

MWI 5330.1

REVISION E

EFFECTIVE DATE: May 9, 2003

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MARSHALL WORK INSTRUCTION

QS01

EVALUATION OF CONTRACTORS, SUPPLIERS, AND VENDORS

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DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Cancelled)	Document Revision	Effective Date	Description
Baseline		5/14/99	Document converted from MSFC-P06.1-C07 to a Directive. Previous history retained in system as part of canceled or superseded ISO Document files.
Revision	A	8/20/99	Updated document to reflect new MSFC reorganization.
Revision	B	4/12/00	Change Title; section 1 & 2, change Purpose and Applicability; section 5, add definition for OTS, clarify deviation/waiver definition; section 6 restructure and renumber to add 6.1, mail-in survey, 6.2, on-site survey, 6.3, AVL list requirements and web link; update par 6.2.1.1, changing laboratories to Directorates; update 9.0 to add quality records; 10.0 updated for document change; 11.0 delete flow chart; add appendix for Mail-in survey and comment sheet and reorganize for document flow.
Revision	C	3/26/01	Modified section 2 for applicability, add to section 3, ANSI/ISO/ASQC Q9001-2000 & MWI 4530.1, add to section 5, a definition for adverse trend, updated 6.0 for contracted procurement audit support and supplier maintenance and change second to last sentence using "in relation to", Modified section 6.1 noting "Mail-out" in lieu of "Mail-in", deleted 6.2.7, added section 6.4 for supplier maintenance and review, consolidated quality records and maintenance requirements in section 9 and added annual supplier review reports, revised section 12 to show deletion of revision B, and cancellation of S&MA OI QS01-QA-010, Update Appendix B, MSFC Unique Requirements, for Management Review, Contract Review, Customer Supplied Product, and Deviations and Waivers.
Revision	D	6/14/01	Update section 4 to add vendor list links. Updated paragraphs 6.0, 6.1.4, and 6.2 to add process for new small business suppliers and to show the Project Specific Vendor List; update section 12. Update section 9 to read "...for a period of 10 years. Records will be maintained for life of the mission if greater than 10 years (after 10 years and/or the life of the mission, the records may be discarded or kept for historical purposes):
Revision	E		Update section 2 for main applicability to outsource processing. Add to section 3, MWI 5100.3. & update ISO document titles for 3.1, 3.2, 3.3; Section 4, Update all web site references. Section 6 changes as follows; 6, 2 nd , 2 nd paragraph update using assessment and verify, 6.1.1 change contact points and remove letter of record, 6.1.2 updated for special process requirements and remove letter of record, 6.1.4 & 6.2 revise ISO references, contact points, and web sites updated, 6.2 updated to note mail-out audit form approval, 6.2.2 updated to clarify

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			<p>audit processing; 6.2.2.4 & 6.2.2.5 updated to show changes to Appendix B, and add reference to MPG 5000.1, 6.2.5.1 remove and replace reference to attachment 3, with the MSFC form, 6.3.2 update the web site, 6.4.2 updated to clarify review applicability and to delete annual review report and to require corrective action records. Section 9 delete annual review report, and add records for corrective action, removal letters, and audit planning. Update section 10 to structure the section and to update experience requirements based on industry standards. Updated Appendix A with MSFC Forms 4446 and 4447. Forms revised to include ISO 9001:2000, time limits for ISO 1994 quality systems, add requirements for special process suppliers, and modify where the products will be produced within the company. Modify Appendix B to upgrade paragraph structure requirements, to remove old ISO audit checklist, reference paragraph numbers, modify MSFC unique requirements, and to add regrade to the MRB process; Modify Appendix C to upgrade paragraph structure; Modify header and footer information.</p>
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1. PURPOSE

To ensure that the contracted element supplying articles, materials, or services has a quality system and/or process controls that will assure their products meet Marshall Space Flight Center's (MSFC) specified requirements.

2. APPLICABILITY

This Instruction applies to evaluation of suppliers that will have quality requirements and/or special processes imposed within the outsourcing process at MSFC (Reference MWI 5100.3).

The evaluation process can be used to support larger procurements associated with pre/post contractor/subcontractor surveys and/or for special supplier requirements associated with NASA processing using inter-Center agreements, and/or Memorandums of Understanding (MOU's) between MSFC/NASA and other NASA partners. Limitations and depth of the evaluation during this process may be imposed by program/project quality planning based on criticality, mission success, cost, and schedule constraints.

