Letter: NLI-QA-3152 Dated: 8/6/2012

CC:

U.S. Nuclear Regulatory Commission ATTN: Document Control Desk Washington, DC 20555-0001

> Chief Electrical Vendor Branch Division of Construction Inspection and Operational Programs Office of New Reactors

From: Aron Seiken NLI Vice President/General Manager

Subject: Reply to a Notice of Nonconformance NRC Vendor Inspection Report 99901298/2012-201

As requested by the referenced Vendor Inspection Report, this document contains the response to the identified Notice of Nonconformance in the NRC Vendor Inspection report 99901298/2012-201.

NLI has evaluated the two findings identified and have performed the required actions to correct the issues. The attached response provides the following:

(1) The reason for the noncompliance

(2) The corrective steps that have been taken and the results achieved;

(3) The corrective steps that will be taken to avoid noncompliances; and

(4) The date when the corrective action will be completed.

Please contact me with any questions or comments.

Sincerely,

Aron Seiken President Nuclear Logistics, Inc.

Attachment: NLI-QA-3152 - NRC Report 99901298/2012-201 Finding responses

JE07 MRE

NLI-QA-3152

NRC Report 99901298/2012-201 Finding responses

Finding 99901298/2012-201-01

Per the finding number indicated above:

"NLI failed to establish adequate measures for the selection and review for suitability of application of materials, parts, equipment, and processes that are essential to the safety-related functions of the structures, systems, and components to dedicate the services that commercial lab Nemko was requested to do via a purchase order. Specifically, NLI did not identify or verify critical characteristics in their commercial grade dedication of Nemko that would ensure that Nemko would have the capabilities necessary to perform the requirements of the electromagnetic interference (EMI)/radio-frequency interference (RFI) standards requested through NLI's purchase order."

NLI Response:

(1) The reason for the noncompliance - The commercial grade survey for the testing services did not include documenting the critical characteristics that were related to the specific test methods being conducted. The critical characteristics identified in the CGS were general in regards to the testing services program.

(2) The corrective steps that have been taken and the results achieved - A Technical Evaluation was prepared to provide an evaluation to determine the critical characteristics and the dedication method for the required critical characteristics as they are applicable to the testing service provided. A dedication plan was prepared to identify the critical characteristics and acceptance criteria required to dedicate the services provided by NEMKO.

(3) The corrective steps that will be taken to avoid noncompliances – The data collected during the commercial grade survey and V&V activity provided the reasonable assurance that the facility could perform the testing services in accordance with the critical characteristics that were identified for the specific testing methods.

(4) The date when your corrective action will be completed. - Completed

The following documents were prepared:

- Technical evaluation TE-NEMKO-01 [1] was prepared to document the critical characteristics for the dedication of the EMI/RFI testing services.
- Dedication plan VP-NEMKO-01 [2] was prepared for the dedication of the EMI/RFI testing services.
- Dedication report VR-NEMKO-01 [3] was prepared to document the results of the dedication activities. When appropriate, credit was taken for the activities that were previously performed by NLI, including the commercial grade survey and software dedication/verification & validation.

Attachments:

- 1. Technical evaluation: TE-NEMKO-01
- 2. Dedication plan: VP-NEMKO-01
- 3. Dedication report: VR-NEMKO-01

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Finding 99901298/2012-201-02

Per the finding number indicated above:

"NLI failed to establish adequate design control measures for verifying or checking the adequacy of design and failed to establish adequate design control measures commensurate with those applied to the original design for the evaluation of modifications done during the qualification process on the Trane Adaptiview Chiller Control system. Specifically, NLI failed to create a discrepancy report and perform an evaluation to determine whether modifications made during the EMI/RFI qualification testing of the Trane Adaptiview Chiller Control system impacted the original design requirements."

NLI Response:

(1) The reason for the noncompliance - Failure to follow written procedures

(2) **The corrective steps that have been taken and the results achieved** - NLI issued Corrective Action NLI-CAR-2012-08 to document the non-compliance in accordance with the NLI QA program. The required documentation was generated per the NLI procedure to document the required modification.

(3) The corrective steps that will be taken to avoid noncompliances – Training was conducted with the Engineering staff regarding the specific requirements within the NLI procedures

(4) The date when your corrective action will be completed. - Completed

Evaluations of the required modifications were not documented in accordance with the NLI written procedure. Although the required modifications were not documented and evaluated in a Discrepancy Report in accordance with the NLI procedure, the required modifications were documented in the qualification report and the supporting design drawings [5]. The modifications were verified to be acceptable by successfully passing the required qualification tests. Upon the identification of this non-conformance during the inspection, NLI issued the following documents:

- Discrepancy Report DR-3306, revision 1 [4] was issued to document the required modifications and to document that the modifications do not impact the original design requirements.
- NLI issued corrective action NLI-CAR-2012-08 [6] to address the failure to follow the procedure requirements regarding modifications to qualification test specimens and production units.

The issue was determined to not be a significant safety concern. The design and qualification of the equipment were not affected by the non-conformance. The equipment modifications were properly added to the design drawings and the production units were built to the revised design drawings, with the modifications.

The NLI procedure was reviewed and it was determined that the requirements were adequately stated. Training was administered to the Engineering staff regarding the requirements as they relate to documenting required modifications during qualification tests [7].

All required actions regarding this finding have been completed.

Attachments:

- 4. Discrepancy report DR-3306, revision 1.
- 5. Drawings
 - a. 05215515-ENCL-1, Rev. 2 (addition of the Flat Washer)
 - b. 05215515-GVA-1, Rev. 2 (Addition of the Ferrite Filter)
- 6. Corrective Action NLI-CAR-2012-08.
- 7. Training Records

Attachment 1

TE-NEMKO-01

NLI-QA-3152

NLI Technical Evaluation

TE-NEMKO-01, revision 0

- **1.0** <u>Component/Service</u>: Commercial EMI/RFI testing service provided by NEMKO.
 - 1.1 This technical evaluation provides the requirements for NLI dedication of commercially procured EMI/RFI testing services in accordance with specific ESD testing standards.
 - 1.2 The specific standards will be identified in the applicable qualification and dedication documentation.
- 2.0 Functional Classification: Test Service
- **3.0** <u>Safety Function</u>: Commercially produced test results used as input into nuclear safety related qualification, dedication and design activities.
- **4.0** <u>Dedication Methodology</u>: Commercial Grade Survey (CGS) at test facility. Source Inspection (SI) during the actual testing as applicable.

5.0 Identification of Critical Characteristics:

Potential failure mechanism	Potential failure Critical characteristic mechanism				
Incorrect Measurement &Test Equipment (M&TE) used for required test method.	M&TE and required test parameters shall be per the required MIL-STD-461E and IEC- 61000 series test methods.	Commercial Grade Survey or Source Inspection			
Inadequate M&TE calibration status.	Calibration shall be current for the required M&TE and meet the requirements of the MIL-STD-461E and IEC-61000 series test methods.	Commercial Grade Survey or Source Inspection			
Incorrect test setup.	Test setup shall be correct for the required MIL-STD-461E and IEC-61000 series test methods.	Commercial Grade Survey or Source Inspection			
Incompetent or inexperienced test personnel.	Test personnel shall be experienced. They shall be trained on the test methods and equipment required.	Commercial Grade Survey or Source Inspection			
Unapproved/ improper use of automation or lab software.	Lab software utilized shall be dedicated/validated based on the intended use during the required testing.	Commercial Grade Survey or Source Inspection			
Incorrect execution of test method	Vendor test methodology and required M&TE shall meet the MIL- STD-461E and IEC-61000 series requirements for the NLI specified methods.	Commercial Grade Survey or Source Inspection			

TE-NEMKO-01, revision 0

Potential failure mechanism	Critical characteristic	Methodology
Incorrect test procedures/ methods utilized.	MIL-STD-461E and IEC-61000 series test procedures/methods utilized by the vendor shall be as prescribed in the NLI test plan, purchase specification and/or PO requirements.	Commercial Grade Survey or Source Inspection
Incorrect test report documentation. Incorrect documentation of M&TE used.	Test reports shall accurately document the test MIL-STD-461E and IEC-61000 series methods executed, including M&TE used for testing.	 Commercial Grade Survey or Source Inspection NLI Engineering review of 100% of NEMKO test reports.

6.0 <u>Evaluations</u>:

- 6.1 This technical evaluation identifies the potential failure modes and the associated critical characteristics. The specific acceptance criteria are documented in the dedication plan, based on NLI's use of the commercial test results and NLI experience.
 - 6.1.1 This technical evaluation provides guidelines for the methods that will be used to identify the acceptance criteria for critical characteristics. The acceptance criteria and the basis for the acceptance criteria are documented in the dedication plan.
 - 6.1.2 This technical evaluation provides guidelines for the dedication methodology, based on NLI's experience.
 - 6.1.3 NLI's EMI/RFI test requirements and related quality requirements used to identify the acceptance criteria for the test results produced will be referenced in the dedication plan for the targeted services.
- 6.2 Commercial Testing Service Approval:
 - 6.2.1 The basis for vendor approval of testing services is documented and maintained in accordance with the NLI QA program.
 - 6.2.2 Monitoring, control and use of NLI approved vendor services:
 - 6.2.2.1 Continuation of vendor approval is at the discretion of the NLI QA department and is based on successful vendor performance during NLI CGS, SI, software evaluation activities and compliance with NLI purchase order requirements, including proper execution of NLI test plans.
 - 6.2.2.2 NLI scope of approval of the vendor can be reduced or eliminated at anytime without notice to the vendor.
 - 6.2.2.3 The scope of the vendor approval cannot be increased without the documented justification required by the NLI QA program.

NLI Technical Evaluation

TE-NEMKO-01, revision 0

- 6.2.2.4 Only the output of the testing services identified in the NLI dedication report related to this TE can be considered for use by NLI in nuclear safety related qualification, dedication or design activities.
- 6.2.2.5 The scope of NLI's approval of the vendor is defined. Control of services provided, with respect to the approved scope, are verified during CGS and SI activities.
 - 6.2.2.5.1 Use of the vendor outside of the NLI AVL approved scope is not permitted where nuclear safety related equipment or applications are applicable.
- 6.2.3 Test results provided for NLI EMI/RFI qualification activities.

6.2.3.1 Traceability:

6.2.3.1.1 EMI/RFI qualification is by testing for each configuration. Additional special tests, outside the scope of this TE are performed to document traceability between the EMI/RFI qualified specimen and the supplied units. This traceability is NLI project specific.

Tathan Mones Reviewed by: Prepared by: Approved by: Date: 8/3/12 Date: Date: 7

Attachment 2

VP-NEMKO-01



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Verification Plan

Test Plan P-NEMKO-01 rev. 0

Vendor Address: NEMKO USA, 802 N. Kealy, Lewisville TX 75057

Safety Function: <u>NEMKO results produced from the test methods identified in this plan may be used as input into nuclear safety related qualification, dedication and design activities.</u>

NOTE: Where CGS is provided as the Sample Size, the frequency of evaluation shall be in accordance with NLI-PROC-05 latest revision.

	Sample	Acceptance						
Critical Characteristics	Size	Criteria	Ref	Method				
CC#1 M&TE and required test parameters are per the specified test method	100%	The M&TE and the required test parameters used in the test set up meets the M&TE requirements of the required MIL-STD-461E and IEC-61000 series test methods. Test method requirements are provided in CC#8.	3, 5-9	Commercial Grade Survey				
CC#2 Calibration is current for the required M&TE	CGS	 Vendor has a documented and implemented program for M&TE calibration which meets NLI QA program requirements and the calibration requirements of MIL-STD-461E and IEC-61000 series test methods. 	3, 5-9	 Commercial Grade Survey for acceptance of vendors M&TE calibration management system. 				
	CGS	 Calibration status of M&TE utilized during NLI testing is current. 		2. Commercial Grade Survey of acceptance of vendors test execution and documentation process.				
CC#3 Test setup is correct for the required test method	100%	Verify the test setup is in accordance with the applicable MIL-STD-461E or IEC-61000 series test method requirements. Test method specific set up requirements are provided in CC#8.	3, 5-9	Commercial Grade Survey of acceptance of vendors test execution and documentation process. Source Inspection for test configuration and operation of equipment under test (EUT) by NLI technician.				
CC#4 Test personnel shall be experienced. They shall be trained on the test methods and equipment required.	CGS	Training and experience level of vendor personnel are sufficient to correctly carry out the NLI test requirements. See CC#8 for the required test methods.	3	CGS to evaluate training and experience level of test personnel utilized				
CC#5 Lab software utilized has been validated based on the vendor's intended use during the required testing.	100% of software utilized	NLI software V&V has been completed for lab software utilized. See CC#8 for the required test methods.	3	CGS or SI to identify the vendor's use of software to perform NLI required testing. NLI V&V of software utilized.				
CC#6 The lab software utilized has been dedicated by NLI to perform its intended safety function.	100% of software utilized	Successful completion of the NLI VVR for the software identified. See CC#8 for the required test methods.	3	NLI Software dedication/V&V (Vendor software validation activities specific to the NLI required test methods may be utilized in NLI V&V activities but they will be subjected to NLI Quality and Engineering approvals. The basis for acceptance of vendor software validation activities shall be documented				

VP-NEMKO-01 rev. 0

Verification Plan

Test Pla /P-NEMKO-01 rev. 0

Description: Dedication of EMI/ RFI test services provided by NEMKO. NLI approved vendor number AVL-124

Vendor Address: NEMKO USA, 802 N. Kealy, Lewisville TX 75057

Safety Function: <u>NEMKO results produced from the test methods identified in this plan may be used as input into nuclear safety related qualification, dedication and design activities.</u>

NOTE: Where CGS is provided as the Sample Size, the frequency of evaluation shall be in accordance with NLI-PROC-05 latest revision.

