



Work Instruction (WI)

DIRECTIVE NO. 540-WI-8719.1.1-A
EFFECTIVE DATE: 03/03/2010
EXPIRATION DATE: 03/03/2015

APPROVED BY Signature: Original signed by:
NAME: Brian Montgomery
TITLE: RECERT Manager

COMPLIANCE IS MANDATORY

Responsible Office: 540/RECERT

Title: Certification and Recertification of Lifting Devices and Equipment (LDE)

PREFACE

P.1 PURPOSE

This Work Instruction (WI) provides instructions on the step by step process used by the Recertification Program (RECERT) Support Function personnel for the initial certification and recertification thereafter of Lifting Devices and Equipment (LDE).

P.2 APPLICABILITY

This work instruction is intended for the use by personnel assigned to the RECERT program. This procedure covers the required steps used to certify or recertify LDE's that are located at GSFC and its associated sites

P.3 REFERENCES

NPR-8715.3, NASA General Safety Program Requirements
GPR 8719.1A, Certification and Recertification of Lifting Devices and Equipment and Its Operators

P.4 CANCELLATION

540-WI-8719.1.1-, Certification of New or Modified Lifting Devices (LD) and Lifting Equipment (LE)
540-WI-8719.1.2-, Recertification of Lifting Devices (LD) and Lifting Equipment (LE)

P.5 TOOLS, EQUIPMENT, AND MATERIALS

Applicable LDE certification procedures shall include any special tools (which may include calipers, inclinometer, ropes and stanchions), PPE (at a minimum a hard hat, safety glasses, and steel-tip shoes), equipment (use of a man-lift, as necessary), or materials necessary for certification of LDE.

P.6 SAFETY PRECAUTIONS AND WARNINGS

Safety, caution and warning notes unique to LDE certification shall be included in applicable certification procedures.

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P.7 TRAINING

See GPR 8719.1A for training requirements

P.8 RECORDS

Record Title	Record Custodian	Retention
Test & Inspection Reports for: <ul style="list-style-type: none">• LDE• Procedures	RECERT Manager at Greenbelt, Deputy RECERT Manager at WFF	Permanent – pending approval of record schedule. *NRRS 8/56.5A

**NRRS – NASA Records Retention Schedules (NPR 1441.1)*

P.9 MEASUREMENT/VERIFICATION

At the beginning of each calendar year, RECERT will have certified approximately 90% of LDE required in accordance with applicable NASA requirements and standards.

Instructions

In this document, a requirement is identified by “shall,” a good practice by “should,” permission by “may” or “can,” expectation by “will,” and descriptive material by “is.”

(E) – Engineering Task (I) – Inspection Task (CM) – Configuration Management

The following steps are sequential unless noted otherwise.

- (E) A. For all new and/or modified LDE, develop a certification procedure to include at least the following (if existing proceed to step B):
 - a. Engineering verification that documentation required by GPR 8719.1A is complete.
 - b. Type and extent of NDT, including visual inspections, to be performed prior to proof load test. Acceptance criteria must be provided.
 - c. Step-by-step procedure for proof load test, including the applied test load.
Note: This procedure may be generic for multiple types of LDE.
 - d. Type and extent of NDT, including acceptance criteria, to be performed subsequent to proof load test.
 - e. Develop a hazardous operation plan in accordance with Chapter 3 of NASA NPR 8715.3.
- (E) B. For the first LDE recertification, develop a specific recertification procedure to include at least the following. For simple, nonstructural lifting equipment (shackles, rings, etc.), a generic recertification procedure must include at least items b, c, and d below. A table of values may be provided to comply with item d.
 - a. Identification of critical welds.
 - b. Type and extent of NDT, including visual inspections, to be performed prior to rated load test. Acceptance criteria must be provided.
 - c. Step-by-step procedure for rated load test, including the applied test load.
Note: This procedure may be generic for multiple types of LDE.
 - d. Type and extent of NDT, including acceptance criteria, to be performed subsequent to rated load test.
 - e. If a hazardous plan is not present in current documentation, develop a plan in accordance with Chapter 3 of NASA NPR 8715.3,
- (E) C. For subsequent LDE recertification, review existing specific recertification procedure for continued applicability. (If the configuration has changed, or if the LDE has been structurally modified, go to step A).
- (E) D. Obtain RECERT Manager’s approval of recertification procedure.
- (I) E. For new or modified LDE the user is to follow proof load test series and for existing and unmodified from the original certification the user is to follow rated load test series (refer to Step A and/or B).
 - a. Rated Load Test
 - i. Perform pre-rated load test NDT.
 - 1. If acceptable, proceed to step ii.

