

**Ames Laboratory**  
**Office** Engineering Services  
**Title** Ames Laboratory Procurement Quality Procedure  
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**Procedure** 46200.003  
**Revision** 1  
**Effective Date** 11/01/02  
**Review Date** 11/01/05

## AMES LABORATORY PROCUREMENT QUALITY PROCEDURE

This procedure shall be used to direct the quality procurement review and inspection activities performed within Ames Laboratory to review procured items for quality and safety concerns.

Comments and questions regarding this procedure should be directed to the contact person listed below:

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Manager, Engineering Services  
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### Sign-off Record:

Approved by: T. Herrman Date: 11/25/02  
Program/Department

### Approved by Procurement Quality Members:

John Hjortshoj Date: 10-30-02  
John Hjortshoj, Reviewer ESG-Electronics

T. Herrman Date: 11/25/02  
Terry Herrman, Reviewer ESG-Mechanical

Jack Cummings Date: 12-10-02  
Jack Cummings, Procurement & Property

Diane DenAdel Date: 12-12-02  
Diane DenAdel, Information Systems

Reviewed by: Alan Wessel Date: 12-12-02  
Environment, Safety, Health & Assurance

Approved by: Mark Munger Date: 12-19-02  
Division Director

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## 1.0 Revision/Review Log

This document will be reviewed every 3 years as a minimum.

<u>Revision Number</u>	<u>Effective Date</u>	<u>Contact Person</u>	<u>Pages Affected</u>	<u>Description of Revision</u>
0	11/01/96	D. Bluhm	All	Initial issue
1	11/01/02	T. Herrman	All	Reference Revision Description Summary PROC462_003revdesc.doc

## 2.0 Purpose and Scope

This procedure directs the labwide quality procurement review activities performed by the Engineering Services Group Electronics/Mechanical technical support staff and the Ames Lab Property and Procurement personnel utilizing the software purchase requisition database program designed and maintained by Information Systems. These activities were developed to satisfy directives defined in Ames Laboratory Corrective Action Plans AP-090, AP-106 and AP-107. All purchase orders and credit card orders meeting the criteria defined in 3.2 of this procedure shall be reviewed and inspected when required for quality and safety concerns to safeguard against acquisition of defective, unsafe, or nonstandard equipment and materials.

## 3.0 Prerequisite Actions and Requirements

### 3.1 Definitions

*AL*  
Ames Laboratory

*CAP*  
Corrective Action Plan created by Ames Laboratory to improve performance or correct a deficiency.

*counterfeit parts*  
A part falsely claimed to be a level of quality and/or a type of material.

*credit card order*  
Purchased items acquired through the use of government credit cards

*DOE*  
Department of Energy

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*ESG*

Engineering Services Group of Ames Laboratory

*ESH&A*

Environment, Safety, Health, and Assurance Group of Ames Laboratory

*GIDEP*

The Government Industry Data Exchange Program is a cooperative activity between Government and Industry participants. The program provides a means to exchange certain types of technical data essential in the research, design, development, production and operational phases of the life cycle of systems and equipment including failure experience data which provides data on counterfeit parts.

*IS*

Information Systems of Ames Laboratory

*NRTL*

National Recognized Testing Laboratory

*ORPS*

Occurrence Reporting and Processing System

*OSHA*

Office of Safety and Health Administration

*procurement buyers*

Professional staff in the Procurement and Property Office of Ames Laboratory who place purchase orders with vendors to acquire goods and services for all Ames Laboratory organizational units.

*purchase order*

The official printed order sent to the selected vendor authorizing acquisition, receipt and payment of the specified goods or services.

*purchase requisition*

The initiating form completed by Ames Laboratory personnel and processed through the Ames Laboratory Property and Procurement Office to initiate acquisition of goods and services and create the final purchase order.

*QA*

Quality Assurance

*R&D*

Research and Development

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*SET*

Specific Employee Training

*SRC*

Safety Review Committee of Ames Laboratory

### 3.2 Specified Criteria for Procurement Review

3.2.1 Included Purchase Orders Totaling  $\geq$  \$2500

All purchase orders totaling  $\geq$  \$2500 receive automatic review unless eliminated for review by procurement buyers because the item falls into one of the types defined in 3.2.2 of this procedure.

3.2.2 Excluded Purchase Orders Totaling  $\geq$  \$2500

The following types of purchased items or services , regardless of dollar value, do not need a quality review and should be excluded from the database by the procurement buyer using the 4.0 Performance actions of this procedure.

- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| Books                               | Space rental                        |
| Chemicals                           | Standing order for analytical costs |
| Commercial compressed gas cylinders | Tuition costs                       |
| Computer software                   |                                     |
| Computer software licenses          |                                     |
| Conference fees                     |                                     |
| Fees for tests                      |                                     |
| Furniture                           |                                     |
| Honorariums                         |                                     |
| Lease arrangements                  |                                     |
| Maintenance agreements              |                                     |
| Medicine                            |                                     |
| Paper products                      |                                     |
| Printing costs                      |                                     |
| Repair                              |                                     |

3.2.3 Included Purchase Orders or Credit Card Orders Totaling  $<$  \$2500

Purchase order requisitions or credit card orders  $<$  \$2500 which meet the following criteria are subject to this review procedure relating to mechanical and electronic/electrical aspects. (The chart titled, "Buyer Guide for Ames Laboratory Procurement Quality Procedures ESG-Mechanical and ESG-Electronic Review and Inspection," attached as part of the 6.0 Additional Information of this procedure, provides additional clarification, definitions, and examples of these criteria.)

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#### 3.2.3.1 Pressurized Vessels or Systems

Pressurized vessels or systems including all boilers, pressure vessels and vacuum systems but do not include nuclear reactors. The concept of the Draft DOE Pressure Safety Manual is that all pressure systems must be designed, fabricated, tested, inspected, maintained, repaired, and operated in accordance with applicable codes and sound engineering principles by trained and qualified personnel.

#### 3.2.3.2 Welded Structures or Components

Welded structures or components including all systems or components which are fabricated by welding prior to acquisition by Ames Laboratory.

#### 3.2.3.3 Stock Material to be Welded

Stock material to be welded including all material procured with the intent of utilizing welding to join components during the fabrication or installation per Welding Program 46200.001.

#### 3.2.3.4 Counterfeit parts

Any item which might involve counterfeit parts (a part falsely claimed to be a level of quality and/or a type of material) are included such as counterfeit bolts including any bolts, components, or systems which are bolted together with fasteners purported to be Grade 5, Grade 8, or Grade A325.

#### 3.2.3.5 Electronic/electrical Devices and/or Equipment

Electronic/electrical devices and/or equipment subject to acquisition are included which do not have a NRTL specification. This procedure is totally in accordance with the Ames Laboratory Electrical Safety Manual, 46200.001, Chapter 6, "Acquisition, Fabrication, and Maintenance of Electrical Equipment." This review and inspection also covers laser and x-ray equipment relative to applicable Ames Laboratory policies and procedures.

### 3.3 Group Training/Administrative Controls

Operating procedural training shall be arranged by Engineering Services Group in a group meeting format for the involved ESG, IS, and Procurement Office staff participants. The information in this operating procedure and the information in other documents to which it refers shall serve as the basis for this training. Attendance and participation in the procedural training shall be documented on the ESG Field Training Documentation Form 46200.022. Technical training on the specific electronic and mechanical review and inspection activities shall be conducted within the ESG-Electronic and ESG-Mechanical Sections and shall be documented on the ESG Field Training Documentation Form 46200.022.

Subsequent training shall be provided to all cognizant parties as retraining to existing employees and as training for new program modifications to accommodate future revisions.

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### **3.4 Custom Software Programming Maintenance/Assistance from IS**

All documentation/schematics on the design and operation of the custom designed electronic database utilized as part of the performance of this procedure shall be retained by the assigned software programmer in IS. The software programmer shall provide ongoing support maintenance to the custom database as needed and assist with program modifications necessary to accommodate future revisions of this procedure.

## 4.0 Performance

### Responsibility

Procurement buyers shall initiate or eliminate quality review as needed in accordance with the 3.2 Specified Criteria for Procurement Review defined in this procedure.

Likewise, personnel procuring items via the government credit card can initiate quality review by marking the "Engr. Review" box in the TASK system Credit Card Program.

The Procurement and Property Office buyer reviews the Credit Card Program database for items that should have been marked for review but were not marked by the requester.

