Letter No. NRC-V10-12-002

February 7, 2012

United States Nuclear Regulatory Commission
Mr. Jonathon Rowley, Project Manager
M/S 12D2
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

Subject: Nuclear Safety Related Qualification of the Tricon TMR Programmable Logic Controller (PLC) – Update to Qualification Summary Report Submittal and "Application for Withholding Proprietary Information from Public Disclosure" (TAC NO. ME2435)

References:

1. Letter, J. Polcyn (Invensys) to NRC, June 1, 2009, subject: NRC Safety Evaluation Report, "Review of Triconex Corporation Topical Reports 7286-545, Qualification Summary Report, and 7286-546, Amendment 1 to Qualification Summary Report, Revision 1", Letter No. NRC-V10-09-001.
2. Letter, NRC (J. R. Jolicoeur) to B. Haynes (Invensys), dated December 23, 2011, subject: "Draft Safety Evaluation for Invensys Operations Management 'Triconex Topical Report' (TAC NO. ME2435)"
3. Letter, B. Haynes (Invensys) to NRC, dated January 10, 2012, subject: "Nuclear Safety Related Qualification of the Tricon TMR Programmable Logic Controller (PLC) – Update to Qualification Summary Report Submittal and 'Application for Withholding Proprietary Information from Public Disclosure' (TAC NO. ME2435)," Letter No. NRC-V10-12-001.

Reference 2 provided the staff's formal draft of the Tricon V10 Safety Evaluation Report (SER) to Invensys Operations Management (Invensys) for review. In the transmittal letter the staff requested that, within 10 working days of the date of the letter, Invensys provide comments on proprietary aspects of the draft SER, and after an additional 20 working days to comment on any factual errors or clarity concerns. Reference 3 is the request from Invensys to withhold the draft SER from the public based on proprietary information contained in the draft SER. This letter provides Invensys comments on the draft SER regarding clarity and factual errors.

Attachment 1 to this letter contains the following:

1) A Change summary table identifying the draft SER paragraphs and associated recommended modification;
2) Proposed draft SER page markups;
3) Invensys document 7286-545-1, The V10 Tricon Topical Report, with proposed markups that address issues identified during the review of the draft SER, and that resolve other technical issues that arose since submitting Revision 4 of the topical report. The markups are necessary to ensure consistency between the V10 Tricon Topical Report and the final SER when it is released; and
4) Invensys document NTX-SER-09-10, Compliance with Interim Staff Guidance ISG2 & ISG4, address issues identified during the review of the draft SER. The proposed markups are necessary to ensure consistency with the final SER when it is released.

The two CDs enclosed contain some documents listed on Attachment 1 that were previously submitted to the NRC and for which revisions are now being provided. These revised files are being resubmitted to

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reflect additional information and clarifications. The new files in Enclosure 2 supersede in their entirety the documents previously submitted as shown in the table below:

Table 1. Superseded files.

New File:	*Replaces Old File:*	*Old File Transmittal Letter*
[141R2_ISG24R3_P.pdf]	*[141R1_ISG24R2_P.pdf]*	*NRC-V10-11-001*
[012R3_ISG24R3_NP.pdf]	*[012R2_ISG24R2_NP.pdf]*	*NRC-V10-11-001*

As part of this submittal, a comprehensive listing of documents submitted to the staff is provided as Attachment 2 to ensure a common understanding of the current documents and versions under review by the staff.

Invensys is also providing this letter as our "Application for Withholding" pursuant to the provisions of 10 CFR Part 2.390, Paragraph (b)(1). This submittal contains commercial strategic information proprietary to Invensys and customarily held in confidence. As previously identified in this letter, the proprietary material for which this withholding is requested has been specifically identified. In accordance with 10 CFR Part 2.390, Affidavit No. TCXNRC-12-01 accompanies this transmittal and sets forth the basis for which the identified proprietary information may be withheld from public disclosure. Accordingly, it is respectfully requested that the specified information which is proprietary to Invensys be withheld from public disclosure in accordance with 10 CFR Part 2.390.

Invensys has given its best effort to address all of the staff's comments and questions pertinent to the V10 Tricon TMR PLC to ensure an expeditious safety evaluation. If we can assist in resolving any further questions, please do not hesitate to contact me.

Correspondence with regard to this transmittal should be directed to the following:

Mr. Brian Haynes
Project Manager
Invensys
26561 Rancho Parkway South
Lake Forest, California 92630

If there are any questions on this submittal or any of its enclosures, please contact me at (949) 638-8052.

