

# ETA-HIAC03

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## Preparation and Issuance of Test Reports

Prepared by

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## 1.0 Objective

The objective of this procedure is to identify the proper methods for the preparation of reports during and subsequent to testing activities. These methods are not meant to supersede those of the testing facility, nor of any regulatory agency who may have or exercise control over the covered activities.

## 2.0 Purpose

This procedure identifies acceptable methods for the development, use, completion and retention of reports prepared in support of performance testing of electric vehicles provided to Electric Transportation Applications for testing to the technical requirements of HICEV America.

## 3.0 Documentation

Documentation addressed by this procedure shall be consistent, easy to understand, easy to read, and readily reproducible. Reports shall contain enough information to "stand alone;" that is, they shall be self-contained to the extent that all individuals expected to review it could be reasonably expected to reach a common conclusion, without the need to review additional documentation. Review and approval of test documentation shall be in accordance with ETA-HIAC04, "Review and Approval of Test Results." Storage and retention of records during and following testing activities shall be completed as described in Procedure ETA-HIAC01, "Control, Close-out and Storage of Documentation."

## 4.0 Initial Conditions And Prerequisites

- 4.1 All relevant testing activities for the subject vehicle have been completed (as described in ETA-HIAC02, "Control of Test Conduct") prior to the report being formally issued.
- 4.2 All necessary test documentation has been completed, reviewed and approved per the requirements of ETA-HIAC04, "Review of Test Results," prior to the report being issued.
- 4.3 The method for distribution of the subject Report(s) shall be agreed upon prior to any report being formally issued.
- 4.4 Personnel who prepare Test Report(s) shall be familiar with the contents of this procedure as required by procedure ETA-HIAC05, "Training and Certification Requirements for Personnel Utilizing ETA Procedures."

## 5.0 Activity Requirements

A test report shall be issued for any vehicle submitted to Electric Transportation Applications for testing, regardless of whether the vehicle is actually tested. Test reports should be issued within 30 days of the completion of testing. This section provides additional requirements for the formal Test Report.

- 5.1 Test Reports shall be the preferred mechanism for the objective reporting of data collected during the HICEV America Performance Test Program.
- 5.2 These reports may utilize a variety of media and formats, including text, data file, graphical depiction, film/video tape and oral presentation.
- 5.3 The material for each vehicle shall be presented in a stand-alone format.
- 5.4 Data/test results shall not be provided in a comparative format. That is, each vehicle's data shall be presented independent of the data of other tested vehicles.
- 5.5 Report preparation shall include the following:
  - 5.5.1 A Table of Contents
  - 5.5.2 An Executive Summary
    - 5.5.2.1 Vehicle Description
    - 5.5.2.2 Test Conduct Summary
    - 5.5.2.3 Summary Data Sheet (Appendix A)
  - 5.5.3 Test Program Summary
    - 5.5.3.1 Test Sequence
    - 5.5.3.2 Test Exception Reports (ETA-HIAC02 Appendix A)
    - 5.5.3.3 Non-Conformance Reports
  - 5.5.4 Vehicle description
    - 5.5.4.1 Vehicle inspections sheets
      - ETA-HIAC06 Appendix B
      - ETA-HITP011 Appendix A
    - 5.5.4.2 Vehicle supplier submittals required by Vehicle Technical Specification Appendix A

