

DEPARTMENT OF THE ARMY
New England Division, Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02254-9149

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Regulation
No. 1110-1-9

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ENGINEERING AND DESIGN
Setting Pipeline and Cable Cover Requirements
in Navigable Waters and Navigation Channels

1. Purpose. To formally establish policy and standard engineering guidance for setting and documenting pipeline and cable cover requirements in navigable waters and navigation channels within the geographic boundaries of the New England Division.
2. Applicability. This regulation applies to all elements of the New England Division and all applicants seeking permits for pipelines and cables crossing navigable waters.
3. References.
 - a. CECW-EP-W memorandum dated 30 August 1995, subject: Standard Engineering Guidance for Setting Pipeline and Cable Cover Requirements in Navigable Waters and Navigation Channels.
 - b. 49 CFR S 192.327 and 49 CFR S 195.248 prepared by the Office of Pipeline Safety, Department of Transportation, establishing absolute minimum bottom cover requirements for pipelines and cables.
4. Responsibilities. The Division Commander, acting through the Director of Engineering, is responsible for setting the minimum bottom and side slope cover requirements for pipelines and cables under navigable waters and navigation channels throughout the New England Division.
5. Policies.
 - a. It is the policy of the New England Division to require, as an absolute minimum, that the bottom cover associated with the initial installation of pipelines and cables under navigable waters and navigation channels be 48 inches in soil or 24 inches in rock excavation in competent rock. These minimum bottom cover requirements for pipelines and cables shall be measured from the maximum depth of dredging to the top of the utility. The maximum depth of dredging, in waterways having existing projects, is generally considered to be the authorized project depth plus any allowance for advanced maintenance and the allowable overdepth

for dredging tolerances (see Figure 1). In waterways that do not have existing projects, this depth should be taken as two feet below the existing bottom or maximum depth of proposed dredging, as applicable.

b. Any permit application for a pipeline or cable that proposes a lesser depth of bottom cover than the absolute minimum noted in paragraph 5.a must be supported with an analysis of the following engineering factors plus any additional unusual conditions within the area.

(1) Geotechnical - The type of bottom material must be identified in setting the minimum cover. The shear strength parameters of the material, both undisturbed and in a disturbed condition, need to be determined. In general, soft muds and clays will require greater cover than solid rock.

(2) Hydraulic - The flow conditions in the channel or river must be defined along with the effect of flood flows on the bottom materials. In addition, whenever applicable an evaluation of the effects of ice in the waterway should be included.

(3) Navigation - The type and size of ships and other vessels crossing or potentially crossing the pipeline or cable should be defined in order to set the minimum cover. Also, if applicable, the status of other Section 10 waters and their use historically or future may need to be considered.

(4) Maintenance Dredging - The method historically used for maintenance dredging in the waterway also affects pipeline and cable cover. The use of pipeline dredges with spuds requires adequate cover to prevent rupture of the pipeline or cutting of the cable when setting spuds during dredging operations, unless other operational procedures can be instituted to avoid this potential problem.

(5) Construction - The method used for construction of the pipelines or cable, in conjunction with the geotechnical conditions, must also be defined. Cut and fill placement of pipelines and cables generally require more cover than pipelines and cables placed by methods that do not disturb the bottom, such as directional drilling.

If a permit is conditioned to require a greater depth of cover than the absolute minimum noted in paragraph 5.a., the same factors noted in this paragraph will be considered in establishing the additional cover requirements.

c. When a navigation channel that has pipelines or cables crossing under the channel is deepened, a lesser cover for the existing pipelines and cables may be permitted, on a case-by-case basis, subject to an analysis of the factors described in paragraph 5.b.

d. Pipelines and cables under channel side slopes shall rise on a gradient no steeper than the theoretical channel side slope. The cover, or set-back, from channel side slopes should be determined based on consideration of the same factors used for bottom cover requirements.

e. Nothing in this guidance, other than special conditions of any required permits, shall be interpreted to prevent the pipeline or cable owner from placing the pipeline or cable at a greater depth (more cover) than the required minimum depth in order to further reduce the risk of damage due to a navigation incident.

6. Procedures. All permit applications involving pipelines and cables crossing navigable waters within the geographic boundaries of New England are subject to review under, and must be in compliance with, the policies set forth in this regulation.

FOR THE COMMANDER:



WARREN E. NORDMAN
Executive Officer

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