Sincerely,

for

Brian Haynes
Project Manager
Invensys

cc: Mr. John Jolicoeur, Branch Chief – NRR
Mr. James Thorpe, Branch Chief – NRR
Mr. Clayton Scott – Invensys – Letter Only
Mr. Christopher Wiegand – Invensys – Letter Only
Mr. Richard Lilleston – Invensys – Letter Only

Attachment/Enclosures: as stated

ATTACHMENT 1
Enclosure Listing – CD 26 & 27 Content

Enclosure Description	*CD26**	*CD27*	*[filename] [size MB]*
Enclosure 1 - Affidavit #TCXNRC-12-01	X	X	*[159_Affidavit12_1.pdf] [1.2]*
Enclosure 2 - Comments on draft SER dated 12/23/11			
Summary Table of Invensys comments to draft SER*	X	---	*[160_SERCommTabl_P.pdf] [0.6]*
Markup of draft SER with Invensys comments* (word file)	X	---	*[161_SERMarkup_P.docx] [1.2]*
Markup of draft SER with Invensys comments* (pdf file)	X	---	*[162_SERMarkup_P.pdf] [1.6]*
Proposed Markup pages for Topical Report Rev 4 modification	X	X	*[163_TR4Markup.pdf] [2.1]*
Compliance with NRC Interim Guidance ISG-2&4 – NTX-SER-09-10, Rev 3*	X	---	*[141R2_ISG24R3_P.pdf] [1.6]*
Compliance with NRC Interim Guidance ISG-2&4 - NTX-SER-09-10, Rev 3**	X	X	*[012R3_ISG24R3_NP.pdf] [1.2]*

*) Document Contains Invensys Proprietary material
**) Non-Proprietary version of Proprietary document (redacted)

Notes:
(a) CD#26 contains Proprietary Documents (among all files). CD#27 contains only Non-Proprietary Documents (Publicly Available).
(b) Non-Proprietary versions of the Markup draft SER pages and Summary Table not provided due to the predominantly proprietary content.

ATTACHMENT 2

Document Submittals to the NRC

(02/07/12)(Current document file status - sorted by filename number)

(bold=most recent change)

