



Thomas Jefferson National Accelerator Facility

Quality Assurance Vendor Evaluation Checklist		JEFFERSON LAB QA/CI EVALUATOR:	VENDOR:
		Benedikt Zihlmann	Carnegie Mellon University
DATE OF EVALUATION:	4/10/2010	N/A	Revision:

SECTION 1: SUPPLIER INFORMATION

SUPPLIER:	Carnegie Mellon University		POINT OF CONTACT:
			Curtis Meyer
ADDRESS:			TELEPHONE:
			(412) 268-2745
			FAX:
E-MAIL:	cmeyer@ernest.phys.cmu.edu		

SECTION 2: EVALUATION OF SUPPLIER PERFORMANCE

AVERAGE SCORE ATTAINED FROM CHECKLIST:	Program	3.69	Performance	3.61
COMMENTS: The supplier has the necessary man power infrastructure and production documentations.				

SECTION 3: EVALUATION SUMMARY

CURRENTLY ON APPROVED SUPPLIER LIST?	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>
Determination of capability to provide products which conform to specified JLab requirements.				

SECTION 4: DETERMINATION

APPROVED:	yes		
CONDITIONALLY APPROVED:	<input type="checkbox"/>		
NOT APPROVED:	<input type="checkbox"/>		
SIGNATURE:			
PRINT:	Benedikt Zihlmann	DATE:	

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Quality Assurance Vendor Evaluation Checklist		JEFFERSON LAB		
		QA/CI EVALUATOR: Benedikt Zihlmann	VENDOR: Carnegie Mellon University	
DATE OF EVALUATION:	24/10/2010	DATE OF LAST EVALUATION:	N/A	Revision:

AUDITOR'S CHECKLIST	
	GENERAL NOTES
1. Program	
2. Personnel Training and Qualification	Student training is supervised by the two permanent technicians employed throughout the project.
3. Quality Improvement	
4. Documents and Records	All approved drawings are documented and available from the Jlab database. All documents on construction and training tasks are hold in the GlueX document data base.
5. Work Processes	
6. Design	
7. Control of Purchased Items and Services	Additional checks are asked to be employed in the quality checks of each new batch of conducive epoxy used and records being kept.
8. Inspection and Acceptance Testing	for usage? All parts that make up one straw are individually checked. As conductivity or wire and straw-to-ground is important all are tested. Sufficient storage is available inside the clean
9. Management Assessment	
10. Independent Assessment	
ASSESSMENT SUMMARY	

SCORING: NA = This item does not apply to this supplier.

- 5 = Excellent
- 4 = Good
- 3 = Average
- 2 = Poor
- 1 = Does not exist

For pages 3 through 6, place the score attained in each box in the column "SCORE". The average score on page 1 (automatically computed) must be 3 or greater. Any single score of 1 or 2 must be corrected.

Quality Assurance			JEFFERSON LAB	
			QA/CI EVALUATOR:	
Vendor Evaluation Checklist			VENDOR:	
			Bruce Lenzer	
			Carnegie Mellon University	
DATE OF EVALUATION:	4/10/2010		DATE OF LAST EVALUATION:	N/A
				Revision:

REQUIREMENT	Program Score	Performance Score	ASSESSMENT/SUMMARY
1. Program			
1.2.1 Organizational Structure			
1.2.2 Functional Authority, Lines of Authority and Interfaces	4	4	There are two technicians hired for the full time of the project providing the necessary continuity and quality for student training and supervision. The two technicians together with the project supervisor Gary Wilkin develop and test all working steps of the project.
1.2.3 Management Responsibility	4	4	Students only work to prepare parts. The two technicians build the chamber based on tested procedures.
1.2.4 Management Commitment	4	4	Two permanently hired technicians provide the necessary continuity of know-how throughout the project.
1.2.5 Customer Focus			
1.2.6 Quality Policy			
1.2.7 Quality Planning			
1.2.8 Quality Mgmt. System			
1.2.9 Responsibility, Authority and Communications	4	4	One of the two technicians is continuously available for students that work on the project in case of questions or issues the the task at hand.
1.2.10 Resource Mgmt.	4	4	The two technicians are sufficient to provide full time coverage of qualified senior man power together with the project supervisor throughout the time of the project.
1. Program Average	4.00	4.00	
2. Personnel Training and Qualification			
2.2.1 Human Resources			
2.2.2 Competence Awareness and Training	4	4	The training is developed by the technicians and project supervisor and documents for teaching of students prepared.
2.2.3 Personnel Qualification and Continuing Training	4	4	During training of students procedures may be modified by the technicians if the quality can be improved by these steps.
2.2.4 Responsibilities			
2. Personnel Training and Qualification Average	4.00	4.00	
Page Average	4.00	4.00	