3. APPLICABLE DOCUMENTS

3.1 ISO 19011, "Guidelines For Quality and/or Environmental Management System Auditing"

3.2 ANSI/ISO/ASQC 9001-1994, "Quality Systems - Model for Quality Assurance In Design, Development, Production, Installation, and Servicing"

3.3 ANSI/ISO/ASQC 9002-1994, "Quality Systems-Model for Quality Assurance in Production, Installation, and Servicing"

3.4 ANSI/ISO/ASQ Q9001-2000, "Quality Management Systems - Requirements"

3.5 MPD 1280.1, "Marshall Management Manual"

3.6 MPG 5000.1, "Purchasing"

3.7 MWI 4530.1, "Flight Hardware Support Operations (FHSO) Component Acquisition, Inventory Control, and Kitting Services"

3.8 MWI 5100.3, "Outsource Processing for Fabrication/Integration Services"

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4. REFERENCES

- 4.1 Audited Vendor List (AVL) Link:
<https://msfcsma3.msfc.nasa.gov/dbwebs/apps/avl/default.asp>
- 4.2 Limited Vendor List (LVL) Link:
<https://msfcsma3.msfc.nasa.gov/dbwebs/apps/lvl/default.asp>
- 4.3 Project Specific Vendor List Link (PSASL):
https://msfcsma3.msfc.nasa.gov/dbwebs/apps/lvl/default_psas1.asp

5. DEFINITIONS

- 5.1 Adverse Trend. Multiple discrepancies which have common causes (e.g., system related problems and not special causes) that are not corrected by remedial action alone, with the tendency to recur in future products.
- 5.2 Deviation/Waiver Approval Request (DAR). A form used to document the process for approval/disapproval of deviations and waivers.
- 5.3 Off-the-Shelf (OTS). Articles, materials, or services that meet **all** of the following criteria:
- 5.3.1 The item must be produced to existing military or commercial specifications.
- 5.3.2 The item must meet the functional requirements without redesign.
- 5.3.3 Qualification data can be supplied which substantiates that the design is qualified in the environmental range (natural and induced) of its intended use and for its mission duration (For Military, optional for commercial).
- 5.3.4 The design of the hardware must not have changed substantially since original qualification (e.g. same manufacturing source, no design/manufacturing/material changes which impact form, fit, function, or reliability, same supplier of critical sub-components).

6. INSTRUCTIONS

MSFC suppliers are evaluated based upon requirements of the Program/Project and this instruction as required by MPD 1280.1. This process is performed by MSFC NASA or their contracted purchasing agent. The NASA contracted purchasing agent has been

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qualified to evaluate and maintain a system for suppliers of Off-the-Shelf (OTS) articles, materials, and services. OTS hardware will consist of both Military and Commercial products. OTS hardware is defined in section 5. This will include products from vendors listed on Government Qualified Product Listings (QPL). If there is a requirement for special conditions associated with the procurement of OTS hardware, or there is a situation that requires an on-site audit of a supplier, further evaluation of the supplier will be performed by NASA using this instruction. This is to ensure that the supplier's quality system can assure the products and/or processes are controlled and that they have been properly inspected and tested in relation to the special requirements in the purchase request, i.e., quality system specific certification, redesign, Government source inspection, etc.

In support of the NASA small business goals and initiatives, new businesses that do not have a documented/implemented quality management system, will be evaluated in the following manner. They will be assessed on-site to verify their ability to supply build-to-print products/services to MSFC; the assessment will be documented using the process in paragraph section 6.1; they will be identified as "Limited"; limited to non-flight, non-flight support, non-safety critical products/services (i.e., engineering units, development hardware, laboratory equipment); with MSFC user inspection limited to fit, form, and function. This will give new suppliers a chance to enter into business with MSFC NASA while upgrading their quality management system, and at the same time saving project cost by providing a list of suppliers that can provide products and/or services for non critical applications.

Suppliers on the AVL and project specific suppliers will be monitored to assure that they maintain their compliant quality system and/or to assure that any adverse trends affecting the articles and materials supplied to MSFC are corrected.

6.1 Mail-out Survey Process. A mail-out survey process (see MSFC Form 4446 in Appendix A) will be used to evaluate a supplier when the project feels that the information provided will meet Program/Project requirements for an approved supplier without the performance of an on-site audit. The form is in Microsoft Word format, making it available for electronic transfer and approval. The form is available from the Outsourcing Process Team (OPT), Quality Assurance Representative (QAR) located in ED37A (Reference MWI 5100.3). Approval using this process will qualify a supplier for Program/Project use only and must be documented within the Program/Project associated quality requirements

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documentation and forwarded to the applicable procurement activity noting supplier approval for procurement processing.

6.1.1 Survey Form Initiation. The responsible Quality Assurance Representative (QAR) for the Program/Project will initiate this survey process based upon the documented quality requirements for suppliers of Program/Project articles, materials, or services. The QAR can request support from OPT QAR to perform this process. If the OPT QAR performs the process they will submit the results of the survey and its recommendations to the QAR. The QAR initiates the survey process by filling out information requested on the form then sending the form to the prospective supplier via regular mail, fax, or Email.

6.1.2 Survey Form Evaluation. The QAR initiating the survey to assess the suppliers quality management system and their ability to supply an acceptable product will evaluate the survey form and data supplied by the potential supplier. (**All** special process suppliers will have to submit documentation noting qualification to perform special processes by a recognized qualification/certification authority and/or by a major aerospace subcontractor. ISO registration **is not** a qualification of the ability of a supplier to perform an acceptable special process). The QAR will document the results of the evaluation on MSFC Form 4447, "MSFC Vendor Evaluation Survey Comments" (see Appendix A). The QAR will then approve the supplier based upon the documentation supplied with the survey form, or initiate a process to further evaluate the supplier by requesting more information, or perform an on-site survey to the extent required by the QAR using the guidelines of this instruction.