Document Description	*Prop CD**	*Public CD*	*[filename] [size MB]*	*Trans Letter (s)*	*Date sent, final*
- Affidavit #TCXNRC-09-01	1c	2c	*[001E1_Affidavit.pdf] [0.3]*	(-001, -002) -003	[10/5/09]
			----(002 Deleted – see History)		
Differences between the Tricon V9.5.3 and the Tricon V10.2.1 System – NTX-SER-09-05, Rev 2*	12		*[003R2_DiffV9V10_P.pdf] [1.2]*	-10-004	[04/09/10]
EQ Summary Report 9600164-545, Rev 3*	8		*[004R2_EQSummaryRep_P.pdf] [1.4]*	-10-001	[01/05/10]
- Appendix A	3c	4c	*[005R1_EQSR_AppA.pdf] [0.9]*	(-004) -007	[11/17/09]
- Appendix B	3c	4c	*[006R1_EQSR_AppB.pdf] [0.4]*	(-004) -007	[11/17/09]
- Appendix C	3c	4c	*[007R1_EQSR_AppC.pdf] [0.4]*	(-004) -007	[11/17/09]
Software Qualification Report (SQR) – 9600164-535, Rev 1*	8		*[008R2_SQR_P.pdf] [1.7]*	-10-001	[01/05/10]
Critical Digital Review (CDR) – 9600164-539, Rev 1*	1c		*[009E3_CDR_P.pdf][1.8]*	(-001, -002) -003	[10/5/09]
SER Maintenance Process – NTX-SER-09-020, Rev 1	12	13	*[010R1_SERMaint.pdf] [0.2]*	-10-004	[04/09/10]
Nuclear System Integration Program Manual – NTX-SER-09-21, Rev 1*	16		*[011R1_NSIPM_P.pdf][0.9]*	-10-006	[07/11/10]
Compliance with NRC Interim Guidance ISG-2 and ISG-4 – NTX-SER-09-010, Rev 3**	**26**	**27**	***[012R3_ISG24Rev3_NP.pdf [1.2]***	**-12-002**	**[02/07/12]**
Invensys Conformance to Reg Guide 1.152 Rev 2 – NTX-SER-10-14,Rev 0	16	17	*[013R1_RG1152.pdf] [0.7]*	-10-006	[07/11/10]
			----(014 Deleted- see History)		
Differences between the Tricon V9.5.3 and the Tricon V10.2.1 System – NTX-SER-09-05, Rev 2 **	12	13	*[015R2_DiffV9V10_NP.pdf] [0.9]*	-10-004	[04/09/10]
EQ Summary Report 9600164-545, Rev 3**	8	9	*[016R2_EQSummaryRep_NP.pdf] [2.0]*	-10-001	[01/05/10]
			-----(017,018,019 Deleted)		
- Software Qualification Report (SQR) – 9600164-535, Rev 1**	8	9	*[020R2_SQR_NP.pdf] [3.3]*	-10-001	[01/05/10]
- Nuclear System Integration Program Manual – NTX-SER-09-21, Rev 1**	16	17	*[021R1_NSIPM_NP.pdf][0.7]*	-10-006	[07/11/10]
			----(022 Deleted by 013R1)	-10-006	[07/11/10]
Enclosure 1: - Affidavit #TCXNRC-09-02	3c	4c	*[023_Affidavit2.pdf] [3.0]*	(-004) -007	[11/17/09]
Environmental Test Report 9600164-525, Rev 0*	8		*[024R1_EnvTestRep_P.pdf] [1.6]*	-10-001	[01/05/10]
Environmental Test Report 9600164-525, Rev 0**	8	9	*[025R1_EnvTestRep_NP.pdf] [1.9]*	-10-001	[01/05/10]
Seismic Test Report 9600164-526, Rev 0*	8		*[026R1_SeisTestRep_P.pdf] [1.3]*	-10-001	[01/05/10]
Seismic Test Report 9600164-526, Rev 0**	8	9	*[027R1_SeisTestRep_NP.pdf] [0.7]*	-10-001	[01/05/10]
EMI/RFI Test Report 9600164-527, Rev 2*	8		*[028R2_EMIRep_P.pdf] [3.3]*	-10-001	[01/05/10]
EMI/RFI Test Report 9600164-527, Rev 2**	8	9	*[029R2_EMIRep_NP.pdf] [4.7]*	-10-001	[01/05/10]
Surge Withstand Test Report9600164-528, Rev 1*	8		*[030R1_SurgeRep_P.pdf] [1.5]*	-10-001	[01/05/10]
Surge Withstand Test Report9600164-528, Rev 1**	8	9	*[031R1_SurgeRep_NP.pdf] [2.5]*	-10-001	[01/05/10]
1E Isolation Test Report 9600164-529, Rev 1*	8		*[032R1_1EISORep_P.pdf] [145]*	-10-001	[01/05/10]
1E Isolation Test Report 9600164-529, Rev 1**	8	9c	*[033R1_1EISORep_NP.pdf] [2.5]*	-10-001	[01/05/10]

