

CECW-E CECW-O  Engineer Regulation 1110-2-112	Department of the Army U.S. Army Corps of Engineers Washington, DC 20314-1000	ER 1110-2-112  15 April 1992
	Engineering and Design  REQUIRED VISITS TO CONSTRUCTION SITES BY DESIGN PERSONNEL	
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**Engineering and Design**  
**REQUIRED VISITS TO CONSTRUCTION SITES**  
**BY DESIGN PERSONNEL**

**1. Purpose**

The purpose of this regulation is to require periodic and timely visits to construction sites by Corps of Engineers design and design review personnel.

**2. Applicability**

This regulation is applicable to all HQUSACE elements and all major subordinate commands (MSC), districts, laboratories, and field operating activities having civil works construction responsibilities.

**3. Background**

The necessity for Corps design personnel to make timely visits to construction sites has been long established and emphasized in appropriate Engineer Manuals; however, compliance with the intent of this guidance varies widely. In addition, close coordination between engineering and construction personnel at MSC and district commands has not always been accomplished. Coordination and team effort are essential to achieve excellent project quality and to ensure that the end product is designed and constructed to function economically and safely.

**4. Discussion**

The objective of this regulation is to improve the quality of construction and to minimize cost growth by enhancing the engineering-to-construction interface. Design and design review personnel include Corps staff and appropriate architect/engineer personnel under Corps contract for a feature of the project. These construction site visits by design and design review personnel will ensure that:

*a.* Site conditions throughout the construction period are in conformance with the design intent and

critical design assumptions and principles as outlined in the design documents which are the basis for the project contract plans and specifications.

*b.* Project personnel are given assistance in adapting project designs to actual site conditions as they are revealed during construction.

*c.* Any engineering or construction problems not fully assessed in the original design are observed and evaluated, and appropriate action is taken to modify the contract and improve future designs.

**5. Implementation**

This regulation requires MSC's and districts to implement a policy for field construction participation by design personnel. The frequency of the site visits by engineering disciplines involved should be based upon actual construction schedules and activities, and project complexity, and should be adequate to accomplish the purpose set forth in paragraph 1, above. Engineering and Construction divisions at the district in conjunction with the Deputy District Engineer for Project Management should jointly prepare a schedule of visits for each new or rehabilitation project. The schedule should identify the purpose of the visit, time frame, disciplines, and office of participants involved. The Project Management Plan should identify costs for both scheduled and contingency visits. Contingency visits are those unplanned visits requested by the construction field office or as needed by the Area/Resident Engineer. Coordination between construction and engineering should be sufficient to enable design personnel to be fully aware and conversant about construction progress in their area of engineering responsibility. This will enable design personnel to respond in a timely manner when changed field conditions require modification of designs.

**6. Field Visits by HQUSACE and MSC offices**

Engineering representatives from HQUSACE and from the appropriate MSC office are to be advised of construction progress in a timely manner to permit participation by personnel from those offices in field inspections at critical construction stages. Specifically, HQUSACE, CECW-EP, WASH DC 20314-1000 should be advised of the schedules for the following activities:

- a. Excavation of cutoff trenches, foundations and abutments for embankment dams, concrete dams, spillways, and navigation locks and conduits.
- b. Excavation of tunnels.
- c. Excavation of borrow areas and placement of embankment dam materials early in the construction period.
- d. Test fills for earth and/or rock-fill embankments.
- e. Initial batch operations and concrete placement for concrete dams, navigation locks, intake structures, or other major concrete hydraulic structures.
- f. Test sections/fills for roller-compacted concrete (RCC) construction placement and at the beginning of RCC production operations and placement.
- g. Initial stages of construction for sheet-pile cellular cofferdams. After flooding or overtopping during construction.
- h. Initial installation of pile foundations for hydraulic structures, including the pile load tests.
- i. Field fabrication of large lock gates,

spillway gates, and high head service gates for intake towers, including initial gate operation tests.

j. Nondestructive testing and hydrostatic testing of penstocks, hydraulic turbine spiral cases, tunnels, and conduits.

k. Observation of field conditions that are significantly different from those assumed during design.

l. Other stages for which such notification has been requested.

m. Shop and field tests of operating equipment for large lock gates, spillway gates, and high head service gates.

n. Model tests of large flood-control pumps, hydraulic turbines, and pump turbines.

o. Initial installation and during field testing of large flood-control pumps, hydraulic turbines, pump turbines, hydroelectric generators, and generator motors.

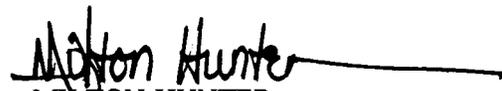
**7. Funding**

All visits during preconstruction engineering and design activities and during construction will be funded by engineering and design (E&D) funds. Contingency visits should be funded from supervision and administration (S&A) funds from the appropriate contract.

**8. Field Visits by Consultants**

When one or more consultants have been employed in the design of a project, they may be invited to visit the construction site at appropriate times.

FOR THE COMMANDER:

  
MILTON HUNTER  
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Chief of Staff