6.1.3 Supplier Approval. Program/Project-specific supplier approval using this process will be documented within the appropriate quality planning documentation. A listing of suppliers qualified based upon this process, signed by the Program/Project QAR, will need to be submitted to the procuring agent so as to facilitate the procurement process.

6.1.4 Quality Records Associated With Mail-out Survey. Mail-out survey and comment forms and data will be submitted to the OPT QAR that performs external audits. This office will maintain a database (electronic) of all survey results and limitations for quick reference by Program/Project QAR's. The supplier will then be added to the Project Specific Vendor List located at the following link:

https://msfcsma3.msfc.nasa.gov/dbwebs/apps/lvl/default_psa1.asp.

6.2 On-site Quality System and Process Audit Procedure.

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On-site audit process requirements will be based on the guidelines of ISO 19011 associated with ISO-9000 series quality system models and MSFC specific checklists (See Appendices B & C). When a supplier successfully completes a full survey process they will then be added to the MSFC AVL for general program use as a qualified supplier. The AVL list is located using the following link:

<https://msfcsma3.msfc.nasa.gov/dbwebs/apps/avl/default.asp>

On-site assessments performed on new small businesses as specified in paragraph 6 will consist of capability, quality, and process assessment depending upon the product and/or service to be provided by the supplier. The lead auditor will document the on-site assessment using the Vendor Evaluation Survey Form (MSFC Form 4446) denoting approval on the survey form itself and/or on the Vendor Evaluation Survey Comment Form (MSFC Form 4447). The suppliers will be given a limited qualification time period of 3 years. They will be listed on the Limited Vendor List located at the following link:

<https://msfcsma3.msfc.nasa.gov/dbwebs/apps/lvl/default.asp>. The supplier database will identify them as "Limited to non-flight, non-flight support, non-safety critical" and the product/service to be supplied.

6.2.1 Lead Auditor/Auditor/Team Member Selection and Responsibilities.

6.2.1.1 Lead Auditor. The lead auditor for this process should be the S&MA QAR responsible for the program/project quality assurance activities. The QAR has a unique perspective to the needs and requirements of the program/project and should participate in the process even if not qualified as a lead auditor. If the QAR does not have the management capabilities, training, and experience required for the audit process, a request to the S&MA Director's office will be made to obtain a qualified lead auditor to support the program/project QAR. Other auditors will be selected and added to the team from S&MA and respective MSFC Directorates based upon material and process requirements of the program/project.

The lead auditor responsibilities include the authority to make final decisions regarding the conduct of the audit and any audit observations; the selection of audit team members; preparation of the audit plan and associated checklists; scheduling of the audit; representing the audit team with the auditee's management; and submitting the audit report. He/she should be free from bias and influences that could affect objectivity.

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6.2.1.2 Auditors. Auditors are selected for the audit process based upon the size and scope of the audit to be performed. They should be free from bias and influences that could affect objectivity. They need to work within the scope of the audit process in communicating the audit requirements with the auditee. The auditors will be required to document audit results, nonconformances, and observations. In the performance of the audit process, the auditors will need to remain alert to any indications or evidence that would require more extensive auditing and that could influence the audit findings.

6.2.1.3 Team Members. Team members may be requested to participate as part of the audit team based upon the scope of the audit process areas such as special processes, design, and other program management or procurement requirements. Team members need not be qualified auditors but they will be under the direct responsibility of the lead auditor. Their level of responsibility will be specified within the audit plan.

6.2.2 Audit Processing.

This process is reserved for audits of prime contractors, large companies, or as requested.

Generally audit processing for outsource processing small business suppliers for the AVL will not require detailed audit planning and processing as noted in the subsequent paragraph sections of 6.2.2.1 through 6.2.3.3. Audit planning and performance may be accomplished via direct contact with the potential supplier with a scheduling of an audit to their quality management system documentation. Audit report processing as noted in sections 6.2.4 through 6.2.6 will consist of a supplier receiving a direct audit report from the lead auditor with subsequent audit follow-up processing being completed prior to the formal audit report being submitted through the Safety & Mission Assurance (S&MA) Directors Office. MSFC Form 4343 will be used to document all Findings with any subsequent Corrective actions required during the monitoring phase or subsequent audit processing (Reference paragraph sections 6.2.5 & 6.2.5.1).

6.2.2.1 Audit Planning. Audit planning is a critical part of the audit process in defining the audit cycle and the activities associated with each part of that cycle. The lead auditor is responsible for the management, documentation, and implementation of the audit cycle process.

6.2.2.3 Preparation. In preparing for the audit process, the lead auditor will need to know the overall program requirements,

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contractual requirements, special requirements, regulatory requirements, and memorandum of agreements (MOA's)/memorandum of understandings (MOU's) between MSFC/NASA and other Centers and/or international partners, and any special design requirements.

Depending upon the status of the contract and/or NASA agreement, the audit to be performed will require coordination with the contracting officer (reference MPG 5000.1) and/or the program manager. If the audit is being performed prior to any contracting process, coordination with the procurement office is not required.