Document Description	*Prop CD**	*Public CD*	*[filename] [size MB]*	*Trans Letter (s)*	*Date sent, final*
EFT Test Report 9600164-521, Rev 1*	8		*[034R1_EFTRep_P.pdf] [1.5]*	-10-001	[01/05/10]
EFT Test Report 9600164-521, Rev 1**	8	9	*[035R1_EFTRep_NP.pdf] [2.5]*	-10-001	[01/05/10]
ESD Test Report 9600164-522, Rev 1*	8		*[036R1_ESDRep_P.pdf] [1.7]*	-10-001	[01/05/10]
ESD Test Report 9600164-522, Rev 1**	8	9	*[037R1_ESDRep_NP.pdf] [1.5]*	-10-001	[01/05/10]
Performance Proof Test – Operation 9600164-566, Rev 0*	8		*[038R1_PPOpsRep_P.pdf] [2.3]*	-10-001	[01/05/10]
Performance Proof Test – Operation 9600164-566, Rev 0**	8	9	*[039R1_PPOpsRep_NP.pdf] [7.9]*	-10-001	[01/05/10]
Performance Proof Test – Prudency 9600164-573, Rev 0*	8		*[040R1_PPPruRep_P.pdf] [2.2]*	-10-001	[01/05/10]
Performance Proof Test – Prudency 9600164-573, Rev 0**	8	9	*[041R1_PPPruRep_NP.pdf] [6.2]*	-10-001	[01/05/10]
Radiation Test Report 9600164-533, Rev 2*	8		*[042R1_RadRep_P.pdf] [1.1]*	-10-001	[01/05/10]
Radiation Test Report 9600164-533, Rev 2**	8	9	*[043R1_RadRep_NP.pdf] [1.3]*	-10-001	[01/05/10]
Reliability/Availability Report 9600164-532, Rev 0*	3c		*[044_ReliabilityRep_P.pdf] [6.4]*	(-004) -007	[11/17/09]
Reliability/Availability Report 9600164-532, Rev 0**	3c	4c	*[045_ReliabilityRep_NP.pdf] [19.3]*	(-004) -007	[11/17/09]
Failure Modes and Effects Analysis 9600164-531, Rev 0*	3c		*[046_FMEARep_P.pdf] [1.7]*	(-004) -007	[11/17/09]
Failure Modes and Effects Analysis 9600164-531, Rev 0**	3c	4c	*[047_FMEARep_NP.pdf] [2.1]*	(-004) -007	[11/17/09]
Maximum Response Time Calculation 9600164-731, Rev 0*	3c		*[048_MaxRespTime_P.pdf] [1.1]*	(-004) -007	[11/17/09]
Master Test Plan 9600164-500, Rev 5*	8		*[049R1_MTP_P.pdf] [4.7]*	-10-001	[01/05/10]
Master Test Plan 9600164-500, Rev 5**	8	9	*[050R1_MTP_NP.pdf] [6.7]*	-10-001	[01/05/10]
Nuclear Qualification Quality Plan 9600164-002, Rev 3	3c	4c	*[051_NQQP.pdf] [1.6]*	(-004) -007	[11/17/09]
TUV Type Approval Report and Certificate (V10.2.1)	3c	4c	*[052_TUVCert_10_2_1.pdf] [1.0]*	(-004) -007	[11/17/09]
Planning & Installation Guide 9700077-012 (Feb 009)		5c	*[053_PandIGuide_NP.pdf] [5.0]*	(-005) -008	[11/18/09]
Users Manual for Field Term. 9700052-018 (Feb 2009)		5c	*[054_FTGuide_NP.pdf] [9.0]*	(-005) -008	[11/18/09]
TRICON Comm. Guide 9700088-008 (Feb 2009)		5c	*[055_ComGuide_NP.pdf] [2.2]*	(-005) -008	[11/18/09]
Developers Guide,TS1131 V4.1 9700100-003 (Aug 2006)		5c	*[056_DevGuide_NP.pdf] [4.7]*	(-005) -008	[11/18/09]
Triconex Training Manual 9750002-001 (Rev 1.2)		5c	*[057_TrainMan_NP.pdf] [6.7]*	(-005) -008	[11/18/09]
TRICON Product Guide, V10.2.1 9791007-013 (Aug 2006)		5c	*[058_TechProdGuide_NP.pdf] [3.4]*	(-005) -008	[11/18/09]
Enclosure 1: - Affidavit #TCXNRC-09-03	6	7	*[059_Affidavit3.pdf] [3.0]*	-006	[11/13/09]
Supplemental Test Plan 9600164-800 Rev 0*	6		*[060_SupTest_4_16_P.pdf] [0.8]*	-006	[11/13/09]
Supplemental Test Plan 9600164-800 Rev 0**	6	7	*[061_SupTest_4_16_NP.pdf] [0.7]*	-006	[11/13/09]
Master Configuration List 9600164-540 Rev 22*	8		*[062R1_MCL_P.pdf] [1.0]*	-10-001	[01/05/10]
Master Configuration List 9600164-540 Rev 22**	8	9	*[063R1_MCL_NP.pdf] [2.3]*	-10-001	[01/05/10]
Software Quality Assurance Plan 9600164-537 Rev 0	6	7	*[064_SQAP.pdf] [1.1]*	-006	[11/13/09]
System Description 9600164-541, Rev 0*	6		*[065_SysDesc_P.pdf] [2.2]*	-006	[11/13/09]
System Description 9600164-541, Rev 0**	6	7	*[066_SysDesc_NP.pdf] [3.1]*	-006	[11/13/09]
EFT Test Procedure 9600164-514, Rev 0*	8		*[067R1_EFTTestPro_P.pdf] [1.7]*	-10-001	[01/05/10]
ESD Test Procedure 9600164-512, Rev 1*	6		*[068_ESDTestPro_P.pdf] [1.7]*	-006	[11/13/09]
Radiation Exposure Test Procedure 9600164-511, Rev 0*	6		*[069_RadExpTestPro_P.pdf] [1.5]*	-006	[11/13/09]
Seven Day Elevated DC Voltage Report 9600164-557, Rev 0	6	7	*[070_7DayDCTestRep.pdf] [3.6]*	-006	[11/13/09]
TSAP Software V&V Plan 9600164-513, Rev2*	6		*[071_TSAP_SVVP_P.pdf] [2.3]*	-006	[11/13/09]
TSAP Software V&V Plan 9600164-513, Rev2**	6	7	*[072_TSAP_SVVP_NP.pdf] [1.5]*	-006	[11/13/09]
TSAP V&V Report 9600164-536, Rev 0	6	7	*[073_TSAP_V&VRep.pdf] [1.1]*	-006	[11/13/09]
Independent Tricon V10 Equipment Qualification Assessment	6	7	*[074_IndAssess.pdf] [0.2]*	-006	[11/13/09]