Critical Characteristics	Sample	Acceptance								
Critical Characteristics	Size	Criteria	Ref	f Method						
				if utilized).						
CC#7 NLI dedicated lab/test software is controlled at the vendor's facility.	100% of software based testing	Verify the NLI controls established in the PO requirements are implemented prior to testing. See CC#8 for software dedication.	3	Source Inspection.						
CC#8 Vendor test methodology and required M&TE meets the requirements of the test methods identified. Address CC's 1, 2, 3, 4, 5, 6&7 for each of the bulleted methods. Provide results in a matrix format.	CGS	 Vendor test methodology and required M&TE meets the requirements of the test methods identified: MIL-STD-461E, CS101: Low Frequency Conducted Susceptibility MIL-STD-461E, CS114: High-Frequency Conducted Susceptibility MIL-STD-461E, RS101: Low Frequency Radiated Magnetic Field Susceptibility MIL-STD-461E, RS103: High-Frequency Radiated Electric Field Susceptibility MIL-STD-461E, CE101: Low-Frequency Conducted Emissions MIL-STD-461E, CE102: High-Frequency Conducted Emissions MIL-STD-461E, RE101: Low-Frequency Radiated Magnetic Field Emissions MIL-STD-461E, RE101: Low-Frequency Radiated Magnetic Field Emissions MIL-STD-461E, RE101: Low-Frequency Radiated Magnetic Field Emissions MIL-STD-461E, RE102: High-Frequency Radiated Electric Field Emissions IEC 61000-4-4: Electrical Fast Transients/Burst IEC 61000-4-5: Surge Withstand Capability (Combination Wave) IEC 61000-4-2: Electrical Discharge Susceptibility 	1, 2, 3, 5-9	Commercial Grade Survey with NLI EMI/RFI technical specialist.						
CC#9 Test procedures/methods utilized by the vendor are as prescribed in the NLI test plan and purchase order.	CGS	1. Vendor has an effective process in place which provides reasonable assurance that NLI test plan requirements for MIL-STD-461E and IEC-61000 series test methods will be met. The NLI Qualification Plan is formally received and	3, 5-9	 Commercial Grade Survey and applicable NLI Qualification Plan. 						

Page 2 of 3

VP-NEMKO-01 rev. 0

Verification Plan

Test P VP-NEMKO-01 rev. 0

Description: Dedication of EMI/ RFI test services provided by NEMKO. NLI approved vendor number AVL-124

Vendor Address: NEMKO USA, 802 N. Kealy, Lewisville TX 75057

Safety Function: <u>NEMKO results produced from the test methods identified in this plan may be used as input into nuclear safety related qualification, dedication and design activities.</u>

NOTE: Where CGS is provided as the Sample Size, the frequency of evaluation shall be in accordance with NLI-PROC-05 latest revision.

Critical Characteristics	Sample	Acceptance									
Critical Characteristics	Size	Criteria	Ref	Method							
	CGS	reviewed by NEMKO.									
	CGS	2. MIL-STD-461E and IEC-61000 series test methods identified in CC#8 are available at the vendors facility and are utilized when required by the NLI test plan		 Commercial Grade Survey and applicable NLI Qualification Plan. 							
		3. Year edition of the NLI specified MIL-STD-461E and IEC-61000 series test method are utilized.		3. Commercial Grade Survey and applicable NLI Qualification Plan.							
CC#10 Test reports accurately	1. CGS	Vendor has an effective process in place which provides reasonable assurance that NLI test report	3, 5-9	1. Commercial Grade Survey							
document the test methods executed including M&TE used for testing.	2. 100%	requirements for MIL-STD-461E and IEC-61000 series tests will be met, including a list of M&TE used during testing.		 NLI Engineering review of NEMKO test reports (perform for 100% of projects). 							

References:	1. NRC RG 1.180 Rev.1
	2. EPRI TR-102323 Rev.3
	3. NLI-PROC-05, Rev.22
	4. NLI-TECH-05, Rev.11
	5. MIL-STD-461E
	6. IEC 61000-4-4
	7. IEC 61000-4-12
	8. IEC 61000-4-5
	9. IEC 61000-4-2
	10. TE-NEMKO-01, Rev.0
VP Approval	Prepared by: Approved by: Reviewed by: Approved by:
	Date: $\frac{3}{3}/2$ Date: $\frac{103}{2}$ Date: $\frac{97}{7}$
1	

VP-NEMKO-01 rev. 0

Attachment 3

VR-NEMKO-01

NLI-QA-3152

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VERIFICATION REPORT FOR VENDOR TEST SERVICES VENDOR: NLI AVL-124 SERVICES: EMI/RFI TESTING

DOCUMENT NO: VR-NEMKO-01, REV. 0



VERIFICATION REPORT FOR VENDOR TEST SERVICES VENDOR: NLI AVL-124 SERVICES: EMI/RFI TESTING

DOCUMENT NO: VR-NEMKO-01, REV. 0

This dedication report has been prepared in accordance with the NLI Quality Assurance Program.

Prepared by:

_date_8/3/12_

Monés Verified by:

date<u>8/3/12</u>

Approved by:_

1. date

REVISION HISTORY

Revision

0

Description Original Issue <u>Date</u> 8/<u>1</u>/12

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- 1.0 SUMMARY OF RESULTS
- 2.0 DISCREPANCY REPORTS
- Appendix A: Verification Test Data (VP-NEMKO-01 Test Data Sheets)
- Appendix B: Reference Documents

1.0 SUMMARY OF RESULTS

This report is to document the dedication of the EMI/RFI testing services provided by NEMKO Dallas Incorporated located at 802 N. Kealy, Lewisville, TX 75057. The NEMKO Lewisville facility provides NLI with services for electromagnetic interference testing, radio interference testing, high voltage surge testing, electrical fast transient testing and electrostatic discharge testing.

Testing services provided by NEMKO are controlled by NLI. The NEMKO facility is controlled by NLI as Approved Vendor List (AVL) No. 124[7]. The AVL summary and its contents are documented in accordance with the NLI QA program in accordance with NLI-PROC-05[27], section 4 - Control of Purchased Items and Services.

The NEMKO service profile was dedicated through the execution of verification plan VP-NEMKO-01, Rev.0. The Critical Characteristics in the VP utilized are in accordance with NLI Technical Evaluation TE-NEMKO-01 Rev.0. Ten Critical Characteristics were evaluated for acceptance using defined methods focusing on specific criteria. A set of Test Data Sheets was used to document compliance for each Critical Characteristic and is included as Appendix B of this report.

Compliance to Critical Characteristics #1 & #2 confirmed the capability of the NEMKO processes required for the control of measurement and test equipment (M&TE). A combination of commercial grade survey (CGS) results and implemented purchase order requirements (POR) are necessary and sufficient for compliance. The methods of control utilized by NLI include the use of source inspections, and detailed qualification plans to guide the testing activities for all purchase orders placed with NEMKO.

Compliance to Critical Characteristic #3 confirmed the NLI verification and approval of all test setups. Purchase order requirements (POR) for AVL-124 are necessary and sufficient for compliance. NLI process requires the use of source inspections defined in qualification plans for all purchase orders.

Compliance to Critical Characteristic #4 confirmed the adequacy of training and experience of all NEMKO test personnel. CGS findings provided necessary and sufficient information for compliance.

Compliance to Critical Characteristic #5 confirmed the completion of a review of software utilized in the execution of NEMKO test methods, where applicable. CGS findings provided necessary and sufficient information for compliance.

Compliance to Critical Characteristic #6 confirmed the adequacy of the VVR performed for NEMKO test software. Software Verification and Validation Report (VVR) findings provided necessary and sufficient information for compliance.

Compliance to Critical Characteristic #7 confirmed the process for purchase order review and Test Inspection Review (TIR) implementation prior to test execution. Purchase order requirements (POR) for AVL-124 are necessary and sufficient for compliance. Evidence of use

of an NLI test plan is a contractual requirement for acceptance of purchase order results.

Compliance to Critical Characteristic #8 confirmed test methodology per NLI requirements. A matrix analysis of critical characteristics for all applicable test methods was performed using CGS findings generated from input provided by an NLI EMI/RFI technical specialist. The matrix analysis provided necessary and sufficient information for compliance.

Compliance to Critical Characteristic #9 confirmed that NEMKO utilizes effective processes for implementing NLI test requirements. NLI commercial grade survey (CGS) results demonstrate that NEMKO has the required test method standards, including the proper year edition of the standard, on hand and that they are utilized as required per the NLI Qualification Plan. Additionally, a qualified NLI representative must confirm test configuration, test plan and test method prior to commencement of testing.

Compliance to Critical Characteristic #10 confirmed that NEMKO has an effective process in place which provides reasonable assurance that NLI test report requirements for MIL-STD-461 and applicable IEC test methods are met. NLI commercial grade survey results demonstrate NEMKO test reports are in accordance with the cited test method requirements as well as the applicable NLI Qualification Plan.

2.0 DISCREPANCY REPORTS

There were no discrepancy reports generated as a result of the execution of VP-NEMKO-01, Rev. 0.

Appendix A Verification Test Data (VP-NEMKO-01 Test Data Sheets)

Test Data for: <u>VP-NEMKO-01</u> Rev. <u>0</u> Job Numb	Der: NA P.E. NA Catalog ID #: NA
Item Description: EMI/RFI Testing Services NLI Vendor: NEMK	CO Labs (AVL-124) Test Methods: Listed in CC#8
CC# _1NLI identification of the required M&TE	CC# 2 NLI verification of M&TE calibration status.
CC# 1	CC# 2
Criteria: The M&TE and the required test parameters used in the test set up meets the M&TE requirements of the required MIL-STD-461E and IEC-61000 series test methods.	 Criteria: Vendor has a documented and implemented program for M&TE calibration which meets NLI QA program requirements and the calibration requirements of MIL-STD-461E and IEC-61000 series test methods. Calibration status of M&TE utilized during NLI testing is current.
Method: Commercial Grade Survey (CGS)	 Method: Commercial Grade Survey for acceptance of vendor's M&TE calibration management system. Commercial Grade Survey of acceptance of vendors test execution and documentation process.
Compliance: Maintenance of an approved M&TE Test Equipment List per CGS. CGSR-AVL-124-05,[17] is a copy of the NEMKO file directory which includes an M&TE equipment file list by NEMKO asset number. NLI verified the M&TE identified for use on NLI tests meets NLI QA program requirements for calibration. Purchase order requirement 12 requires that an NLI project engineer, technician or QA Engineer verify M&TE prior to testing. Documented evidence of compliance is defined in AVL-124 purchase order requirement #11b which stipulates that each test report list all M&TE used. Verified M&TE used by NEMKO is documented in the following NEMKO test reports:	 Compliance: CGSR-AVL-124-05[2], CC#6 provides evidence of compliance for a controlled M&TE program including: a. Control of sub-tier third party calibration providers b. Notification of out-of-calibration M&TE c. Traceability to NIST primary reference standards CGSR-AVL-124-05[2], CC #10 provides evidence of compliance that NEMKO utilizes M&TE calibration management processes which ensure M&TE utilized on NLI EUT is in accordance with NLI QA and the specified test method requirements.
NOTE: Initial and date after performance of each CC#. Indicate Pass or Re	eference DR#. Page <u>1</u> of <u>6</u> APPENDIX A

Check off appropriate tests
TEST DATA SHEET □ PRE-SEISMIC □ POST-SEISMIC ☑ VERIFICATION □ OTHER_

Te	st Data for:	_V	Р-NEMKO-01	Rev.	0	Job Number:	NA		P.E.	NA	_ Catalog I	D #:	NA	
Ite	m Descripti	ion:	EMI/RFI Testing Services	NLI Ve	endor:	NEMKO L	abs (AV	L-124)	<u></u>	_ Test M	ethods:	Lis	sted in CC#8	
CC#	3	NLI	verification and approval of the	ne test set	up.	CC	# 4	T tr	est pe ained	rsonnel on the t	shall be ex est method	perie ls and	enced. They shall be d equipment required.	

CC# 3	CC# 4
Criteria: Verify the test setup is in accordance with the applicable MIL-	Criteria: Training and experience level of vendor personnel are sufficient
STD-461E or IEC-61000 series test method requirements.	to correctly carry out the NLI test requirements.
Method: NLI Source Inspection (SI) to verify test set up is in accordance	Method: CGS
with NLI test method requirements.	
Compliance: Verification of test setup to be performed as a part of the	Compliance:
qualification plan per AVL-124[7] Purchase Order Requirement #12.	CGSR-AVL-124-05[2], CC#4 provides evidence of compliance for
Purchase Order Requirement #12 requires that a NLI project engineer,	training and experience level of vendor personnel through the use of
technician or QA Engineer verify M&TE prior to testing.	documented training records approved by qualified personnel.
	CGSR-AVL-124-06[1], CC#1 provides evidence of compliance for ability
Verified by review of various NLI Qualification Plans, including QP-	to perform NLI required tests through a review by an NLI technical
21714062-2 R2 for Ametek Transmitters that test set up requirements are	specialist of NEMKO capability.
clearly prescribed and that a Test Specimen Traveler is utilized by the NLI	
inspector to document inspection activities. Incorrect test set-ups will not	
result in an approved status on the Test Specimen Traveler.	AL AND
C.R. PASS	8/2/12
8/2/12	

Page 2 of 6 APPENDIX A

Check off appreciate tests

TEST DATA SHEET PRE-SEISMIC POST-SEISMIC VERIFICATION OTHER_

Te	est Data for:	_v	P-NEMKO-01	Rev.	0	Job Number:	NA	P.E.	NA	Catalog II	D#: _NA	
Ite	em Descript	ion:	EMI/RFI Testing Services	NLI Ve	ndor:	NEMKO L	abs (AVL-124	l)	_ Test Me	thods:	Listed in CC#8	
CC#	5	Lab venc	software utilized has been vali lor's intended use during NLI	dated base required to	ed on t esting.	the CC	# 6	The lat	o software n its inter	e utilized h Ided safety	as been dedicated by N function.	JLI to

CC# 5 CC# 6 Criteria: NLI Software V&V has been completed for lab software Criteria: Successful completion of the NLI VVR for the software identified. utilized. Method: CGS or SI to identify the vendor's use of software to perform Method: NLI Software dedication/V&V NLI required testing. NLI V&V of software utilized. Compliance: Compliance: VVR-AVL-124-01[4] documents vendor software that has been approved CGSR-AVL-124-05[2], CC#7 provides evidence of compliance through the review of software validation and verification testing performed by for use in support of NLI test methods. NLI of NEMKO data acquisition software. VVR-124-01[4] lists all NLI approved and controlled NEMKO data acquisition software utilized for NLI test methods. C.N. 1-ASS 9.17.117 C. N. PASS 8/2/17

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	TEST DATA SHEET	Check off □PRE-SE	appresiate tests	1IC 🛛		
Test Data for:	VP-NEMKO-01	Rev Jo	ob Number: NA ·	P.E.	NA Catalog II	D #:
Item Description:	EMI/RFI Testing Services	NLI Vendor:	NEMKO Labs (AVL-124)		Test Methods:	Listed in CC#8
CC# 7 NI	I dedicated lab/test software is cor	ntrolled at the	CC# 8 \	/endor	test methodology	meets the requirements of the

vendor's facility.

ts the requirements of the e з NLI test method.