6.2.2.4 Pre-audit Meeting/Visit. Depending upon the size or scope of the contract or MOU, a pre-audit meeting may be required. The meeting would clarify requirements, confirm audit criteria and scope, discuss auditee's responsibilities, understand the company structure, plan the audit schedule, determine adequacy of audit conditions, and discuss the audit report. Appendix C, "Pre-audit Checklist," can be used as a guideline in scope and performance of a pre-audit meeting. A copy of the "MSFC Unique Requirements Checklist" (reference Appendix B), tailored as required, and any other applicable process audit checklists, should be forwarded to the prospective auditee to help in expediting the process.

Part of the pre-audit visit should be the review of the auditee's quality system. The Lead Auditor should review the recorded description of the methods for meeting the quality system requirements, such as the quality manual or other equivalent documents. If the review reveals that the auditee's system is not adequate to meet the requirements, the audit should be delayed or canceled until such concerns are resolved.

Nonconformances associated with the pre-audit visit that are not of the degree to delay the audit should be resolved as soon as possible. This will expedite the audit process resulting in temporary duty (TDY) cost savings to the program and S&MA.

6.2.2.5 Audit Plan. The audit plan will be documented, as a minimum, in a letter of record format and/or as specified within the program/quality plan. It should include approvals by the auditee and, as applicable, the procurement and/or the program office. When the audit plan is approved, it may be baselined under the requirements of the project/program configuration management system. Copies of the audit plan and subsequent documentation will be maintained as quality records as required by procurement (Reference MPG 5000.1).

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The plan should address the option of performing the audit process at different periods of time. Special process audits can be arranged for different dates and/or times depending upon schedule impacts with special process team members.

Unique requirements based upon the project/program may limit the implementation of certain checklist items or add other requirements. These items should be identified and documented as addendums and/or integrated directly into any checklist used.

The audit plan should include the following information:

- a. Provide the scope and depth of the audit to be performed.
- b. Requests for contractor documentation such as the contract quality plan and other process control documents that will be reviewed to provide the structure of audit itself.
- c. Referencing previous audit reports and their emphasis for the upcoming audit.
- d. Identification of reference documents and checklists.
- e. Identification of audit team members and their assignments.
- f. The language of the audit as to its degree and formality.
- g. The date(s) and place(s) where the audit(s) is (are) to be conducted.
- h. Identify the organizational units to be audited.
- i. Time and duration of each audit activity.
- j. Confidentiality requirements.
- k. Audit nonconformance response requirements.
- l. Audit report distribution, expected date of issue, and corrective action follow-up audit requirements.
- m. Audit completion and records retention requirements.

6.2.2.6 Auditee Notification. When the audit planning process has been completed, notification of the auditee to confirm the audit date(s) should be initiated by the Lead Auditor. Assure coordination through the respective procurement and/or program offices as required.

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6.2.3 Audit Activities.

6.2.3.1 Opening Meeting. Each audit should begin with an opening meeting. The agenda of this meeting should be structured within the scope and depth of the audit to be performed. The meeting should introduce the audit team and its members, the role of each team member, the audit basis, and responsibilities of auditee management in the processing of nonconformances; emphasize the objectives of the audit and its approach, the conduct of the audit and its impact with auditee's operations; obtain auditee's contacts and escorts; discuss daily meetings; confirm auditor's facilities; discuss audit reporting; and thank the auditees in advance for their cooperation.

6.2.3.2 Conducting the Audit. The auditee should be examined by performing interviews, review of documentation, and observations of activities in the areas of concern. Clues suggesting nonconformities should be noted and investigated if they seem significant, even though they may not have been covered by the checklist. Information gathered through interviews should be tested by acquiring the same information from other independent sources and with observations, measurements, and record review. If the auditor finds that the objectives of the audit process are not attainable, they need to report this to the lead auditor as soon as possible to have the problem corrected with the auditee.

All audit observations should be documented. When all the day's audit activities have been performed, the audit team will meet to review all their observations and the decision as to which will be documented as nonconformances will be made. All nonconformances, along with any observations to be documented for presentation to the auditee, will be clear and concise to specific requirements and supported with evidence.

All nonconformances and observations will be reviewed by the lead auditor and consequently with applicable auditee representatives and their management. This review should be done on a daily basis with the auditee's representatives.

6.2.3.3 Audit Closure. At the end of the audit, prior to preparing the audit report, the audit team will convene a meeting with the auditee's senior management and those responsible for the functions audited. The purpose of this meeting is to present audit observations to them in a manner so as to ensure that they clearly understand the results of the audit. The audit team may also make recommendations for improvements and/or suggested corrective actions that can be taken to resolve any

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nonconformances and/or observations. It will be up to the auditee to determine the level of effort required to close out nonconformances and recommended corrective actions.

6.2.4 Audit Reporting. The audit report should provide: an accurate, written record of nonconformance's resulting from the findings documented during the audit; convey a positive attitude toward the auditee's in their need to pursue the requirements for any corrective actions they must make to improve their system and/or processes; and to provide guidelines which will enable the auditee's to meet the required standards. The final report should be sent to the auditee as soon after the closing meeting as possible.

