

JM Test Systems, Inc.

ELECTRICAL SAFETY LAB

**QUALITY SYSTEM
MANUAL**

Baton Rouge, Louisiana

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It is JM Test Systems, Inc. Electrical Safety Lab (ESL) responsibility and policy to perform testing activities in accordance with ASTM, ANSI, IEEE and NAIL accreditation requirements, as well as all customer requirements and regulatory laws.

1. Accreditation criteria

JM Test Systems, Inc. Electrical Safety Lab (ESL) conducts the following tests;

Equipment	Tested To	Re-Tested To
Insulating Gloves	ASTM D120	ASTM F496
Insulating Sleeves	ASTM D1051	ASTM F496
Insulating Blankets	ASTM D1048	ASTM F479
Insulating Line Hose	ASTM D1050	ASTM F478
Insulating Covers	ASTM D1049	ASTM F478
Insulating Matting	ASTM D178	N/A
Insulating Plastic guards	ASTM F712	N/A
Insulating Aerial Devices	ANSI A92.2	N/A
Insulating By-pass jumpers	ASTM F2321	N/A
Insulated Hand tools	ASTM F1505	N/A
Insulating rubber & PVC shielding	ASTM F1742	N/A
Insulating Bucket liners	ANSI A92.2	N/A
In-service Ground jumpers	ASTM F2249	N/A
Phase Tester	ASTM F1796	N/A
Voltage Tester	ASTM F1796	N/A
Boots and Overshoes	ASTM F1116	N/A
Hotsticks & Insulating lineman tongs	ASTM F711, F1825	N/A
Voltage detectors	ASTM F1796	N/A

List of Facilities, Equipment and Standards

Item	Model Number	Serial Number	Identification Number
Fluke Multimeter	87 series V	89170266	816
Dynamometer	AP 5000 LB	D43601	1320
Dynamometer	0-1000 LB	5088	1306
Dynamometer	1000 LB	D45483	1403
Truck Tester "Phoenix"	BK 130	09 5765	1287
Truck Tester "High Volt"	ALT-120/60	284	1102
Digital timer	5004	91151951	1309
Fluke probe	80K-40	83720020	720
Hanco Glove Tester	NA5012	M6125-55953	632
Chance Ground Tester	C403-3220	N/A	1479
Truck Tester High Volt	ALT 120/60T	34	582
White ground tester	GT400HD	03-16530	749
Temp/humidity Pen	445580	943544	773
SLV TSTR Skarshaugh	A-100-2G	7510237	584
Rescue hotstick	24401	N/A	1118
Oil Tester	OC60A	3595	646
Hanco Blanket Tester	A4825	N17068-81753	751

ESL Accreditation shall be evidenced by a current letter from NAIL. The period of validity shall be stated in the letter of accreditation. ESL shall satisfy all the conditions specified in accreditation criteria during its period of accreditation.

ESL shall grant NAIL the right to conduct unscheduled inspections of the lab in order to assure continued compliance with the requirements for accreditation, and shall cooperate in the conduct of the inspections. Any change to key personnel shall be reported to NAIL and a copy of the revised organizational chart and Resume(s) forwarded to NAIL. Any changes to key personnel shall be maintained in this QSM binder.

2 Organization and management

JM Test Systems Inc. is privately owned and was incorporated in Louisiana in 1982. All facilities operate under a Quality Management System. The legal entity of the laboratory and Headquarters:

JM Test Systems, Inc.
7323 Tom Drive
Baton Rouge, LA 70806

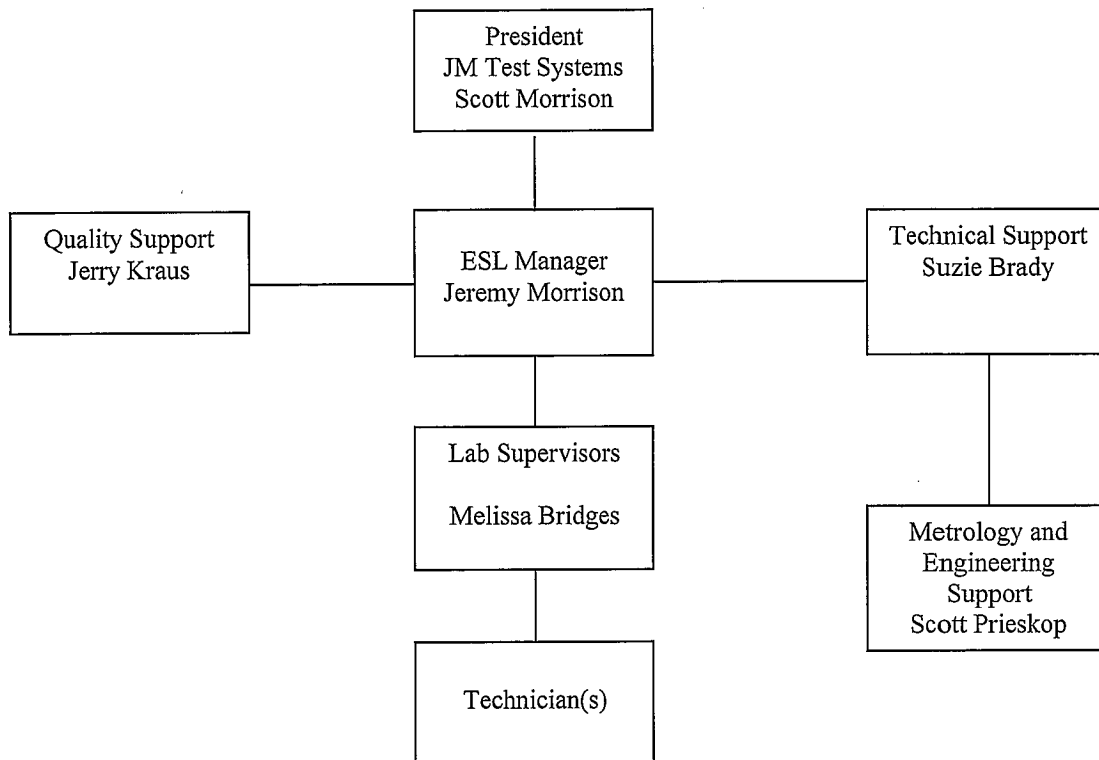
The Electrical Safety Lab location:

JM Test Systems, Inc.
Electrical Safety Lab
7323 Tom Drive
Baton Rouge, LA 70806

JM Test Systems has mobile trailers that serve as an extension of the above facility.

Sources of financial support come from self-generated revenues from this Division as well as support from its Sales, Test, and Equipment Rental activities.

The ESL function is organized as follows:



ESL Management Team

Name	Position	Responsibilities
Jeremy Morrison	ESL Manager	Management of Lab
Melissa Bridges	Lab Supervisor	Supervision of technicians Program schedules Manpower control
Brett Morrison	Lead Onsite operations	Onsite operations
Michelle Quinn	Administration	Administration
Suzie Brady	Technical Specialist	Equipment support
Scott Prieskop	Metrology Engineer Electrical Engineering	Management of Standards Equipment calibration
Jerry Kraus	Quality Manager	Quality Support

3 Document Control

ESL complies with Quality Procedure 12 “Control and maintenance of Quality System documents” to control all documents that form its quality system. Quality Procedure 16 “Control and maintenance of technical documents” to control all technical documents including internally generated or external sources, such as ASTM, ANSI, ISSS, ISI/IEC standards, test methods, software, drawings, specifications, instructions and manuals. Documents and data can be in the form of any type of media, such as hard copy or electronic media.

Document approval and issue

Documents are available on the computer company intranet network to all employees. Documents are reviewed and revised to ensure continuing adequacy suitability and compliance with applicable requirements. All documents are uniquely identified with a revision number, the date of issue and/or revision, title, page number, and the issuing authority.

