



**GEOSCIENCES AND ENGINEERING DIVISION
QUALITY ASSURANCE
SURVEILLANCE REPORT**

PROJECT NO.:N/A

REPORT No.:2007-02

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SURVEILLANCE SCOPE: Software Development

REFERENCE DOCUMENTS: TOP-018, Development and Control of Scientific and Engineering Software

START DATE:
January 17, 2007

END DATE:
January 19, 2007

QA REPRESENTATIVE:
Randolph Folck

PERSONS CONDUCTING ACTIVITY: R. Brient, J. Durham, S. Painter, A. Simpkins, R. Janetzke, J. Winterle

SATISFACTORY FINDINGS:

Activities related to MARFA, Version 3.1, TPA, Version 5.1 and a biosphere model being developed using GoldSim were assessed during this surveillance. See page 2.

UNSATISFACTORY FINDINGS:

The following minor discrepancies were noted during the course of the surveillance. No further action is required.

- Contrary to TOP-018, section 5.4.4, the title block of the main program for MARFA, Version 3.1 did not include a customer contact and customer phone number. This information is not critical and can be added on a future update to the software.
- Contrary to QAP-002, Table 1, the technical review of the GoldSim biosphere model combined software requirements description/software development plan document should have been classified as technical report/plan and received a quality assurance review. This surveillance may serve as that review.

NCR NO.: None

CAR NO.:None

ATTACHMENTS: None

RECOMMENDATIONS/ACTIONS:

- TPA User's Manual customer comments on individual chapters are documented in a email folder and will be incorporated into the complete version of the User's Manual. Consider providing a formal disposition of these comments with the final version of the User's Manual.
- Consider developing a template for a combined validation report/user's guide document.

APPROVED:

DATE: 1/25/2007

DISTRIBUTION:

ORIGINAL—QA RECORDS

DIRECTOR, QA

ASSISTANT DIRECTOR S. Mohanty

MANAGER J. Winterle

PRINCIPAL INVESTIGATOR S. Painter, A. Simpkins, J. Durham,

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SATISFACTORY FINDINGS:

MARFA, Version 3.1 was released on December 22, 2006. A software requirements description and software development plan were developed in accordance with TOP-018, sections 5.2 and 5.3 respectively. Source code header information was found to be in compliance with TOP-018, section 5.4.5. A User's Manual was developed in accordance with TOP-018, section 5.5. A draft of the User's Manual was submitted to the customer with the beta version of the software. This early development and delivery of the MARFA User's Manual was noted as a contributing factor to the overall success of the software development project. MARFA validation is documented in the User's Manual rather than a separate software validation report. The technical review of the User's Manual, including calculation checks, was found to be in compliance with QAP-002.

The TPA, Version 5.1 User's Manual is being developed, reviewed and submitted to the customer by chapter. Guidance for development of the User's Manual has been developed and is periodically updated. Prior to the typical QAP-002 technical review, a "committee" performs a review of each chapter to ensure consistency across the entire document. Progress on development of the User's Guide is closely monitored and communicated to the customer. Configuration control of the User's Manual is maintained by the responsible secretary.

A biosphere model to estimate radiological dose is being developed using GoldSim. The software requirements description and software development plan were developed as a single document in accordance with TOP-018, sections 5.2 and 5.3.