

EPA Region 9 Data Quality Oversight at The Aerojet Superfund Site

#6400044

Executive Summary

PROBLEM

Region 9 (the Region) had not monitored the quality of laboratory data obtained at the Aerojet General Corporation (Aerojet) Superfund site, although EPA spent nearly \$2 million for oversight of the cleanup. As a result, some of the data obtained during the Aerojet cleanup was of unknown quality. This was particularly significant since Aerojet has already spent about \$100 million on studies and cleanup, without fully ensuring the quality of the underlying data. Since additional data is required to complete the remedial investigations and feasibility study, it is important that the quality of the data be verified. In addition, the data quality requirements of Aerojet's consent decree were not being fully complied with.

WE FOUND THAT

"The primary goal of the QA program is to ensure that all environmentally related measurements...produce data of known quality."

-EPA Order 5360.1

The Region had not ensured that data produced for the Aerojet site was of known quality.

Lack of Data Quality Objectives and QAPP Approval

Specifically, effective data quality objectives had not been established, although they are to be used as a basis for the preparation of the Quality Assurance Project Plan (QAPP). Further, the Region had not approved the QAPP. Such approval is necessary, since the QAPP is the blueprint for ensuring laboratory data is of sufficient quality and quantity for decision-making.

QAPP Missing Effective QA Activities

Additionally, the QAPP lacked the following effective quality assurance activities:

- Data validation equivalent to that required by EPA national functional guidelines;
- Independent laboratory audits;
- Double-blind performance evaluation samples, according to a prescribed frequency; and
- A requirement to provide magnetic tape data, if necessary.

Data Validation Requirements Not Met

While the remedial investigation/feasibility study workplan contained some data validation requirements, the Region did not ensure that these requirements were fully implemented. The data validation requirements were the basis for determining if the data was of sufficient quality.

NET Data Needs Close Scrutiny

One of the laboratories performing sample analyses at the Aerojet site, National Environmental Testing, Inc. (NET), was suspended by EPA from any new Federal contract work on March 19, 1996. We believe that the Region should validate NET's sample analyses at Aerojet according to EPA national functional guidelines to ascertain their accuracy.

QAPP and Consent Decree Not Followed

We found that the Region was not monitoring compliance with the requirements of the QAPP. As a result, the QAPP was not fully complied with at the Aerojet site.

Activities Not Performed But Required by the QAPP

- Annual laboratory audits.
- Double-blind performance evaluation samples.
- Quality assurance reports since April 1993.
- Quality assurance audits.

This deficiency also affected the consent decree since it required that all work be conducted in accordance with the QAPP. Under the 1989 consent decree, Aerojet agreed to complete a remedial investigation and feasibility study, identify potential remedies, and monitor contamination.

The QAPP called for annual audits of laboratories by a qualified chemist who was independent of the chemist performing the analyses. Since Aerojet used its own laboratory to analyze samples, we believe that a conflict-of-interest situation resulted whenever Aerojet audited its own laboratory.

Problems With Computer Database

"The quality of data is known when all components...are thoroughly documented, such documentation being verifiable and defensible."

-EPA Order 5360.1

Our review found that much of the historical data collected from 1979 to 1988 was of unknown quality and inaccurately reflected in Aerojet's database. Specifically, the procedure used to validate historical data did not consider equipment calibrations. Also, the database included samples taken by superseded sampling methods, which should have been deleted from the database.

With respect to data collected after 1988, we noted that problems found by data validation, performed in accordance with the workplan, were not included in the data base. Further, some of the data validation requirements established in the workplan were not met.

Responsibilities for Oversight Not Set

Another problem with monitoring data quality was that EPA and the state regulatory agencies had not established their respective responsibilities for data quality oversight. As a result, none of the oversight agencies were evaluating the quality of data.

RECOMMENDATIONS

Our detailed recommendations are included on pages 13 and 14 of this report. However, in summary, we are recommending that the Regional Administrator, Region 9, monitor the quality of laboratory data produced for the Aerojet cleanup by:

1. Making sure the data quality objectives are used to establish the type, quantity, and quality of data.
2. Documenting approval of the most current quality assurance project plan.
3. Having Aerojet to revise its QAPP to include requirements for data validation by EPA national functional guidelines, independent laboratory audits, double-blind PE samples, and the maintenance of magnetic media, available to the Region upon request.
4. Validating the laboratory analyses produced by the National Environmental Testing, Inc., using EPA national functional guidelines.
5. Verifying that the QAPP is complied with.
6. Ensuring Aerojet's database accurately reflects the quality of data.
7. Delineating regional and state responsibilities for data quality oversight.

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