CC# 7	CC# 8
Criteria: Verify the NLI controls established in the PO requirements and applicable TIR are implemented prior to testing.	 Criteria: Vendor test methodology meets NLI prescribed test method requirements for: MIL-STD-461E, CS101: Low Frequency Conducted Susceptibility MIL-STD-461E, CS114: High-Frequency Conducted Susceptibility MIL-STD-461E, RS101: Low Frequency Radiated Magnetic Field Susceptibility MIL-STD-461E, RS103: High-Frequency Radiated Electric Field Susceptibility MIL-STD-461E, CE101: Low-Frequency Conducted Emissions MIL-STD-461E, CE102: High-Frequency Conducted Emissions MIL-STD-461E, RE101: Low-Frequency Radiated Magnetic Field Emissions MIL-STD-461E, RE101: Low-Frequency Radiated Magnetic Field Emissions MIL-STD-461E, RE101: Low-Frequency Radiated Electric Field Emissions MIL-STD-461E, RE102: High-Frequency Radiated Electric Field Emissions MIL-STD-461E, IEC EN 61000-4-4: Electrical Fast Transients/Burst MIL-STD-461E, IEC EN 61000-4-5: Surge Withstand Capability (Combination Wave) MIL-STD-461E, IEC EN 61000-4-12: Surge Withstand Capability MIL-STD-461E, IEC EN 61000-4-2: Electrical Discharge Susceptibility
Method: Source Inspection.	Method: Commercial Grade Survey with EMI/RFI technical specialist. Address CC's 1, 2, 3, 4, 5, 6&7 for each of the bulleted methods. Provide results in a matrix format.
Compliance: Verification of NLI controls to be performed as a part of the qualification testing per AVL-124[7] POR #5. POR #5 requires that all testing be performed in accordance with the NLI supplied test plan. PASS C. M. $B/z/1Z$	Compliance: Reference VR-NEMKO-01 TDS CC #8 Compliance Matrix <i>C.</i> 人、 ドネSS

8/2/12

Check off appropriate tests
TEST DATA SHEET

Test Data for:		Р-NEMKO-01	Rev.	0	Job Number:	NA	P.E.	NA	Catalog	ID #:	NA
Item Descripti	ion:	EMI/RFI Testing Services	_ NLI Ve	endor:	NEMKO La	abs (AVL-124)		_ Test M	ethods:	List	ted in CC#8
CC# 9	Test prese and/	procedures/methods utilized b cribed in the NLI test plan, pur or PO requirements.	y the ven chase spe	dor a cifica	re as CC ation	# 10 1 2 3	. End NL . NL . Tes	l user tec I qualific I qualific I qualific	chnical rec cation plan cation con	quiren 1. tractu quali	nents are documented in ally transmitted to test lab.

CC# 9	CC# 10
 Criteria: 1. Vendor has an effective process in place which provides reasonable assurance that NLI test plan requirements for MIL-STD-461E and IEC-61000 series test methods will be met. 2. MIL-STD-461E and IEC-61000 series test methods identified in CC#8 are available at the vendors facility and are utilized when required by the NLI test plan 3. Year edition of the NLI specified MIL-STD-461E and IEC-61000 series test method are utilized. 	 Criteria: 1. Vendor has an effective process in place which provides reasonable assurance that NLI test report requirements for MIL-STD-461E and IEC-61000 series tests will be met, including a list of M&TE used during testing.
Method: CGS	Method: Commercial Grade Survey and applicable NLI Qualification Plan.
 Compliance: Verified in CGSR-AVL-124-05[2], CC#9 provides evidence of compliance through the review of the audited NEMKO quote/purchase order review procedures. The NLI qualification plan is formally received and reviewed by NEMKO. Verified in CGSR-AVL-124-05[2], CC#3 provides evidence of compliance through the review of the NEMKO technical oversight process which validates training and test method procedure through maintenance of a test matrix. Verified in CGSR-AVL-124-06[1], CC#2 provides evidence of compliance through the review of the NEMKO Test Standards Database. The implementation of the test standards is controlled through the use of written, controlled procedures. 	 Compliance: Compliance of NEMKO test reports to the corresponding test method requirements was evaluated by NLI via CGS and is clearly documented in the response to CC#8 of VVR-AVL-124-01 rev.2. Section 4 of qualification reports QR-HIQEMIRFI-1 R0[13], QR-05215515-1 R0[16] and QR-15013927-1 R0[19] provide objective evidence of compliance through the review of NEMKO test reports performed by cognizant NLI Engineering personnel.

Page <u>6</u> of <u>6</u> APPENDIX A

Test Data for: VP-NEMKO-01 Rev. 0 Job Number: NA P.E. NA Catalog ID #: NA Item Description: EMI/RFI Testing Services NLI Vendor: NEMKO Labs (AVL-124) Test Methods: Listed in CC#8 Check appropriate boxes:	Check off appropriate tests TEST DATA SHEET PRE-SEISMIC POST-SEISMIC VERIFICATION OTHER											
Item Description: EMI/RFI Testing Services NLI Vendor: NEMKO Labs (AVL-124) Test Methods: Listed in CC#8 Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Check appropriate boxes: Image: Chec	Test Data for: V	P-NEMKO-01		Rev.	0	Job Number:	NA	P.E.	NA (Catalog ID #:	NA	
Check appropriate boxes: IAIl Services Passed Discrepancy Report(s): If yes, identify below: IYes INo XN/A Service CC# DR# IAcceptable Initials/Date by PE: Its Services passed below: IAcceptable INot Acceptable Initials/Date by PE: Its Services passed below: IAcceptable INot Acceptable Initials/Date by PE: Its Services passed below: IAcceptable INot Acceptable Initials/Date by PE: Its Services passed below: IAcceptable INot Acceptable Initials/Date by PE: Statist Services passed below: IAcceptable INot Acceptable Initials/Date by PE: Its Services passed below: IAcceptable INot Acceptable Initials/Date by PE: Statist Services passed below: IAcceptable INot Acceptable Initials/Date by PE: Statist Services passed below: IAcceptable INot Acceptable Initials/Date by PE: Statist Services passed below: IAcceptable INot Acceptable Initials/Date by PE: Statist Services passed below: IAcceptable INot Acceptable Initials/Date by PE: Statist High-Frequency Conducted Susceptibility IAcceptable	Item Description:	EMI/RFI Testing Service	<u>s</u>]	NLI Ve	ndor:	NEMKO L	abs (AVL-124)		Test Meth	ods: Lis	sted in CC#8	
Image: Discrepancy Report(s): If yes, identify below: Image: Passed Discrepancy Report(s): If yes, identify below: Image: Passed below: Pa	Check appropriate b	oxes:										
List Services passed below: <u>MIL-STD-461E & IEC 61000 series Test Methods</u> <u>CS101</u> : Low Frequency Conducted Susceptibility <u>RS101</u> : Low Frequency Radiated Magnetic Field Susceptibility <u>RS103</u> : High-Frequency Radiated Electric Field Susceptibility <u>CE101</u> : Low-Frequency Conducted Emissions <u>CE102</u> : High-Frequency Conducted Emissions	DAll Services Passed		Discrepar Service	ncy Re e	CC#	s): If yes, iden DR# C	tify below: □Ye _□Acceptable _□Acceptable	es ⊡Not / ⊡Not /	□No Acceptable Acceptable	⊠N/A Initials/Da Initials/Da Initials/Da	ite by PE: ite by PE:	
RS101: Low Frequency Radiated Magnetic Field Susceptibility RS103: High-Frequency Radiated Electric Field Susceptibility CE101: Low-Frequency Conducted Emissions CE102: High-Frequency Conducted Emissions	List Services passed be MIL-STD-461E & IF CS101: Low Frequent CS114: Wigh Frequent	elow: CC 61000 series Test Meth cy Conducted Susceptibilit av Conducted Susceptibilit	uods V	-								
CE101: Low-Frequency Conducted Emissions CE102: High-Frequency Conducted Emissions	RS101: Low Frequent RS103: High-Frequer	cy Radiated Magnetic Field	y Susceptib Susceptib	oility ility								
RE101: Low-Frequency Radiated Magnetic Field Emissions	CE101: Low-Frequent CE102: High-Frequent RE101: Low-Frequent	cy Conducted Emissions ncy Conducted Emissions cy Radiated Magnetic Field	1 Emissior	15								
RE102: High-Frequency Radiated Electric Field Emissions IEC EN 61000-4-4: Electrical Fast Transients/Burst IEC EN 61000-4-5: Surge Withstand Capability (Combination Wave) IEC EN 61000-4-12: Surge Withstand Capability	RE102: High-Frequer IEC EN 61000-4-4: E IEC EN 61000-4-5: S IEC EN 61000-4-12:	ncy Radiated Electric Field Electrical Fast Transients/Burge Withstand Capability Surge Withstand Capability	Emissions arst (Combina y	s tion Wa	ave)							

Note: M&TE utilized to verify these vendor services is documented in the respective reports cited in VR-NEMKO-01 TDS CC #8 Compliance Matrix.

Performed by: Mass Add Mark	
Reviewed by: Hathan Money	
Approved by: <u>All</u>	

Date: $\frac{8/2/12}{2}$ Date: $\frac{8/2/12}{2}$

NOTE: Initial and date after performance of each CC#. Indicate Pass or Reference DR#.

