

SYSTEM AUDIT REPORT NUMBER <u>02/35812/S10</u>	<b>NQA</b> National Quality Assurance
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**THIS REPORT RELATES TO A Surveillance VISIT ON November 5-7, 2002**

<b>Company</b> MARSHALL SPACE FLIGHT CENTER	<b>Other Sites Visited</b> 1.
<b>Address</b> HUNTSVILLE, AL	2.

**Scope:**  
ALL PRODUCTS AND SERVICES PROVIDED BY THE MARSHALL SPACE FLIGHT CENTER. MSFC SUPPORTS THE NASA AGENCY INFRASTRUCTURE AND IS A MAJOR CONTRIBUTOR TO ALL ITS SCIENTIFIC AND TECHNICAL ENTERPRISES.

Standard(s) ISO 9001:2000	Support Documentation(s)	Non-English Languages Used _____
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**Comments/Concerns of the Assessment Team:**

Noncompliances noted herein are minor in nature and cumulatively do not constitute a major NC.

Previously identified noncompliances have been adequately addressed or are written in this report.

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| <ul style="list-style-type: none"> <li>• The visit is deemed to be <b>Satisfactory</b>.</li> <li>• Unsatisfactory visits may result in a change to the next audit activity.</li> </ul> | <ul style="list-style-type: none"> <li>• <b>Corrective Action Plan (CAP) Instructions:</b></li> <li>• Return CAP in 20 working days (all NCs, Obs &amp; OIs).</li> <li>• Certificate processing initiates after receipt/acceptance of CAPs.</li> <li>• AS &amp; QS-9000 NCs must be closed prior to certificate issuance.</li> <li>• Return CAP in ten days for major NCs issued during surveillance.</li> </ul> |
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<b>NQA ASSESSMENT TEAM</b>		<b>COMPANY INFORMATION</b>	
LEAD AUDITOR: RICK GIGUERE		MGT REP: AXEL ROTH	
TEAM	TEAM	QUALITY MANUAL (REV & ISSUE DATE) MPD 1280.1 REV I	
TEAM	TEAM		

The contents of this report is confidential and must not be disclosed to a third party without the prior agreement of NQA, USA and the company named above. Non-compliances/non-conformances raised or observations noted within this report are the result of limited sampling and therefore non-compliances/non-conformances may exist which have not been identified.

The Internal Audit System is deemed effective unless noted within the body of this report.

The company representative's signature indicates their agreement and understanding of any non-compliances/non-conformances and observations contained in this report.

Prior to the assessment, the company must have completed a complete system internal audit and subsequent management review documented. The quality system shall be understood throughout the organization.

Signature <u><i>Rick Giguere</i></u> <u>11/7/02</u> NQA, USA Representative Date	Signature <u><i>Axel Roth</i></u> <u>11/7/02</u> Company Representative Date	Page of
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<b>SYSTEM AUDIT RECORD</b>	
<b>Auditor(s)</b> Rick Giguere	<b>Date:</b> 11/5-7/02

Clause No.	Applicable Standard	Record of Details of Audit (names, referenced documents, depts, etc.)	NC	Obs or OIs
4.2.4	9001:2000	<p>Reviewed the records management activities as defined in MPG 1440.2. Interviewed the Marshall Records Manager and discussed the differing controls for active and inactive records, the maintenance and approval of organizational Records Plans, maintenance of the list of vital records and locations, and maintenance of the list of organizational-appointed Records Liason Officers (RLO).</p> <p>Sampled records in various areas for legibility, adequate identification, storage, protection, retrieval, retention times and disposition. Reviewed management review records, internal audit, Discrepancy Reports, corrective action records, inspection and production records, training records, customer agreements and various design records.</p>		
4.2.3	9001:2000	Not reviewed in entirety	NC	
5.4.1, 5.6, 8.2.1, 8.5.1	9001:2000	<p>Reviewed Management Review meeting minutes dated 10/11/02 for adequate reporting on the suitability and effectiveness of the Quality Management System as per MPG 1280.1.</p> <p>Observed review of policy and objectives and performance against objectives. Objectives are aligned with the Marshall Values of People, Customers, Excellence, Teamwork and Innovation. Reviewed the inclusion of the results of internal audits, customer feedback (customer satisfaction measures, including measures from each directorate), process performance and product conformity including project data related to management, cost, schedule and technical aspects, along with follow-up from previous meetings and action items for improvement. Reference MQC-0052, MQC-0051</p>		
7.1, 7.2	9001:2000	<p>In the Science Directorate (SD03) reviewed Customer Related Processes including the development of various types of customer agreemants such as Space Act Agreements (SAA), and Cooperative Agreements. Reviewed SAA process flow as per CD30-OWI-001 and sampled documentation associated with Agreement # SAA8-02005.1. Reviewed evidence of review and approval and other details such as deliverables, Statement of Work, schedules and sub agreements.</p> <p>Also considered arrangements for customer communication including customer feedback and customer satisfaction measures. Reference MPG 1050.1, Contract (Customer Agreement Review).</p>		OBS

