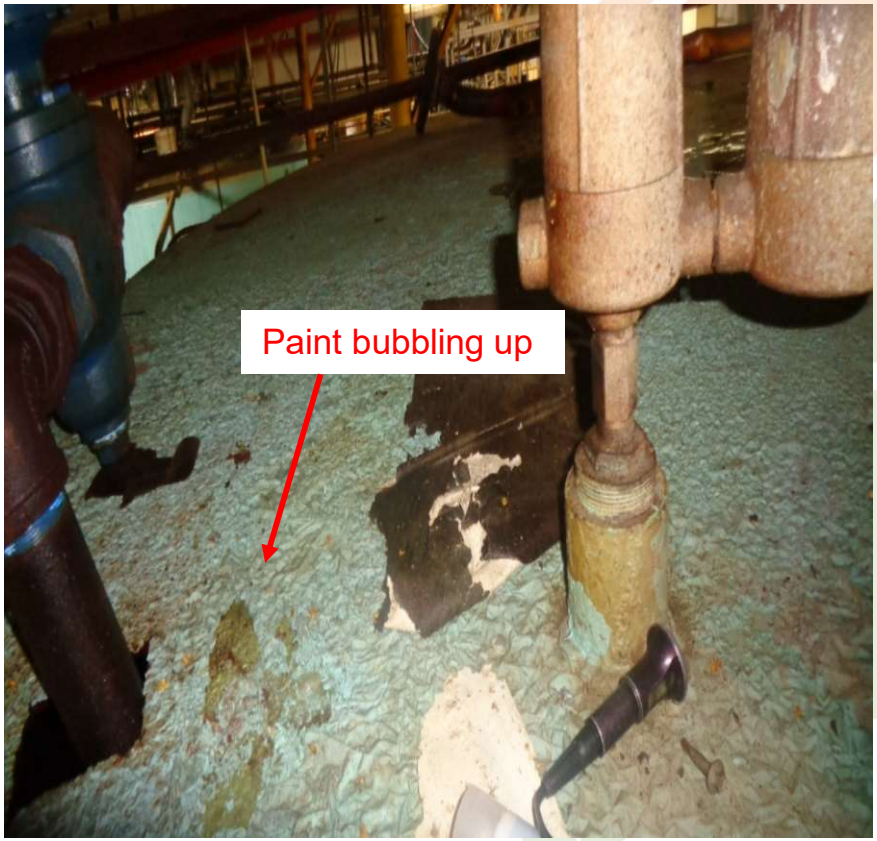
Examples of Integrity Issues

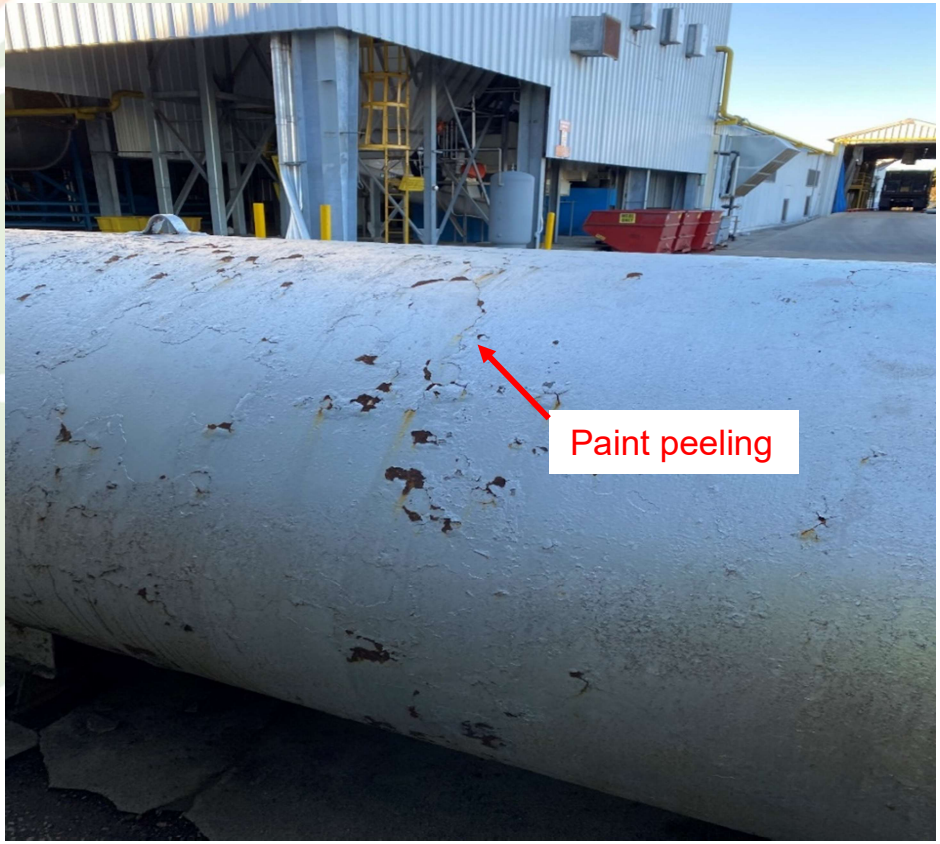
Concrete pad or ring wall free of cracking and spalling?