Page 6 of 6 APPENDIX A

Action Description Descripion Description	VR-NEMKO-01 TDS CC #8 Compliance	CC#1 - The M&TE and the required test	CC#2 -	CC#3 -	CC#4 -	CC#5 -	CC#6 -	CC#7 -
Institution mest to DAT requirements of the systematic program for year of this applicable MUST 404 CC <	Matrix	narameters used in the test set un	1) Vendor has a documented and	Verify the test setun is in accordance	Training and experience level of vendor	NIL software V&V has been completed	Successful completion of the NUL V/R	Verify the NLL controls established in
reging to ML-TD add1 and (E-LDD) regine to ML-TD add1 and (E-LDD) regin (E-LDD) regine to ML-TD ad	Induix.	mosts the M&TE requirements of the	implemented program for M&TE	with the applicable MIL-STD-461E or	norconnel are sufficient to correctly	for lab coffware utilized	for the software identified	the PO requirements are implemented
Projects finds 1.0 - Link Bits (Link Bits) (Lin		meets the more requirements of the	implemented program for more	With the applicable Wit-STD-401E Di	personner are sufficient to confectly	ioi lab soltwale dillized.	for the software identified.	the PO requirements are implemented
Init: 4TD 4411, C1324: 104/h See Attributions 19 (MCT Frequency Note: CFB angles analysis) (D) (CCF) in the CFB angles Not 124- CFB angles analysis) (D) (CCF) in the CFB angles Not 124- CFB angles analysis) (D) (CCF) in the CFB angles Not 124- CFB angles analysis) (D) (CCF) in the CFB angles Not 124- CFB angles analysis) (D) (CCF) in the CFB angles Not 124- CFB angles analysis) (D) (CCF) in the CFB angles Not 124- CFB angles analysis) (D) (CCF) in the CFB angles Not 124- CFB angles analysis) (D) (CCF) in the CFB angles Not 124- CFB angles analysis) (D) (CCF) in the CFB angles Not 124- CFB angles analysis) (D) (CCF) in the CFB angles Not 124- CFB angles analysis) (D) (CCF) in the CFB angles Not 124- CFB angles Not 124- Not CFB angles Not 124- Not 124- Not 124- Not 124- Not 124- Not 124- Not 124- No		required MIL-STD-461E and IEC-61000	calibration which meets NLI QA	IEC-61000 series test method	carry out the NLI test requirements.			prior to testing.
MIL-STD: 4617, CSDD: Low See Attainment 39 (MAT Hequinery MIL-STD: 4617, MIL-STD: 4		series test methods.	program requirements and the	requirements.				
MIL-STD-45LT, C510: Low See Altachment 19 (MATT Frequency and gall using is corrent. Is a regione to COSR-AVI-124-05[1], COSR-AVI-124-05[1], CORR See VK-AVI-124-05[2], CORR See VK-AVI-124-05[calibration requirements of MIL-STD-					
NIL-UD-MEE, CHD2: Lew requency Conducted Susceptibility Requency Re			461E and IEC-61000 series test					
Null SDD 4617, C13D1: Low Property Conducted Succeptibility Property Conducted Succeptibili			methods.					
Mil-STD 4612, S1D1: Low Prequency Conducts Sexceptibility requency C			2) Calibration status of M&TF utilized					
Mill. STD-4612, C3101: Low Frequency Canducted Susceptibility Requency Canducted Susc			during NILL Ageting is surrout					
Initian Bioline Status Sex Attachment 3 (MRT Frequency requercy Conducted Susceptibility Rege Assignation 10 (MRT Frequency requercy Conducted Susceptibility Rege Assignation 10 (MRT Frequency Digitation E GSR AVL-124 GSI), CCH0. Sex Attachment 3 (mage 51) (duel in the response to CSR AVL-124 GSI), CCH0. Sex Attachment 3 (mage 51) (duel in the response to CSR AVL-124 GSI), CCH0. Sex Attachment 3 (mage 51) (duel in the response to CSR AVL-124 GSI), CCH0. Sex Attachment 3 (mage 51) (duel in the response to CSR AVL-124 GSI), CCH0. Sex Attachment 3 (mage 51) (duel in the response to CSR AVL-124 GSI), CCH0. Sex Attachment 3 (mage 51) (duel in the response to CSR AVL-124 GSI), CCH0. Sex Attachment 3 (mage 51) (duel in the response to CSR AVL-124 GSI), CCH0. Sex Attachment 3 (mage 51) (duel in the response to CSR AVL-124 GSI), CCH0. Sex Attachment 3 (mage 51) (duel in the response to CSR AVL-124 GSI), CCH0. Sex Attachment 3 (mage 51) (duel in the response to CSR AVL-124 GSI), CCH0. Sex Attachment 3 (mage 51) (duel in the response to CSR AVL-124 GSI), CCH0. Sex Attachment 3 (mage 51) (duel in the response to CSR AVL-124 GSI), CCH0. Sex Attachment 3 (mage 51) (duel in the response to CSR AVL-124 GSI), CCH0. Sex Attachment 3 (mage 51) (duel in the response to CSR AVL-124 GSI), CCH0. Sex Attachment 3 (mage 51) (duel in the response to CSR AVL-124 GSI), CCH0. Sex Attachment 3 (mage 51) (duel in the response to CSR AVL-124 GSI), The response to CSR AV			during increasing is current.					
MILSID-6426, CS101: Low Frequency Conducted Susceptibility See Attachment 19 (MAT Frequency Rege Aus/s1210) (sted in the regiments CGSN-AV-124-GD]), CC10, CC2 A 3 See Attachment 5 (page 54) cled in the regiments CGSN-AV-124-GD]), CC10, CC2 A 3 See response to CGSN-AV-124-GD], CC10, CC11, and CC30 paragraphs 3b, 2c and seq response to CGSN-AV-124-GD], CC10, CC11, and CC30 paragraphs 3b, 2c and seq response to CGSN-AV-124-GD], CC10, CC11, and CC30 paragraphs 3b, 2c and seq response to CGSN-AV-124-GD], CC10, CC11, and CC30 paragraphs 3b, 2c and seq response to CGSN-AV-124-GD], CC10, CC11, and CC30 paragraphs 3b, 2c and seq response to CGSN-AV-124-GD], CC10, CC11, and CC30 paragraphs 3b, 2c and seq response to CGSN-AV-124-GD], CC10, CC11, and CC30 paragraphs 3b, 2c and seq response to CGSN-AV-124-GD], CC10, CC11, and CC30 paragraphs 3b, 2c and seq response to CGSN-AV-124-GD], CC10, CC11, and CC30 paragraphs 3b, 2c and seq response to CGSN-AV-124-GD], CC10, CC11, and CC30 paragraphs 3b, 2c and seq response to CGSN-AV-124-GD], CC10, CC11, and CC30 paragraph seq response to CGSN-AV-124-GD], CC10, CC11, and CC30 paragraph seq response to CGSN-AV-124-GD], CC10, CC11, and CC30, and seq response to CGSN-AV-124-GD], CC11, and CC30, and seq response to CGSN-AV-124-GD], CC10, CC11, and CC11, and and frid documents and paragraph sh, 3c and section 11 (page 31) which agrees with NULSTD-4626, CC114-NIG, Prequency Conducted Susceptibility Wirk-VX-AV-124-GD], CC10, CC11, and CC13, and SC114, brief, br								
Mu-STD-6426, CS111: W/ Frequency Conducted Susceptibility Requency Conducted Suscept								
Frequency Conducted Susceptibility Rage Analysic [10] cited in the component to CGSH AVL124 OE[12]. CFG CC2 & 3 response to CGSH AVL24 OE[12]. CFG CC2 / 3 valuated as component to CGSH AVL24 OE[12]. CFG CC2 / 3 valuated as component to CGSH AVL24 OE[12]. CFG CC2 / 3 valuated as component to CGSH AVL24 OE[12]. CFG CFG CFG Valuated as component to CFG CFG CFG Valuated as component to CFG CFG CFG Valuated as component to CFG CFG CFG CFG Valuated as component to CFG <	MIL-STD-461E, CS101: Low	See Attachment 19 (M&TE Frequency	1) See response to CGSR-AVL-124-	See response to CGSR-AVL-124-06[1],	See Attachment 5 (page 54) cited in the	See response to CGSR-AVL-124-05[2],	See VVR-AVL-124-01[4] for the	See the purchase order requrements list
MIL-STD-4615, CS114: High- Frequency Conducted Susceptibility See Matt Errequency Range Objective evidence of compliance: in sast method CS101. MRE Assart Taj 1204; 1205, 1205, 1946; 1888 (1948), 1030, 2010	Frequency Conducted Susceptibility	Range Analysis[10]) cited in the	05[2], CC#6	CC#2 & 3	response to CGSR-AVL-124-05[2], CC#4	CC#7	validation and verification of software	for AVL-124[7], Rev. 9.
All before before of compliance for test method CSDU: MAT FAster 124 021, DSD, 1350, 1253, 1263, 1282 1243, DSD, 1350, 1253,		response to CGSR-AVL-124-05[2], CC#10.					used in support of this test method.	
Nume:10 - 401: C 114: High- requency Conducted Surceptibility Size Analysis 10(1), Ausci T 42 (200, 200), Bised on Supplication, Bisory, 102(1), 200, 12000, 1200, 1200, 12000, 1200, 1200, 1200, 1200, 1200, 1200, 1200,			2) See M&TE Frequency Range	Objective evidence of compliance:	See response to CGSR-AVL-124-06[1],			Objective evidence of compliance: In-
rest method CSD1: M0TE Asset Tag 1050, 1392 146, 1880 (1033), 1901, 1902, 1203, 1904, 1302, 1203, 1204, 1304, 1204,		Objective Evidence of compliance for	Analysis [10] Asset Tag 1204 1205	Based on supplier history, NEMKO	CC#1 and CC#3 paragraphs 3b. 3c and			process TIR-Nemko TILE Checklist-1[26]is
Image: Discussion of the second process of program and the second program proces of program and the second proc		tast mathed CS101: M&TE Accet Tag	1464 1998 (1042) 1001 1002 1003	Penert No. 1020726FEPPI[14] is	34			evidence of implementation of AVI-
Ling, Loo, Loo, Lee, Loo, Loo, Lee, Loo, Loo		1204 1205 1464 1898 (1042) 1001	1404, 1888 (1943), 1901, 1902, 1903,	Report No. 1029/2011 Ri[14] 13	Su			124[7] surplass order requirement #C
MIL-STD-4612, CS114: High- Prequency Conducted Susceptibility See Attachment 19 (M&TE Frequency Range Analysis) (10) (3csT Tag 780, 753, 755 (20), 720, 2003, 1904, 1932 Note: GPIB equipped M&TE also evaluated as a component of software VeX analysis and listed by Asset Tag W/R-AVL-124-01[4], Table 1. Note: GPIB equipped M&TE also evaluated as a component of software VeX analysis and listed by Asset Tag W/R-AVL-124-01[4], Table 1. Note: GPIB equipped M&TE also evaluated as a component of software VeX analysis and listed by Asset Tag W/R-AVL-124-01[4], Table 1. Note: GPIB equipped M&TE also evaluated as a component of software VeX analysis and listed by Asset Tag W/R-AVL-124-01[4], Table 1. Note: The use of software hased data acquisition equipment has been confirmed for text method CSID. by verification and validation and is documented in V/R-AVL-124-01[4], Table 1. Note: The use of software hased data acquisition equipment has been confirmed for text method CSID. by verification and validation and is documented in V/R-AVL-124-01[4]. See exponse to CSR-AVL-124-01[4], for the response to CSR-AVL-124-01[4], for the response to CSR-AVL-124-01[4]. See exponse to CSR-AVL-124-01[4], for the validation and validation and is documented in V/R-AVL-124-01[4]. See response to CSR-AVL-124-01[4], for the response to CSR-AVL-124-01[4]. See response to CSR-AVL-124-01[4], for the validation and validation and is documented in V/R-AVL-124-01[4]. See response to CSR-AVL-124-01[4], for the validation and validation and is documented in V/R-AVL-124-01[4]. See response to CSR-AVL-124-01[4]. See respon		1204, 1205, 1464, 1888 (1943), 1901,	1904, 1932	referenced as a typical example and is				124[7] purchase order requirement #5
Note: CPB equipped M&TE also evaluated as a component of software valuated as a		1902, 1903, 1904, 1932		cited as objective evidence of				for NLI Job No. 217-14062 per NLI
Note: CFIB squipped MRTE also evaluated as a component of other revisued as a component of other software V&W analysis and listed by Asset Tag in VWR-AVL-124-01[4], Table 1. Sectors (1) gas 22). The test step sectors (1) gas 22). The test step sectors (1) gas 22). The test step sectors (1) gas 23). The test step sectors (1) gas 24). The sectors (2) gas 24). The sectors (2) gas 24). The dearly establishes the completion of software checks of TUE profile. Name Sectors (1) gas 24). The sectors (2) gas 24). The dearly establishes the completion of software checks of TUE profile. Name Sectors (1) gas 24). Sectors (1) gas 24). The dearly establishes the completion of software checks of TUE profile. Name Sectors (1) gas 24). Sectors (1) gas 24). The dearly establishes the completion of software checks of TUE profile. Name Sectors (1) gas 24). Sectors (1)			Note: GPIB equipped M&TE also	compliance for CS101 test method				Qualification Plan 21714062-2[11]. This
Image: evaluated as a component of software V&V analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software V&V analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software V&V analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software V&V analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software V&V analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software V&V analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software VW analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software VW analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software VW analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software VW analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software VW analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software VW analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software VW analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software VW analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software VW analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software VW analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software VW analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software VW analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software VW analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software VW analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software VW analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1. Software VW analysis and listed by xset Tag in V/R-XVL-124-01[4], Table 1.		Note: GPIB equipped M&TE also	evaluated as a component of	setup. The physical test is shown in				TIR clearly establishes the completion of
V&W analysis and listed by Asset Tag in VWR-AVL-124-01[4], Table 1. Asset Tag in VWR-AVL-124-01[4], Table 1. Section 11 (page 51) which spress with MIL-STD-461E[21], Figure CS10.4 (page 5) S(4) Section 11 (page 51) which spress with MIL-STD-461E[21], Figure CS10.4 (page 5) S(4) MRT E Asset Number, TIE Software- wersion for test method CS10. (E102, RE102, RE102, RE		evaluated as a component of software	software V&V analysis and listed by	Section 5 (page 23). The test setup				software checks for TILE profile, Nemko
VVR.AVL-124-01[4], Table 1. 1. Section 11 (page 51) which agrees with ML/STD-461E[21], Figure CS1014 (page SH) Note: The use of software-based data acquisition equipment has been confirmed for test method CS101 by verification and validation and is documented in VVR-AVL-124-02[2]. Note: The use of software-based data acquisition equipment has been confirmed for test method CS101 by verification and validation and is documented in VVR-AVL-124-02[2]. See Attachment 19 (M&TE Frequency Range Analysis[0]) cited in the response to CGSR-AVL-124-05[2], CCH0 See Attachment 5 (page 54) cited in the response to CGSR-AVL-124-05[2], CCH0 See Attachment 5 (page 54) cited in the response to CGSR-AVL-124-05[2], CCH0 See Attachment 5 (page 54) cited in the response to CGSR-AVL-124-05[2], CCH0 See Attachment 5 (page 54) cited in the response to CGSR-AVL-124-05[2], CCH0 See the purchase order requirements list for AVL-124(7], Rev. 9. 2] See M&TE Frequency Collective Evidence of compliance test method CS114: MaTE Asset Tag 10, 1902, 1903, 1904 1) See response to CGSR-AVL-124-05[2], CCH0 See response to CGSR-AVL-124-05[2], CCH0 CCH2 & 3 cCH2 & 3 See response to CGSR-AVL-124-05[2], CCH0 CCH2 & 3 cCH2 & 3 See response to CGSR-AVL-124-05[2], CCH0 CCH2 & 3 cCH2 & 3 CCH2 & 3 cCH2 & 3 See response to CGSR-AVL-124-05[2], CCH0 CCH2 & 3 cCH2 & 3 See response to CGSR-AVL-124-05[2], CCH0 CCH2 & 3 cCH2 & 3 CCH2 & 3 cCH2 & 3 See response to CGSR-AVL-124-05[2], CCH0 CCH2 & 3 cCH2 &		V&V analysis and listed by Asset Tag in	Asset Tag in VVR-AVL-124-01[4], Table	process and schematic is defined in				M&TE Asset Number, TILE software
MIL-STD-461E, C3114: High- Frequency Conducted Susceptibility See Attachment 19 (M&TE Frequency Range Analysis(10), icted in the response to CGSR-AVL-124-05[1], CCH0 MIL-STD-461E, C3114: High- Frequency Conducted Susceptibility See Attachment 19 (M&TE Frequency Range Analysis(10), icted in the response to CGSR-AVL-124-05[1], CCH0 See Attachment 5 (page 54) cited in the response to CGSR-AVL-124-05[2], CCH0 See VR-AVL-124-05[2], CCH0 See VR-AVL-124-05[2		VVR-AVI-124-01[4], Table 1	1.	Section 11 (nage 51) which agrees with				version for test methods CE101, CE102.
MIL-51D-461E, C5114: High- See Attachment 19 (M&TE Frequency: Local and Case and prover). It will then be one apparer, reviewer and approver. It will then be one apparer. Note: The use of software-based data acquisition equipment has been complement and is documented in VVR-AVL-124-01 Rev. See Attachment 19 (M&TE Frequency: Live) See response to CGSR-AVL-124-05[1], CC#2 See response to CGSR-AVL-124-05[2], CC#4 See response to CGSR-AVL-124-05[1], CC#1 CC#7 Validation and verification of software used in support of this test method. See (CC#3 paragraphs 3b, 3c and 3d See (CC#3 paragraphs 3b, 3c and 3d See Trepunction of AVL See Trepunctin AS at the test is sonon in completion of software exist is dofin				MIL_STD_461E[21] Eiguro (\$101-4 (page				PE101 PE102 and EET. Once complete
Set Attachment 19 (M&TE Frequency: Conducted Susceptibility See Attachment 19 (M&TE Frequency: Livilit then become a part of the test method CS101 by verification and validation and is acquisition equipment has been confirmed for test method CS101 by verification and validation and is documented in VVR-AVL-124-01 Rev. 2[4]. See Attachment 19 (M&TE Frequency: Livilit then become a part of the test record for NLI documented in VVR-AVL-124-01[2], CC#10 See Attachment 19 (M&TE Frequency: Livilit then become a part of the test record for NLI documented in VVR-AVL-124-01[2], CC#10 See Attachment 19 (M&TE Frequency: Livilit then become a part of the test record for NLI documented in VVR-AVL-124-01[2], CC#10 See Attachment 19 (M&TE Frequency: Livilit then become a part of the test record for NLI documented in VVR-AVL-124-01[2], CC#10 See Attachment 19 (M&TE Frequency: Livilit then become a part of the test record for NLI documented in VVR-AVL-124-01[2], CC#10 See Attachment 19 (M&TE Frequency: Livilit then become a part of the test record for NLI documented in VVR-AVL-124-01[2], CC#10 See Attachment 19 (M&TE Frequency: Livilit then become a part of the test record for NLI documented in VVR-AVL-124-01[2], CC#10 See Attachment 19 (M&TE Frequency: Livilit then become a part of the test record for NLI documented in VVR-AVL-124-01[2], CC#10 See Attachment 19 (M&TE Frequency: Livilit test record for NLI documented in VVR-AVL-124-01[2], CC#10 See Attachment 19 (M&TE Frequency: Livilit test record for NLI documented in VVR-AVL-124-01[2], CC#10 See Attachment 19 (M&TE Frequency: Livilit test record for NLI documented in VVR-AVL-124-01[2], CC#10 See Attachment 19 (M&TE Frequency: Livilit test record for NLI documented in VVR-AVL-124-01[2], CC#10 See response to CGSR-AVL-124-01[2], CC#10				(MIL-51D-4012[21], Figure C5101-4 (page				the TID will be signed by anonener
MIL-STD-461E, CS114: High- See Attachment 19 (M&TE Frequency Confurmed for test method CS101 by verification and validation and is documented in VVR-AVL-124-01[0]. See Attachment 19 (M&TE Frequency Range Analysis(10) cited in the response to CGSR-AVL-124-05[2], CC#4 See Attachment 5 (page 54) cited in the response to CGSR-AVL-124-05[2], CC#4 See the purchase order requirements list for AVL-124-05[2], CC#4 View evidence of compliance for bojective Evidence of compliance for test method CS114: MBT Esset Tag 700, 781, 786, 1204, 1205, 1555, 1659, 1971, 1894, 1901, 1902, 1903, 1904 1) See response to CGSR-AVL-124-06[1], CC#2 & 3 See Attachment 5 (page 54) cited in the response to CGSR-AVL-124-05[2], CC#4 See response to CGSR-AVL-124-05[2], CC#2 & 3 Objective Evidence of compliance for bojective Evidence of compliance for test method CS114: MBT Esset Tag 700, 781, 786, 1204, 1205, 1555, 1659, 1971, 1901, 1902, 1903, 1904 Objective evidence of compliance in referenced as a typical example and is cited as a component of software V&V analysis and listed by veriloated as a component of software V&V analysis and listed by VeV analysis and listed by Asert Tag in veriloated as a component of software V&V analysis and listed by VeV analysis and listed by Asert Tag in software V&V analysis and listed by VeV analysis and listed by Asert Tag in software V&V analysis and listed by VeV analysis and listed by Asert Tag in Software V&V analysis and listed by VeV analysis and listed by Asert Tag in Software V&V analysis and listed by VeV analysis and listed by Asert Tag in Software V&V analysis and listed by VeV analysis and listed by Asert Tag in Software V&V analysis and listed by VeV analysis and listed by Asert Tag in Software V&V analysis and listed by VeV analysis and listed by Asert Tag in Software V&V analysi				54)				the lik will be signed by preparer,
Image: See Attachment 19 (M8TE Frequency Amage: Analysis [10]) cited in the response to CGSR-AVL-124-05[2], CC#1 See Attachment 19 (M8TE Frequency Amage: Analysis [10]) cited in the response to CGSR-AVL-124-05[2], CC#1 See Attachment 19 (M8TE Frequency Amage: Analysis [10]) cited in the response to CGSR-AVL-124-05[2], CC#1 See Attachment 5 (page 54) cited in the response to CGSR-AVL-124-05[2], CC#1 See Attachment 5 (page 54) cited in the response to CGSR-AVL-124-05[2], CC#1 See WVR-AVL-124-05[2], CC#1 See the purchase order requirements list for AVL-124-05[2], CC#1 Objective Evidence of compliance for test method C5114: M8TE Asset Tag 780, 781, 786, 1204, 1205, 1535, 1559, 1771, 1894, 1901, 1902, 1903, 1904 Objective evidence of compliance in the response to CGSR-AVL-124-05[1], CC#1 See								reviewer and approver. It will then
Image: See Attachment 19 (M&TE Frequency 1) See response to CGSR-AVL-124-06[1], ccr4 See Attachment 5 (page 54) cited in the response to CGSR-AVL-124-05[2], Ccr40 See eresponse to CGSR-AVL-124-05[2], Ccr40 Objective evidence of compliance: See response to CGSR-AVL-124-05[2], CCr40 See eresponse to CGSR-AVL-124-05[2], CCr40 Objective evidence of compliance: See response to CGSR-AVL-124-05[2], CCr40 See eresponse to CGSR-AVL-124-05[2], CCr40 Objective evidence of compliance: See response to CGSR-AVL-124-05[2], CCr40 See the purchase order requirements fist for AVL-124-05[1], Tois 71, 71, 71, 71, 71, 720, 720, 720, 720, 720, 720, 720, 720				Note: The use of software-based data			-	become a part of the test record for NLI
Image: Single state in the				acquisition equipment has been				Job No. 217-14062.
NIL-STD-461E, CS114: High- Frequency Conducted Susceptibility See Attachment 19 (M&TE Frequency Anages Analysis 100) cited in the response to CGSR-AVL-124-0S[2], CCH1 1) See response to CGSR-AVL-124-0S[2], CCH2 See response to CGSR-AVL-124-0S[2], CCH2 See the purchase order requirements list of 2(2), CCH2 See the purchase order requirement H5 See the purchase order requirement H5<				confirmed for test method CS101 by				
Image: mark the service of compliance of compliance of compliance of the service of compliance of comp				verification and validation and is				
Image: Note: CPIB equipped M&TE also Z4]. Certa an optical explicition of software evaluated as a component of software evaluated as a componenent of softwar				documented in VVR-AVL-124-01 Rev.				
MIL-STD-461E, CS114: High- Frequency Conducted Susceptibility See Attachment 19 (M&TE Frequency Range Analysis[10]) cited in the response to CGSR-AVL-124-O5[2], CC#10 See response to CGSR-AVL-124-O5[2], CC#40 See tresponse to CGSR-A		•		2[4]				
Witz-StD-401r, CS114: might See Attachment 15 (Walt2 Frequency See response to CGSR-AVL-124-OS[2], C#4 See response to CGSR-AVL-124-OS[2], C#4 Frequency Conducted Susceptibility Range Analysis[10]) cited in the response to CGSR-AVL-124-OS[2], CC#10 OS[2], CC#6 CC#2 & 3 CC#7 validation and verification of software used in support of this test method. Objective Evidence of compliance for rest method CS114: M&TE Asset Tag 780, 781, 786, 1204, 1205, 1535, 1659, 1771, 1894, 1901, 1902, 1903, 1904 Objective evidence of compliance for set response to CSR-AVL-124-OS[2], C#4 CC#7 validation and verification of software used in support of this test method. Note: GPIB equipped M&TE also evaluated as a component of software V&V analysis and listed by Asset Tag in VR-AVL-124-O1[4] Table See response to CSR-AVL-124-OS[2], C#4 CC#7 validation and verification of software used in support of this test method. Note: GPIB equipped M&TE also evaluated as a component of software V&V analysis and listed by Asset Tag in VR-AVL-124-O1[4] Table See response to CGSR-AVL-124-OS[2], C#4 CC#7 validation and verification of software used in support of this test method. See response to CGSR-AVL-124-OS[2], C#1 See response to CGSR-AVL-124-OS[2], C#4 CC#1 CC#1 <th></th> <td>Can Attachment 10 (MARTE Francisco</td> <td></td> <td>214). See recreate to CCSP AV(1124 06[1]</td> <td>See Attachment E (page E4) sited in the</td> <td>San response to CCSP AVII 124 0E[2]</td> <td>500 V//P AV/L 124 01[4] for the</td> <td>Coo the nurshane and a requirements list</td>		Can Attachment 10 (MARTE Francisco		214). See recreate to CCSP AV(1124 06[1]	See Attachment E (page E4) sited in the	San response to CCSP AVII 124 0E[2]	500 V//P AV/L 124 01[4] for the	Coo the nurshane and a requirements list
Frequency Conducted Susceptibility Range Analysis[10]) cited in the response to CGSR-AVL-124-O5[2], CC#0 CC#2 & 3 response to CGSR-AVL-124-O5[2], CC#0 Validation and ventication or software used in support of this test method. Validation and ventication or software used in support of this test method. Validation and ventication or software used in support of this test method. Validation and ventication or software used in support of this test method. Validation and ventication or software used in support of this test method. Validation and ventication or software used in support of this test method. Validation and ventication or software used in support of this test method. Validation and ventication or software used in support of this test method. Validation and ventication or software used in support of this test method. Validation and ventication or software used in support of this test method. Validation and ventication or software used in support of this test method. Validation and ventication or software used in support of this test method. Validation and ventication or software used in support of this test method. Validation and ventication or software used in support of this test method. Validation and ventication or software used in support of this test method. Validation and ventication or software used in support of this test method. Validation and ventication or software used in support of this test method. Validation and ventication or software used in support of this test method. Validation and ventication or software used in support of this test method. Validation and ventincation of software used in support of this test method	WIL-STD-461E, CS114: High-	See Attachment 19 (More Frequency	1) See response to CGSR-AVL-124-	See response to COSR-AVE-124-00[1],	See Attachment 5 (page 54) cited in the	see response to COSR-AVL-124-05[2],	See VVR-AVL-124-01[4] 101 the	See the purchase order requirements list
response to CGSR-AVL-124-O5[2], CC#10. 2) See M&TE Frequency Range Objective evidence of compliance: In- process TIR-Nemko TILE Profile Profile M&TE Access Number TILE Software Objective evidence of CSI14 test method software Cokes for TILE Profile Pro	Frequency Conducted Susceptibility	Range Analysis[10]) cited in the	05[2], CC#6	CC#2 & 3	response to CGSR-AVL-124-05[2], CC#4	100#7	validation and verification of software	for AVL-124[7], Rev. 9.
2) See M&TE Frequency RangeObjective evidence of compliance: CM21 and Stat Tag 780, 781, 786, 1204, 1205, 1535, 1659, 1771, 1894, 1901, 1902, 1903, 1904Objective evidence of compliance: See response to CGSR-AVL-124-06[1], CC#1 and CC#3 paragraphs 3b, 3c and 3dObjective evidence of compliance: In- process TIR-Nemko TILE Checklist-1[26]is evidence of implementation of AVL- 124(7] purchase order requirement #5 for NLI Job No. 217-14062 per NLI Note: GPIB equipped M&TE alsoObjective evidence of compliance: In- process and street widence of setup. The physical test is shown in evaluated as a component of software V&V analysis and listed by Asset Tag in VVB-AVL-124-01[4] TableSee response to CGSR-AVL-124-06[1], CC#1 and CC#3 paragraphs 3b, 3c and 3dObjective evidence of compliance: In- process TIR-Nemko TILE Checklist-1[26]is adVB Amatysis and listed by Asset Tag in VVB-AVL-124-01[4] TableSee response to CGSR-AVL-124-06[1], CC#1 and CC#3 paragraphs 3b, 3c and 3dSee TIR clearly established to software check set to process and streematic setup. The physical test is shown in setup. The physical test is shown in Asset Tag in VVB-AVL-124-01[4] TableSee TIR clearly established to setup. The physical test is shown in setup. The physic		response to CGSR-AVL-124-05[2], CC#10.					used in support of this test method.	
Objective Evidence of compliance for test method CS114: M&TE Asset TagAnalysis [10], Asset Tag 780, 781, 786, 1204, 1205, 1535, 1659, 1771, 1894, 1901, 1902, 1903, 1904Based on supplier history, NEMKO Report No. 1029726EEPRI[14] is referenced as a typical example and is cited as objective evidence of compliance for CS114 test methodCC#1 and CC#3 paragraphs 3b, 3c and 3dNote: GPIB equipped M&TE also evaluated as a component of software V&V analysis and listed by Asset Tag in V&V analysis and listed by Asset Tag in V&V Analysis and listed by Asset Tag in V&V-ANALAnalysis (10], Asset Tag 780, 781, 786, 1204, 1120, 1141 Table process TIR-Nemko TILE coeklist-1[26]is dNote: GPIB equipped M&TE also evaluated as a component of software V&V analysis and listed by Asset Tag in V&V-ANALSection 6 (page 27). The test setup process and schematic is defined inCC#1 and CC#3 paragraphs 3b, 3c and 3dMARTE Asset Tag in process TIR-Nemko TILE Checklist-1[26]is evidence of implementation of AVL- referenced as a typical example and is cited as objective evidence of software CASS to TILE profile, NemkoCC#1 and CC#3 paragraphs 3b, 3c and 3d			2) See M&TE Frequency Range	Objective evidence of compliance:	See response to CGSR-AVL-124-06[1],			Objective evidence of compliance: In-
test method CS114: M&TE Asset Tag 780, 781, 786, 1204, 1205, 1535, 1659, 1771, 1894, 780, 781, 786, 1204, 1205, 1535, 1659, 1771, 1894, 1901, 1902, 1903, 1904Report No. 1029726EPRI[14] is referenced as a typical example and is cited as objective evidence of for NLI Job No. 217-14062 per NLI compliance for CS114 test method1771, 1894, 1901, 1902, 1903, 1904Note: GPIB equipped M&TE also evaluated as a component of software V&V analysis and listed by Asset Tag in VVR-AVI-124-01[4] TableNote: GPIB equipped M&TE also software checks for TILE profile, NemkoSection 6 (page 27). The test setupV&V analysis and listed by Asset Tag in V&V-analysis and listed by W analysis and listed by Asset Tag inSection 6 (page 27). The test setupSection 6 (page 27). The test setup		Objective Evidence of compliance for	Analysis [10], Asset Tag 780, 781, 786,	Based on supplier history, NEMKO	CC#1 and CC#3 paragraphs 3b, 3c and			process TIR-Nemko TILE Checklist-1[26]is
780, 781, 786, 1204, 1205, 1535, 1659, 1771, 1894, 1901, 1902, 1903, 19041901, 1902, 1903, 1904referenced as a typical example and is cited as objective evidence of for NLI Job No. 217-14062 per NLI Compliance for CS114 test methodNote: GPIB equipped M&TE also evaluated as a component of software checks for TILE profile, Nemko V&V analysis and listed by Asset Tag in V&V analysis and listed by Asset Tag in V&V-AVI-124-01/41 Tablereferenced as a typical example and is cited as objective evidence of software	1	test method CS114: M&TE Asset Tag	1204, 1205, 1535, 1659, 1771, 1894.	Report No. 1029726EEPRI[14] is	3d			evidence of implementation of AVL-
1771, 1894, 1901, 1902, 1903, 1904 cited as objective evidence of for NLI Job No. 217-14062 per NLI Note: GPIB equipped M&TE also cited as objective evidence of compliance for CS114 test method Note: GPIB equipped M&TE also evaluated as a component of evaluated as a component of software checks for TILE profile, Nemko setup. The physical test is shown in Section 6 (page 27). The test setup V&V analysis and listed by W&V analysis and listed by Asset Tag in V&V analysis and listed by Asset Tag in VVR-AVI-124-01[4]. Table process and schematic is defined in		780, 781, 786, 1204, 1205, 1535, 1659.	1901, 1902, 1903, 1904	referenced as a typical example and is				124[7] purchase order requirement #5
Interpretent of Note: GPIB equipped M&TE also compliance for CS114 test method Note: GPIB equipped M&TE also evaluated as a component of evaluated as a component of software setup. The physical test is shown in V&V analysis and listed by Asset Tag in VR-AVI-124-01[4]. Table process and schematic is defined in		1771, 1894, 1901, 1902, 1903, 1904	, , , , , , , , , , , , , , , , , , ,	cited as objective evidence of		· ·		for NILlob No. 217-14062 per NIL
Note: GPIB equipped M&TE also evaluated as a component of evaluated as a component of software setup. The physical test is shown in setup. The physical test is shown in V&V analysis and listed by Asset Tag in V&V analysis and listed by Asset Tag in V&V analysis and listed by Asset Tag in VB-Asset Tag in V/R-AVI-124-01[4]. Table process and schematic is defined in M&TE Asset Tag in V/R-AVI-124-01[4]. Table process and schematic is defined in			Note: GPIB equipped M&TE also	compliance for CS114 test method				Qualification Plan 21714062-2[11] This
evaluated as a component of software software V&V analysis and listed by Section 6 (page 27). The test setup software checks for TILE profile, Nemko Sector 10, Secto		Natas CDID agrission of MOTE also	avaluated as a comparent of	compliance for CS114 lest method				TID aloogly actablishes the accountation of
evaluated as a component of software software V&V analysis and listed by Section 6 (page 27). The test setup software checks for TILE profile, Nemko		Note: Grib equipped M&TE also	evaluated as a component of	setup. The physical test is snown in				The clearly establishes the completion of
1/2011/2011/2011/2011/2011/2011/2011/20	1	evaluated as a component of software	sonware V&V analysis and listed by	Section 6 (page 27). The test setup				sonware checks for TILE profile, Nemko
		V&V analysis and listed by Asset Tag in	Asset Tag in VVR-AVL-124-01[4], Table	process and schematic is defined in				M&TE Asset Number, TILE software
VVR-AVL-124-01[4], Table 1. 1. Section 11 (page 52) which agrees with version for test methods CE101, CE102,	1	VVR-AVL-124-01[4], Table 1.	1.	Section 11 (page 52) which agrees with				version for test methods CE101, CE102,
MIL-STD-461E[21], Figure CS114-4 (page RE101, RE102 and EFT. Once complete,				MIL-STD-461E[21], Figure CS114-4 (page				RE101, RE102 and EFT. Once complete,
71) the TIR will be signed by preparer.				71)	[1		the TIR will be signed by preparer,
reviewer and approver. It will then			1					reviewer and approver. It will then
Note: The use of software-based data				Note: The use of software-based data				become a part of the test record for NUL
ivote. The use of software-based data				note. The use of softwase-based udld				lab Na 217 14062
JOB NO. 21/-14062.				acquisition equipment has been				JUD NO. 217-14002.
confirmed for test method CS114 by				confirmed for test method CS114 by				
verification and validation and is				verification and validation and is				
documented in VVR-AVL-124-01 Rev.				documented in VVR-AVL-124-01 Rev.				1
2[4].				2[4].				·

