

CHAPTER D-3

AUTOMATED REVIEW MANAGEMENT SYSTEM (ARMS)

1. Purpose. Engineering Division is responsible for insuring that all technical comments on in-house and A-E designs are addressed and returned annotated to each reviewer after each design phase review and at the completion of the design prior to advertising. In order to foster better communication between the designer and the reviewer, annotations to comments have to be provided to explain our reasons for not incorporating their comments. Review comments are currently being made within the division using various software programs and formats that do not allow consolidation into a single electronic file. The Automated Review Management System (ARMS), which has mandated by HQUSACE to standardize the review process throughout the Corps, will be used in Engineering Division as the sole means to create comments. As reviewers outside the division and the district use it, ARMS will be the only means for developing and annotating comments.
2. Applicability. The ARMS review process applies to all design reviews for military, civil, and HTRW designs whether prepared by an A-E or in-house. No other format or software will be allowed for the generation of comments within the division.
3. References.
 - a. EC 1110-1-77, Engineering and Design, Automated Review Management System, dated 25 June 1993.
 - b. ER 1110-3-12, Engineering and Design Quality Management.
 - c. MG Offringa's letter dated 09 March 1992 to all USACE Division Commanders requiring ARMS usage by the end of FY 92.
4. Background. ARMS is a computer software program designed to facilitate the design review process by forcing standard convention on users, thus providing a standard format for the review comments. ARMS has a suspense system that allows for tracking of the review process. It also provides flexibility for file manipulation such as sorting and merging of comments from other reviews when appropriate. Savannah District has been using ARMS on a limited basis since 1992 on individual personal computers and on the local area network. Comments were typed in by the reviewers. Hard copies and floppy disks were provided to the Project Managers, who forwarded them to the design A-E for annotation. This procedure has worked well with minimal training for reviewers and A-E's. The drawbacks with this mode of operation are no electronic record of the annotations, no record of the suspense trail, and no means to study trends or develop lessons learned.
5. Procedures. Project Engineering Section (EN-EP) will administer the ARMS program. The ARMS Coordinator will be responsible for setting up master files, consolidating comments from reviewers outside

the district, monitoring of suspenses, training of reviewers and designers in the use of the system, and day-to-day file maintenance and technical assistance. The ARMS process has been developed where the request for reviews is initiated by the Project Manager. Until all Project Managers are trained in the use of ARMS, the ARMS Coordinator will assist the Project Manager in this role.

a. Master File Creation. The Project Manager, the only one with all the information required at the ARMS Central database to initiate a review action, is responsible for initiating all projects in ARMS Central. Until all Project Managers can be trained to initiate their own suspenses, the ARMS Coordinator will take on this role and gather the required information from the Project Manager. Once a suspense action is initiated, the ARMS Coordinator will also create a master file on the EN network in R:\ARMS\PUBLIC, which will be available to the District reviewers. Having individual files for the different branches are not warranted. Earlier skepticism that a totally open system would allow someone to alter or delete another's comments has been not proven. The file on the network is the District Master to which files created on individual PC's will be merged.

b. Comment Development. Reviewers shall generate their ARMS comments by (1) using PCARMS from the network and choose the option which writes the file to C:\PCARMS\PUBLIC or (2) using the stand-alone version of PCARMS and generate the file in the same directory. File naming convention is not essential as long as the individual can identify his/her own files. Once the review action is completed, the reviewers will do a spell check and exit the file. The reviewer shall then open up the master file for that suspense and import the file just saved on his/her hard disk. The reviewer can then report to his/her supervisor and to the ARMS Coordinator that the action has been completed and the file has been uploaded to the network. At this point the comments are available to anyone connected to the network. Printing is optional for section files.

c. Comment Consolidation The ARMS Coordinator will review the checklist to insure that all comments have been received. The ARMS Coordinator will also scan the comments for format, and flag any comments which could potentially be outside the scope of the project. On the due date for completion of the comments, the ARMS Coordinator will sort and save all comments in CMT format (an ASCII format of the review comments which can then be uploaded to ARMS Central). Following this action, the ARMS Coordinator will notify the Project Manager that the comments are ready for his/her review. The Project Manager may direct the Coordinator to suspense the comments to the A-E without any review.

d. A-E Designs. Once the comments are suspended to the A-E, the Project Manager will contact the A-E to notify them that the comments are ready for pickup. The mailing of floppy disks with the review comments to the A-E is discouraged, because this procedure circumvents the tracing trail of the ARMS system. Hard copies can be printed at the Project Manager's request and mailed for documentation if necessary. But once the A-E learns the communications software, time will be saved by simply downloading the electronic files from ARMS Central. The other advantage to having the A-E download the files from ARMS Central is that in the process the file format is altered, which only allows the A-E access to a COMMENT WINDOW rather than the body of the comments. This procedure also prevents accidental deletion of any comments. Once the A-E annotates the comments, the A-E notifies the Project Manager that the annotated comments are ready for review. The ARMS Coordinator can then download

them for a backcheck and load them onto the network for reviewers to check the annotations.

e. In-house Designs. Once the comments are suspended to Engineering Division, the Project Manager will contact the Project Engineers to notify him/her that the comments are ready for pickup. The Project Engineers will suspend the design team to annotate the comments. Upon completion of the annotations, the Project Engineers will inform the ARMS Coordinator that they are ready for consolidation. Following consolidation, the Project Manager will forward the annotated comments to the reviewer.