

i n v e n s y s

NUCLEAR QUALIFIED PRODUCTS

**INVENSYS
SAFETY EVALUATION REPORT (SER)
MAINTENANCE PROCESS**

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Invensys Safety Evaluation Report (SER) Maintenance Process

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**MAINTENANCE OF INVENSYS TOPICAL REPORT AND SER
FOR TRICON PLATFORM**

Invensys is enhancing its Quality Management System to address actions that are necessary to maintain the Triconex system Topical Report (7286-545-1-A) and to assure nuclear licensees that the Tricon Platform provided for their application is always within the boundaries of the current US Nuclear Regulatory Commission's Safety Evaluation Report (SER).

Invensys has already established and implemented processes for ongoing review of changes to nuclear qualified products for impact on their qualification. These processes include a review of hardware and software changes to assure that performance and environmental characteristics of the system are not reduced by the proposed change and to assure that fit, form, and function are maintained.

Procedures under our Quality Management System currently include measures for evaluation and actions as necessary to address evolutionary upgrades and general product maintenance. New or upgraded equipment may be added to the Nuclear Qualified Equipment List (NQEL), provided it has been evaluated or undergone further testing in accordance with applicable Engineering Department procedures. Similarly, any new or upgraded software for the Triconex platform may be added to the NQEL in accordance with the evaluation process defined in the Engineering Department procedures.

To expand the scope of this maintenance process, an additional review is being added to further evaluate changes that could impact the basis of the existing NRC SER. The intent of this evaluation process is to identify any safety issues related to platform or quality program changes that have not been reviewed by the NRC (similar to a 10CFR50.59 evaluation). This will be a documented evaluation, in standard checklist format, encompassing a set of criteria for identifying significant platform or program changes relative to impact on the SER. Criteria will include consideration for the following types of changes:

1. Major Platform Changes, e.g.:
 - Change to basic system architecture
 - New Main Processor module
 - Different application programming model
2. Significant Process Changes, e.g.:
 - Design process (major development process changes)
 - QA program (reduction in commitment to quality standards)
 - Elimination of independent third party review process

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3. Changes that would decrease commitments in the current SER, e.g.:

- Reduction in performance or Environmental Qualification characteristics
- Reduction in other NRC approval bases or assumptions

Review criteria similar to these will be incorporated into procedures and implemented within the fourth quarter of 2009. Provisions for updates to the Topical Report, when warranted, will be provided. To the extent that product and process changes are confirmed to be within the established and reviewed criteria, the Triconex platform will be considered to be consistent and current with the latest SER/Topical Report and marketed as such. Where unreviewed safety issues are identified, the process will assure that NRC review and approval (and a revised SER) is obtained prior to Invensys release of affected products for nuclear safety-related use.

Attached is a sample checklist format that could be considered for use, subject to further development of the process procedures. Records of all SER Impact Reviews will be maintained and will be traceable to related platform changes.

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SER Impact Evaluation Checklist

Description of Change under review _____

Date Evaluated _____ ECO Number (if applicable) _____

(Check applicable box)

Yes No

- 1. Is this a change to the basic system architecture?
- 2. Is a new Main Processor being added?
- 3. Is the basic application programming model being changed?
- 4. Does the change introduce a new type of product or functionality not evaluated in the current NRC SER?
- 5. Is the design, verification, or validation process undergoing a major change?
- 6. Is the independent review process being changed or eliminated?
- 7. Is a quality program change being made such that there is a reduction in commitments to existing quality standards?
- 8. Are performance or environmental qualification parameters being reduced?
- 9. Does the change constitute a reduction in other NRC approval bases or assumptions (e.g., regulations or standards)?

A “yes” answer to any of these questions may constitute a condition affecting the Nuclear Product that is not within the scope of the current SER and submittal to the NRC should be completed prior to sale into the US nuclear market.

Comments _____

Evaluated by: _____ Approved by _____