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REQUIREMENT	Program Score	Performance Score	ASSESSMENT SUMMARY
3. Quality Improvement			
3.2.1 Measurement, Analysis and Improvement	4	4	Tools are available for tests of parts to give a go no-go answer.
3.2.2 Control of Nonconforming Product	4	3	Bi-weekly status reports are given in the tracking meeting and written down in the minutes of these meetings. Written track records are kept at CMU
3.2.3 Analysis of Data	4	3	The percentage of parts that pass the QA tests are recorded and reported to Jlab. In case of large numbers of failure resolutions will be sought after
3.2.4 Improvement			
3.2.4.1 Continual Improvement			
3.2.4.2 Corrective Action	3	3	Corrective actions are discussed between CMU and Jlab and implemented with the agreement of Jlab.
3.2.4.3 Preventive Action	4	4	Preventive actions to ensure quality are taken where possible, or implemented based on experience during the construction or requests by Jlab.
3. Quality Improvement Average			
4. Documents and Records			
4.2.1 Control of Documents	4	3	All documents are located in the GlueX data base that handles versions internally. The history of each document is available.
4.2.2 Control of Records	3	3	Are records are kept at CMU and reported upon on a Bi-weekly Basis to Jlab.
4. Documents and Records Average			
	3.50	3.00	
PAGE AVERAGE	3.50	3.00	

Quality Assurance Supplier			JEFFERSON LAB		VENDOR:	
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DATE OF EVALUATION:	1/10/2010		DATE OF LAST EVALUATION:	N/A	Revision:	
REQUIREMENT	Program score	Performance Score	ASSESSMENT SUMMARY			
5. Work Processes						
5.2.1 Work Environment	4	4	Humidity is controlled by the buildings air conditioning system. The quality of the clean room is monitored and documented twice a day.			
5.2.2. Planning of Product Realization						
5.2.3 Customer-Related Processes						
5.2.4 Productions and Service Provision						
5.2.4.1 Control of Production and Service Provision						
5.2.4.2 Validation of Processes for Production and Service Provision						
5.2.4.3 Identification and Traceability	4	4	Straws are tested and recorded based on lot number. Even more so for the conductive glue. Records are kept to identify each straw built into the detector by these lot numbers.			
5.2.4.4 Customer Property	3	3	CMU has its own procurement office and all purchases are recorded, documented and reported to Jlab on a monthly basis.			
5.2.4.5 Preservation of Product	4	4	All parts are stored according to their requirements in air conditioned rooms or the clean room.			
5. Work Processes Average	3.75	3.75				
6. Design						
6.2.1 Design process planned, controlled & documented per customer, code & regulatory requirements	3	3	The designed is done by Jlab in collaboration with CMU. All drawings are done at Jlab and final drawings signed and recorded at Jlab.			
design changes incorporate applicable requirements &	4	4	Any changes to the final drawings need to be reported by CMU to Jlab need to be approved by Jlab.			
6.2.3 Design inputs are identified & controlled	4	4				
6.2.4 Adequacy of design work is reviewed, verified & validated by appropriate individuals/groups	3	4	The designed is done by Jlab in collaboration with CMU. The full detector designed and the proposal has been reviewed by an independent comity at Jlab with reviewers from other groups.			
6.2.5 Design and development changes are controlled, documented & maintained	3	3	All design changes will be recorded and drawings updated.			
6. Design Average	3.40	3.60				
PAGE AVERAGE	3.58	3.68				