Corrective action request (CAR's) processing required by the auditee must be decided upon by the audit team and made part of the final report.

6.2.4.1 Audit Report Types. Audit reports can range from a narrative (full text) report down to a short form (digest) report. The narrative report is one that is a highly detailed, comprehensive package that fully documents the audited organization's quality and/or processing nonconformances and contains detailed descriptions. In some cases, it may be advisable to compile this type of report for internal distribution only, since such a report may cover confidential facts that would not directly benefit the auditee. However, the nature of such facts enhances a follow-up audit or another future audit. The short form report contains only the nonconformances and observations noted during the audit.

6.2.4.2 Audit Report Contents. Audit reports should contain the following:

- a. Title Page. Report of the company, the location, date of submittal, and the lead auditor.
- b. Executive Summary. Summary of results including nonconformances and their implications; statement of the system or process effectiveness; open items associated with nonconformances with any required corrective actions to be processed by the auditee; and as applicable the results of actions on items classified as open or follow-ups from previous audits.
- c. Audit Overviews. Date(s) of audit, purpose, scope, persons contacted during the audit, audit team members and their functions, approval/sign-off by the audit team lead.

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d. Areas Audited/Nonconformances and Observations. Note the areas audited documenting the requirements, any nonconformances, and objective evidence. Use an easily referenced alphanumeric system to document this section, which should be descriptive of the conditions that were present and will discuss anticipated results or benefits.

e. Attachments. When applicable, include the audit plan, the checklist that was used, noted observations, and corrective action request to be completed.

6.2.5 Nonconformances Reports, Corrective Action Request (CAR), Observations.

6.2.5.1 Nonconformance Reports and CAR's. Nonconformance reports and CAR's will be documented on MSFC Forms 4343, 4343-1, 4344, and 4344-1 respectively. Auditee's computer-generated corrective action response forms will be accepted as long as the minimum requirements noted in "the MSFC form" are identified, documented, and cover-sheeted with the original CAR.

6.2.5.2 Observations. Observations, when noted by the audit team to be of a significant nature to submit to the auditee, will be documented in a narrative format. They can be included within the audit report or attached.

6.2.6 Follow-up Activities. Follow-up activities will consist of documenting and routing the audit report and applicable audit nonconformance reports, corrective action requests, and any prudent observations. If a follow-up audit is performed, the lead auditor will document the activity with a narrative letter of record attaching all related documentation in a similar format as the original audit report. The auditee is responsible to provide a written response to the audit report, audit nonconformance reports, corrective action requests, and optionally the observations. It will be up to the lead auditor to ensure the adequacy of the follow-up actions by the auditee by the evaluation of the written responses provided, and/or the performance of a follow-up audit. If a follow-up audit is not to be performed, the lead auditor must provide a written report as to the justification for not re-auditing and attach all auditee responses. If the lead auditor is not able to re-audit due to constraints beyond his control, a letter of record should be provided by the lead auditor's organization, explaining the reasons why a re-audit could not be performed. All affected parties should be notified by the lead auditor.

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6.2.6.1 Auditee Closure Notification. The auditee will be notified of his status in the final audit report, verbally, electronically, and on the respective web based supplier listing.

6.3 Audited Vendor Listing. All suppliers that undergo a full quality management system audit compliant to MSFC requirements will be placed on a Web site available to all MSFC Program/Project, procurement, procurement contracted activity, and prime contract personnel for use in selecting suppliers of articles, materials, and services. The Web based listing will be known as the AVL and it will be maintained by the OPT QAR. The listing will contain the suppliers name, address, phone, fax, Email link, Web site link, Qualification (quality system qualifications, available in-process control specifications, and audited special in-process control specifications), vendor type, and qualification time period.

6.3.1 Supplier Qualification Conditions. Conditions may be placed upon suppliers associated with their qualifications. If a supplier undergoing an audit process is found not to have a documented, controlled quality system, they will not be added on this listing until their system has been upgraded, and implementation of the corrected conditions verified by the Lead Auditor. Any conditions placed upon the supplier will be documented on the AVL Web site as noted in the following paragraphs.

6.3.1.1 Conditional, No Restrictions. The supplier qualification will be noted as "Conditional," which will indicate the supplier's quality management system audit process is in progress. This nonrestrictive qualification is based upon the verification that the supplier has an effective quality management system in place that will ensure the products made for MSFC meet contracted requirements, but their system has been found to have minor discrepancies that will not affect the end product.

6.3.1.2 Conditional, Restrictions. The supplier qualification will be noted as "Conditional with Restrictions." In this case, the supplier quality management system has been verified as effective but weaknesses have been noted for correction to attain full qualification as being compliant for MSFC supplier requirements. Restrictions and/or directions for procuring from these suppliers will be specified in the qualification block in the AVL.

6.3.2 Audited Vendor List Link.
<https://msfcsma3.msfc.nasa.gov/dbwebs/apps/avl/default.asp>

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6.4 Supplier Performance Monitoring. Supplier performance will be monitored to assure that they maintain their compliant quality system. An integral component of that process is the evaluation of nonconformances associated with products and/or services delivered to, or performed for MSFC.

