

A Sage Guide to Preparing Annual BWON Reports

Step 1. Collect annual operational data.

Checklist:

- Collect analytical data (products, intermediates, points of generation, and end-of-line).
- Determine flow rates (sour water stripper effluent, desalter effluent, benzene stripper effluent, etc.).
- Gather and calculate benzene quantities from vacuum truck logs.
- Calculate the benzene impacts from wastes shipped off-site.
- Review management of change (MOC) forms from the previous year to determine BWON impacts.
- Determine the benzene contribution from spills or other unplanned releases not managed by vacuum trucks.
- Review maintenance records (pumps, filters, and exchangers).
- Update turnaround data.

Helpful tips:

- Evaluate individual vacuum truck log forms to more accurately calculate TAB/BQ from these activities.
- Talk with Operations personnel to determine if any changes in the methods of operation took place in the previous year that would affect BWON.
- Discuss recent turnarounds with the turnaround and maintenance groups to evaluate waste quantities from equipment de-inventory and to determine the control status of these wastes.

How Sage makes this step easy:

We can handle the process for you by sending an engineer on-site or collecting your data remotely. Call us to find out more!

Step 2. Calculate annual benzene quantity.

$$TAB = \sum_{i=1}^n (Q_i \times C_{\text{benzene},i})$$

- TAB = total annual benzene (Mg/yr)
- Q = annual waste quantity (Mg/yr), calculated per §61.355(b)
- C_{benzene} = flow-weighted annual average benzene concentration by weight (ppmw), calculated per §61.355(c)
- n = number of benzene streams containing > 10% water (or that co-mingle to become >10% water)

- Includes both oil and aqueous phases for each waste stream.

Helpful tips:

- Don't forget to calculate benzene quantities for both layers—organic and aqueous—for a mixed-phase waste.
- Maximum solubility of benzene in water is 1,800 ppm.
- Call Sage and get our Commonly Missed Waste Stream Checklist to ensure that you have all the points of generation the Agency is looking for!

How Sage makes this step easy:

We can perform the calculations for you. Send us your data, and we will have your report completed in no time!

Step 3. Verify the accuracy of your top TAB and compliance option contributors, and prepare the report.

Checklist:

- Verify the flow rate.
 - Interview Operations.
 - Data historians.
 - Visually verify the flow rates.
- Sample high-flow-rate streams.
 - Analytical methods 8020, 8021, 8240, 8260, 602, or 624
- Generate a "leaker list" of inspection and monitoring failures from the previous year.

Helpful tips:

- Beware of dual-phase samples. Ask your laboratory to run an organic phase analysis and an aqueous phase analysis separately.
- Field-verify the accuracy of your controls. Make sure that what you are claiming as control can pass an EPA inspection.
- Review records of spills and unplanned releases to determine BWON impacts.

How Sage makes this step easy:

We can sample your streams in accordance with §61.355(c)(3), verify your top flow-rate streams, and perform a mini-audit of your waste-management unit's control status to ensure that your report reflects current operating conditions. We also can perform a quality assurance review to ensure that your report contains all of the reporting requirements.

Step 4. Prepare, QA/QC, and submit reports to the Agency by April 7 or your alternative submittal date.

How Sage makes this step easy:

We prepare your report accurately, on time, and in the format the EPA wants to see. And we can take care of the final submissions for you.

Call our experts today:

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