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						Revision:	
REQUIREMENT	Program Score	Performance Score	ASSESSMENT SUMMARY				
7. Control of Purchased Items and Services							
7.2.1 Purchasing Process	4	4	CMU has a procurement system similar to Jlab and all records of any purchase are available on a monthly basis.				
7.2.2 Purchasing Information							
7.2.3 Verification of Purchased Product	4	4	Purchases are inspected by the technicians and the project supervisor.				
7.2.4 Control of Suspect/Counterfeit Items	3	3					
7. Control of Purchased Items & Services Average	3.67	3.67					
8. Inspection and Acceptance Testing							
8.2.1 Monitoring and Measurement Processes	4	3	Measurement equipment is either specifically produced for a given test purpose or of the shelf products that have lifetimes beyond the project duration.				
8.2.2 Monitoring and Measurement Product	4	4					
8.2.3 Control of Measuring and Test Devices	3	4					
8. Inspection & Acceptance Testing Average	3.67	3.67					
9. Management Assessment							
9.2.1 Management Review	3	4	The quality of the assembly is tested at each step and if necessary modifications to the procedures are implemented.				
9.2.2 Review Input	4	4	Based on the results of the quality checks during the installation process modifications or additional tests may be implemented to ensure the required				
9.2.3 Review Output	4	4					
9. Management Assessment Average	3.67	4.00					
10. Independent Assessment							
10.2.1 Internal Audit							
10.2.2 Auditor independence							
10.2.3 Auditor Qualification							
10. Independent Assessment Average							
PAGE AVERAGE	3.67	3.78					

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WELDER/WELD OPERATOR(S)' QUALIFICATIONS				
Name/Stamp	Certificate Type (Process, Position)	Code Qualified To:	PQR, WPS, WPQ NO.S Rev /Date	Qualificatio n Status

QUALIFICATION AND CERTIFICATION OF NDE PERSONNEL			
Name/Stamp/ID	Qualification/Certification (Cert Type and Level)	Certification Expiration	Eye Exam Expiration Date

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SUPPLIER:		Procurement Tracking #:			
JLab SOTR:		JLab ES&H Representative:			
JLAB SOTR:					
STATEMENT OF MATERIAL/SERVICE:					

IDENTIFICATION AND ANALYSIS HAZARDS

A – Relevant to Vendor location only B – Relevant to JLab Personnel (SOTR provide Hazard Ranking) C – Hazard Analysis necessary prior to receipt and installation at Jlab

Potential or Known Hazard	A	B	C
Carcinogens (see Attachment A)			
Mutagens (see Attachment A)			
Teratogen (see Attachment A)			
Biological			
Chemical (liquid/gas/particulates)			
Nanoparticles			
Compressed Gases			
Cryogenics			
Ergonomic			
Cold Stress			
Heat Stress			
Lasers			
Magnetic Fields			
Non-Ionizing Radiation			
Noise			
Vibration			
Confined Space			
Electrical			
Elevated Platforms (aerial lifts, boom supported lifts, etc)			
Environmental Hazards			
Excavations			
Exposed/Rotating machinery			
Fall Hazards			
Floor and Wall Openings			
Hand and Power Tools			
Hazardous Energy			
Hoisting and Rigging			
Illumination			
Ladders			
Material Handling			
Open Flame			
Radiation/Radioactive Materials			
Scaffolds			
Traffic			
Walking/Working Surfaces			
Welding/Cutting/ and/or Grinding			
Other			

Quality Assurance Supplier
Evaluation Checklist
Attachment A

The following items or classes of materials are NOT permitted to be purchased or brought on-site without prior written approval by the appropriate ES&H group, such as Industrial Hygiene or Rad Con:

Asbestos
Biological or chemical warfare agents
Birth or genetic defect causing materials
Cancer causing materials
Chemicals with a specific OSHA regulation; i.e., vinyl chloride
Engineered Nanoparticles
Ozone depleting substances
Pharmaceuticals not prescribed by a licensed health care professional
Polychlorinated Biphenyl (PCB) material
Radioactive materials
Regulated waste materials
Viruses that are, or similar to, hemorrhagic fever agents