### Action

- 1) When a purchase requisition is submitted to the Procurement and Property Office the assigned buyer will briefly review the described requisition items to determine whether the items meet the review criteria defined in 3.2 above and using the chart, "Buyer Guide for Ames Laboratory Procurement Quality Procedure."
- 2) If the purchase order totals  $\geq$  \$2500 and the procured items are listed in the 3.2.2 exclusion list, the procurement buyer shall mark the 'No' quality review check box in the purchase order database.
- 3) If the purchase order totals  $<$  \$2500 and in the buyers judgment the description indicates there should be a quality review according to the 3.2.3 included criteria, the buyer shall mark the 'Yes' quality review check box in the purchase order database.
- 4) The electronic Credit Card Program tracks orders needing review and generates an automatic monthly report printout in the Engineering Services office, 158 MD. This report can also be generated at will using the menu screen under the administrative logon into the HP mainframe. An example of this report is included in 6.0 Additional Information.

### Responsibility

The assigned ESG-Electronics and ESG-Mechanical staff members (or their designee) shall review the electronic inspection database on the HP computer to assign inspection ratings to purchase order line items flagged as needing quality review.

The credit card order report shall also be reviewed monthly by the ESG Manager to determine if any actions for quality review are needed.

### Action

- 1) On a weekly basis, the line items of purchase orders fed electronically from the Purchase Order Database into the Inspection Database are reviewed by both the ESG-Mechanical and ESG-Electronics technical reviewer and assigned one of 4 inspection ratings:

**1 = Item must be inspected prior to use;**

**2 = Item will be inspected at a convenient time;**

**3 = Inspection optional (this means the reviewer has no opinion on this item);**

**4 = Inspection deemed unnecessary.**

For those items needing inspection, the Hold Area location field of where the item will be inspected is also completed as:

**D = Development Shop;**

**S = Requester Site;**

**T = Electronic Tech Shop;**

**W = Item held at Warehouse.**

- 2) When the items on reviewed purchase orders assigned a 1 or 2 inspection rating have been received at the Warehouse, the computer database automatically initiates a one-time printing of a form titled, "Ames Laboratory Engineering Services' QA Daily Inspection Notice." (See 6.0 Additional Information.) This inspection report is referred to the cognizant Section assigning the 1 or 2 rating. This report informs the reviewer that the indicated inspection can now be performed. A report of all pending inspections can be generated by the cognizant Section at any time until the inspection is performed and the reviewer enters the inspection dates into the database. Items are then removed from the inspection database.

For credit card items needing quality review, the assigned reviewer will need to contact the purchaser to make arrangements for inspection when the item is received.

- 3) If the reviewed item does not pass quality inspection and is not easily corrected as needed, the reviewer can flag fields in the inspection database to generate an automatic Discrepancy Information form letter which is sent to the requester and the procurement office. The reviewer can indicate in this letter what actions are necessary to correct the problems. (See example of this form letter in 6.0 Additional Information.)
- 4) Severe discrepancies which are not corrected may be referred to the Ames Laboratory Safety Review Committee for further action.
- 5) All defective items, materials, and services (excluding office supplies, office equipment, and household products) are to be reported in compliance with DOE Order 232.1 Chg 2, Occurrence Reporting and Processing of Operations Information. The reviewer finding the defective item shall complete Form 46200.028 (see example in 6.0 Additional Information). This form shall be forwarded to the Ames Lab ESH&A office, with copies sent to Procurement and the ESG office. The ESG office shall send a brief memo quarterly report to ESH&A summarizing all findings for the past quarter.

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### **Responsibility**

Upon receipt of procured items, the Warehouse personnel check the Purchasing Receipt database for the assigned inspection rating and Hold Area code.

- 6) Engineering Services Group shall keep the completed inspection notices, information letters and all other supporting documentation and reports on file for audit purposes.

### **Action**

- 1) If the inspection rating is designated as a 1 or 2 for the item, the warehouse personnel shall mark the indicated section on the form, "Ames Laboratory Warehouse Receiving Slip" which is attached to all delivered items. (An example of this form is included in 6.0 Additional Information of this procedure.)
- 2) For items needing inspection, delivery will be made to the indicated Hold Area locator code.

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## **5.0 Post Performance Activity**

### **5.1 Periodic Review**

This operating procedure will be reviewed periodically by the Manager, Engineering Services to assure the required activities are being performed. If appropriate, this formal written procedure will be clarified or corrected as necessary. Retraining meetings will be conducted as necessary if significant changes occur to this procedure.

