

**TOPICAL QUALITY ASSURANCE REPORT**

TQR 11.0

**TEST CONTROL**

Rev. 5 Draft A

Date 10/21/96

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**11.1 GENERAL REQUIREMENTS**

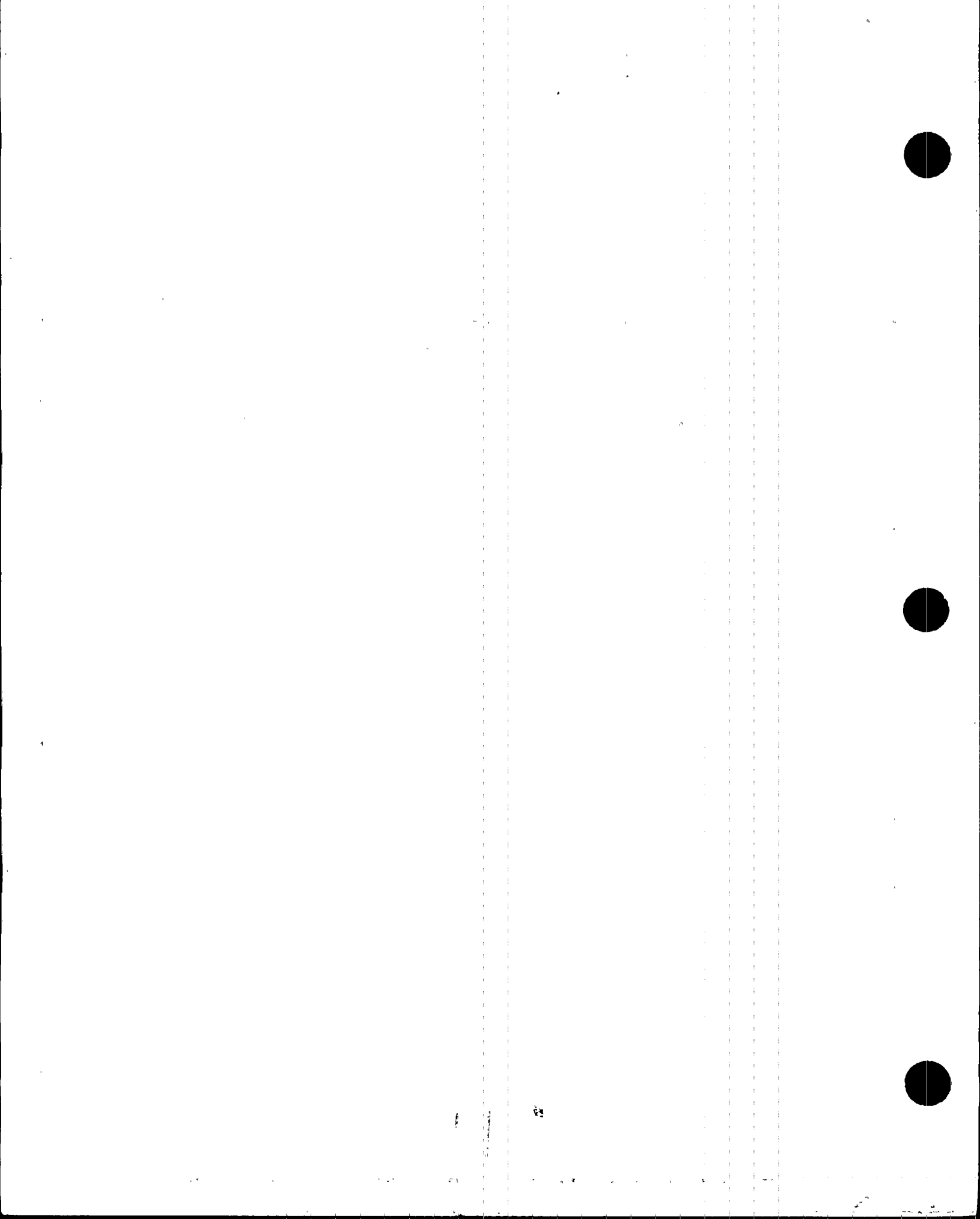
A test program shall be established to assure that testing required to demonstrate that structures, systems and components will perform satisfactorily in service is identified, accomplished, and documented in accordance with written procedures. The test program shall include, as appropriate, proof tests prior to installation, pre-operational tests, start-up tests, operational tests, and retest following repairs, replacements or modifications.

