

# TANK ENVIRONMENTAL PROGRAM AUDIT

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## BACKGROUND:

### CONTROLLING STORAGE TANK EMISSIONS

**MOST STORAGE TANKS STORING CRUDE OIL, PETROLEUM, AND OTHER CHEMICALS ARE MADE OF BARE STEEL, WHICH IS LIKELY TO CORRODE OVER TIME AND ALLOW THESE CHEMICALS TO VOLATILE LEAK INTO THE AIR.**

This may post great potential hazard to the surrounding environment and human health. Air emissions from storage tanks at the site are regulated or potentially regulated under U.S. EPA 40 CFR Part 60, Part 61, Part 63, Part 70 and Texas Commission on Environmental Quality (TCEQ) 30 TAC Chapter 106, Chapter 115, Chapter 116, Chapter 122.

## OUR SERVICES AND APPROACH:

### USING TEPA TO MEET REQUIREMENTS

Tank Environmental Program Audits (TEPA) are often commissioned to control storage tank air emissions to meet the federal, state, and local requirements. TEPAs review the site policies, procedures and practices with regard to applicable regulations that affect the design and operation of storage tanks, and also analyze the tanks information from the site database to make sure the site complies with the permit and applicable regulations. Finally, if necessary, the TEPA also provides recommendation of improvements that result in long-term, sustainable compliance with environmental regulations.

### **SAGE'S TEPA SERVICES**

Sage Environmental Consulting provide a broad TEPA services, including rule requirement applicability, procedures, systems used, resources deployed, and qualitative evaluation of long-term sustainability. Each program is scheduled to take 2 to 14 months for the audit (time varies on different program).

## OUR SERVICES AND APPROACH:

### USING TEPA TO MEET REQUIREMENTS

#### **GATHERING DATA**

At the beginning of TEPA, we gather physical data on each existing storage tank onsite by visiting each process unit, interviewing operating personnel, walking the unit to observe the presence of individual storage tanks, and acquiring photographs of each tank. These data include the diameter, height, fixed roof type, shell type, service, tank conditions, etc.

We develop data collection templates for each process unit at the facility. We also gather and analyze the available information to identify the material stored in each storage tank and the properties of those stored materials. These data can be entered into an electronic database, which renders them readily retrievable.

#### **APPLICABILITY REVIEW**

We then review applicable federal, state, and local regulations and permits to determine the applicable provisions of the regulations and permits. Based on our analysis of the physical and service data we obtain and these applicability provisions, we determine the applicability of regulatory and permit conditions to each storage tank. For the ease of applicability determination, Sage also develops a spreadsheet tool in which the data collected for each tank is entered. The tool is then used to screen for rule applicability for each individual tank.

#### **AUDIT COMPLIANCE**

After the applicability determination process, we audit compliance for each storage tank with each applicable regulation and permit. We review representations made in permit applications, notifications, and reports, and check these representations against the applicability determinations conducted by our TEPA team. This review includes checking calculations of emissions on both an annual and an hourly basis, as well as checking the physical characteristics represented for each tank and the service represented for each tank. In addition, we assist with identifying and investigating regulatory issues that have some ambiguity with respect to their appropriate interpretation.

#### **OBSERVATIONS**

In our TEPA report, Sage provide observations and develops recommendations based on the experience of our TEPA team. In addition, we make a qualitative comparison of some of the commonly believed key attributes of a sustainable program to the conditions observed at the site to identify possible improvements to enhance long-term sustainability.

The major observation items include:

- Implementation of required controls equipped in storage tanks
- Inspection and repair
- Inspection records
- Notifications and reports

## OUR SERVICES AND APPROACH:

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### USING TEPA TO MEET REQUIREMENTS

- Applicability determinations
- Historical records
- Permit applications
- Personnel
- Vendor chemicals

### RECOMMENDATIONS FOR IMPROVEMENT

Based on our observations, we make recommendations for practices that can be improved. It should be noted that the recommendations are based on the experience of the TEPA team; typically, many solutions may address a given observation. For example, with respect to task management, we could develop a tool that would generate prompts when compliance tasks are due, which would facilitate timely and consistent completion of compliance tasks. In terms of tank emission calculation tool, timely and consistent completion of tasks requiring emissions calculations would be facilitated by the implementation of electronic tools that would correctly perform all required calculations.

Sage also uses a tank software program called TankESP for estimating storage tanks emissions. It addresses all of the problems noted with TANK4.09, and corrects monthly emission estimates, estimates of roof-landing and tank-cleaning emissions, and short-term emissions not available in TANKS4.09. Sage provides training in the use of these tools to facilitate coordination and completion of compliance tasks over time and with personnel changes.