

SCALE Code Manager Procedure for Module Revision Reports

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Approvals:



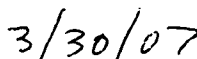
SCALE Project Leader



Date



Quality Program Manager, NSTD



Date

SCALE Code Manager Procedure for Module Revision Reports

1.0 PURPOSE

To describe the methods to be used by the Code Managers of the SCALE code system for updating, testing and documenting changes to SCALE modules. The procedure outlined in this document complies with the Configuration Management Plan (CMP) for the SCALE code system which is controlled by the NSTD Nuclear Systems Analysis, Design, and Safety (NSADS) Group.

2.0 SCOPE

This procedure will be applied by the designated Code Manager any time corrections or enhancements are to be made to any of the modules in the SCALE code system.

3.0 PROCEDURE

- 3.1 A Module Revision Report (MRR) must be completed any time a change is made to the source code of any module or subroutine in SCALE, whether it is a correction or an enhancement. Obtain an MRR form from the Software Quality Assurance (SQA) Coordinator. If there is a code discrepancy, a SCALE Discrepancy Report (SDR) form is also required. Refer to the SCALE CMP for the definition of a discrepancy and the procedure to follow. If the proposed change is a new module or a major enhancement (as determined by the Project Leader) a Code Design Requirements (CDR) form must be completed.
- 3.2 Complete Part I of the MRR and submit to the Project Leader for approval in Part II.
- 3.3 Compile and test the changes.
- 3.4 Complete documentation. Identify and attach a copy of any SDR that is associated with these changes. The documentation should be written on separate pages marked with the MRR number and attached to the MRR. The following items should be clearly identified:
 - 3.4.1 Description of changes - tell what was changed and why
 - 3.4.2 Description of testing - describe each test case and its purpose
 - 3.4.3 Verification report - tell how the results of each test case verifies the changes made
 - 3.4.4 Input data for each test case - a listing of each test case input file.
- 3.5 Complete Part III of the MRR form:
 - 3.5.1 Mark all items that are attached. Include all that are required. Mark "N/A" if an item is not applicable.
 - 3.5.2 Answer the Yes/No questions.

- 3.5.3 If the answer to any question is “Yes,” attach the requested information.
 - 3.5.4 List the modified subroutines.
 - 3.5.5 List the locations of: (1) test problem input files as run and (2) corresponding input files that have been set up for the SQA Coordinator to run (these should be set up so that no modifications are required for the SQA Coordinator to run the problem after the SCALE executable module is updated).
 - 3.5.6 List other SCALE modules that need to be re-linked due to the changes made or other MRRs or DRRs that need to be processed with this form. Identify any effect these changes would have on previous calculations.
- 3.6 Submit all documentation attached to the MRR form to the Project Leader for preliminary review. Note any special circumstances involving the implementation or final testing. The materials are then forwarded to the Technical Reviewer.
- 3.7 The Technical Reviewer reviews all documents to determine:
- 3.7.1 the technical validity and completeness per the code design requirements
 - 3.7.2 the adequacy of the verification and/or validation
 - 3.7.3 the adequacy of the documentation and its consistency with the existing system documentation
 - 3.7.4 the adequacy and the completeness of the sample problems for inclusion in the publicly released software version.
- 3.8 If any of these four areas are inadequate in the reviewer's judgment, he may request additional information, documentation, or test cases from the Code Manager. When the technical review (Part IV) is completed, the Technical Reviewer returns all materials to the Project Leader for approval.
- 3.9 The Project Leader designates the test cases to be performed by the SQA Coordinator after implementation and signs Part V of the MRR. All materials are forwarded to the SQA Coordinator for the completion of Part VI of the MRR according to the SCALE CMP.