6.4.1 Quality System Compliance. The suppliers' quality system and/or process controls will be maintained based upon the surveillance of their ISO 9000 certification by the third party registrar, acceptable work performance, and re-audited every 3 years. The re-audit will place emphasis on procurements made by MSFC through the company and their implementation of the quality management system. Also a detailed review of any changes to the quality system will be performed and be recognized as part of a continuous improvement process by the supplier. Any other contractually required continuous improvement processes required by the contract will be reviewed during the re-audit process.

6.4.2 Supplier Performance Reviews. Suppliers' performance, excluding prime contractors and in-house support contractors that have evaluation processes within their respective contracts, will be reviewed on a continuous basis using the reporting system provided by the Procurement Discrepancy Tracking System (PDTs) process (MWI 4530.1). Any nonconformances documented by the PDTs system are sent to the S&MA Office electronically for review. S&MA will initially review the nonconformance to see if it was caused by the failure of the AVL/LVL/PSASL suppliers' quality management system. If it is deemed that the nonconformance could have been caused by the failure of the suppliers quality management system, the S&MA Office will request the supplier to submit a copy of their internal corrective action report showing how the nonconformance was resolved and any preventative action recorded.

Annually all suppliers nonconformances will be evaluated to see if any adverse trends are evident. Any adverse trends noted will be documented on a CAR and (MSFC Form 4344 & 4344-1) will be delivered to the supplier through the applicable procuring agent for resolution. The supplier will have 30 days from receipt to answer the CAR. The answer will be reviewed to determine if the supplier's corrective action was sufficient and/or if there is a need to perform an on-site audit. All corrective action related documentation will be maintained as quality records. If the on-site audit finds the supplier quality management system has failed to correct the problem(s) causing the nonconformance, and/or if a supplier continues to supply products that are consistently poor quality, the S&MA Office will work through the

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applicable Procurement Office to remove the affected suppliers from the AVL. The supplier will be notified by a letter of record as to their removal from the AVL list and the reason for the removal. Customary copies of removal letters shall be sent to the applicable procurement offices, in-house procurement contractors, project/program quality assurance representatives, and the S&MA Quality Records Center. The report will also be maintained as a quality record.

7. NOTES

None

8. SAFETY PRECAUTIONS AND WARNING NOTES

None

9. RECORDS

9.1 As a minimum, the respective specified S&MA Offices will maintain the following records for a period of 10 years. Records will be maintained for the life of the mission if greater than 10 years (after 10 years and/or the life of the mission, the records may be discarded or kept for historical purposes):

9.1.1 Audit/Follow-up Reports & Letters of Record will be maintained by the Safety Mission Assurance Office, Quality Records Center.

9.1.2 Auditor training and/or registration files (copies) will be maintained by the OPT designated QAR.

9.1.3 Vendor Evaluation Survey and Comments Forms (MSFC Form 4446 and 4447), will be maintained by the OPT designated QAR.

9.1.4 Corrective Action Processing Records will be maintained by the OPT designated QAR.

9.1.5 Supplier Removal Letters, will be maintained by the Safety Mission Assurance Office, Quality Records Center

9.2 Audit Planning Documentation as specified by the applicable Procurement Office guidelines document, MPG 5000.1.

9.3 Other historical documentation such as letters of correspondence, E-mail, contracts, or MOU's should be maintained as reference files.

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10. PERSONNEL TRAINING AND CERTIFICATION

10.1 Personnel participating the external audit process shall be trained and qualified as lead auditors or auditors to the requirements of ISO 9000; and two years full time quality work experience with 4 years overall aerospace work experience unless otherwise specified within this document.

10.2 All personnel assigned as lead auditors must have passed a lead auditor (assessor) course recognized by national/international accreditation/certification organizations. They must have participated, as an auditor, in a minimum of 5 external audits; and/or combined with previous NASA supplier quality and/or process system audits; or be currently registered as a lead auditor (assessor) by a recognized body of the American Society for Quality (ASQ) or the Institute of Quality Assurance (IQA).

10.3 All personnel assigned as auditors shall have passed an auditor course recognized by national/international accreditation/certification organizations. They must have participated in, as a minimum, two full system internal audits or 2 external audits; and/or combined with previous NASA supplier quality and/or process system audits; or be currently registered as an auditor (assessor) by a recognized body of the ASQ or the IQA.

10.4 Team Members, requested of and submitted by the respective directorate/office management, shall be assigned to the audit team based upon their areas of expertise.

10.5 Maintenance of lead auditor and/or auditor status will be based upon the performance of a minimum of two audits yearly. Internal or external audits will satisfy this requirement.