Document Description	*Prop CD**	*Public CD*	*[filename] [size MB]*	*Trans Letter (s)*	*Date sent, final*
Triconex QA Manual	6	7	*[075_QAM.pdf] [1.2]*	-006	[11/13/09]
Analog I/O Machine Count Calc 9600164-730, Rev 0*	6		*[076_AIO_Calc_P.pdf] [1.1]*	-006	[11/13/09]
ETP Interface Cable Similarity Analysis 9600164-538, Rev 0*	6		*[077_CableSimAnalysis_P.pdf] [1.0]*	-006	[11/13/09]
Change Impact Analysis 9600164-542, Rev 0*	6		*[078_ChangeImpactAnalysis_P.pdf] [1.9]*	-006	[11/13/09]
Enclosure 1: - Affidavit #TCXNRC-09-04	8	9	*[079_Affidavit4.pdf] [3.0]*	-10-001	[01/05/10]
MDM 12.1, Production Order Tag Report*	10		*[080_MDM_12_1_P.pdf] [0.5]*	-10-003	[04/06/10]
QPM 2.1, Quality Planning*	10		*[081_QPM_2_1_P.pdf] [0.5]*	-10-003	[04/06/10]
QPM 13.2, Product Discrepancies*	10		*[082_QPM_13_2_P.pdf] [0.5]*	-10-003	[04/06/10]
EDM 11.03, Process and Product Quality Assurance*	10		*[083_EDM_11_03_P.pdf] [0.5]*	-10-003	[04/06/10]
EDM 12.00, Product Development Process*	10		*[084_EDM_12_00_P.pdf] [0.7]*	-10-003	[04/06/10]
EDM 12.10, Project Planning*	10		*[085_EDM_12_10_P.pdf] [0.6]*	-10-003	[04/06/10]
EDM 12.50, Requirements Management*	10		*[086_EDM_12_50_P.pdf] [0.6]*	-10-003	[04/06/10]
EDM 20.00, Configuration Management*	10		*[087_EDM_20_00_P.pdf] [0.6]*	-10-003	[04/06/10]
EDM 21.30, Change Impact Analysis*	10		*[088_EDM_21_30_P.pdf] [0.6]*	-10-003	[04/06/10]
EDM 24.00, Software Configuration and Change Control*	10		*[089_EDM_24_00_P.pdf] [0.5]*	-10-003	[04/06/10]
EDM 74.00, Nuclear Qualification of Triconex Products*	10		*[090_EDM_74_00_P.pdf] [0.7]*	-10-003	[04/06/10]
EDM 76.00, Dedication of Products for Nuclear Service*	10		*[091_EDM_76_00_P.pdf] [0.6]*	-10-003	[04/06/10]
EDM 90.00, Product Verification*	10		*[092_EDM_90_00_P.pdf] [0.6]*	-10-003	[04/06/10]
EDM 90.10, Product Validation (New since V9 SER)*	10		*[093_EDM_90_10_P.pdf] [0.6]*	-10-003	[04/06/10]
EDM 90.30, Control of Tools and Test Software*	10		*[094_EDM_90_30_P.pdf] [0.6]*	-10-003	[04/06/10]
9100055-001, Nuclear Dedicated Parts List*	10		*[095_NDPL_P.pdf] [0.8]*	-10-003	[04/06/10]
9100055-103, DPE-03*	10		*[096_DPE03_P.pdf] [0.8]*	-10-003	[04/06/10]
9100055-105, DPE-05*	10		*[097_DPE05_P.pdf] [0.4]*	-10-003	[04/06/10]
9600164-534, System Accuracy Specifications	10	11	*[098_SysAccSpec.pdf] [1.2]*	-10-003	[04/06/10]
9100112-001, Safety Concepts*	10		*[099_SafetyConcepts_P.pdf] [1.9]*	-10-003	[04/06/10]
9100042-002, NGIO System Architecture Specification*	10		*[100_NGIOSysArch_P.pdf] [1.4]*	-10-003	[04/06/10]
6200152-002, TCM System Architecture Specification*	10		*[101_TCMSysArch_P.pdf] [1.0]*	-10-003	[04/06/10]
6200106-001, ETSX Software Architecture Specification*	10		*[102_ETSXSArch_P.pdf] [1.0]*	-10-003	[04/06/10]
9100113-001, Safety Requirements*	10		*[103_SafetyReqmts_P.pdf] [0.6]*	-10-003	[04/06/10]
7100222-001, Tricon Main Processor Hardware Design Spec*	10		*[104_MPHWDesSpec_P.pdf] [3.9]*	-10-003	[04/06/10]
9100042-001, NGIO System Requirements Specification*	10		*[105_NGIOSysReq_P.pdf] [0.7]*	-10-003	[04/06/10]
6200152-001, TCM System Requirements Specification*	10		*[106_TCMSysReq_P.pdf] [0.8]*	-10-003	[04/06/10]
6200156-001, NGIO Core Software Architecture and Des Spec*	10		*[107_NGIOCoreArch_P.pdf] [1.0]*	-10-003	[04/06/10]
6200152-004, TCOM Software Design Specification*	10		*[108_TCOMSWDes_P.pdf] [1.9]*	-10-003	[04/06/10]
9100046-001, NGIO EPP, Engineering Project Plan*	10		*[109_NGIOEPP_P.pdf] [0.7]*	-10-003	[04/06/10]
6200155-001, NGIO Core Software Reqmts Specification*	10		*[110_NGIOCoreSRS_P.pdf] [0.9]*	-10-003	[04/06/10]
6200152-003, TCOM Software Requirements Specification*	10		*[111_TCOMSRS_P.pdf] [0.7]*	-10-003	[04/06/10]
6200033-001, TriStation 1131 Software Requirements Spec*	10		*[112_TS1131SRS1_P.pdf] [1.0]*	-10-003	[04/06/10]
6200033-002, TriStation 1131 V4.1 Software Reqmts Spec*	10		*[113_TS1131SRS2_P.pdf] [0.4]*	-10-003	[04/06/10]
9100098-001, NGIO Core H/W Requirements Specification*	10		*[114_NGIOCoreHRS_P.pdf] [0.6]*	-10-003	[04/06/10]
9100098-002, NGIO Core H/W Design Specification*	10		*[115_NGIOCoreHDS_P.pdf] [0.9]*	-10-003	[04/06/10]

