



**US Army Corps  
of Engineers.**  
Engineer Research and  
Development Center

# Fact Sheet

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## **THE CONDITION INDEX: CONDITION ASSESSMENT FOR MAINTENANCE MANAGEMENT OF CIVIL WORKS FACILITIES**

### **The Problem**

U.S. Army Corps of Engineers personnel involved with maintenance and repair (M&R) of civil works facilities and equipment face tough decisions about project prioritization and efficient allocation of scarce funds. With the large number of facilities requiring M&R work, a comprehensive tool is needed to help make these decisions easier.

### **The Technology**

The U.S. Army Construction Engineering Research Laboratory (CERL) is developing several computerized maintenance management systems designed to assess the condition of civil works facilities and help facility managers prioritize the allocation of M&R dollars. These systems provide improved and more consistent methods for life cycle cost comparisons of M&R alternatives and a more effective means for monitoring the condition of facilities.

The heart of these maintenance management systems is the condition index (CI), a numerical indicator of facility condition and function level. By providing a quantitative and consistent means for condition description, the CI makes it possible for conditions of facilities to be compared and monitored over time. With sufficient data collected, predictions about future conditions of facilities also can be made.

The CI scale ranges from 0 to 100, with 0 indicating complete failure and 100 indicating perfect condition and function. The scale is divided into three "action" zones. In Zone 1 (70-100), condition and function are generally at a level where only routine maintenance is required, while in Zone 3 (0-39) condition or function is usually poor enough to warrant immediate attention. Facilities falling in Zone 2 (40-69) show moderate condition or function deficiencies. It is within this "warning" or transition zone that the greatest potential for M&R planning exists.

The CI scale can be used as a standard language for describing the general condition of a facility. In addition, the use of numerical condition indicators allows for convenient data storage and handling by computer. It also allows condition indicators to be included in mathematical expressions.

### **Benefits/Savings**

The consistent and repeatable nature of the CI allows systematic inspection and evaluation of the structure that can verify or improve understanding of the structure. The CI can also be used to (1) track a structure's condition over time and indicate adequacy of agency-wide M&R funding, (2) make condition

comparisons between structures, and (3) communicate condition related information to other engineers and managers. By allowing these types of activities, the CI scale and rating procedures enable the condition of a facility to be handled quantitatively for budgeting and work scheduling.

### **Status**

The CI has been incorporated into inspection procedures and data base analyses supporting M&R planning for civil works facilities. The most current REMR software is available on the Internet at <http://owww.cecer.army.mil/fl/remr/remr.html>

### **Point of Contact**

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