Document changes

Changes to documents are reviewed and approved by the same people that performed the original review unless specifically designated otherwise. Altered or new text is identified in the document or with appropriate attachments. A revised document is formally re-issued as soon as practicable.

4 Complaints

JM Test Systems has a policy and QP18 Customer Complaints procedure for the resolution of complaints received from clients or other parties. Records are maintained of all complaints via Quality Form 105 and of the investigations and corrective actions taken by JM Test Systems.

5 Corrective action

JM Test Systems has established a policy and Quality Procedure QP 29 “Nonconforming calibration procedure” and has designated appropriate authorities for implementing corrective action when nonconforming work or departures from the policies and procedures in the quality system or technical operations have been identified.

The procedure for corrective action (governed by QP 24) starts with an investigation to determine the root cause(s) of the problem and identifies potential corrective actions. It selects and implements the action(s) most likely to eliminate the problem and to prevent recurrence.

6 Control of records

General

JM Test Systems has established and maintain QP 7 Quality Records procedure for the identification, collection, indexing, access, filing, storage, maintenance and disposal of quality and technical records.

All records are legible and are stored and retained in such a way that they are readily retrievable in facilities that provide a suitable environment that prevents damaged or deterioration and prevents loss. All records are held secure and in confidence and JM Test Systems protect and back-up records stored electronically and to prevent unauthorized access to or amendment of these records.

Technical records

JM Test Systems retains records of original observations, derived data and sufficient information to establish an audit trail, test records, staff records and a copy of each test certificate issued, for a defined period. The records for each test contain sufficient information to facilitate, if possible, identification of factors affecting the uncertainty and to enable the test to be repeated under conditions as close as possible to the original. The records include the identity of personnel responsible for the performance of each test and checking of results. The minimum period of record retention is five (5) years except for shipping and receiving records which can be retained a minimum of one (1) year.

ESL maintains the following records

- A. Test reports on all products tested
- B. All data generated during testing
- C. Records that support compliance with calibration program
- D. Equipment Lists
- E. Receiving and shipping records
- F. NAIL accreditation correspondence
- G. Personnel files, job descriptions, financial records
- H. Master file of standards for which accreditation has been granted

7 Inspection and testing

ESL has work instructions and procedures for the inspection and testing activities in order to ensure that testing services it provides meet specified requirements. Final inspection and test is accomplished by ASTM, ANSI or IEEE guidance.

8 Personnel

JM Test Systems management ensures the competence of all who operate specific equipment, perform tests, and evaluate results, and sign reports and test certificates. When using staff that is undergoing training, appropriate supervision is provided. Personnel performing specific tasks are qualified on the basis of appropriate education, training, experience and/or demonstrated skills, as required.

The Lab is staffed by an adequate number of personnel qualified by training and experience to conduct tests and analyze data to assure the accuracy, performance, and timeliness of testing and follow-up requirements. Personnel have a working knowledge of electrical testing of protective electrical equipment test standards and methods. The management of JM Test Systems formulates the goals with respect to the education, training and skills of JM Test Systems personnel. JM Test Systems has a policy and Training procedure for identifying training needs and providing training of personnel. The effectiveness of training is assessed. JM Test Systems maintains current job descriptions for managerial, technical and key support personnel involved in tests. Job qualifications are categorized using a letter system that segregates work into letter coded areas. Technicians performing tests in an area must have been qualified for the area or be obtaining "OJT" in the area while under direct supervision of a qualified technician. Technicians assigned to new areas will receive training in the area until qualified in the area. Training and qualifications are recorded in the technician personal training record. A technician qualifications list is posted on the work assignment board listing each technicians name, stamp number, initials, and qualified areas.

9 Accommodation and environmental conditions

JM Tests Systems facilities for testing, including but not limited to energy sources, lighting and environmental conditions, are such as to facilitate correct performance of tests.

JM Test Systems ensures that the environmental conditions do not invalidate the results or adversely affect the required quality of any test. The technical requirements for accommodation and environmental conditions that can affect the results of tests are controlled. Environmental controls are governed by Work Instruction WI-6.