Document Description	*Prop CD**	*Public CD*	*[filename] [size MB]*	*Trans Letter (s)*	*Date sent, final*
6200159-001, NGIO Core Software Test Plan*	10		*[116_NGIOCoreSTP_P.pdf] [0.5]*	-10-003	[04/06/10]
6500155-000, TCM Software Test Plan*	10		*[117_TCMSTP_P.pdf] [0.5]*	-10-003	[04/06/10]
TCM A Traceability Report.doc*	10		*[118_TCMATrace_P.pdf] [0.9]*	-10-003	[04/06/10]
Traceability Matrix NGIO CORE SYRS to NGIORVP.doc*	10		*[119_NGIOCoreTrace_P.pdf] [0.6]*	-10-003	[04/06/10]
Traceability Matrix NGAI SYRS to NGAIRVP.doc*	10		*[120_NGAISysTrace_P.pdf] [0.5]*	-10-003	[04/06/10]
Traceability Matrix NGDO SYRS to NGDORVP.doc*	10		*[121_NGDOSysTrace_P.pdf] [0.5]*	-10-003	[04/06/10]
9600127-004, System Test Procedure*	10		*[122_SysTestProc004_P.pdf] [9.2]*	-10-003	[04/06/10]
9600158-002, Tricon V10.1 Sys Functional Validation Proc*	10		*[123_10_1SysValProc_P.pdf] [0.9]*	-10-003	[04/06/10]
9600038-001, Tricon V9+ I/O Modules Functional Val Proc*	10		*[124_V9_IOValProc_P.pdf] [1.1]*	-10-003	[04/06/10]
6500106-003, Enh Tricon Sys Executive Software Test Descr*	10		*[125_SysExecSTD_P.pdf] [12.5]*	-10-003	[04/06/10]
6200157-001, NGIO Core Software Test Description*	10		*[126_NGIOSTD_P.pdf] [0.8]*	-10-003	[04/06/10]
6500155-011, TCM TSAA Software Test Description*	10		*[127_TCM_TSAASTD_P.pdf] [0.8]*	-10-003	[04/06/10]
V&V Final Report Tricon V10.2 and V10.2.1*	10		*[128_V&VRep_10_2_1_P.pdf] [8.9]*	-10-003	[04/06/10]
SQA Validation Summary Report Tricon I/O 451-515, V9.X *	10		*[129_SQAValSummaryRep_P.pdf] [9.7]*	-10-003	[04/06/10]
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6200003-195, Tricon V10.2 Release - Software Release Def*	10		*[131_SRD_10_2_P.pdf] [0.7]*	-10-003	[04/06/10]
6200003-196, Tricon V10.2.1 Release - Software Release Def*	10		*[132_SRD_10_2_1_P.pdf] [0.6]*	-10-003	[04/06/10]
Dedication Package Example – 022210*	10		*[133_DedicationPkg_P.pdf] [1.1]*	-10-003	[04/06/10]
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Topical Report 7286-545-1, Rev 4	20	21	*[135R2_TR_Rev4.pdf] [1.1]*	-11-001	[01/05/11]
Topical Report 7286-545-1, Rev 4, Appendix A, Comp Matrix	20	21	*[136R2_TR_Rev4_AppA.pdf] [0.8]*	-11-001	[01/05/11]
Topical Report 7286-545-1, Rev 4, Appendix B, App Guide	20	21	*[137R2_TR_Rev4_AppB.pdf] [0.7]*	-11-001	[01/05/11]
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Triconex Development Processes for Programmable Logic Devices in Nuclear-Qualified Products – NTX-SER-09-06, Rev 1*	18		*[139R1_PLDDev_P.pdf] [3.0]*	-10-007	[08/05/10]
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Response to Technical Issues – 8/3/10*	18		*[144_SupInfo080310_P.pdf] [0.9]*	-10-007	[08/05/10]
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CG Survey Package supporting Dedication Report*	22		*[152_WR_CGSurv_P.pdf] [27.0]*	-11-002	[03/23/11]
Corrective Action Package -ARR 793 TCM Software Dedication*	22		*[153_ARR793_SWDed_P.pdf] [16.4]*	-11-002	[03/23/11]