## **6.0 Additional Information**

**6.1 Form 46200.022, "Engineering Services Group (ESG) Field Training Documentation Form"**

**6.2 Form 46200.049, "Buyer Guide for Ames Laboratory Procurement Quality Procedure"**

**6.3 Program Summary GIDEP**

**6.4 Ames Laboratory Engineering Services' QA Daily Inspection Notice**

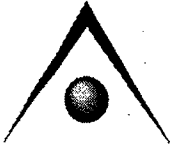
**6.5 Ames Laboratory Warehouse Receiving Slip Rev. 11/96**

**6.6 Discrepancy Information Letter**

**6.7 Form 46200.028, "Occurrence Reporting and Processing of Operations Information (ORPS) Defective Item Report"**

**6.8 Credit Card Report for Engineering**





**AMES LABORATORY**  
Interoffice Communication

**ENGINEERING SERVICES GROUP (ESG)  
FIELD TRAINING DOCUMENTATION FORM**

**Section within ESG:** \_\_\_\_\_

**Date/Time of Training:** \_\_\_\_\_

**Location:** \_\_\_\_\_

**Training Arranged or Conducted by:** \_\_\_\_\_

**Type of Training (Describe):** \_\_\_\_\_

**Training Type:**                      *SET Mandatory*                       *SET Optional*

**PARTICIPANTS:**

<i>Name</i>	<i>Employee No.</i>	<i>Name</i>	<i>Employee No.</i>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**Safety Rep:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Safety Coordinator:** \_\_\_\_\_

**Date:** \_\_\_\_\_

*Original form to be returned to ESG Safety Coordinator for training files.*

**BUYER GUIDE FOR AMES LABORATORY  
PROCUREMENT QUALITY PROCEDURE**

TOPIC	DEFINITION	EXAMPLES/KEYWORDS
A. Pressurized vessels or systems	Pressure vessels include chambers designed for the containment of fluids at pressures 5 psi above or below atmospheric with a cross section larger than the associated pipe or tubing.	<ul style="list-style-type: none"> <li>• Portable air pressure tanks or cylinders.</li> <li>• High and ultra-high vacuum chambers.</li> </ul>
B. Welded systems	Welded structures include assemblies of components which are joined by melting the parent metals. To unite or consolidate (as metallic parts) by heating to a plastic or fluid state the surfaces of the parts to be joined and then allowing the metals to flow together with or without the addition of other molten metal or by hammering or compressing with or without previous softening by heat - compare gas welding.	<ul style="list-style-type: none"> <li>• Welded metal assemblies for support.</li> <li>• Angle iron.</li> <li>• Cranes or hoists.</li> <li>• Elevated platforms.</li> </ul>
C. Counterfeit parts	Counterfeit parts include parts claimed to be a level of quality or material which they are not and any components which have been previously used but are purported to be new.	<ul style="list-style-type: none"> <li>• All grade 5, 8, or A325 bolts and fasteners.</li> <li>• Any counterfeit or suspect items noted in DOE Safety Bulletins or listed within the Government Industry Data Exchange Program (GIDEP).</li> </ul>
D. Electronic/ electrical devices and/or equipment	<p>OSHA regulations and DOE orders require that purchase of electrical devices and/or equipment be National Recognized Testing Laboratory (NRTL) - certified unless equipment or systems possessing NRTL certification are not available for purchase. (See Ames Lab Electrical Safety Manual 6.2.2.) There exist a number of NRTL's see examples. Presumably any devices or equipment possessing a traceable certification to one or more of these laboratories qualifies for unquestioned purchase for Ames Laboratory use.</p> <p>It should be pointed out that the implementation mechanism for the Procurement Quality program also provides the vehicle by which other concerns not related to Procurement are monitored. For example the procedure for monitoring purchase of electronic/electrical items permits the reviewers also to watch for the acquisition of <b>LASER and X-RAY EQUIPMENT</b>, each of which are subject to other regulations within the Ames Laboratory.</p>	<ul style="list-style-type: none"> <li>• Any electrical parts or components <u>not</u> specified as:               <ul style="list-style-type: none"> <li>- Underwriters Laboratories (UL) - for equipment and systems.</li> <li>- Canadian Standards Association (CSA) - for equipment and systems.</li> <li>- National Electrical Manufacturers Association (NEMA) - for construction components.</li> <li>- Underwriter Laboratories (UL) for electrical/electronic components.</li> </ul> </li> <li>• Apparatus utilizing lasers.</li> <li>• X-ray generators.</li> <li>• Apparatus utilizing x-ray equipment.</li> </ul>

