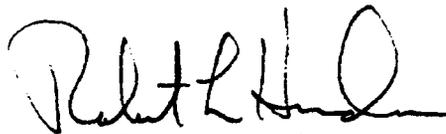


Engineering and Design
WINTER NAVIGATION ON INLAND WATERWAYS

1. Purpose. This manual provides current guidance and engineering and operational solutions to ice problems on rivers used for navigation.
2. Applicability. This manual applies to all HQUSACE/OCE elements, major subordinate commands, districts, laboratories, and field operating activities (FOA) having responsibility for design, construction, and operation of inland waterways, including navigation and flood control structures that experience winter ice conditions.
3. General. Subjects covered are pertinent to planning, design, construction, and operation of water resource projects that are, or could be, affected by ice conditions. The guidance presented in this manual brings together the technical transfer results of the five-year, \$12,000,000 River Ice Management Program and other related efforts that were included in the Ice Engineering Research Program. The purpose of this guidance is to reduce the risk to personnel and equipment operating in severe weather conditions and to minimize the repair costs incurred from damages experienced during ice events.

FOR THE COMMANDER:



ROBERT L. HERNDON

Colonel, Corps of Engineers
Chief of Staff