Document Description	*Prop CD**	*Public CD*	*[filename] [size MB]*	*Trans Letter (s)*	*Date sent, final*
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TS1131 Libraries Software V&V Plan – 9600355-001, Rev 1.2*	24		*[155_TSLibSVVP_P.pdf] [0.8]*	-11-003	[08/12/11]
Safety Application Protocol Library SRS – 6200260-001, Rev 1.2 *	24		*[156_SAP_SRS_P.pdf] [0.5]*	-11-003	[08/12/11]
Communication Application Safety Layer IRS – 6200154-099, Rev 1.1*	24		*[157_Com_IRS_P.pdf] [0.6]*	-11-003	[08/12/11]
SAP Library V&V Test Report, dated 10/26/11, Rev 1.0*	24		*[158_SAP_VVTRep_P.pdf] [2.2]*	-11-003	[08/12/11]
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Summary Table of Invensys comments to draft SER*	**26**		***[160_SERCommTabl_P.pdf] [0.6]***	**-12-002**	**[02/07/12]**
Markup pages of draft SER for Invensys comments* (word file)	**26**		***[161_SERMarkup_P.docx] [1.2]***	**-12-002**	**[02/07/12]**
Markup pages of draft SER for Invensys comments* (pdf file)	**26**		***[162_SERMarkup_P.pdf] [1.6]***	**-12-002**	**[02/07/12]**
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*) Document Contains Invensys Proprietary material
**) Non-proprietary version of Proprietary document (redacted)

AFFIDAVIT No. TCXNRC-12-01
Re: Request for Withholding from Public Disclosure per 10CFR2.390

STATE OF CALIFORNIA)
) ss
COUNTY OF ORANGE)

I, Michael Kieu, being duly sworn, hereby say and depose:

1. I am Director of Safety and Critical Control Development at Invensys, and as such I have been specifically delegated the function of reviewing company proprietary information sought to be withheld from public disclosure in connection with the nuclear safety related qualification of the TRICON Programmable Logic Controller (PLC) system and am authorized to apply for its withholding on behalf of Invensys.

2. The information sought to be withheld is contained in the document(s) described below:
   (1) Summary Table of Invensys Comments to the Draft V10 SER
   (2) Markup of draft V10 SER with Invensys Comments
   (3) Compliance with NRC Interim Guidance ISG-2&4, Rev 3

   The indicated documents contain information considered to be proprietary. Proprietary material in the enclosed documents are indicated by brackets [ ] or other markings as required by 10CFR2.390(b)(1)(i)(B). As indicated in the associated Transmittal letter, non-proprietary versions of the documents are being provided, consistent with their level of proprietary content.