11. FLOW DIAGRAM

None

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12. CANCELLATION

MWI 5330.1D dated June 14, 2001

Original signed by
Axel Roth for

A. G. Stephenson
Director

Appendix A: MSFC Vendor Evaluation Survey and Comments Forms

Appendix B: MSFC Unique Requirements

Appendix C: Pre-Audit Checklist

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APPENDIX A

MSFC VENDOR EVALUATION SURVEY			
<p>This form is to be completed in its entirety to be considered as a supplier of articles, materials, or processes to the Marshall Space Flight Center (MSFC), NASA for use in an end item product or service. The information to be provided on this form will be used to evaluate your quality management system for compliancy to the MSFC requirements for ANSI/ISO/ASQ Q9001:2000 or ANSI / ISO / ASQC Q9001/9002-1994 (updating to the Q9001-2000 quality management system will be required after December 31, 2003.</p> <p><i>If you have any questions associated with completing this form, please contact the person noted below. Please return this form and requested information by e-mail, fax or regular mail to the address specified below.</i></p>			
TO BE COMPLETED BY MSFC ISSUING PERSON / ORGANIZATION			
1. Name of Person Issuing this Form:	2. Phone:	3. FAX:	4. E-mail Address:
5. Office Code:	6. Directorate Name:		
7. Hardcopy Mail Return Address: George C. Marshall Space Flight Center Marshall Space Flight Center, AL 35812		8. Copy of Quality Manual Required: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Other (See Item 17)	
TO BE COMPLETED BY CONTRACTOR / SUPPLIER / VENDOR			
1. Company Name (Address, City, State, ZIP Code):		2. Quality System Management Representative Name:	
		3. Quality Manager Name (If different from above):	
4. Quality Management System (ISO, MIL-I, MIL-Q, NHB):		5. Has the Quality System Been Audited / Registered: <input type="checkbox"/> Yes <input type="checkbox"/> No	
6a. If "Yes" to Audited / Registered, Please List by Whom:		6b. List Effective Date of Each:	
ATTACH / FAX / OR SEND COPIES OF SATISFACTORY AUDITS OR REGISTRATIONS			
7. Quality Manual Number / Revision:		Suppliers that perform special processes need to submit documented evidence that your processes have been approved by recognized qualification / certification authority and/or by a major aerospace subcontractor.	
8. Is Your Quality Manual Supported By:			
<u>Quality System Procedures:</u> <input type="checkbox"/> Yes <input type="checkbox"/> No		<u>Work Instructions:</u> <input type="checkbox"/> Yes <input type="checkbox"/> No	<u>Process Control Procedures:</u> <input type="checkbox"/> Yes <input type="checkbox"/> No
9. Who Does the Quality Supervisor Report to:		10. Who Do the Inspection Personnel Report to:	
11. Are There Inspection Designees: <input type="checkbox"/> Yes <input type="checkbox"/> No		12. How Many Independent Designees:	13. How Many Independent Inspectors:
14. Do Inspection Designees Perform Final Inspection and/or Final Acceptance: <input type="checkbox"/> Yes <input type="checkbox"/> No			
15. What is the documented / enumerated means to show product traceability throughout the manufacturing process. (Example: purchase order, route sheet, heat, or lot number.)			
a.		c.	
b.		d.	
16. In what part of the company will the parts be built and, if applicable, where will they be assembled and/or tested, i.e., fabrication, development, test areas.			
17. If the quality system HAS NOT BEEN audited / certified / registered by an outside activity or customer, a copy of the quality manual must be submitted with the return of this survey form.			
18. Signature and Date of Responsible Quality Representative (Electronic Signatures are Acceptable):			

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MSFC VENDOR EVALUATION SURVEY COMMENTS
Company/Vendor Name:
Review Comments:
<input type="checkbox"/> Conditional <input type="checkbox"/> Approved <input type="checkbox"/> Disapproved
Signature (Electronic or Black Ink):

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APPENDIX B

MSFC UNIQUE REQUIREMENTS

B.1 Management Review for Continuous Improvement

Document within the Management review process the requirement for continuous improvement of the quality management system. Use the review of the quality system procedures, corrective actions, internal audits, and customer complaints as a minimum as tools to perform a continuous improvement process.

B.2 Contract Review

B.2.1 Assure that all RFQ, Contracts, & and any changes are submitted in writing by MSFC.

B.2.2 Requested changes to contracts involving the outsourcing process at MSFC can be performed using MSFC Form 3748 and 3748-1. Either MSFC or the supplier can initiate the process. Formal contract modifications will be required prior to final acceptance at MSFC.

B.3 Purchasing

B.3.1 All special process subtier suppliers used shall have documented evidence of qualification to perform such processing and/or be audited on-site by the supplier to assure the subtier supplier is qualified and using documented procedures. ISO registration is not an acceptable qualification record. Qualification documentation submitted by the subtier supplier showing qualification by a recognized entity, (i.e., NVLAP), or a major aerospace prime contractor, or Government Agency can be considered as objective evidence of special process subtier supplier qualification.

B.3.2 Government inspection clauses:

B.3.2.1 All work on this order is subject to inspection and test by the Governments Quality Assurance Representative (QAR) at any time and place. The QAR who has been delegated NASA quality assurance functions on this procurement shall be notified upon receipt of this order. The QAR shall be notified 48 hours in advance of the time articles or materials are ready for inspection or test; and/or

B.3.2.2 The Government has the right to inspect any or all of the work included in this order at the supplier's plant.

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B.4 Customer-Supplied Product

B.4.1 Disposition by the Government on all nonconforming customer supplied product shall be made by the Government contracting agent only.

