

**INFORMATION COLLECTION
SUPPORTING JUSTIFICATION**

**Railworthiness Directive for Certain Railroad Tank Cars Equipped with
Bottom Outlet Valve Assembly and Constructed by American Railcar
Industries and ACF Industries
OMB No. 2130-0616**

1. **DESCRIBE (INCLUDING A NUMERICAL ESTIMATE) THE POTENTIAL RESPONDENT UNIVERSE AND ANY SAMPLING OR OTHER RESPONDENT SELECTION METHOD TO BE USED. DATA ON THE NUMBER OF ENTITIES (E.G., ESTABLISHMENTS, STATE AND LOCAL GOVERNMENT UNITS, HOUSEHOLDS, OR PERSONS) IN THE UNIVERSE COVERED BY THE COLLECTION AND CORRESPONDING SAMPLE ARE TO BE PROVIDED IN TABULAR FORM FOR THE UNIVERSE AS A WHOLE AND FOR EACH OF THE STRATA IN THE PROPOSED SAMPLE. INDICATE EXPECTED RESPONSE RATES FOR THE COLLECTION AS A WHOLE. IF THE COLLECTION HAD BEEN CONDUCTED PREVIOUSLY, INCLUDE THE ACTUAL RESPONSE RATE ACHIEVED DURING THE LAST COLLECTION.**

FRA estimates that there are 13 hazardous materials tank car owners covered by the 15% sampling plan described in the Directive (i.e., a sampling of cars subject to the Directive in each owner's fleet that are in hazardous materials service and have the top 15% highest mileage of each owner's fleet of covered cars).

FRA estimates there are three hazardous materials tank car owners (CIT Group Inc. (CIT), American Railcar Industries, Inc. (ARI)/ American Railcar Leasing (ARL)), with cars inspected by CIT and ARI prior to FRA's issuance of the Revised Directive.

FRA estimates there are four hazardous materials tank car owners with cars manufactured by ACF, Industries, Inc., not ARI.

Because FRA is monitoring the car marks covered by the Directive, FRA estimates a 98% response rate for each sample category.

2. **DESCRIBE THE PROCEDURES FOR THE COLLECTION OF INFORMATION INCLUDING:**

- **STATISTICAL METHODOLOGY FOR STRATIFICATION AND SAMPLE SELECTION**

There are two manufacturers of tank cars covered by the Revised Directive, ARI and ACF.

In the Revised Directive, FRA mandated the inspection and testing of a 15% sample of covered cars in each owner's fleet in hazardous materials service with the highest total mileage in each tank car owner's fleet (the "Top 15%"). This statistical methodology (for these Top 15% cars, not for the exemption cars discussed in the next paragraph) is based on FRA's finding that the weld defects covered by the Revised Directive grow over time and the highest mileage tank cars would currently exhibit a higher percentage of cars with defects than the universe of cars covered by the Revised Directive. The 15% sample size offers both large and small fleet owners, and FRA, valid sample sizes on which to base fleet-wide decisions and insight into whether to accept the null hypothesis. In this case, the null hypothesis is that tank cars with increasing mileage will exhibit an increase in the defect rate.

For previously inspected cars and ACF-manufactured cars, the Revised Directive contained a methodology for car owners to potentially obtain voluntary exemptions from compliance with the Directive, by inspecting a sample of each type of car consistent with the inspection requirements of the Revised Directive.

- **ESTIMATION PROCEDURE**

The estimation procedure used for the Revised Directive, where samples are drawn from the initial 14,800 car population, is an interval estimate of the population mean using the sample statistic and a 95% confidence interval.

- **DEGREE OF ACCURACY NEEDED FOR THE PURPOSE DESCRIBED IN THE JUSTIFICATION**

A 5% percent degree of accuracy is needed for the purposes of accepting or not accepting the null hypothesis in the justification.

- **UNUSUAL PROBLEMS REQUIRING SPECIALIZED SAMPLING PROCEDURES, AND**

No unusual problems requiring specialized sampling procedures for the purpose described in the justification are anticipated.