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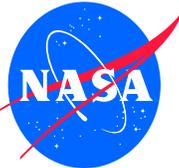
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2. If unacceptable, the item is rejected. Proceed as directed by the RECERT Manager.
- ii. Perform rated load test.
 1. If acceptable, proceed to step iii.
 2. If unacceptable, the item is rejected. Proceed as directed by the RECERT Manager.
- iii. Perform post-rated load test NDT.
 1. If acceptable, proceed to step F.
 2. If unacceptable, the item is rejected. Proceed as directed by the RECERT Manager.
- b. **PROOF LOAD TEST**
 - i. Perform pre-proof load test NDT. Note: All LE hardware components must be traceable to a credible source of information, such as OEM, OSHA, etc., for certifiability. If such traceability does not exist, the item(s) shall be rejected.
 1. If NDT is acceptable, proceed to step ii.
 2. If NDT is unacceptable, the item is rejected. Proceed as directed by the RECERT Manager.
 - ii. Perform proof load test.
 1. If acceptable, proceed to step iii.
 2. If unacceptable, the item is rejected. Proceed as directed by the RECERT Manager.
 - iii. Perform post-proof load test inspection and NDT.
 1. If NDT is acceptable, proceed to step F.
 2. If NDT is unacceptable, the item is rejected. Proceed as directed by the RECERT Manager.
- (I) F. Apply applicable recertification tag(s) (see attachments), and release for service or return to Owner/User.
- (E) G. Obtain RECERT Manager's approval of certification and file procedure and recertification documentation in RECERT Master Files.
- (CM) H. Update CM System to include certified LDE as applicable.

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RECERT LDE Tags

Typical GSFC Greenbelt tags are shown. WFF tags are similar but include WFF-specific designation and contact information.



**GODDARD SPACE FLIGHT CENTER
RECERTIFICATION PROGRAM**

CERTIFIED

*LDE/EQUIP. ID.
NO.* _____

	CRITICAL
	NONCRITICAL

SWL # _____
INSPR _____
INSP DATE _____
DUE DATE _____

RECERT SUPPORT:

(301) 286-5181

**GODDARD SPACE FLIGHT CENTER
RECERTIFICATION PROGRAM**



CERTIFIED
___ **CRITICAL** ___ **NONCRITICAL**

LDE ID # _____
SWL# _____
INSPR: _____
INSP DATE: _____
DUE DATE : _____
RECERT SUPPORT: (301) 286-5181

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Appendix A – Definitions

Most of the terms used in this directive are defined in GPR 8719.1A. Those that are critical and or unique to this work instruction are listed below.

- a. Certification/Recertification – Written documentation that a set of requirements has been, and continues to be, met. As used in this GPR, certification and recertification is: 1) a process performed by the RECERT Manager that leads to the initial, or continuation of, certification that LDE is safe to use within specific certification parameters, and includes, but is not limited to LDE compliance and documentation reviews, tests, inspections, nondestructive testing, and analyses; 2) a license issued and renewed by the RECERT Manager for operation of LDE; and 3) a memo or license issued to perform the duties of a CLC.
- b. Configuration Management - The identification, control, accounting, and verification of requirements and implementation documentation for formal orderly control of the PV/S configuration.
- c. Lifting Devices (LD) and Equipment (LE) collectively (LDE) – LDE comprises LD such as overhead and gantry cranes (including top running monorail, under-hung, and jib), mobile cranes, derricks, hoists, winches, special hoist supported personnel lifting devices, mobile aerial platforms (MAP), powered industrial trucks (PIT), and jacks; and LE such as Hydra-sets, load measuring devices, hooks, slings and rigging used for lifting and support of flight hardware or personnel.
- d. Nondestructive Testing (NDT) - The development and application of technical methods to examine materials or components in ways that do not impair future usefulness and serviceability in order to detect, locate, measure, and evaluate flaws; to assess integrity, properties, and composition; and to measure geometrical characteristics.
- e. Proof Load Test: A load test performed prior to first use, after major modification of the load path or at other prescribed times. This test verifies material strength, construction, and workmanship and uses a load greater than the rated load. Proof load test, as used in this standard, is equivalent to the OSHA rated load test.
- f. RECERT Documentation – Files that are maintained for LDE that may include, but are not limited to, manufacturer’s/fabricator’s documents, field test data, safety analyses, results of engineering analyses, repair history, facility descriptions, record of all safety variances, re-rating, and correspondence.
- g. RECERT Manager and Deputy RECERT Manager/WFF – Positions appointed by the Center Director to implement and enforce the Center’s LDE and ground-based pressure vessels and pressurized systems (PVS) Program meeting NASA-STD-8719.9 and NASA-STD-8719.17 requirements, respectively. The RECERT Manager and Deputy RECERT Manager/WFF positions are a combination of the LDEM and PSM positions described in both NASA Technical Standards.

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h. Support Function – Contract personnel who are based on-site and participate in on-going daily operations at GSFC.

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Appendix B – Acronyms

CM - Configuration Management
GPR - Goddard Procedural Requirement
ID - Identification
INSPR - Inspector
LD - Lifting Device
LDE - Lifting Device and Equipment
LE - Lifting Equipment
NDT - Non-Destructive Testing
NPR - NASA Procedural Requirement
RECERT - Certification and Recertification Program at GSFC
SWL - Safe Working Load
WFF - Wallops Flight Facility

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CHANGE HISTORY LOG

Revision	Effective Date	Description of Changes
Baseline	02/03/2005	Initial Release
A	03/03/2010	Revised Purpose, Applicability, Records, Instructions, and sling tag. Incorporated 540-WI-8719.1.2 into this document

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