**11.2 IMPLEMENTATION****11.2.1 Test Program**

Testing requirements shall be identified in the engineering/design documents, SAR documents, procedures, or procurement documents, as appropriate. Retest following repairs, replacements, or modifications shall be performed in accordance with the original design and test requirements or acceptable alternatives. Retest shall be performed when the original test results are invalidated. A schedule shall be provided and maintained to provide assurance that all tests are performed and properly evaluated on a timely basis.

Quality Instructions shall be written which delineate the methods and responsibilities for scheduling, controlling, accomplishing, and documenting testing.

FPL may delegate the implementation of all or any part of the test program to other organizations but shall retain ultimate responsibility for the program. The contractor shall be required to control, perform and evaluate tests in accordance with written procedures and shall be required to prepare a written test program detailing the testing required.



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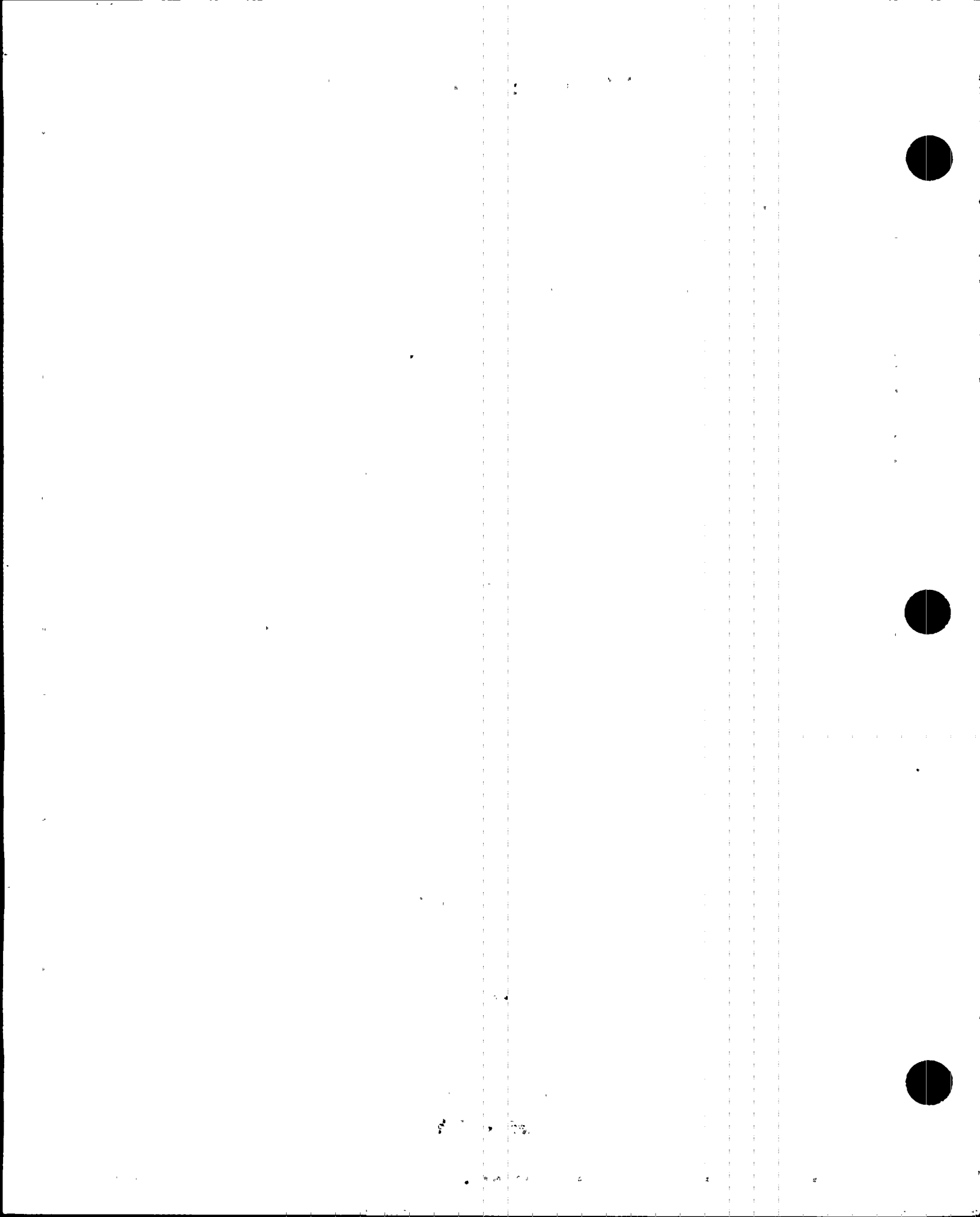
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**11.2.2 Test Procedure Preparation and Test Performance**

