

**Heavy Movable Structures, Inc.**

# **SEVENTH BIENNIAL SYMPOSIUM**

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## **“USCG Bridge Administration Program”**

**by**

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## **U. S. COAST GUARD**

### **BRIDGE ADMINISTRATION PROGRAM**

The Coast Guard's Bridge Administration Program (BAP) is truly an intermodal surface transportation infrastructure program within the U. S. Department of Transportation. Its mission is to protect the human environment and freedom of navigation with a balanced intermodal approach to total surface transportation systems.

The purpose of the several federal bridge statutes is to preserve the freedom of navigation by assuring that bridges and causeways over or in the navigable waters of the U. S. do not impede the reasonably free, easy and unobstructed passage of waterborne commerce and other marine traffic past bridge sites. At the same time, the Coast Guard exercises care to balance the legitimate competing needs of land transportation (highway and railroad) to cross our nation's waterways.

### **Workload**

The core program functional activities, or workload, which need be performed in order to accomplish the foregoing statutory purpose include:

- Approval of the location and clearances of bridges and causeways in or across the navigable waters of the United States through a formal bridge permitting process.
- Regulate the operation of drawbridges so as to ensure the reasonable needs of navigation and land transportation are met.

- Identify bridges which unreasonably obstruct navigation and order their removal or alteration so as to render navigation past the bridge site reasonably free, easy and unobstructed.
- Regulate bridge lighting and other markings for the safety, mobility and protection of navigation and land traffic, for every bridge crossing waterways which have significant nighttime navigation.
- Ensure all BAP actions are in compliance with the National Environmental Policy Act and other applicable environmental control laws.

The purpose of these core workload activities is to meet the intent of Congress in enactment of the bridge laws. The laws are intended to maintain freedom of navigation on the navigable waters of the United States and prevent their impairment as navigable waters by unregulated bridge construction, operation and maintenance activities.

### **Coast Guard Mandate**

It is the duty and responsibility of the Coast Guard under the bridge statutes to preserve the public right of navigation. Bridges across the navigable waters of the United States are obstructions to navigation, tolerated only as long as they serve legitimate land transportation purposes. However, while the public right of navigation may be paramount to land transportation needs, such right is not absolute and may be diminished to benefit land transportation, provided the needs of navigation are not unreasonably impaired by bridges. Management of the BAP works toward the promotion of the overall goals of DOT in a balanced manner, in order to accommodate, to the greatest extent practicable, the needs of all surface modes of transportation.

### **Transportation Goals**

Our core bridge program activities are well established and placed within the U. S. Coast Guard and are expected to continue under this federal management arrangement for the foreseeable future. These activities contribute substantially to effective and efficient waterways management and accomplishment of the Coast Guard Strategic Goals of mobility and national defense, safety, and protection of natural resources. These goals are, in turn, substantially aligned with the DOT Strategic Goals for this

nation's transportation systems. And, the manner by which program employees carry out these activities contributes substantially to Secretary of Transportation Rodney E. Slater's top priorities of transportation infrastructure investment, intermodal transportation safety and common sense government.

### **HMS Interface**

All the functional workload areas of the bridge program involve an interface with heavy movable structures when the permitting, drawbridge operation regulation, alteration/removal or lighting and marking functions involve the various types of heavy movable and drawbridge structures vis-a-vis fixed non-movable bridge structures.

- The bridge permitting function ensures adequate horizontal and vertical bridge clearances which provide for the needs of existing and future navigation at the bridge site. The majority of permits presently being issued are for projects which replace structurally deficient and/or functionally obsolete highway bridges. Many replacement projects involve drawbridges. This function facilitates the replacement of aging transportation bridge infrastructure at the intersecting points of land and marine transportation.
- The regulation of drawbridge operations balances the competing needs of land and marine transportation by ensuring bridge operating schedules, to the extent practical without compromising the reasonable needs of navigation, minimize land traffic congestion or backups.
- The removal or alteration of an unreasonably obstructive bridge eliminates or improves deficient bridge infrastructure. Many of these projects involve heavy movable railroad structures which no longer provide sufficient navigational clearances for present day marine commerce on the waterway.
- The lighting/marking function protects bridge infrastructure from being hit by vessels and possibly collapsing into waterways and blocking navigation channels.