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VR-NEMKO-01 TDS CC #8 Compliance	CC#1 - The M&TE and the required test	CC#2 -	CC#3 -	CC#4 -	CC#5 -	CC#6 -	CC#7 -
Matrix	parameters used in the test set up	1) Vendor has a documented and	Verify the test setup is in accordance	Training and experience level of vendor	NLI software V&V has been completed	Successful completion of the NLI VVR	Verify the NLI controls established in
	meets the M&TE requirements of the	implemented program for M&TE	with the applicable MIL-STD-461E or	personnel are sufficient to correctly	for lab software utilized.	for the software identified.	the PO requirements are implemented
	required MIL-STD-461E and IEC-61000	calibration which meets NLI QA	IEC-61000 series test method	carry out the NLI test requirements.			prior to testing.
	series test methods.	program requirements and the	requirements.				
		calibration requirements of MIL-STD-					
		461E and IEC-61000 series test					
		methods.					
		2) Calibration status of M&TE utilized					
		during NLI testing is current.					
MIL-STD-461E, RS101: Low Frequency	See Attachment 19 (M&TE Frequency	1) See response to CGSR-AVL-124-	See response to CGSR-AVL-124-06[1],	See Attachment 5 (page 54) cited in the	See response to CGSR-AVL-124-05[2],	See VVR-AVL-124-01[4] for the	See the purchase order requrements list
Radiated Magnetic Field	Range Analysis[10]) cited in the	05[2], CC#6	CC#2 & 3	response to CGSR-AVL-124-05[2], CC#4	CC#7	validation and verification of software	for AVL-124[7], Rev. 9.
Susceptibility	response to CGSR-AVL-124-05[2], CC#10.					used in support of this test method.	
		2) See M&TE Frequency Range	Objective evidence of compliance:	See response to CGSR-AVL-124-06[1],			Objective evidence of compliance: In-
	Objective Evidence of compliance for	Analysis [10], Asset Tag 1204, 1205,	Based on supplier history, NEMKO	CC#1 and CC#3 paragraphs 3b, 3c and			process TIR-Nemko TILE Checklist-1[26]is
	test method RS101: M&TE Asset Tag	1464, 1888 (1943), 1901, 1902, 1903,	Report No. 1029726EEPRI[14] is	3d			evidence of implementation of AVL-
	1204, 1205, 1464, 1888 (1943), 1901,	1904, 1907, 1908	referenced as a typical example and is				124[7] purchase order requirement #5
	1902, 1903, 1904, 1907, 1908		cited as objective evidence of				tor NLI Job No. 217-14062 per NLI
		Note: GPIB equipped M& IE also	compliance for RS101 test method				Qualification Plan 21714062-2[11]. This
	Note: GPIB equipped M& IE also	evaluated as a component of	setup. The physical test is shown in				TIR clearly establishes the completion of
	evaluated as a component of software	software v&v analysis and listed by	Section 6 (page 31). The test setup				software checks for TILE profile, Nemko
	V&V analysis and listed by Asset Tag in	Asset Tag in VVR-AVL-124-01[4], Table	process and schematic is defined in				M&TE Asset Number, TILE software
	VVR-AVE-124-01[4], Table 1.	1.	Section 11 (page 54) which agrees with				Version for test methods CE101, CE102,
			11c)				REIOI, REIO2 and EFT. Once complete,
			110).				the TIR will be signed by preparer,
			Note: The use of software-based data			2	reviewer and approver. It will then
			acquisition equipment has been				become a part of the test record for NLI
			confirmed for test method PS101 by				JOD 140. 217-14062.
			verification and validation and is				
			documented in VVR-AVI-124-01 Rev				
			2[4]				
			c(1).				
MIL-STD-461E, RS103; High-	See Attachment 19 (M&TE Frequency	1) See response to CGSR-AVL-124-	See response to CGSR-AVL-124-06[1].	See Attachment 5 (page 54) cited in the	See response to CGSR-AVL-124-05[2].	See VVR-AVL-124-01[4] for the	See the purchase order requirements list
Frequency Radiated Electric Field	Range Analysis[10]) cited in the	05[2], CC#6	CC#2 & 3	response to CGSR-AVL-124-05[2]. CC#4	CC#7	validation and verification of software	for AVI-124[7], Rev. 9.
Susceptibility	response to CGSR-AVL-124-05[2], CC#10.					used in support of this test method.	
,		2) See M&TE Frequency Range	Objective evidence of compliance:	See response to CGSR-AVL-124-06(1).			Objective evidence of compliance: In-
	Objective Evidence of compliance for	Analysis [10], Asset Tag 1033, 1204,	Based on supplier history, NEMKO	CC#1 and CC#3 paragraphs 3b, 3c and			process TIR-Nemko TILE Checklist-1[26]is
	test method RS103: M&TE Asset Tag	1205, 1206, 1464, 1621, 1771, 1793,	Report No. 1029726EEPRI[14] is	3d			evidence of implementation of AVL-
	1033, 1204, 1205, 1206, 1464, 1621,	1901, 1902, 1903, 1904	referenced as a typical example and is				124[7] purchase order requirement #5
	1771, 1793, 1901, 1902, 1903, 1904		cited as objective evidence of				for NLI Job No. 217-14062 per NLI
		Note: GPIB equipped M&TE also	compliance for RS103 test method				Qualification Plan 21714062-2[11]. This
	Note: GPIB equipped M&TE also	evaluated as a component of	setup. The physical test is shown in				TIR clearly establishes the completion of
	evaluated as a component of software	software V&V analysis and listed by	Section 8 (pages 36-37). The test setup				software checks for TILE profile, Nemko
	V&V analysis and listed by Asset Tag in	Asset Tag in VVR-AVL-124-01[4], Table	process and schematic is defined in				M&TE Asset Number, TILE software
	VVR-AVL-124-01[4], Table 1.	1.	Section 11 (page 55) which agrees with				version for test methods CE101, CE102,
			MIL-STD-461E[21], Figure RS103-1 (page				RE101, RE102 and EFT. Once complete,
			129).				the TIR will be signed by preparer,
							reviewer and approver. It will then
			Note: The use of software-based data				become a part of the test record for NLI
	-		acquisition equipment has been				Job No. 217-14062.
			confirmed for test method RS103 by			·	
			verification and validation and is				
			accumented in VVR-AVL-124-01 Rev.				
			2[4].				
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VR-NEMKO-01 TDS CC #8 Compliance	CC#1 - The M&TE and the required test	CC#2 -	CC#3 -	CC#4 -	CC#5 -	CC#6 -	CC#7 -
Matrix	parameters used in the test set up	1) Vendor has a documented and	Verify the test setup is in accordance	Training and experience level of vendor	NLI software V&V has been completed	Successful completion of the NU VVR	Verify the NLL controls established in
	meets the M&TE requirements of the	implemented program for M&TE	with the applicable MIL-STD-461E or	personnel are sufficient to correctly	for lab software utilized.	for the software identified.	the PO requirements are implemented
	required MIL-STD-461E and IEC-61000	calibration which meets NLI QA	IEC-61000 series test method	carry out the NLI test requirements.		ior the software lacit lice.	prior to testing
	series test methods.	program requirements and the	requirements.				prior to testing.
		calibration requirements of MIL-STD-					
		461F and IEC-61000 series test					
		methods					
		2) Calibration status of M&TE utilized	a.				
		during NIL testing is current	*				
		during iver testing is current.					
		-					
MIL STD 461E CE101: Low	See Attachment 10 /M&TE Frequency						
Fromuoney Conducted Emissions	Bango Applycic[10]) sited in the	1) See response to COSR-AVE-124-	See response to CGSR-AVL-124-06[1],	See Attachment 5 (page 54) cited in the	See response to CGSR-AVL-124-05[2],	See VVR-AVL-124-01[4] for the	See the purchase order requrements list
Frequency conducted emissions	Range Analysis[10]) cited in the	05[2], CC#6	CC#2 & 3	response to CGSR-AVL-124-05[2], CC#4	CC#7	validation and verification of software	for AVL-124[7], Rev. 9.
1	response to CGSR-AVL-124-05[2], CC#10					used in support of this test method.	
		2) See M&TE Frequency Range	Objective evidence of compliance:	See response to CGSR-AVL-124-06[1],			Objective evidence of compliance: In-
	Objective Evidence of compliance for	Analysis [10], Asset Tag 1163, 1204,	Based on supplier history, NEMKO	CC#1 and CC#3 paragraphs 3b, 3c and			process TIR-Nemko TILE Checklist-1[26]is
	test method CE101: M&TE Asset Tag	1205, 1283, 1464, 1811, 1812, 1901,	Report No. 10221567EPRI[17] is	3d			evidence of implementation of AVL-
	1163, 1204, 1205, 1283, 1464, 1811,	1902, 1903, 1904	referenced as a typical example and is				124[7] purchase order requirement #5
	1812, 1901, 1902, 1903, 1904		cited as objective evidence of				for NLI Job No. 217-14062 per NLI
		Note: GPIB equipped M&TE also	compliance for CE101 test method				Qualification Plan 21714062-2[11]. This
	Note: GPIB equipped M&TE also	evaluated as a component of	setup. The physical test is shown in				TIR clearly establishes the completion of
	evaluated as a component of software	software V&V analysis and listed by	Section 3 (page 11). The test setup				software checks for TILE profile, Nemko
	V&V analysis and listed by Asset Tag in	Asset Tag in VVR-AVL-124-01[4], Table	process and schematic is defined in				M&TE Asset Number, TILE software
	VVR-AVL-124-01[4], Table 1.	1.	Section 12 (page 49) which agrees with				version for test methods CE101, CE102,
			MIL-STD-461E[21], Figure CE101-6 (page				RE101, RE102 and EFT. Once complete,
			35).				the TIR will be signed by preparer.
							reviewer and approver. It will then
			Note: The use of software-based data				become a part of the test record for NLI
			acquisition equipment has been				lob No. 217-14062.
			confirmed for test method CE101 by				
			verification and validation and is				
			documented in VVR-AVL-124-01 Rev.				
			2[4].				
MIL-STD-461E, CE102: High-	See Attachment 19 (M&TE Frequency	1) See response to CGSR-AVL-124-	See response to CGSR-AVL-124-06[1].	See Attachment 5 (page 54) cited in the	See response to CGSR-AVI-124-05[2]	See V//R-AV/-124-01(4) for the	See the purchase order requirements list
Frequency Conducted Emissions	Range Analysis[10]) cited in the	05[2]. CC#6	CC#2 & 3	response to CGSR-AVI-124-05[2] CC#4	CC#7	validation and verification of software	for AVI-124[7] Poy 9
	response to CGSR-AVI-124-05[2]. CC#10.					used in support of this test method	IOF AVL-124[7], Rev. 9.
		2) See M&TF Frequency Range	Objective evidence of compliance:	See response to CGSP-AVI-124-06[1]		ased in support of this test method.	
	Objective Evidence of compliance for	Analysis [10] Asset Tag 1204 1205	Based on supplier history NEMKO	CC#1 and CC#2 paragraphs 2h 2c and			Objective evidence of compliance: In-
	test method CE102: M&TE Asset Tag	1283 1811 1812 1901 1902 1903	Report No. 10221567EPRI[17] is	2d			process Tik-Nemko TILE Checklist-1[26]is
	1204, 1205, 1283, 1811, 1812, 1901	1904 1932	referenced as a typical example and in	54			evidence of implementation of AVL-
	1902 1903 1904 1932	1557, 1552	cited as objective evidence of				124[7] purchase order requirement #5
	1200, 1909, 1907, 1992	Note: GPIB equipped M&TE also	compliance for CE102 test method				TOF NLI JOB NO. 21/-14062 per NLI
	Note: GPIB equipped M&TE also	evaluated as a component of	compliance for CETUZ test method				Qualification Plan 21714062-2[11]. This
	avaluated as a component of cofficient	contracted as a component of	Section 4 (mage 15) The test is snown in				TIR clearly establishes the completion of
	VeV analysis and listed by Asset Taking	Accel Tag in NOR AVE 124 OIGHT THE	section 4 (page 15). The test setup				software checks for TILE profile, Nemko
		ASSECT ag in VVR-AVL-124-U1[4], Table	process and schematic is defined in				M&TE Asset Number, TILE software
	VVN-AVL-124-01[4], Table 1.	L.	Section 12 (page 50) which agrees with				version for test methods CE101, CE102,
1			INIL-SID-461E[21], Figure CE102-3 (page				RE101, RE102 and EFT. Once complete,
			40].				the TIR will be signed by preparer,
							reviewer and approver. It will then
			Note: The use of software-based data				become a part of the test record for NLI
			acquisition equipment has been				Job No. 217-14062.
		1	confirmed for test method CE102 by				
			verification and validation and is				
			documented in VVR-AVL-124-01 Rev.				
L	l	l	2[4].				

