

Department of the Army
Little Rock District, Corps of Engineers
P.O. Box 867
Little Rock, Arkansas 72203-0867

Office Memorandum
No. 415-1-4

22 February 1989

Construction
QUALITY ASSURANCE MANAGEMENT

1. This change 1 to LRDOM 415-1-4, 5 Oct 1987, deletes subparagraph 1g to Appendix A, and deletes Appendix B.
2. New or changed material is indicated by an asterisk (*).
3. Substitute the attached pages as follows:

Remove page(s)

A-1 and A-2

B1 - B6

Insert page(s)

A-1 and A-2

4. File this change in front of the publication for reference purposes.



ANTHONY V. NIDA
Colonel, Corps of Engineers
District Engineer

DISTRIBUTION "A"

Office Memorandum
No. 415-1-4

5 October 1987

Construction
QUALITY ASSURANCE MANAGEMENT

1. PURPOSE. To provide general guidance for establishing Quality Assurance (QA) Management Policy and Procedure to be utilized in the execution of those construction contracts which fall under the cognizance of Little Rock District (SWL).

2. APPLICABILITY. This regulation applies to all elements of SWL and its subordinate organizations; it is applicable to both military and civil construction.

3. REFERENCE.

- a. ER 415-1-10 Construction, Contractor Submittal Procedures.
- b. ER 415-1-11 Construction, Biddability, Constructibility, and Operability.
- c. ER 415-1-302 Construction, Inspection and Work Records.
- d. ER 1180-1-6 Contract, Construction Quality Management.
- e. SWDR 415-1-11 Construction, Quality Management.
- f. CESWDR 415-1-6
- g. HQUSACE, Chief's Policy Letter No. 21, dated 2 April 87,
subject: Emphasis on Quality.

4. POLICY. It is the policy of CESWL to maintain within its area of responsibility a viable and meaningful Quality Assurance Management Program. This program will be implemented by each Resident Engineer or Resident Manager within his assigned area of responsibility.

5. IMPLEMENTATION. As a minimum, implementation of this regulation will include verification of conformance in the following areas:

a. Quality Assurance (QA) Management.

(1) Verify that Area/Resident Office QA plans are adequate and supplemented as necessary to cover unique/specific project requirements.

(2) For all contracts exceeding \$1,000,000, the Area/Resident Engineer/Resident Manager shall conduct a "coordination meeting" before the start of construction to discuss Contractor's Quality Control (CQC) System.

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- (3) QA Plans and supplements shall be completed prior to the coordination meeting.
- (4) QA personnel shall attend all preparatory inspections.
- (5) QA personnel shall attend a minimum 80% of initial inspections.
- (6) QA personnel shall perform follow-up inspections on all work commensurate with indicated need.
- (7) QA testing shall be performed in accordance with the Q/A plan in an approved lab.
- (8) The QA plan shall contain a structured plan for evaluating and removal of unsatisfactory contractor CQC representatives and superintendents.
- (9) The Area/Resident Engineer/Resident Manager shall have an effective deficiency tracking and correction system.
- (10) QA personnel shall be properly trained for their assignment.
- (11) Accurate and complete documentation shall be provided in QA and CQC reports.
- (12) The Area/Resident Engineers/Resident Managers shall maintain a separate file of documentation pertaining to preparatory and initial inspections for each contract.
- (13) The Area/Resident Engineers shall maintain a separate file of the QA testing performed on each contract.

b. Contractor Quality Control (CQC) Management.

- (1) The contractor shall implement an effective CQC plan.
- (2) CQC personnel will be qualified for the project.
- (3) Ensure that the three-phase inspection system is being performed and that documentation is complete and accurate. The three-phase inspection system will consist of the following phases:
 - . Preparatory
 - . Initial
 - . Follow-up
- (4) CQC testing shall be performed in accordance with the contract by an approved lab.

(5) Ensure that the Safety plan is approved and enforced.

(6) The CQC daily reports shall be detailed and accurate.

(7) The CQC plan shall include an effective deficiency tracking and correction system.

c. Biddability, Constructibility, Operability (BCO) Management.

(1) Reviews are to be conducted in a timely manner and comments provided to the Engineering Division through Construction-Operations Division.