Examples of Integrity Issues

Free of visible signs of coating failure?



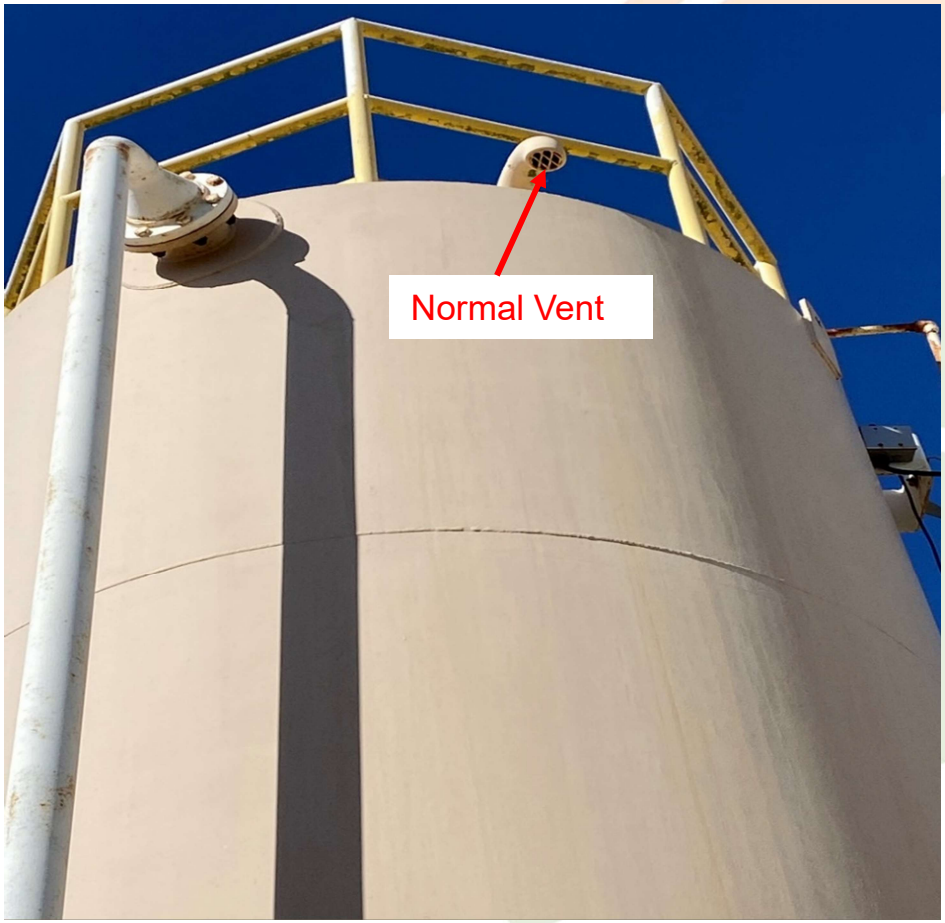


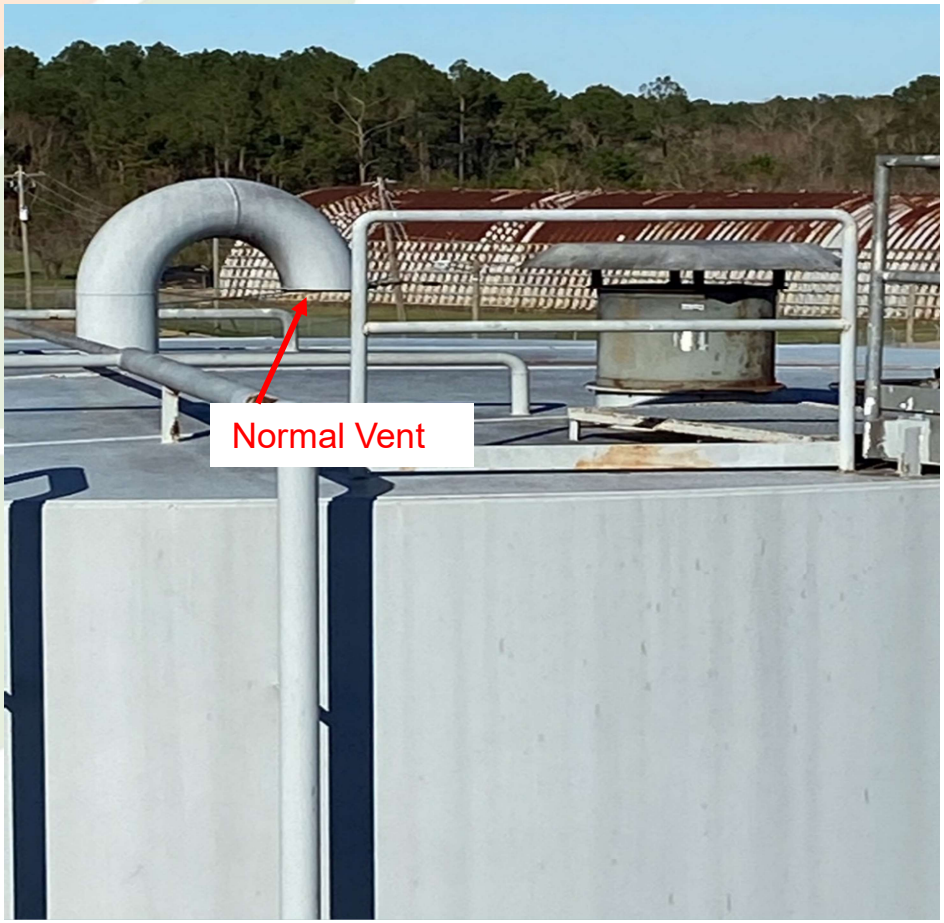
Examples of Integrity Issues