Testing shall be accomplished in accordance with written approved test procedures which incorporate or reference the requirements and acceptance limits in the applicable design and procurement documents. Test procedures shall be revised as necessary to assure that tests are performed in accordance with the latest approved information. The test procedure or test program documents shall include or reference the following as a minimum:

- a. Instructions for the testing method used (including precautions, limitations, and restoration of normal conditions upon test completion);
- b. Required test equipment and instrumentation;
- c. Test requirements and acceptance criteria;
- d. Hold, witness, inspection and data collection points;
- e. Test prerequisites such as: calibrated instrumentation; trained, qualified, and licensed or certified personnel; preparation, condition and completeness of item to be tested; suitable and controlled environmental conditions; defined system interfaces; initial plant conditions;
- f. Methods for documenting or recording test data and results;
- g. Test records shall identify:
  - 1) Identification of personnel performing the testing activities;
  - 2) Method or type of observations;
  - 3) Test or inspection results (to include pertinent test data);
  - 4) Specific measuring and test equipment utilized for testing;
  - 5) As found and as left condition (as applicable);
  - 6) Statement of acceptability;
  - 7) Date of observation; and
  - 8) Deficiencies and nonconformances, and the action taken in connection with these deficient conditions, either by inclusion or by reference to other documents.



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**11.2.3 Evaluation of Test Results**

The documented test results shall be evaluated against the predetermined acceptance criteria by a group or individual having appropriate qualifications. The acceptance status of the test shall be documented. Deficiencies noted during the evaluation shall be documented and ~~dispositioned~~ **disposition** provided in accordance with TQR 15.0 and approved Quality Instructions.

The evaluation of the test results may be delegated to other organizations; however, FPL shall retain the responsibility for the evaluation. The evaluating organization shall be required to use qualified personnel, evaluate the data against predetermined criteria, and document the results of the evaluation and acceptance status of the test.