B.4.2 Assure that shipments by Marshall Space Flight Center have been verified by the NASA quality assurance or as specified in the contract.

B.5 Inspection and Testing

B.5.1 100% inspection will be performed unless otherwise specified in the contract.

B.5.2 Inspections processes must be performed by qualified quality assurance personnel that do not work under the direction or supervision of the manufacturing or testing organizations. The authority to deviate from this requirement must be submitted and approved in writing from the NASA contract quality assurance representative.

B.6 Control of Nonconforming Products

B.6.1 Nonconforming Product Material Review Board

B.6.1.1 Membership. The Material Review Board shall be comprised of one contractor representative whose primary responsibility is engineering, one contractor representative whose primary responsibility is quality, and the designated Government quality representative. Contractor members for the Material Review Board shall be selected by the contractor on the basis of technical competence and shall have sufficient authority to make appropriate dispositions of the article or material involved. Contractor personnel designated for membership shall be approved by the Government representative.

B.6.1.2 Responsibility. The Material Review Board shall:

a. Determine disposition of submitted articles or materials designated as nonconforming.

b. Ensure that effective remedial and preventive actions are documented on the nonconformance document prior to disposition.

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c. Provide contractor recommendations to the Contracting Officer concerning nonconformance dispositions requiring his approval and verify implementation after approval is obtained.

d. Ensure that accurate records of MRB actions are maintained.

B.6.1.3 MRB Dispositions. Dispositions, other than scrap, require the unanimous agreement of the Board members. In determining dispositions, the Board shall: consider the effect of the nonconformance upon the intended use, review records of earlier review actions affecting the same article or material, and consider the recommendations of personnel acting in an advisory capacity. After MRB has determined that an initial review disposition to submit a nonconforming article or material to MRB is appropriate, the Board shall specify on the nonconformance document one of the following dispositions:

a. Repair. When, in the opinion of the Board, an acceptable repair is possible, repair action may be authorized. Procedures shall be established or approved by the MRB to perform this repair. Procedures shall include appropriate inspections and tests to verify the acceptability of the repair. All repair procedures, with the exception of Standard Repair Procedures (SRP's) with application limitations previously approved by NASA, will be submitted to NASA contract QAR by the Government quality representative for approval prior to final disposition by the MRB.

b. Scrap. If the article or material is unfit for use, it shall be dispositioned in accordance with Government approved contractor procedures for identifying, controlling, and disposing of scrap.

c. Use As Is/Regrade. Nonconformances which do not adversely affect safety, reliability, durability, performance, interchangeability, weight, or the basic objectives of the contract as specified by NASA contract (QAR) may be accepted for use as is. The rationale for making a "use as is" disposition shall be documented on the nonconformance report.

B.6.2 Request NASA Contracting Officer Approval.

Nonconformances which do adversely affect safety, reliability, durability, performance, interchangeability, weight, or the basic objectives of the contract as specified by NASA QAR shall be referred to the NASA Contracting Officer. Submittal to the NASA Contracting Officer through the MRB will be with the contractual Deviation Approval Request (DAR) with written recommendations, and proposed remedial and preventive action. Articles and materials shall be withheld from further processing until Contracting Officer approval is obtained.

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B.6.2.1 Deviations and Waivers will be submitted using MSFC Form 847, and MSFC Form 847-1. Instructions are included with the forms.

B.7 Quality Management System Compliance

B.7.1 Subcontractor compliancy level to the requirements of ANSI/ISO/ASQC Q9001-1994 (Up to December 31, 2003).

B.7.2 Subcontractor compliancy level to the requirements of ANSI/ISO/ASQC Q9002-1994 (Up to December 31, 2003).

B.7.3 Subcontractor compliancy level to the requirements of ANSI/ISO/ASQ Q9001-2000.

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APPENDIX C
PRE-AUDIT CHECKLIST

C.1 Lead Auditor Tasks

C.1.1 Arrange for a tour of the facility and obtain a copy of the facility layout (rough sketch if not available).

C.1.2 Verify contractual/MOU's requirements, specifications, and standards.

C.1.3 Review and/or obtain documentation required for the performance of the audit (quality plans, procedures, instructions, standards, specifications, and others as applicable).

C.1.4 Identify the need for any special auditing personnel during the audit process.

C.1.5 Confirm the audit scope.

C.1.6 Express the cooperative nature of the audit process.

C.1.7 Discuss audit reporting, its structure, definition, and meaning.

C.2 Audit Processing Questions and Concerns

C.2.1 Quality manual concerns and comments.

C.2.2 Scheduling audit dates mutual to both parties, including daily time schedules.

C.2.3 Products and/or services that will be audited.

C.2.4 What facilities and personnel will be involved in the audit process.

C.2.5 Facility needs associated with the audit process, i.e., conference rooms, phones, computer and/or faxing capabilities, secretarial support, and break and/or meal areas.

C.2.6 Auditee's representative responsibilities and/or functions.

C.2.7 Audit structure and methods of performance.

C.2.8 Initial, final, and daily opening and closing meetings.

C.2.9 Observations and nonconformances, their definition and documentation structure.