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VR-NEMKO-01 TDS CC #8 Compliance	CC#1 - The M&TE and the required test	CC#2 -	CC#3 -	CC#4 -	CC#5 -	CC#6 -	CC#7 -
Matrix	parameters used in the test set up	1) Vendor has a documented and	Verify the test setup is in accordance	Training and experience level of vendor	NLI software V&V has been completed	Successful completion of the NLI VVR	Verify the NU controls established in
	meets the M&TE requirements of the	implemented program for M&TE	with the applicable MIL-STD-461E or	personnel are sufficient to correctly	for lab software utilized.	for the software identified.	the PO requirements are implemented
	required MIL-STD-461E and JEC-61000	calibration which meets NLI OA	IFC-61000 series test method	carry out the NIL test requirements.	ion ion software admied.	tor the software luentimed.	nrior to testing
-	series test methods.	program requirements and the	requirements.	curry out the fill test requirements.			prior to testing.
		calibration requirements of Mil-STD.					
		461F and JEC-61000 series test					
		methods					
		7) Calibration status of M&TE utilized	4		:		
		during NI Ltosting is current	1				
		doring wer testing is corrent.					, ,
MIL-STD-461E, RE101: Low-	See Attachment 19 (M&TE Frequency	1) See response to CGSR-AVL-124-	See response to CGSR-AVI-124-06[1]	See Attachment 5 (page 54) cited in the	See response to CGSR-AVI-124-05(2)	See $V/R_A/I_124_01[A]$ for the	See the nurchase order requirements list
Frequency Radiated Magnetic Field	Range Analysis[10]) cited in the	05[2]. CC#6	CC#2 & 3	response to CGSB-AVI-124-05[2], CC#4	CC#7	validation and verification of software	for AVI-124[7] Boy 9
Emissions	response to CGSR-AVL-124-05[2]. CC#10					used in support of this test method	1011112 12-[7], 1101. 5.
		2) See M&TE Frequency Range	Objective evidence of compliance:	See response to CGSR-AVI-124-06[1].		discu in support of this test method.	Objective evidence of compliance: In-
	Objective Evidence of compliance for	Analysis [10], Asset Tag 1149, 1204.	Based on supplier history, NEMKO	CC#1 and CC#3 paragraphs 3h, 3c and			process TIR-Nemko TILE Checklist-1(26)is
	test method RE101: M&TE Asset Tag	1205, 1464, 1811, 1812, 1901, 1902.	Report No. 1029726EEPRI[14] is	3d			evidence of implementation of AVL
	1149, 1204, 1205, 1464, 1811, 1812	1903. 1904	referenced as a typical example and is				124[7] nurchase order requirement #5
	1901, 1902, 1903, 1904		cited as objective evidence of				for NIL Job No. 217-14062 por NIL
	,,,,	Note: GPIB equipped M&TE also	compliance for RE101 test method				Qualification Plan 21714062 2[11] This
	Note: GPIB equipped M&TE also	evaluated as a component of	setup. The physical test is shown in				TIB clearly establishes the completion of
	evaluated as a component of software	software V&V analysis and listed by	Section 3 (page 13). The test setup				software checks for TILE profile. Nemko
	V&V analysis and listed by Asset Tag in	Asset Tag in VVR-AVI -124-01[4]. Table	process and schematic is defined in				M&TE Asset Number, THE software
	VVR-AVL-124-01[4], Table 1.	1.	Section 11 (page 48) which agrees with				version for test methods CE101_CE102
			MIL-STD-461E[21], Figure BS103-1 (page				RE101 RE102 and EET. Once complete
			90).				the TIR will be signed by preparer
							reviewer and approver. It will then
			Note: The use of software-based data				become a part of the test record for NU
			acquisition equipment has been				loh No. 217-14062
			confirmed for test method RE101 by				305 110. 217 14002.
			verification and validation and is				
-			documented in VVR-AVL-124-01 Rev.				
			2[4].				
MIL-STD-461E, RE102: High-	See Attachment 19 (M&TE Frequency	1) See response to CGSR-AVL-124-	See response to CGSR-AVL-124-06[1].	See Attachment 5 (page 54) cited in the	See response to CGSR-AVI-124-05[2]	See VVB-AVI-124-01[4] for the	See the nurchase order requirements list
Frequency Radiated Electric Field	Range Analysis[10]) cited in the	05[2]. CC#6	CC#2 & 3	response to CGSR-AVL-124-05[2], CC#4	CC#7	validation and verification of software	for AVI-124[7] Rev. 9
Emissions	response to CGSR-AVL-124-05[2], CC#10					used in support of this test method	101 / 10 12 4[/], Nev. 5.
		2) See M&TE Frequency Range	Objective evidence of compliance:	See response to CGSB-AVI-124-06[1].		abed in support of this test method.	Objective evidence of compliance: In-
	Objective Evidence of compliance for	Analysis [10]. Asset Tag 707, 762.	Based on supplier history, NEMKO	CC#1 and CC#3 paragraphs 3b, 3c and			process TIR-Nemko TILE Checklist-1[26]is
	test method RE102: M&TE Asset Tag	1033, 1067, 1143, 1204, 1205, 1283,	Report No. 1029726FFPRI[14] is	isd			evidence of implementation of AVI-
	707, 762, 1033, 1067, 1143, 1204, 1205,	1289, 1290, 1487, 1528, 1621, 1811.	referenced as a typical example and is				124[7] purchase order requirement #5
	1283, 1289, 1290, 1487, 1528, 1621.	1812, 1856, 1901, 1902, 1903, 1904,	cited as objective evidence of				for NUL Job No. 217-14062 per NUL
	1811, 1812, 1856, 1901, 1902, 1903.	1972	compliance for RF102 test method				Qualification Plan 21714062-2[11] This
	1904, 1972		setup. The physical test is shown in				TIR clearly establishes the completion of
		Note: GPIB equipped M&TE also	Section 4 (nages 18-19). The test setun				software checks for TILE profile. Nemko
	Note: GPIB equipped M&TE also	evaluated as a component of	process and schematic is defined in				M&TE Asset Number THE software
	evaluated as a component of software	software V&V analysis and listed by	Section 11 (page 50) which agrees with				version for test mathads CE101 CE102
	V&V analysis and listed by Asset Tag in	Asset Tag in VVR-AVL-124-01[4]. Table	MIL-STD-461E[21], Figure RE102-X (nage				RE101 RE102 and EET. Once complete
	VVR-AVL-124-01[4], Table 1.	1.	XX). Sections 4 & 11 of the NEMKO				the TIR will be signed by preparer
			report conflict.				reviewer and approver it will then
			/				become a part of the test record for NU
			Note: The use of software-based data				lob No. 217-14062
			acquisition equipment has been				
			confirmed for test method RE102 by				
			verification and validation and is				
			documented in VVR-AVL-124-01 Rev				
			2[4].				
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	COME THE BERTE and the second stand	lccup	CC#2	CCHA	CCHE	locuc	CC#7
VR-NEMKO-01 TDS CC #8 Compliance Matrix	CC#1 - The M&TE and the required test parameters used in the test set up meets the M&TE requirements of the required MIL-STD-461E and IEC-61000 series test methods.	 CC#2 - 1) Vendor has a documented and implemented program for M&TE calibration which meets NLI QA program requirements and the calibration requirements of MIL-STD- 461E and IEC-61000 series test methods. 2) Calibration status of M&TE utilized during NLI testing is current. 	CC#3 - Verify the test setup is in accordance with the applicable MIL-STD-461E or IEC-61000 series test method requirements.	CC#4 - Training and experience level of vendor personnel are sufficient to correctly carry out the NLI test requirements.	NLI software V&V has been completed for lab software utilized.	CC#6 - Successful completion of the NLI VVR for the software identified.	Verify the NLI controls established in the PO requirements are implemented prior to testing.
IEC EN 61000-4-4: Electrical Fast Transients/Burst	See Attachment 19 (M&TE Frequency Range Analysis[10]) cited in the response to CGSR-AVL-124-05[2], CC#10. Objective Evidence of compliance for test method IEC EN 61000-4-4: M&TE Asset Tag 590, 1746 Note: No GPIB based M&TE equipment are used for this test method.	1) See response to CGSR-AVL-124- 05[2], CC#6 2) See M&TE Frequency Range Analysis [10], Asset Tag 590, 1746 Note: No GPIB based M&TE equipment are used for this test method.	See response to CGSR-AVL-124-06[1], CC#2 & 3 Objective evidence of compliance: Based on supplier history, NEMKO Report No. 1029726EEPRI[14] is referenced as a typical example and ls cited as objective evidence of compliance for IEC EN 61000-4-4[22] test method setup. The physical test is shown in Section 9 (pages 40-41). The test setup process and schematic is defined in Section 11 (page 56) which agrees with IEC 61000-4-4[22], Section 7.2.2 - Capacitive Coupling (page 14). Note: The use of software-based data acquisition equipment is not applicable to test method IEC 61000-4-4[22].	See Attachment 5 (page 54) cited in the response to CGSR-AVL-124-05[2], CC#4 See response to CGSR-AVL-124-06[1], CC#1	N/A - software not utilized	N/A - software not utilized	See the purchase order requrements list for AVL-124[7], Rev. 9. Objective evidence of compliance: In- process TIR-Nemko TILE Checklist-1[26]is evidence of implementation of AVL- 124[7] purchase order requirement #5 for NLI Job No. 217-14062 per NLI Qualification Plan 21714062-2[11]. This TIR clearly establishes the completion of software checks for TILE profile, Nemko M&TE Asset Number, TILE software version for test methods CE101, CE102, RE101, RE102 and EFT. Once complete, the TIR will be signed by preparer, reviewer and approver. It will then become a part of the test record for NLI Job No. 217-14062.
IEC EN 61000-4-5: Surge Withstand Capability (Combination Wave)	See Attachment 19 (M&TE Frequency Range Analysis[10]) cited in the response to CGSR-AVL-124-05[2], CC#10. Objective Evidence of compliance for test method IEC EN 61000-4-5: M&TE Asset Tag 585, 1746 Note: No GPIB based M&TE equipment are used for this test method.	1) See response to CGSR-AVL-124- 05[2], CC#6 2) See M&TE Frequency Range Analysis [10], Asset Tag 585, 1746 Note: No GPIB based M&TE equipment are used for this test method.	See response to CGSR-AVL-124-06[1], CC#2 & 3 Objective evidence of compliance: Based on supplier history, NEMKO Report No. 1029726EEPRI[14] is referenced as a typical example and is cited as objective evidence of compliance for IEC EN 61000-4-5[24] test method setup. The physical test is shown in Section 10 (page 44). The test setup process and schematic is defined in Section 11 (page 56) which agrees with IEC 61000-4-5[24], Section 7.2 - Test setup for tests applied to EUT power ports. Note: The use of software-based data acquisition equipment is not applicable to test method IEC 61000-4-5[24].	See Attachment 5 (page 54) cited in the response to CGSR-AVL-124-05[2], CC#4 See response to CGSR-AVL-124-06[1], CC#1	N/A - software not utilized	N/A - software not utilized	see the purchase order requrements list for AVL-124[7], Rev. 9. Objective evidence of compliance: In- process TIR-Nemko TILE Checklist-1[26]is evidence of implementation of AVL- 124[7] purchase order requirement #5 for NLI Job No. 217-14062 per NLI Qualification Plan 21714062-2[11]. This TIR clearly establishes the completion of software checks for TILE profile, Nemko M&TE Asset Number, TILE software version for test methods CE101, CE102, RE101, RE102 and EFT. Once complete, the TIR will be signed by preparer, reviewer and approver. It will then become a part of the test record for NLI Job No. 217-14062.