   This information is documentation associated with ongoing upgrade and maintenance of qualification of the Tricon PLC. This will allow the NRC to verify compliance with current regulatory requirements in support of an update to the SER for the Tricon PLC System and associated Triconex Topical Report 7286-545-1-A.

3. I am making this affidavit in conformance with the provisions of 10CFR Part 2.390 of the Commission's regulations and in conjunction with the Invensys Triconex application for withholding accompanying this Affidavit.

4. I have personal knowledge of the criteria and procedures utilized by Invensys in designating information as a trade secret, privileged, or as confidential commercial or financial information. Some examples of categories of information which fit into the definition of proprietary information are:

   a) Information which discloses process, method, or apparatus, including supporting data and analyses, where prevention of its use by Invensys Triconex's competitors without license or contract from Invensys constitutes a competitive economic advantage over other companies in the industry.
   b) Information, which if used by a competitor, would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product.

c) Information which reveals cost or price information, production capacities, budget levels, or commercial strategies of Invensys, its customers, its partners, or its suppliers.
d) Information which reveals aspects of past, present, or future Invensys Triconex customer-funded development plans or programs, of potential commercial value to Invensys.
e) Information which discloses patentable subject matter for which it may be desirable to obtain patent protection.
f) Information obtained through Invensys Triconex actions which could reveal additional insights into Nuclear safety related PLC equipment qualification processes and regulatory proceedings, and which are not otherwise readily obtainable by a competitor.

Information to be withheld is considered to be proprietary based on the reasons set forth in paragraphs 4(a), (b) and (f) above.

5. This document describes the details of Triconex equipment which has undergone nuclear qualification testing. Product design and development details are also represented. Invensys Triconex is the first manufacturer of a PLC to fully implement the requirements set forth in the EPRI TR-107330, which has been endorsed by the Commission in an SER. Invensys Triconex has expended a significant amount of money and effort involving numerous contractors over a 12 year time period to develop and implement an ongoing successful approach to its qualification and test program. Information developed relating to test plans, approaches, equipment, specific problems encountered, licensing perspectives, and lessons learned has significant value because of the resources expended to successfully accomplish this process and the usefulness of this knowledge to potential competitors.

   Specific test data showing compliance with requirements and demonstrating technical capability of the equipment has substantial commercial value because it provides the basis for qualifying Triconex equipment to be sold for safety-related digital upgrades to nuclear plants. Existing options for digital upgrades in the nuclear industry are limited. We believe that ongoing successful nuclear qualification upgrades of the Invensys Triconex products, already well known in non-nuclear applications, will continue to give Invensys a competitive advantage in this field.

   Disclosure of information in these documents would cause substantial harm to the competitive position of the Invensys, as there are other competing companies who wish to develop, qualify, and sell digital control systems for safety related application in nuclear power plants. Competing firms could use our experience, successful approaches, and technical information to facilitate their own equipment qualification efforts and/or product design without compensating Invensys.

6. Pursuant to the provisions of paragraph (b)(4) of Section 2.390 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.
   (i) The information sought to be withheld from public disclosure is owned and has been held in confidence by Invensys.
   (ii) The information is of a type customarily held in confidence by Invensys and not customarily disclosed to the public. Invensys has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitute Invensys policy and provide the rational basis required.
   (iii) The information is being transmitted to the Commission in confidence and, under the provisions of 10CFR Part 2.390, it is to be received in confidence by the Commission.
   (iv) This information is not readily available in public sources.

(v) Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Invensys, because it would enhance the ability of competitors to provide similar design of PLC or qualify similar equipment using similar project methods, equipment, testing approach, contractors, or licensing approaches. As described in section 5, this information is the result of considerable expense to Invensys and has great value in that it will assist Invensys in providing Triconex digital upgrade equipment and services to a new, expanding markets not currently served by the company.

7. The foregoing statements are true and correct to the best of my knowledge, information, and belief.

Michael Kieu
Director of Critical Control Development
Invensys

Sworn to and subscribed before me

this 7 day of Feb., 2012

Notary Public

V. MATHESON
COMM. # 1862131
NOTARY PUBLIC-CALIFORNIA
ORANGE COUNTY
My Comm. Expires FEB 21, 2013

State of California
County of Orange
Subscribed and sworn to (or affirmed) before me
on this 7 day of Feb., 2012
by Michael Kieu,
proved to me on the basis of satisfactory evidence
to be the person(s) who appeared before me.
Signature (Seal)