Flanged connection bolts tight and fully engaged with no signs of wear or corrosion?

Tank Equipment

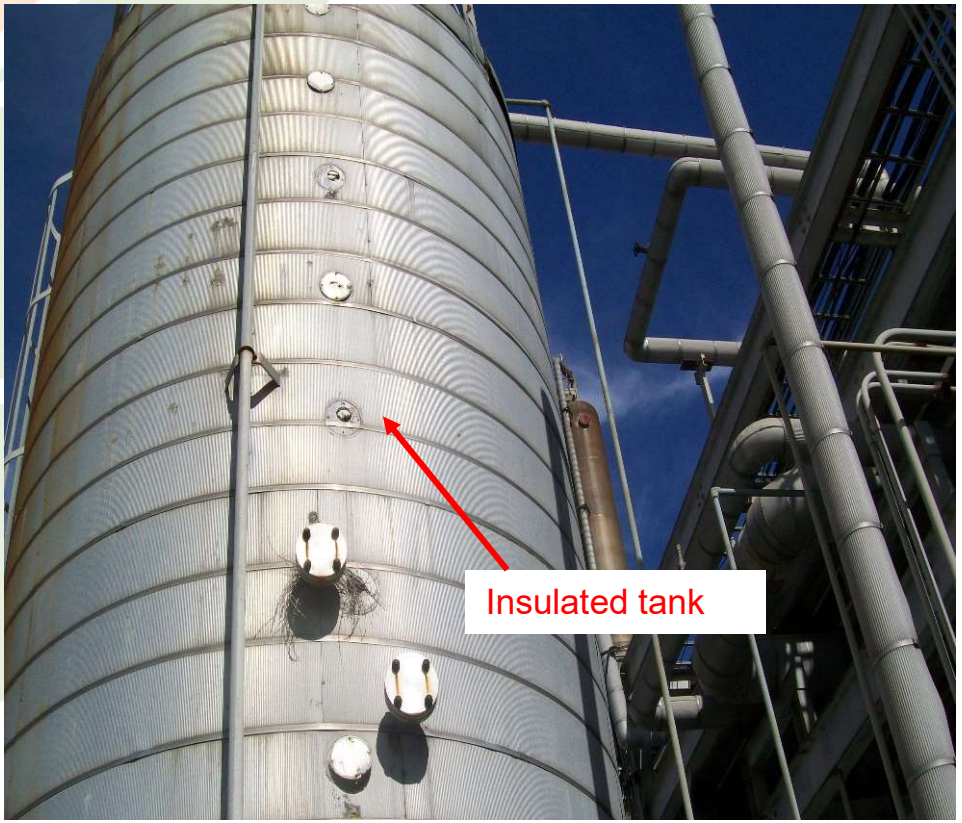
Normal and Emergency Vents free of obstructions?





