QA Exception/Nonconformance Corrective Action Report

The Waste Management Group is required by our Part B permit to test approximately 10% of the incoming waste to verify the generators characterization. Wastes may be visually inspected or an aliquot removed from the container and sent to the Berkeley Lab Technical Services Group (TSG) or offsite EPA certified laboratory.

For liquid samples, the Generator Assistant reviews the results and compares them to the information provided by the generator according to the Pass-Fail Criterion listed below. A QA Exception will be generated for any waste analysis that **does not meet** the following criteria:

Pass-Fail Criteria

1. The analysis identifies **all regulated hazardous constituents listed** by the generator and concentrations (metals, solvents) within ± one order of magnitude. It does **not** identify **any regulated constituents not listed** by the generator, unless this involves trace contaminants that could logically be explained by residuals in safety cans or used oil contaminants resulting from normal use of the oil.

2. For wastes analyzed for **corrosivity**, the pH as analyzed would not cause the waste's RCRA regulatory status to become more restrictive, nor change the DOT hazardous material shipping classification.

3. For wastes analyzed for **ignitability**, the flash point measured by analysis does not cause the waste's regulatory status to become more restrictive.

4. For wastes **certified as nonradioactive by waste generators**, analytical results on volume samples show **no activity** at or above the minimum detectable concentrations established in Attachment F of EH&S Procedure 820 (or the MDC actually used for the test).

5. For **radioactive waste** (or for the **radioactive component of mixed waste**),
    a. For total activities reported to be **less than 100 mCi**, the ratio of total activity reported by the analytical results to total activity reported by the generator is not less than 0.1 or greater than 10.

       For transuranic radionuclides, the ratio of total activity reported by the analytical results to total activity reported by the generator is not less than 0.1 or greater than 2.

    b. For total activities reported to be **greater than 100 mCi**, the ratio of total activity reported by the analytical results to total activity reported by the generator is not less than 0.5 or greater than 1.5 **and** does not change the waste characterization from low-level to transuranic.

    c. Analytical results do not indicate the presence of radioisotopes not identified by the generator.

Examples: (1) The generator states that the waste has 1 μCi of ^{3}H. Acceptable analytical results are 0.1–10 μCi.

(2) The generator states that the waste has 1 μCi of ^{243}Am. Acceptable analytical results are 0.1–2 μCi.

(3) The generator states that the waste has 1 Ci of ^{3}H. Acceptable analytical results are 0.5–1.5 Ci.

Note: Presence or ingrowth of daughter products or radioactive decay should be taken into account in reviewing laboratory analysis.

For **dry waste undergoing visual inspection**, the waste does not contain any of the following:

- free liquids of any type in any amount (e.g., scintillation vials, pipettes, and other containers must be empty)
- saturated liquids (i.e., the waste must be dry to the touch)
- any hazardous waste, including regulated metals (e.g., metallic mercury, lead pigs, lead shielding, lead bricks)
- light bulbs
- batteries
- printed circuit boards
- sharps not in rigid containers
- solid constituents not identified on the Radioactive Waste tag

If a QA exception report is generated, the Generator Assistant will contact the generator to discuss the discrepancy to identify a root cause and corrective action. The result of this inquiry is conveyed to the generator in an attempt to assist the generator in future waste characterization. A complete QA failure is evaluated against the criteria that determines an NCAR. This information is also compiled on a monthly basis and sent to the Divisions for the purpose of the self assessment report.

Consequences of QA Exceptions
If a waste that is one of a series of identical containers (as described on the Hazardous Waste Requisition) fails analysis, then all of the remaining identical containers must be sampled and analyzed. The generator will be responsible for the costs of all sampling and analysis.

Nonconformance and Corrective Action Report (NCAR)

The completed QA exception report is evaluated against the following criteria to determine if the failure has created a situation that puts the Laboratory or Laboratory personnel in jeopardy. If so, an NCAR is issued to the Division.

1. A major waste characterization failure by a waste generator, is defined as

(a) **Safety**: If a waste characterization failure results in a safety hazard at the HWHF (for example, analytical results indicate a pH of 1.3 where the generator characterizes the waste as pH 14).

(b) **Recycling/treatment/disposal/transportation**: If the waste, as characterized by the generator, is or would be rejected by the recycling, treatment, or disposal facility, or would result in a potential violation of hazardous-material transportation requirements.

(c) **RMA characterization failure**: Radioactivity is shown to be present in RMA waste certified by the generator to be free from radioactive contamination.

2. Discovery of a waste container(s) stored in an **SAA for greater than one year**. This discovery could be the result of an inspection or documentation review.

3. Discovery of **abandoned waste**. This is hazardous waste found outside of an SAA/WAA that is outside the control of the generator either

   (a) in a condition that poses a safety hazard, or

   (b) is unlabeled, or

   (c) the contents cannot be immediately identified.

When an NCAR is issued, the WM Group Leader will discuss it with the Division Director.

Consequences of NCARs resulting from a characterization failure

First NCAR

After the first NCAR for any generator, the generator must have 100% of the next proposed waste pickup analyzed. The Waste Management Group Leader will advise the generator in writing of this requirement, with copies of the letter sent to both the Generator Assistant and the Certification Team Leader. The generator pays the analytical costs. Generator retraining may be recommended.

Second NCAR (in 12 months)

After the second NCAR in 12 months for any generator, the following consequences occur:

- The generator's waste will not be picked up until the generator has completed retraining and the generator's division director has reviewed the generator's operations.
- The Waste Management Group Leader will advise the generator in writing of this requirement, with copies of the letter sent to both the Generator Assistant and the Certification Team Leader.
- 100% analysis, paid by the generator, is required for the next two waste pickups.

Failure of RMA Release Samples

If an internal sample taken from hazardous waste released from an RMA (which has been certified by the generator to be free from added radioactivity) fails by showing radioactivity, and the investigation concludes that the contamination occurred at the generator's site, then an NCAR will be issued, and 100% of the hazardous wastes in that batch for that generator must be sampled and analyzed for radioactivity. The generator will be responsible for the costs of all sampling and analysis.