JM Test Systems monitors, controls and records environmental conditions as required by the relevant specifications, methods and procedures or where they influence the quality of the results.

Measures are taken to ensure good housekeeping in JM Test Systems facilities. A weekly scheduled cleanup is maintained at the facility.

10 Test procedures and validation

JM Test Systems uses appropriate test procedures for all tests. These include handling, transport, storage and preparation of items to be tested. Test Validation is the confirmation by examination and the provision of objective evidence that the particular requirements for a specific intended use are fulfilled.

11 Equipment

JM Test Systems is furnished with all items of sampling, measurement and test equipment required for the correct performance of the tests.

Equipment and its software used for testing is capable of achieving the accuracy required and complies with specifications relevant to the tests concerned. Test programs are established for key quantities or values of the instruments where these properties have a significant effect on the results. Before being placed into service, equipment is calibrated or checked to establish that it meets JM Test System's specification requirements and complies with the relevant standard specifications. It is checked and/or calibrated before use.

Equipment is operated by authorized personnel. Up-to-date instructions on the use and maintenance of equipment (including any relevant manuals provided by the manufacturer of the equipment) are readily available for use by the appropriate laboratory personnel.

Each item of equipment and its software used for test and significant to the result is, uniquely identified.

Records are maintained of each item of equipment and its software significant to the tests performed. The records include at least the following:

- a) the identity of the item of equipment and its software;
- b) the manufacturer's name, type identification, and serial number or other unique identification;
- c) checks that equipment complies with the specification;
 - a) the current location, where appropriate;
 - b) the manufacturer's instructions, if available, or reference to their location;
 - c) dates, results and copies of reports and certificates of all tests, adjustments, acceptance criteria, and the due date of next test;

- d) the maintenance plan, where appropriate, and maintenance carried out to date;
- e) any damage, malfunction, modification or repair to the equipment.

JM Test Systems has procedures for safe handling, transport, storage, use and planned maintenance of measuring equipment to ensure proper functioning and in order to prevent contamination or deterioration.

All equipment under the control of JM Test Systems and requiring test is labeled and identified to indicate the status of test, including the date when last calibrated and the date retest is due. If the re-test tag or label has only a month and year designation, re-test will be due on the last calendar day of the month.

12 Calibration Program

ESL is part of a company which operates a commercial calibration laboratory. All equipment at ESL is serviced by this company. The Calibration Lab is nationally accredited by the American Association for Lab Accreditation (A2LA) to the ISO 17025 standard.

- The accuracy of all measurement instruments and equipment standards are traceable to primary standards maintained by NIST or appropriate international organization.
- The normal accuracy of reference standards is at least four times as great as that that of the instrument being calibrated. Most standards and equipment are calibrated at least once a year or in accordance with the instruments manufacturer's recommended schedule.
- Documented evidence of calibrated standards is maintained in the laboratory as well as on the company's intranet site.
- JM Test Systems calibrates the standards and equipment in the lab. Should an outside calibration provider ever be used, JM Test Systems is fully responsible for the adequacy and quality of the service.
- ESL maintains certifications, copies of calibration data and equipment lists.
- Environmental factors are addressed in Section 9.
- The calibration contains written requirements and controls for permissible error limits, labeling, tagging and state of the art measurements of calibrated equipment.

13 Handling and packaging

JM Test Systems has QP 1 Procedure for the receiving and handling of measuring and test equipment including electrical safety equipment for the transportation, receipt, handling, protection, storage, retention and/or disposal of test items, including all Customer-supplied product and provisions necessary to protect the integrity of the test item, and to protect the interests of JM Test Systems and the client. When items have to be stored or conditioned under specified environmental conditions these conditions are maintained, monitored and recorded. JM Test Systems controls the packaging, packing, and marking process (including materials used) to the extent necessary to ensure conformity to specified requirements.

Change history

Revision	Date	Change Description
1.0	8/10/11	Original release
1.1	4-15-13	Review and update
1.2	11-27-13	Review and update

Approved by:



S. Morrison
President

11/27/13

Date