For guidance, see the following:

Specific examples of the above items are:

Carcinogens as established by

- Occupational Safety & Health Administration (OSHA) as listed in 29 CFR 1910. 1001 thru 1018
- Any material listed by the International Research Agency on Cancer (IRAC) as a "known human carcinogen";

Any OSHA regulated material as listed in section 29 CFR 1910. 1027 thru 1052 and any added after this chapter was issued

Any known birth defect causing materials; i.e., listed as mutagen or teratogen;

Any Polychlorinated Biphenyl (PCB) material;

Any regulated waste materials except what is on a waste disposal vehicle when picking up JLab wastes;

Any radioactive materials;

Any pharmaceuticals not prescribed by a licensed health care professional or in over-the-counter consumer packaging or types;

Pesticides/insecticides/rodenticides, beyond packaged consumer items & sizes or those handled by licensed applicators;

Any material identified as a biological warfare agent; i.e., anthrax;

Viruses that are or similar to hemorrhagic fever agents (viruses listed below are well-known examples):



Ebola <http://www.cdc.gov/ncidod/dvrd/Spb/mnpages/dispages/ebola.htm>



Marburg <http://www.cdc.gov/ncidod/dvrd/Spb/mnpages/dispages/marburg.htm>

Any chemical warfare agents in Schedule 1 by the Chemical Warfare Convention, such as;

* O-Alkyl (<C10, incl. cycloalkyl) alkyl (Me, Et, n-Pr or i-Pr)-phosphonofluoridates, e.g.



Sarin: O-Isopropyl methylphosphonofluoridate (known as GB)
<<http://en.wikipedia.org/wiki/Sarin>>



Soman: O-Pinacolyl methylphosphonofluoridate (known as GD)
<<http://en.wikipedia.org/wiki/Soman>>

**Quality Assurance Supplier
Evaluation Checklist
Attachment A (Continued)**

* O-Alkyl (<C10, incl. cycloalkyl) N,N-dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidocyanidates, e.g.



Tabun: O-Ethyl N,N-dimethylphosphoramidocyanidate (known as GA)
http://en.wikipedia.org/wiki/Tabun_%28nerve_gas%29

* O-Alkyl (H or <C10, incl. cycloalkyl) S-2-dialkyl (Me, Et, n-Pr or i-Pr)-aminoethyl alkyl (Me, Et, n-Pr or i-Pr) phosphonothiolates and corresponding alkylated or protonated salts, e.g.



S-2-diisopropylaminoethyl methylphosphonothiolate <http://en.wikipedia.org/wiki/VX_%28nerve_agent%29/>

* Sulfur mustards:

2-Chloroethylchloromethylsulfide



Mustard Gas <http://en.wikipedia.org/wiki/Mustard_gas>

Bis(2-chloroethyl)sulfide
Bis(2-chloroethylthio)methane



Sesquimustard <<http://en.wikipedia.org/wiki/Sesquimustard>>:

1,2-Bis(2-chloroethylthio)ethane
1,3-Bis(2-chloroethylthio)-n-propane
1,4-Bis(2-chloroethylthio)-n-butane
1,5-Bis(2-chloroethylthio)-n-pentane
Bis(2-chloroethylthiomethyl)ether



Sulfur mustard
http://en.wikipedia.org/wiki/Sulfur_mustard



* Lewisites <<http://en.wikipedia.org/wiki/Lewisite>>:

Lewisite 1: 2-Chlorovinylchloroarsine
Lewisite 2: Bis(2-chlorovinyl)chloroarsine
Lewisite 3: Tris(2-chlorovinyl)arsine



* Nitrogen Mustards <http://en.wikipedia.org/wiki/Nitrogen_mustard>

HN1: Bis(2-chloroethyl)ethylamine
HN2: Bis(2-chloroethyl)methylamine
HN3: Tris(2-chloroethyl)amine



* Saxitoxin ("red tide" agent) or other similar neurotoxins such as tetrodotoxin from Puffer fish <<http://en.wikipedia.org/wiki/Saxitoxin>>



*Ricin <<http://en.wikipedia.org/wiki/Ricin>>