(2) The Chiefs of Construction-Operations Division and Engineering Division are to review feedback on BCO comments and certify that all appropriate BCO comments have been incorporated into drawings and specifications prior to advertisement.

d. District Personnel. Construction Quality Assurance Management will be included in performance standards for all personnel associated therewith (military and civilian personnel).

6. RESPONSIBILITIES & PROCEDURES

a. The District Commander will:

(1) Provide policy guidance and assistance to all subordinate Resident Offices to ensure that projects are constructed in accordance with the requirements of the contract.

(2) Exercise staff supervision over quality assurance management program.

(3) Evaluate Resident Offices Quality Assurance Management.

b. The Chief of Construction-Operations Division (CESWL-CO) will insure that:

(1) CESWL-CO-CS will conduct QA assistance visits quarterly and provide continuous feedback on the effectiveness of the Resident Offices Quality Assurance Management. CESWL-CO-CS will be notified 10 days prior to QA visit.

(2) CESWL-CO-CS will make independent trips to construction projects as required to provide technical assistance when requested or to evaluate selected technical areas which may impact quality.

(3) CESWL-CO-CS will advise Resident Office QA staff of procedures or methods available to establish an adequate CQC/QA Management Program.

(4) Significant or repetitive deficiencies will be reported to the Resident Engineer/Resident Manager with suggested corrective measures included for incorporation into the CQC/QA Management Program.

(5) CESWL-CO-CS will assist Resident Offices in establishing a QA testing plan and advise of methods available to secure such testing.

c. Engineering Division (CESWL-E)

(1) Design Plans and Specifications will be distributed prior to advertisement to all responsible design elements for review of the total package. A minimum of 30 calendar days should be allotted for this review.

(2) A 90-percent-complete bidding package will be furnished to the customer, the responsible Resident Office, and Construction Branch for a Biddability, Constructibility, Operability Review. A minimum of 30 calendar days should be allotted for this review.

(3) All comments generated by reviews listed in paragraphs 6b1 or 6b2 will be addressed in a design review feedback document prepared under direction of Engineering Project Management and copies furnished to the review parties. Ten days will be allowed for review of feedback comments.

(4) Engineering Project Management will obtain certification from Engineering Division and Construction Operations that review comments have been satisfactorily addressed prior to advertisement of the project.

d. Field Resident Engineers/Managers will insure that:

(1) The Resident Engineers and Resident Managers are responsible for the quality of construction performed by their office, and they will implement a construction Quality Assurance Management Program outlining the policy and procedures to be followed in obtaining quality construction.

(2) Resident Engineers and Managers should conduct BCO reviews of proposed construction plans and specifications within the specified suspense (30 days required). Comments will be furnished through Chief, Construction-Operations Division to Chief, Engineering Division for incorporation into the revised plans and specifications.

(3) Resident Engineers and Managers will make every effort to train and educate employees to provide qualified Quality Assurance Representatives on each construction contract.

(4) Resident Engineers and Resident Managers will devise and implement methods to execute the Construction Quality Control/Quality Assurance Program required by paragraphs 5.1 and 5.2 of this regulation.

e. Southwestern Division (CESWD-CO)

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(1) CESWD-CO-C will randomly conduct QA compliance inspections with regularly scheduled District QA assistance visits and provide continuous feedback on the effectiveness of the District Quality Assurance Management.

(2) CESWD-CO-C will make independent trips to construction projects as required to provide technical assistance when requested or to evaluate selected technical areas which may impact quality.