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7.1, 7.2		Also reviewed the proposal development process as per MPG 7100.1 (SD21). Reviewed the role of the proposal manager including establishing proposal schedules, deriving requirements matrix for solicitation and ensuring proposal compliance to customer requirements, coordinating review teams and proposal outline. Sampled EUSO proposal, purple team and red team review activities and forwarding review records to the appropriate PMC or Directorate review. Sampled activities related to Announcement of Opportunity AO 01-05S-03. Discussed objectives related to this function and contribution to objectives.		
7.3	9001:2000	Reviewed the design and development activities related to the MSRR-1 Project including initial planning, organizational and technical interfaces, identification of design inputs and outputs, design review activities and verification and validation activities as per MPG 8060.1. Interviewed a Lead Systems Engineer and Project Manager. Reviewed MSRR-1 IPL-PDR-Plan and related records for the Integrated payload, the MSRR-1 IPL-CDR-Plan, dated 3/27/02 and related CDR records dated 6/5/02. Also reviewed Systems Requirements Review (SRR) records, dated 7/1/98. Also reviewed Verification records for same and additional verification records for MGM III SRD used on the STS-107 Mission.		OBS
7.1, 7.5.1, 7.5.3	9001:2000	Reviewed product realization planning activities including the required verification, monitoring, inspection and test activities specific to the product and related criteria for product acceptance. Also considered the availability of drawings, work instructions and work orders. Sampled order numbers C-03344, C02811, C02974 for adequate control of current documentation or configuration and considered traceability requirements as well as per MWI 8040.1.  Considered the identification of product and adequate description of inspection status of product. Sampled two items and observed parts tags, AAY883, and AAP681 for appropriate information.		
7.6	9001:2000	Note reviewed in entirety during this activity	2 NC	
8.2.2	9001:2000	Reviewed internal audit records for auditor independence and training, adequate reporting, conduct of audit, processing nonconformity, corrective action and follow-up activities as per MPG 1280.6. Sampled Audit #' SD08200201, CD09200201, FD10200201 and related corrective actions.	2 NC	OBS
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8.3	9001:2000	Reviewed the controls established for nonconforming material as defined in MWI 8130.3. Included a review of identification, segregation, documentation via DR's and ASRIs, and disposition. Sampled DR's 7170, 7171, 7137, 7157, 7158 and ASRI 0001611, 0001652. Reviewed MRB authorization, the establishment and control of MRB listings and use and control of MRB storage area.		
8.5.2	9001:2000	Reviewed the corrective action system as per MPG 1280.4 for adequate description of problem, root cause analysis and actions taken to prevent recurrence. Sampled RCAR 191 and 182, QSDN 133, and DR 7176. Reviewed the Alert report dated 10/11/02 for trends in response to Alert announcements. Also reviewed metrics related to corrective action trends as evidenced in open RCAR's.		
8.5.3	9001:2000	Reviewed preventive actions (in FD 31) as evidenced in Risk Management activities as defined in MWI 7120.6, Program Project Risk Management. Considered the preparation of RM Plans including roles and responsibilities, schedule of implementation, methods and tools. Also discussed the monitoring of risk metrics to verify effectiveness of mitigating actions. Reviewed training requirements for risk management. Reviewed PPT Risk Management Plan in the FD31 Multi-use Payload Group, MSFC-PLAN-3101.		
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Ref No.	Clause No.	Applicable Standard	NON-CONFORMANCES & OBSERVATIONS/OPPORTUNITIES FOR IMPROVEMENT RAISED	NC/OBS/OI
1	8.2.2	9001:2000	MPG 1280.6 states in part that the internal audit report shall include, among other things, results of audit teams review of previous audit NCR's and a list of briefing attendees. A review of audit reports reveals a lack of evidence that all required items are included in the audit report.	NC
2	8.2.2	9001:2000	A review of corrective actions resulting from internal audits reveals occurrences of untimely responses that may in part be due to the timeliness of report writing. For example, corrective actions from the August audit are only 5 days overdue, even though the audit was conducted two months prior.	OBS
3	4.2.3	9001:2000	A flowchart governing the SAA Process provided during the audit of Customer Related Processes included changes from the authorized version defined in CD30-OWI-001.	NC
4	7.2	9001:2000	MPG 7100.1 states in section 2.5 that the Proposal manager serves as final authority on proposal content in conjunction with the champion. It is not clear from that rendering whether the proposal manager is to sign the proposal as the Champion does. Evidence indicated that the Champion signs the proposal but the PM does not.	OBS
5	7.3	9001:2000	The verification and validation activities are not clearly described as to how they relate to MSFC design functions. MPG 8060.1 specifically calls out verification and validation activities, however in actual hardware development activities, validation is not a term that is used to describe a process. In general, validation activities as defined by the standard are understood at MSFC as verification activities and verification as defined in the standard is performed at various times prior to validation. Clarity needs to be provided to understand where verification, as defined by the standard, begins and ends and as is understood by MSFC, and where validation, as defined by the standard, begins and ends, and as is understood by MSFC.	OBS
6	8.2.2	9001:2000	NQA Report 02/35812/S09 NC #2 not able to verify at this time. Objective evidence of what was audited was not consistent with procedural requirements.	NC
7	7.6	9001:2000	NQA Report 02/35812/S09 NC #10 unable to verify fully at this time. Development plating area did not have OI calibration requirements for Labs 1 & 2.	NC
8	7.6	9001:2000	NQA Report 02/35812/S09 NC # 11 unable to fully verify at this time. Several instruments in Labs 1 & 2 are not identified as to the calibration category they should be in.	NC

Signature <u>Richard [Signature]</u> <sup>11/7</sup> 2002 (NQA, USA) <span style="float: right;">Date</span>	Signature <u>[Signature] for Axel Roth</u> <sup>11/7/02</sup> (Company) <span style="float: right;">Date</span>	Page <u>  </u> of <u>  </u>
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