- **ANY USE OF PERIODIC (LESS FREQUENT THAN ANNUAL) DATA COLLECTION CYCLES TO REDUCE BURDEN**

None. Given that the Revised Directive requires the inspections to be complete twelve months from the date of the Revised Directive's issuance, less frequent than annual reporting would be ineffective. Thus, the Revised Directive requires tank car owners to submit to FRA quarterly reports the Top 15% of covered cars in hazardous materials service in each owner's fleet, until all cars within the Top 15% in each owner's fleet have been inspected.

3. DESCRIBE METHODS TO MAXIMIZE RESPONSE RATES AND TO DEAL WITH ISSUES OF NON-RESPONSE. THE ACCURACY AND RELIABILITY OF INFORMATION COLLECTED MUST BE SHOWN TO BE ADEQUATE FOR INTENDED USES. FOR COLLECTIONS BASES ON SAMPLING, A SPECIAL JUSTIFICATION MUST BE PROVIDED FOR ANY COLLECTION THAT WILL NOT YIELD “RELIABLE” DATA THAT CAN BE GENERALIZED TO THE UNIVERSE STUDIED.

To ensure compliance with the Revised Directive, FRA compares manufacturer-provided lists of cars constructed to the subject design with lists provided by car owners of covered cars in hazardous materials service, high mileage cars, and the Top 15% cars. FRA requires owners to submit records and lists of all Top 15% cars completed quarterly and reviews inspection results.

FRA will consider requests for relief from the Revised Directive for ACF-manufactured tank cars and/or for tank cars that ARI and CIT voluntarily inspected prior to November 15, 2016 if: (1) a representative sample is inspected consistent with the Revised Directive; (2) the results of the inspections are provided to FRA for review; and (3) the results provide sufficient evidence to warrant FRA exemption of that group of tank cars from the Revised Directive. The required sample sizes to request exemption are as follows: (A) ACF tank cars manufactured to the ACF 300 design: 125; (B) Cars voluntarily inspected prior to November 15, 2016: 80. The sample of 125 cars built by ACF is drawn from the ASQ Z1.4, “*Sampling Procedures and Tables for Inspection by Attributes*” with an assumed population of 1,346 cars and an acceptable quality level (AQL) of 1.0 and, for the assumed population of 1,133 for cars that ARI and CIT voluntarily inspected prior to the release of the Revised Directive at an AQL of 1.0. Values which exceed the Ac for each category will cause the null hypotheses not to be accepted, the null being for A) above, there is no difference between the ARI cars and the ACF cars, and for B) above, there is no difference between cars voluntarily inspected prior to the release of the Revised Directive and the Top 15% cars.

4. DESCRIBE ANY TESTS FOR PROCEDURES OR METHODS TO BE UNDERTAKEN. TESTING IS ENCOURAGED AS AN EFFECTIVE MEANS OF REFINING COLLECTIONS OF INFORMATION TO MINIMIZE BURDEN AND IMPROVE UTILITY. TESTS MUST BE APPROVED IF THEY CALL FOR ANSWERS TO IDENTICAL QUESTIONS FROM 10 OR MORE RESPONDENTS. A PROPOSED TEST OR SET OF TESTS MAY BE SUBMITTED FOR APPROVAL SEPARATELY OR IN COMBINATION WITH THE MAIN COLLECTION OF INFORMATION.

FRA will audit samples of completed inspections and records of the Top 15% cars and other covered cars to a 1% AQL to ensure process consistency. FRA will monitor inspection procedures, records, and results during ongoing operations.

5. PROVIDE THE NAME AND TELEPHONE NUMBER OF INDIVIDUALS

**CONSULTED ON STATISTICAL ASPECTS OF THE DESIGN AND THE NAME OF THE AGENCY UNIT, CONTRACTOR(S), GRANTEE(S), OR OTHER PERSONS(S) WHO WILL COLLECT AND/OR ANALYZE THE INFORMATION FOR THE AGENCY.
SEE BELOW:**

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