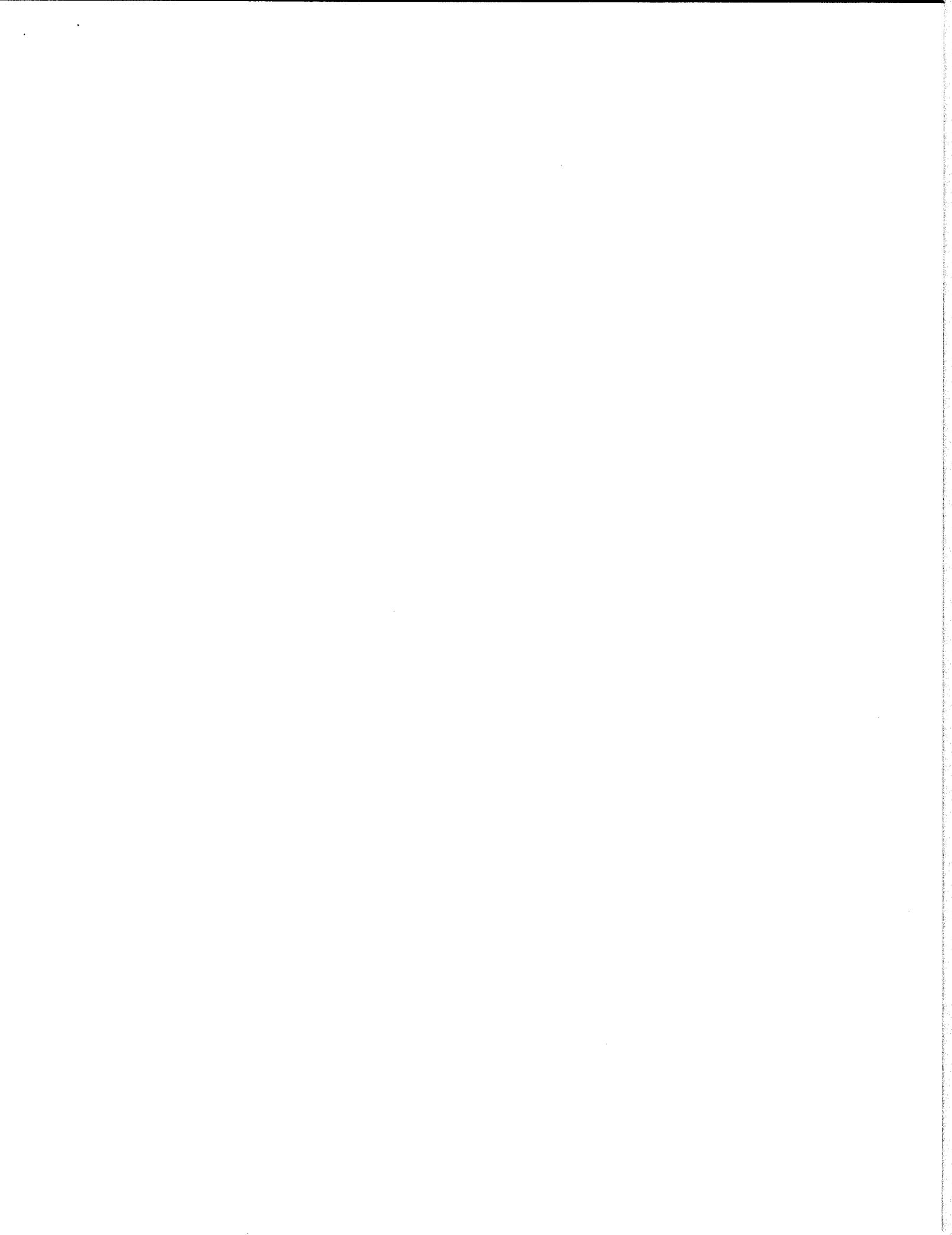
(3) Quality Assurance Management Inspection Procedure (Appendix A) and Quality Assurance Management Evaluation (Appendix B) will be used during compliance inspections by SWD.



ANTHONY V. NIDA
Colonel, Corps of Engineers
District Engineer

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SWDIM-SO 2 Copies
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Appendix A
Appendix B



APPENDIX A

Quality Assurance Management

Inspection Procedure

The agenda outlined below will be followed during Quality Assurance Management random compliance inspections by CESWD.

1. Divisions personnel will:

a. Review the District implementing instructions to this regulation.

b. Review construction status of active contracts at installations to be visited.

c. Select at random contracts to review in depth.
(Check past inspection reports to avoid inspection of the same contract(s) again, unless deficiencies were of such magnitude as to require a follow-up inspection.)

d. Conduct entrance interview, with the area/resident engineer and district representative. Briefly discuss status of contracts and accuracy of report data. Review QA staffing and office procedures/systems. Identify to area/resident engineer contracts selected for an in-depth review.

e. After entrance interview, make an inspection of construction in company of QA personnel. Inspect QA/CQC management techniques. Be alert for repetitive deficiencies which may indicate the need for an in-depth review to identify the cause.

f. Upon completion of field inspection, complete the evaluation in the office for those contracts selected for an in-depth review.

g. Deleted.

h. Conduct an exit interview with the area/resident engineer and the district representative. Outline your findings; make recommendations for corrective actions as appropriate. Give

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area/resident engineer an opportunity to respond to your findings and recommendations; include his reaction in your trip report as appropriate.

i. Prepare a trip report within five (5) working days after return from an inspection. Enclose copies of all evaluations. Send a copy of the trip report to the District; identify those items on which District response is desired.