**11.3 RESPONSIBILITIES****11.3.1 The Site Vice President is responsible for:**

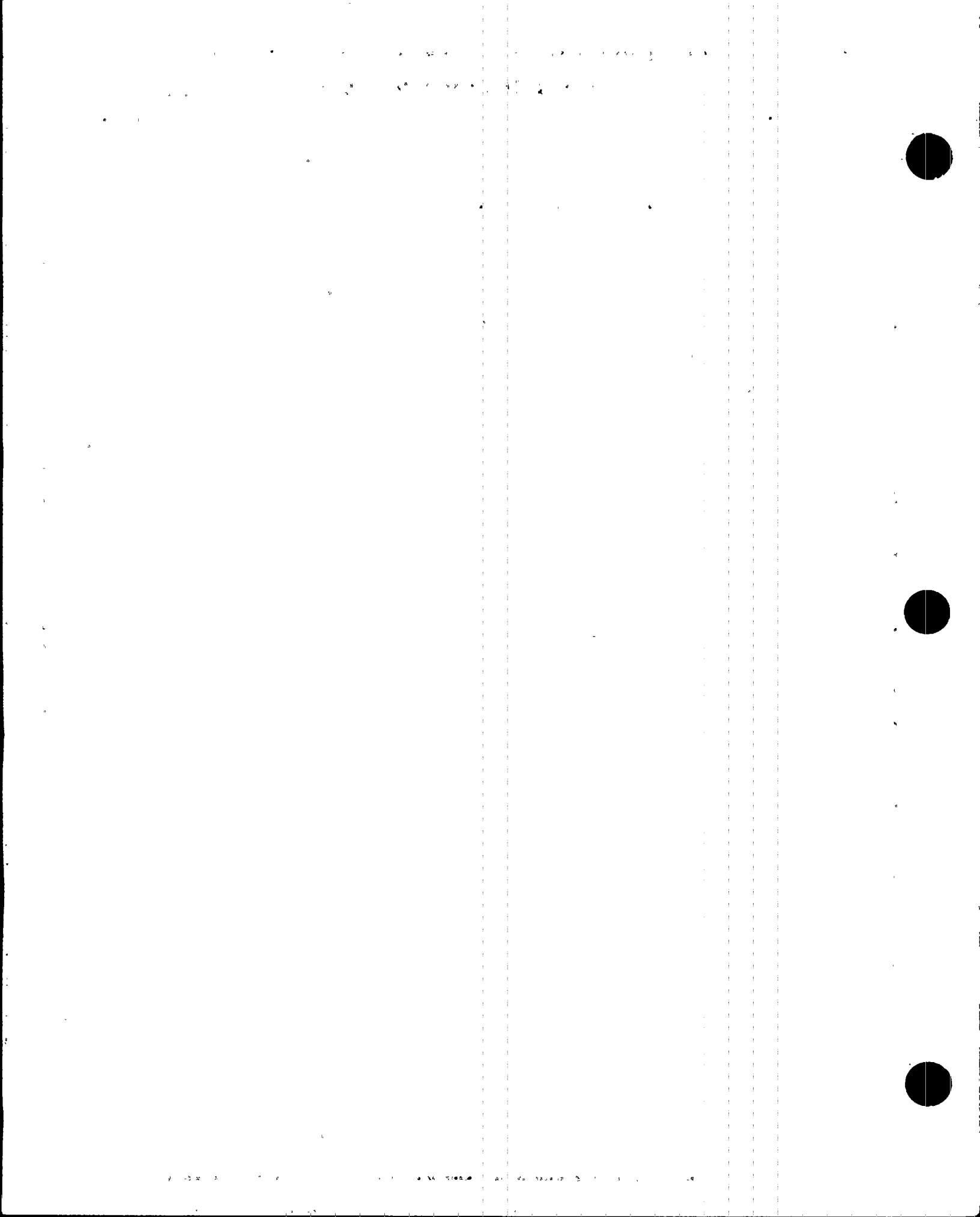
- a. Assuring that plant tests are identified, scheduled, controlled, performed and documented;
- b. Assuring that plant test procedures are reviewed and approved.

**11.3.2 The Director Nuclear Assurance is responsible for:**

- a. Assuring that test procedures specify necessary quality requirements such as witness and hold points, and adequate data sheets.

**11.3.3 The Director Protection & Control Systems is responsible for:**

- a. Assuring the identification, scheduling, control, performance, and documentation of tests performed by Protection & Control Systems;
- b. Submitting test procedures to the Plant General Manager for review;
- c. Coordinating test schedules with the Plant General Manager.



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11.3.4 The Vice President Nuclear Engineering and ~~Licensing~~ is responsible for:

- a. Specifying the need for pre-installation and post-installation testing of items within ~~his~~ the purview of Nuclear Engineering;
- b. Writing test procedures as requested;
- c. Evaluating test results as requested.

