

CHAPTER 8
CONTROLLED TESTING
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CHAPTER 8

CONTROLLED TESTING

1. PURPOSE. The purpose of this chapter is to establish procedures and guidelines to be followed when proposing or conducting controlled testing.
2. POLICY. All controlled testing conducted by investigators involved in the Multidisciplinary Accident Investigation Team (MAIT) program will conform with the provisions of this chapter.
3. DEFINITIONS.
 - a. Controlled Testing. Controlled testing is any test or experiment that attempts to resolve a problem, identify or verify a quantity, or answer specific questions concerning any phase of crash reconstruction.
 - b. Program-Level Controlled Testing.
 - (1) Program-level controlled testing is any controlled testing conducted by, or for, any Division MAIT which by its nature may affect a method, theory, or quantity used by the MAIT program in any phase of crash reconstruction.
 - (2) Program-level controlled testing also includes any controlled testing conducted by, or for, any Division MAIT which by its nature would be of unusual educational benefit to the entire MAIT program.
 - c. Team-Level Controlled Testing. Team-level controlled testing is any controlled testing conducted for the sole purpose of identifying a specific quantity related to a specific crash investigation (e.g., coefficient of friction and drag factor testing, acceleration rate determination).
4. PROGRAM-LEVEL CONTROLLED TESTING.
 - a. Introduction. Each MAIT should continually evaluate its controlled testing needs. When program-level controlled testing needs are identified, the provisions of this chapter will be followed before any testing may be conducted.
 - b. Test Request.
 - (1) Prepare a written test proposal addressing each of the following areas:

- (a) The nature of the testing desired.
 - (b) Why the testing is needed.
 - (c) The issues to be addressed.
 - (d) The objectives of the test.
 - (e) The benefits to the Department.
- (2) All test proposals must be evaluated and approved by the responsible Team leader.
- (3) The test proposal shall be routed through channels to the Enforcement and Planning Division, Collision Investigation Unit (CIU).
- (4) The CIU will evaluate the test proposal and will either approve or disapprove the test request.
- (a) If disapproved, the CIU will prepare a memorandum giving the reasons for the disapproval and route it through channels to the requesting Division.
 - (b) If approved, the provisions outlined in Section 4.c. of this chapter apply.
- (5) If time is essential in conducting the test (i.e., pending court cases), the test proposal request may be made verbally through channels to the CIU.

c. Approved Test.

- (1) The Division Team making the request for controlled testing will have the primary responsibility for preparing, conducting, evaluating, and documenting the test program.
- (2) The procedures listed in paragraph 6.a. of this chapter will be followed in preparing, conducting, evaluating, and documenting the controlled testing.
- (3) At the request of the responsible Division Team, the CIU will provide technical and/or coordination assistance.
- (4) The use of personnel and equipment from other Division Teams is encouraged. Coordination for the use of personnel or equipment from other Division Teams will be coordinated through the CIU.

5. TEAM-LEVEL CONTROLLED TESTING.

a. Introduction. The responsibility for conducting Team-level controlled testing rests with the individual Team leader.

b. Procedures. The procedures outlined in paragraph 6.b. of this chapter will be followed when conducting Team-level controlled testing.

6. CONTROLLED TESTING PROCEDURES.

a. Program-Level Controlled Testing. All requests for program-level controlled testing conducted within the MAIT program will be structured using the following general format:

(1) Purpose Statement.

(a) General. Explain why the testing is being conducted.

(b) Issues/Questions. List the issues to be addressed, or the questions to be answered as a consequence of the testing.

(c) Objectives. Identify the specific objectives of the testing.

(2) Planning.

(a) General. Planning as it relates to controlled testing is separated into three general areas: determination of the methodology to be used in conducting the test, preparation of a test plan, and the logistics of implementation of the test plan.

(b) Methodology. Identify the test procedures and the sequence of those procedures which will best address the specific issues and accomplish the objectives of the test program.

(c) Test Plan. Develop a test plan that can be used to conduct the test in a manner consistent with the selected methodology.

1 Test planning includes, but is not limited to, the following:

a Outline the methods to be used to ensure the adequate control of all test variables (e.g., instrumentation, measurement).

b Establish the procedures necessary to conduct the test in the proper sequence.

c Make specific personnel assignments to ensure all areas of the test procedures are conducted properly.

d Establish procedures to ensure consistent and accurate data collection and recordation.

e Determine the means for an ongoing evaluation of the test procedures, controls, data collection, and objectives accomplishment.

(d) Logistics. Logistics is the management of the resources necessary to conduct the test as planned. Logistics include, but are not limited to, the following:

1 Identify the specific equipment, personnel, and facilities required to accomplish the test plan.

2 Identify the source of the test equipment, personnel, and facilities to be used.

3 Draft or assign test personnel and acquire test equipment, the test site, and facilities.

4 Coordinate the movement of all test materials and personnel to the test site on the dates required to successfully conduct the testing.

5 Coordinate test site and facility clean-up and the return of test equipment to its origin.

(3) Testing. The conducting of the controlled test following the format outlined in the test plan.

(4) Data Reduction and Analysis.

(a) The reduction of raw test data to a form that is suitable for issue or objective analysis.

(b) Analysis of the reduced data for the specific purpose of addressing original issues and meeting test objectives.

(5) Documentation.

(a) All program-level controlled testing will be documented.

(b) The documentation will follow the general format given in this section and will, at a minimum, include the following major topic headings:

- 1 Objective Statement.
- 2 Test Procedure, Description, or Outline.
- 3 Data and Analysis.
- 4 Summary/Conclusions.
- 5 Recommendations.

b. Team-Level Controlled Testing.

(1) Team-level controlled testing will consist of the following elements:

(a) Objective Statement. The objective statement should identify the purpose of the test, the specific issues to be addressed, and the ultimate objectives of the test.

(b) Test Description. The test description should adequately describe the test as conducted. The test description should include, but is not limited to, the following:

- 1 Date, time, and location of test.
- 2 Test equipment and personnel.
- 3 Ambient weather conditions.
- 4 Test procedures.
- 5 Test controls.

c. Summary/Conclusions.

(1) The summary/conclusions section should include the raw and/or reduced data collected in the test, as well as the analytical procedure used to reach final conclusions.

(2) The final conclusion shall be reported in a manner which clearly responds to the issues and objectives set forth in the purpose or objective statement.

d. Documentation. Documentation of program- and team-level controlled testing will follow the procedures outlined in this chapter.

7. DISTRIBUTION.

a. Program-Level Controlled Testing.

(1) All program-level controlled testing reports will be routed through channels to the CIU.

(2) The CIU will review and evaluate the completed report and arrange for the appropriate dissemination of the information contained therein.

b. Team-Level Controlled Testing. The final reports of team-level controlled testing may be disseminated in any manner deemed appropriate by the responsible Team leader.

8. COLLISION INVESTIGATION UNIT RESPONSIBILITIES.

a. The CIU will perform the following functions related to controlled testing:

(1) Maintain a central file of all controlled tests conducted within the MAIT program.

(2) Routinely review and evaluate controlled test reports to ensure uniformity of procedures and test results.

(a) Identify areas of conflict.

(b) Propose solutions for those areas of conflict identified.

(3) Evaluate all controlled testing requests.

(a) Recommend approval or disapproval on the basis of the evaluation.

(b) Provide technical and/or coordination assistance to Division Teams as requested.

(c) Coordinate and disseminate controlled testing information.