2. District will have ten (10) working days to respond to Division reports requiring response unless otherwise indicated.

APPENDIX B
Quality Assurance Management
Evaluation

Instructions:

1. The form enclosed in this Appendix will be used to score the overall performance of each area/resident office in Quality Assurance management during each compliance inspection by SWD. Upon completion of the field inspection and the in-depth inspection of selected contracts, the SWD representative will score performance. The summary score sheet will then be used to calculate the final evaluation.

2. Scoring will be based on a ten-point system as follows:

Excellent 8-10 points

To receive a rating of excellent the evaluation must show that all areas considered are rated at least satisfactory and several demonstrate significant achievements, innovative or unique solutions that are effective, or other methods or procedures that clearly demonstrate performance above minimum requirements.

Above average 6-7 points

To receive an above average rating the evaluation must show that all areas considered are rated at least satisfactory and one or more demonstrate significant achievements, innovative or unique solutions that are effective, or other methods or procedures that clearly demonstrate performance above minimum requirements.

Average (Satisfactory) . 5 points

To receive an average rating, the evaluation must show that all areas considered meet the minimum requirements.

Below average 3-4 points

A below average rating indicates that performance is less than minimum requirements in one or more areas.

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Unacceptable

0-2 points

An unacceptable rating indicates that performance is less than minimum requirements in several areas.

B-2

SUMMARY EVALUATION SHEET

QA Plans _____
QA Personnel _____
QA Operations _____
CQC Operations _____
BCO Management _____

TOTAL _____

TOTAL/5 = _____ = Final Score

EVALUATION SHEETS

QA Plans

Rating 0-10 Points

- . Do Plans cover unique contract inspection requirements? _____
- . The area/resident engineer conducts all CQC coordination meetings before start of construction for contracts exceeding \$1,000,000 in value. _____
- . QA plans are completed and QA representatives are appointed prior to the CQC coordination meeting before start of construction. _____
- . QA plans address responsibility and authority of the QA representative. _____
- . QA plans contain a structured plan for evaluating and removal of unsatisfactory CQC representatives and superintendents. _____
- . QA plans outline minimum QA testing requirements. _____
- . QA plans contain an effective deficiency tracking and correction system. _____

TOTAL

Total/ 7 =

QA Personnel

- . QA personnel attend all preparatory inspections _____
- . QA personnel attend a minimum 80% of initial inspections. _____
- . QA personnel perform follow-up inspections commensurate with indicated need. _____

- . QA personnel have appropriate training for their current assignment(s). _____
- . QA personnel are knowledgeable of requirements of contract plans and specifications. _____

TOTAL _____

Total/5 = _____

Rating 0-10 Points

QA Operations

- . QA testing being performed in accordance w/QA plan and in an approved lab. _____
- . CQC representatives and superintendent are being evaluated in accordance with the QA plan and ER-1180-1-6 _____
- . QA reports contain a complete and accurate documentation of QA activities. _____
- . A deficiency tracking and correction system is in place and functioning. _____
- . Safety plan is approved and is being followed. _____

TOTAL _____

Total/5 = _____

CQC Operations

- . An effective CQC plan has been implemented. _____
- . CQC personnel are qualified for the job. _____
- . Three phase inspection system is performed and documented. _____

- . CQC testing is being performed as required and in an approved lab. _____
- . Safety plan is approved and enforced _____
- . CQC daily reports are current, detailed and accurate. _____
- . A deficiency tracking and closeout system is in place and operating. _____

TOTAL _____
Total/7 = _____

BCO Management

- . BCO reviews are conducted on all projects. _____
- . Plan-in-hand site visit is made. _____
- . Reviews are completed timely. _____
- . District provides feedback to Area/Resident Office on all review comments _____
- . Were plans received in time to perform a BCO review. _____

TOTAL _____
Total/5 = _____