- 5.5.4.3 Appendices/Submittals
  - Vehicle Technical Specification Appendix A
  - Vehicle Technical Specification Appendix B
- 5.5.5 Test Results (one section for each Test Procedure) containing:
  - 5.5.5.1 Test summary
  - 5.5.5.2 All test procedure data sheets
  - 5.5.5.3 Test Results Review check-sheet
  - 5.5.5.4 Graphical information list (charts, graphs, plots, etc.)
- 5.5.6 Appendices
  - 5.5.6.1 Appendix 1 - Vehicle photographs
  - 5.5.6.2 Appendix 2 - Supplier's correspondence
  - 5.5.6.3 Appendix 3 - Test Manager's Log
- 5.5.7 Exhibits
  - 5.5.7.1 HICEV America Vehicle Technical Specifications applicable to the testing activities.
- 5.6 The Test Report shall include any exceptions or deviations from the manufacturer's proposal taken by the supplier.
- 5.7 The Test Report shall not be provided/made available to the vehicle supplier for comment, prior to its issuance except as noted in 5.9.
- 5.8 Test Reports should not contain raw data sheets.
- 5.9 Test Reports shall include a Summary Data Sheet in the format shown in Appendix A. The Summary Data Sheet shall be provided to the vehicle supplier prior to issuance of the Test Report.
- 5.10 At least one representative of each organization involved in testing activities shall sign the final report(s). This signature indicates their organization's concurrence with the data contained in the report. At a minimum, the Final Test Report for each vehicle shall be signed by the Test Manager.
- 5.11 Following completion, the Test Report shall be provided to the vehicle supplier, the U.S. Department of Energy (if co-funding the testing) and to the manufacturer of the vehicle (if different than the vehicle supplier and authorized by the vehicle supplier).

- 5.12 All original test documents, including data sheets and files, shall be incorporated into the Test Report maintained by Electric Transportation Applications in accordance with ETA-HIAC01, “Control, Close-out and Storage of Documentation.”

## 6.0 Glossary

- 6.1 Comment Sheet - A form used to record the comments of test personnel during the conduct of performance tests.
- 6.2 Effective Date - The first date that a procedure may be used to formally direct an activity or collect data. This date shall always be subsequent to the dated approval signature.
- 6.3 ETA - Electric Transportation Applications
- 6.4 Program Manager - As used in this procedure, the individual within Electric Transportation Applications responsible for oversight of HICEV America. [Subcontract organizations may have similarly titled individuals, but they are not addressed by this procedure.]
- 6.5 Shall - Items which require adherence without deviation. Shall statements identify binding requirements. A go, no-go criterion.
- 6.6 Should - Items which require adherence if at all possible. Should statements identify preferred conditions.
- 6.7 Test Director’s Log - A daily diary kept by the Test Director, Program Manager, Test Manager or Test Engineer to document major activities and decisions that occur during the conduct of a Performance Test Evaluation Program. This log is normally a running commentary, utilizing timed and dated entries to document the days activities. This log is edited to develop the Daily Test Log published with the final report for each vehicle.
- 6.8 Test Director - The individual within Electric Transportation Applications responsible for all testing activities associated with HICEV America.
- 6.9 Test Engineer - The individual(s) assigned responsibility for the conduct of any given test. [Each contractor/subcontractor should have at least one individual filling this position. If so, they shall be responsible for adhering to the requirements of this procedure.]

- 6.10 Test Manager - The individual within Electric Transportation Applications responsible for the implementation of the test program for any given vehicle(s) being evaluated to the requirements of HICEV America. [Subcontract organizations may have similarly titled individuals, but they are not addressed by this procedure.]
- 6.11 HICEV America – Hydrogen Internal Combustion Engine Vehicle America Performance Test Program, the DOE sponsored test program for independently assessing the performance of vehicles submitted for testing.

## 7.0 References

- 7.1 ETA-HIAC01 - "Control, Close-out and Storage of Documentation"
- 7.2 ETA-HIAC02 - "Procedure for the Control of Test Conduct"
- 7.3 ETA-HIAC04 - "Procedure for the Review of Test Results"
- 7.4 ETA-HIAC05 - "Training and Certification Requirements for Personnel Utilizing ETA Procedures"
- 7.5 ETA-HIAC06 - "Vehicle Verification"
- 7.6 ETA-HITP011 - "Receipt Inspection"
- 7.7 HICEV America Vehicle Specification
- 7.8 Code of Federal Regulations, Title 10, Part 571, "Federal Motor Vehicle Safety Standards"