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VR-NEMKO-01 TDS CC #8 Compliance	CC#1 - The M&TE and the required test	CC#2 -	CC#3 -	CC#4 -	CC#5 -	CC#6 -	CC#7 -
Matrix	parameters used in the test set up	1) Vendor has a documented and	Verify the test setup is in accordance	Training and experience level of vendor	NLI software V&V has been completed	Successful completion of the NLI VVR	Verify the NLI controls established in
	meets the M&TE requirements of the	implemented program for M&TE	with the applicable MIL-STD-461E or	personnel are sufficient to correctly	for lab software utilized.	for the software identified.	the PO requirements are implemented
	required MIL-STD-461E and IEC-61000	calibration which meets NLI QA	IEC-61000 series test method	carry out the NLI test requirements.			prior to testing.
	series test methods.	program requirements and the	requirements.	· ·			
		calibration requirements of MIL-STD-					
		461E and IEC-61000 series test					
		methods.					
		2) Calibration status of M&TF utilized					
		during NI I testing is current					
		during the testing is current.					
				Coo Attachment [/ or [] } its d in the			
TEC EN 61000-4-12: Surge Withstand	See Attachment 15 (More Frequency		CCH2 8. 2	see Attachment 5 (page 54) cited in the	N/A - Software not utilized	N/A - Software not utilized	See the purchase order requirements list
Саравшту	Range Analysis[10]) cited in the	05[2], CC#8		response to COSR-AVE-124-05[2], CC#4			lor Avt-124[7], Rev. 9.
	response to CGSR-AVL-124-05[2], CC#10.						
		2) See M&TE Frequency Range	Objective evidence of compliance:	See response to CGSK-AVL-124-06[1],			Objective evidence of compliance: In-
	Objective Evidence of compliance for	Analysis [10], Asset Tag 1/46	Based on supplier history, NEWKO	CC#1			process IIR-Nemko TILE Checklist-1(26)is
	test method IEC EN 61000-4-12: M&TE		Report No. 1029726EEPRI[14] is				evidence of implementation of AVL-
1	Asset Tag 1746		referenced as a typical example and is				124[7] purchase order requirement #5
		Note: No GPIB based M&TE	cited as objective evidence of				for NLI Job No. 217-14062 per NLI
	Note: No GPIB based M&TE equipment	equipment are used for this test	compliance for IEC EN 61000-4-12[23]				Qualification Plan 21714062-2[11]. This
	are used for this test method.	method.	test method setup. The physical test is				TIR clearly establishes the completion of
			shown in Section 10 (page 46). The test				software checks for TILE profile, Nemko
1			setup process and schematic is defined				M&TE Asset Number, TILE software
			in Section 11 (page 56) which agrees				version for test methods CE101, CE102,
			with IEC 61000-4-12[23], Section 7.1 -				RE101, RE102 and EFT. Once complete,
			Test of power supply ports.				the TIR will be signed by preparer,
					•		reviewer and approver. It will then
			Note: The use of software-based data				become a part of the test record for NLI
			acquisition equipment is not applicable				Job No. 217-14062.
			to test method IEC 61000-4-12[23].				
				-			
IEC EN 61000-4-2: Electrical Discharge	See Attachment 19 (M&TE Frequency	1) See response to CGSR-AVL-124-	See response to CGSR-AVL-124-06[1],	See Attachment 5 (page 54) cited in the	N/A - software not utilized	N/A - software not utilized	See the purchase order requrements list
Susceptibility	Range Analysis[10]) cited in the	05[2], CC#6	CC#2 & 3	response to CGSR-AVL-124-05[2], CC#4			for AVL-124[7], Rev. 9.
	response to CGSR-AVL-124-05[2], CC#10.						
		2) See M&TE Frequency Range	Objective evidence of compliance:	See response to CGSR-AVL-124-06[1],			Objective evidence of compliance: In-
	Objective Evidence of compliance for	Analysis [10], Asset Tag 1738, 1754	NEMKO Report No. 1026634EEPRI[20],	CC#1			process TIR-Nemko TILE Checklist-1[26]is
	test method IEC EN 61000-4-2: M&TE		Sections 11 & 14				evidence of implementation of AVL-
	Asset Tag 1738, 1754						124[7] purchase order requirement #5
1		Note: No GPIB based M&TE	Objective evidence of compliance:				for NLI Job No. 217-14062 per NLI
	Note: No GPIB based M&TE equipment	equipment are used for this test	Based on supplier history, NEMKO				Qualification Plan 21714062-2[11] This
	are used for this test method	method.	Report No. 1026634EEPRI[20] is				TIR clearly establishes the completion of
			referenced as a typical example and is				software checks for TILE profile. Nemko
			cited as objective evidence of				M&TF Asset Number Til F software
			compliance for IEC EN 61000-4-2[25]				version for test methods CE101 CE102
			test method setun. The physical test is				RE101 RE102 and EET Onco complete
			shown in Section 11 (page AA) The test				the TIP will be signed by properer
			sotup process and schematic is defined				the tirk will be signed by preparer,
			in Section 14 /page 65) which agrees				here wer and approver. It will then
			with IEC 61000 4 20221 Contine 7.2.2				become a part of the test record for NLI
			WITH IEC 01000-4-2[23], Section 7.2.2-				JOD NO. 217-14062.
· · · · · · · · · · · · · · · · · · ·			Table-top equipment, Figure 4 (page				
1			17).				
			Note: The use of software-based data	1			
1]	acquisition equipment is not applicable				
			to test method IEC 61000-4-2[25].				· · · ·
							