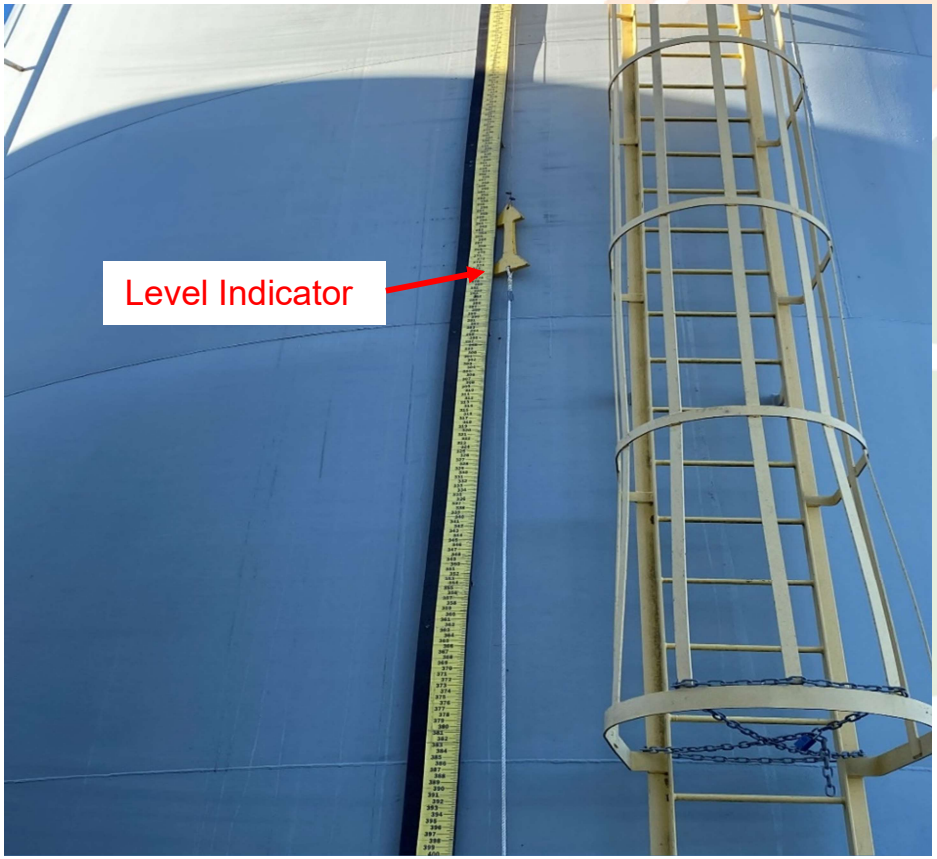
Insulated Tanks

Free of missing insulation?
Insulation free of visible signs of damage?
Insulation adequately protected from water intrusion?