## **Conflicts**

The bridge business is a conflict resolution business for the Coast Guard. Bridge customers' needs and desires vary and, at times, diverge and generate conflict between land and vessel traffic needs.

Increases in vessel size and port capacity and development upstream of bridges necessitate greater bridge navigational clearances. Yet construction of high-level fixed or movable bridges to provide adequate navigational clearances is resisted by bridge sponsors as too costly. Further, environmental groups are more vocal concerning environmental consequences of bridge construction. The Coast Guard is frequently called upon to resolve these competing needs in its consideration of each bridge project.

Drawbridge operating schedules conflict with both land and water traffic. When drawbridges open they restrict land traffic. When they close, they restrict water traffic and may create serious navigation safety problems for vessels under adverse wind, tide, current and other affecting conditions.

Attempts to satisfy any single interest compete with the needs of other interests. The conflicts among competing users increase demands on the Coast Guard for resolution.

## **Bridge Deterioration**

Bridges are an integral part of our highway and railroad transportation infrastructure and touch the lives of practically everyone in the country. Failure of our bridge system affects national defense, economic well being, personal safety and access to education, cultural, professional and recreational facilities. As bridges become substandard and/or dangerously deteriorated, they must be replaced for public safety, and to satisfy the needs of commerce, transportation and defense.

Unfortunately, much of the nation's bridge infrastructure is aging and becoming structurally deficient and functionally obsolete. Therefore, the general public will be inconvenienced in many places where bridge construction, rehabilitation or replacement projects are needed and awaiting funding and corrective action.

## **Coast Guard Focus with HMS**

In preparing for this symposium and considering the various technical program information to be presented, it is worthwhile to mention several issues related to heavy movable structures operation and controls from a Coast Guard perspective that may be of interest to you.

### **Privatization Issue**

The first issue deals generally with possible pros and cons of the privatization of operation and maintenance of drawbridges. The Coast Guard sees this issue as one of choice by the bridge owner. If a bridge owner finds it more cost effective to contract out the functions of drawbridge operation and maintenance than to perform these functions himself, then he is free to do so. However, the Coast Guard will still look to the bridge owner as the responsible party in such matters as:

- Adherence to general or special drawbridge operation regulations pursuant to Title 33, Code of Federal Regulations, Part 117.
- Construction, operation, and maintenance in accordance with the location and plans approved by the Coast Guard.
- Ensuring coordination, as appropriate, of construction, repair or other maintenance work with the Coast Guard and marine industry.
- Related civil penalty or criminal sanctions for failure to comply with applicable bridge statutes and regulatory requirements.

### **Y2K Issue**

A final HMS matter I would like to briefly address, in just a heads up sense, is related to operational control systems for drawbridges. As most of you are aware, there is a worldwide concern that as we approach the year 2000 of the new millennium our computer systems and componentry may have software design or programming deficiencies which may impair function when the year 2000 is reached. The Federal Government and others refer to this potential problem as the "Y2K glitch." It is possible that there may be some drawbridge operation control panels and/or systems that may contain a computer chip or other system control component which will fail to allow drawbridges to be operated as intended. Through a survey by our field bridge staffs we have attempted to bring this potential problem to

the attention of drawbridge owners in order for them to have time to research the issue and take corrective action as appropriate. I only mention it here for the same reason. The beginning of the new millennium is fast approaching. If the Coast Guard finds upon arrival that certain drawbridges may not operate normally due to a control problem, the bridge owners may be required to manually place the structure in the fully open position for navigation until repairs are made.

### **Conclusion**

All areas of our program workload facilitate the maintenance of a safe, efficient bridge infrastructure, including heavy movable structures, at intersecting points where land and water transportation interests meet.

Should the Coast Guard fail in its responsibility to keep the nation's waterways reasonably unobstructed by bridges which cross them, the ability of the United States to compete as a maritime nation will be impeded. National defense vessels will not be able to traverse waterways leading to homeport facilities.

Further, the Coast Guard's ability to perform such vital traditional missions as search and rescue, aids to navigation and other vessel safety initiatives will be jeopardized.

That is the downside. The reality is that the Coast Guard will continue to manage America's waterways in a manner which ensures bridges do not unreasonably obstruct them and still perform their role as vital links for land traffic. There will always be conflicts, but the Coast Guard will be there to balance the needs of land and marine transportation, so that everyone can enjoy freedom of movement with maximum safety and minimum inconvenience.

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