	al il M. M.	·	4/7/17				
Performed By:	(MA SHALL	Date:	0/ 4/12				
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Appendix **B**

Reference Documents

- 1. CGSR-AVL-124-06 rev.0
- 2. CGSR-AVL-124-05 rev.0
- 3. CGSR-AVL-124-04 rev.0
- 4. VVR-AVL-124-01 rev.2
- 5. TIR-NEMKO TILE CHECKLIST-01 Rev.2
- 6. TE-NEMKO-01 rev.0
- 7. AVL-124 & Purchase Order Requirements
- 8. NRC RG 1.180
- 9. EPRI TR-102323
- 10. M&TE Frequency Range Analysis (CGSR-AVL-124-05, Attachment 19)
- 11. QP-21714062-2, Rev. 2
- 12. QP-HIQ120-1
- 13. QR-HIQEMIRFI-1
- 14. NEMKO REPORT NO. 1029726EEPRI
- 15. QP-05215515-1, Rev. 2
- 16. QR-05215515-1, Rev. 0
- 17. NEMKO REPORT NO. 10221567EPRI
- 18. QP-15013927-1, Rev. 0
- 19. QR-15013927-1, Rev. 0
- 20. NEMKO REPORT NO. 1026634EEPRI
- 21. MIL-STD-461E
- 22. IEC 61000-4-4
- 23. IEC 61000-4-12
- 24. IEC 61000-4-5
- 25. IEC 61000-4-2
- 26. TIR-NEMKO TILE CHECKLIST-01 In Process
- 27. NLI-PROC-05, Rev. 22
- 28. NLI-TECH-05, Rev. 11

NOTE: Please contact NLI if copies of these reference documents are required.

Attachment 4

Discrepancy report DR-3306, revision 1

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NLI-QA-3152

Discrepancy Report

DR#:

	DR-3306 Revision #
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1

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A. IDENTIFICATION	Project #:	052-16060		
Item Description:	Chiller control	upgrade		
Manufacturer:	NLI/Trane	1999 - 1999 - Lano , 1998 - 1998 - 1999 - 199	- Marin Managaman ang ang ang ang ang ang ang ang ang a	
Part Number:	Adaptiview	99 Y WARNEN EN LEINE MAN FUNCTION DE MAN FUNCTION IN DIE LA MAN FUNCTION DU DE LEINE HUMEN BURGEN MAN FUNCTION	yannyagi 1111-142 yinganinga bardi wajangara a wabagiya kwa Mangara nagarana anisa ya ay a ya	and a Window Market of the an analysis of the desired of
Serial Number(s):	05216060-TS	5-1		
0				o ////
Quantity:	1		Initial Evaluation/Tagging:	Conditional Release

Issue:

The qualification testing identified the following modifications to the test specimens (reference QR-05215515-1, revision 0):

-Add flat washer to the control panel mounting studs (per section 7.2, anomaly 05215515-02, and the seismic data sheets in Appendix C.2 of the qualification report).

-Ferrite filter was added to the vane guide actuator wiring (per section 7.3 of the qualification report and Page 6 of the NEMKO test report).

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Affected Hardware/Document/M&TE/Etc:

QR-05215515-1

Identification Electronic Signature

ID Prepared By:	Karim Sawaf	 ID Preparer Signature:	🕅 ksawaf 6/7/2012 5:37 PM
ID Approved By:	Carlos Castellanos	ID Approver Signature:	☑ ccastellanos 6/7/2012 5:44 PM



B. RESOLUTION

Evaluation:

These modifications are required as follows:

-The flat washer was required to pass the seismic qualification. The original bolted connection that was identified was not seismically secure. After addition of the washer, the seismic testing was successful.

-The ferrite filter was required to lower the radiated emissions (RE-102) of the test specimen. The initial testing identified emissions that were well above the allowables. Installation of the filter lowered the emissions.

The following actions were performed:

-Revise the design drawings to include these modifications. This will assure that the modifications will be made on the production units.

-Production unit 05216060-AS-1 included both modifications as noted in the as-built drawings.

These modifications were required to meet the design requirements in the client specification for seismic and EMI/RFI qualification of the equipment. The design requirements in the client specification are met as follows: -The seismic and EMI/RFI requirements are met based on the successful qualification of the equipment with the modifications installed.

-The functional requirements were met by successful completion of the dedication of the production units with the modifications installed.

Acceptable - Use As Is

Acceptable - With Repair

🖾 Reject - Return to Vendor

Cause Code 1

0 - Other

Resolution Electronic Signature

Acceptable - With Rework

Reject - Scrap

Resolution Prepare d By:	Aron Seiken •	Resolution Preparer Signature:	☑ aseiken 8/1/2012 4:48 PM
Resolution Reviewed By:	Alan Wong •	Resolution Reviewer Signature:	awong 8/1/2012 5:09 PM
Resolution Approved By:	Tracy Bolt •	Resolution Approver Signature:	I tbolt 8/2/2012 8:11 AM



Attachment 5

05215515-ENCL-1, Rev. 2 (Addition of the Flat Washer) 05215515-GVA-1, Rev. 2 (Addition of the Ferrite Filter)







Attachment 6

Corrective Action NLI-CAR-2012-08

•	NLI Nuclear Logistics Inc. 7110 Pathla Daim					
	Fort Worth, TX 76118					
	Phone: (817) 284-0077 Fax: (817) 590-0484					
	Corrective Action Request Report					
	Issue Date:6/15/2012 Report No. <u>NLI-CAR-2012-08</u>					
	Issued By: <u>Tracy Bolt</u> <u>Due: 7/15/2012</u>					
	1. Responsible Organization: Engineering - Qualification					
	2. Contact / Title: Aron Seiken Phone: X303					
	3. Reference (Documents, Part Numbers, Etc.): <u>NLI-TECH-05, Rev. 11</u>					
	Attachments may be supplied if space is limited for the following sections:					
	A. Description of the Denciency: NLI-TECH-05 states that when there is an anomaly that results in a modification that is required to pass					
	qualification tests, that there will also be a Discrepancy report that is initiated to capture the required modifications in the production units.					
	Contrary to this procedure requirement, a DR was not generated to capture the required modifications					
	Organization to Complete Sections 5 Through 9					
	5. Describe and Implement Remedial Action: A discrepancy report was generated to document the justification for the modifications.					
	6 Identify Root Cause of the Problem:					
	The engineer did not follow the procedure.					
	7. Corrective Action Required to Prevent Recurrence: The procedure will be reviewed to ensure that the requirements are clearly identified.					
	regarding modifications to qualification specimens and production units.					
	Pate When Full Implementation Will Be Achieved: 7/15/2012					
	8. Date when Pull implementation will be Admeted.					
	9. Authorized By: Title: Date: Date:					
	10. NLI Review By July Scelt Title: <u>Director of QA</u> Date: <u>6/18/12</u>					
	11. Acceptable: , Unacceptable:, Re-submittal is Required By:					
	12. NLI Follow-up Verification By: hulf balt Date: 7/23/12					
	13. Closed: Open: Review Again:					



NLI Nuclear Logistics Inc. 7410 Pebble Drive Fort Worth, TX 76118 Phone: (817) 284-0077 Fax: (817) 590-0484

14. NCR required? (Y/N): <u>NO</u>

If yes, NCR number: _____

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Attachment 7

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Training records

NLI-QA-3152

REF. NLI-CAR-2012-08

Equipment Qualification	Revision 11
Procedure NLI-TECH-05	Page 27

Qualification testing anomalies will be documented using Figure 4-3 or equivalent. Anomalies will be documented for any anomalous conditions that are found during the testing, including the following:

- The test specimen did not operate per design or did not meet the specified acceptance criteria.
- The conditions specified in the test plan (seismic RRS, temperature, radiation, etc.) were not met.
- The testing was not performed exactly as specified in the test plan. Examples could include taking measurements on a schedule different than in the plan, not recording measurements, etc.

When the anomaly results in the modification of production units that will be supplied to the client, a separate Discrepancy Report (DR) will be prepared to track the modifications to the production units. The DR will be prepared and dispositioned in accordance with procedure NLI-QUAL-06 (latest revision).

Nonconformances and potentially reportable issues will be identified and resolved in accordance with procedures NLI-QUAL-06 (latest revision) and NLI-QUAL-08 (latest revision), respectively.

4.2.1 Qualification Plan (If required by client)

The qualification plan will be prepared prior to initiation of testing, when required by the client. Special emphasis will be placed in the following areas:

- Component identification The item being qualified will be fully identified. Its plant safety function and functional requirements will be documented and will form the basis for the testing.
- Functional requirements The functional testing requirements before, during, and after the test will be explicitly identified and based on the plant functional requirements.
- Acceptance criteria The acceptance criteria will be stated and will be based on the plant functional requirements or industry standards.

TRAINING SIGNOFF SHEET FOR NLI-CAR-2012-08 Ref. NLI-TECH-05, Rev. 11

The following personnel were present for this training session and have read and understood the topics discussed.

NAME SIGNATURE DATE CK ETENBERGER RACI 7/23/2 Redmon teven 4 7/23 23 7 McI aNO an laugh n Fin Keniz 231 ay la 23 Char -00 Nich Phan 71231 Vincent Phan 7(23/12 Corato CHIERS 7/25/12 7/23/12 TUE LE 7/23/12 GANDEE DAVID 1 l – 1 1GM 6300 23/12 Mask, 11

Training conducted by:

Victor Lara, NLI Engineering Manager

Date: 7/23/12

TRAINING SIGNOFF SHEET FOR NLI-CAR-2012-08 Ref. NLI-TECH-05, Rev. 11

The following personnel were present for this training session and have read and understood the topics discussed.

NAME	SIGNATURE	DATE
Danny Luong	- HH	7-23-12
Roger Fernandes	laga Somb	7/23/12
Donny Leach	Bach	7/23/12
Jonth Mchan	The second secon	7/23/12
Nick Jose	the	7/23/12
DEO G. MATUCAN FA	من م	7/23/12
Dpe Ehke	87-52	7/23/12
VAMES NOUVEN	J. Naprijan	7/23/12
Mans Landsberger	Mar map	- 7/23/12
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Training conducted by:	Date: 7	1/23/12

Victor Lara, NLI Engineering Manager

TRAINING SIGNOFF SHEET FOR NLI-CAR-2012-08 Ref. NLI-TECH-05, Rev. 11

The following personnel were present for this training session and have read and understood the topics discussed.

NAME	///SIGNATURE	DATE
MARK MILINDUTTE	Uffthe 1	7.23.12
CARLOS CASTELLANOS	1A	7/23/12
Karim Sawat	Rin sup	7-23-12
NAPOLEON RAMIREZ	Men	7-23-12
Joshua Preyost	young Paper	7-28-12
Blake Anderson	Barh	7-23-12
Jim Hoorman	- Van	7/23/12
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Training conducted by:	Date:	7/23/12

Victor Lara, NLI Engineering Manager