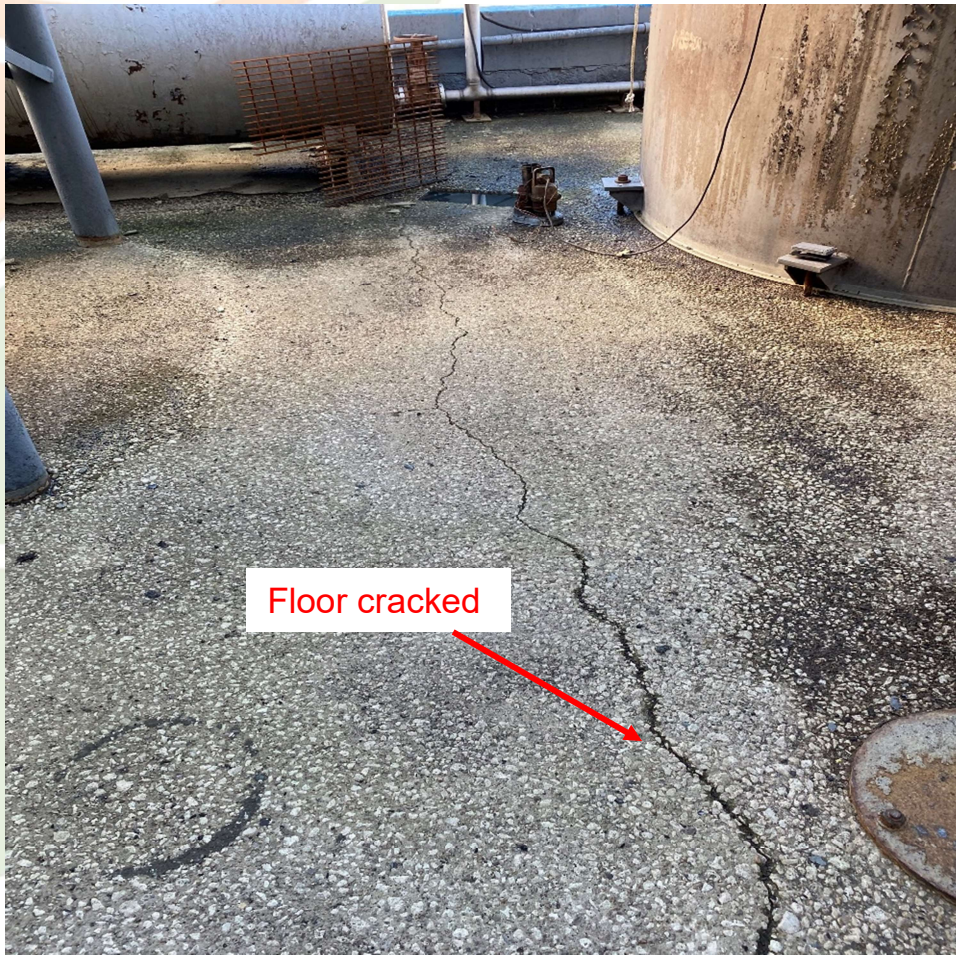


Tank/Piping Release Detection

Is inventory control being performed and documented if required?



Secondary Containment Issues



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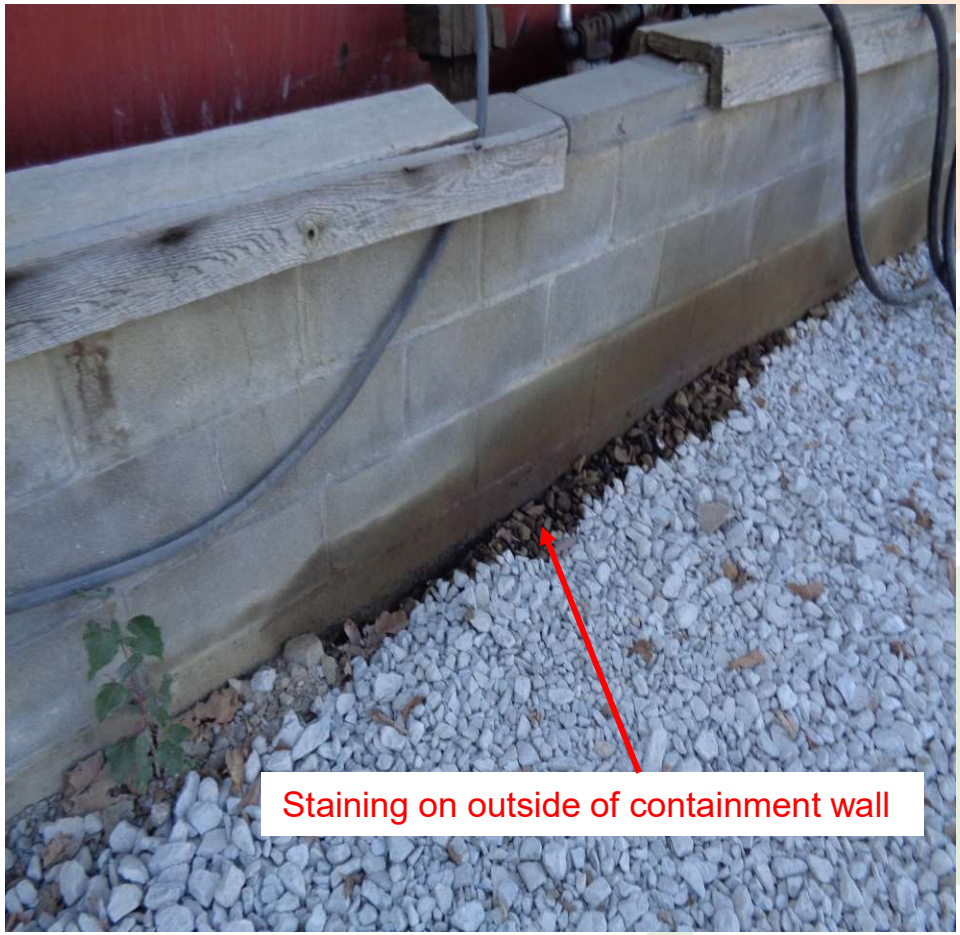
Secondary Containment Issues



QUESTIONS?

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