CHAPTER 73-3 FACILITIES ENGINEERING DEFICIENCY SYSTEM

73-3.1 PURPOSE

This chapter describes the Facilities Engineering Deficiency System (FEDS) and provides a discussion of its purpose and uses. The guidelines for using the FEDS in this chapter apply to all Government-owned and direct lease IHS facilities and are optional for Tribally-owned healthcare facilities.

73-3.2 BACKGROUND

Maintenance and Improvement (M&I) funds support Indian Health Service (IHS) health care facilities and tribal health care facilities operating under contract or compact arrangements. While the IHS and Tribes have added space to provide access to healthcare services, at the same time that inflation is increasing costs to address deficiencies, funding to address the need has remained fairly constant. This makes maintaining reliable and efficient facilities, increasingly challenging. The widening of the gap between available funds and the resources required to operate and maintain facilities has meant that the backlog of deferred maintenance continues to grow. Further, reduced maintenance also results in deterioration of real property and an increase in the need for and the cost of future repairs.

Executive Order (EO) 13327 requires Federal agencies to develop long range strategic objectives for the management of the Federal real property assets. As part of this requirement the IHS must establish performance elements that are linked to the budget decision making process, and that incorporate facility condition assessments as fundamental for establishing facility requirements. The IHS complies with these EO 13327 requirements to develop long term objectives for maintaining facility condition through the Facility Condition Assessment Program (FCAP) and stores the information in the Facilities Engineering Deficiency System (FEDS), which is part of the Health Facilities Database System (HFDS).

73-3.3 PURPOSE OF THE FACILITIES ENGINEERING DEFICIENCY SYSTEM

The purpose of the FEDS is to manage the information on the current condition of all IHS-owned and IHS-leased facilities and those tribally-owned facilities that choose to participate by providing data. The FEDS provides a means for IHS and participating tribal organizations to:

- Develop and manage a plan for repair, maintenance, and rehabilitation of the facility;
- Compare an installation's condition and functional performance to other IHS installations;
- Determine the Condition Index (CI) i.e., a constructed asset’s condition at a specific point in time;
- Define capital repair and replacement projects in order to eliminate the backlog of essential maintenance, alteration, and repair and improve the CI;
- Develop cost estimates for planning projects;
- Develop plans to restore functionally obsolete installations to a usable condition;
- Identify conditions that are either potentially damaging to the property or present life safety hazards;
- Identify energy conservation measures required to meet consumption objectives;
- Analyze each facility for physical condition, economic life expectancy, deficiency corrective action, and estimated cost of correction;
- Make short and long-term program decisions related to operating and managing a facility; and
- Develop and forecast the facilities budget requirements.

73-3.4 BENEFITS

Accurate and current FEDS data provides the installations, service units, Area Offices, and IHS HQ a systematic method to manage facility deficiencies, prioritize work, and develop budget requirements. This facilitates:

- A more effective maintenance, operation, and repair program;
- Meeting facilities accreditation requirements;
- Prolonging life expectancy of building systems;
- Improving work environment;
- Enhancing health care services and ultimately greater customer satisfaction;
- Complying with Public Law, regulations, and Executive Orders;
- More efficient and effective building evaluations; and
- An understanding of maintenance, report, and rehabilitation needs.

73-3.5 DEFINITIONS

Refer to Chapter Technical Handbook Chapter 73-1 for an overview of definitions related to the facility condition assessment program including FEDS.

FEDS CODES - Deficiencies and potential deficiencies are grouped by category in the FEDS database as follows. This categorized list of deficiencies provides facilities managers with concise list of specific actions and alternative methods for restoring and maintaining the physical plant and functional adequacy of each installation. It can be used to develop projects for the Facilities Engineering Program Plan (FEPP) to systematically correct the deficiencies.

01 PATIENT CARE. Deficiencies in the facility related to providing quality health care services. Patient care deficiencies may be identified by The Joint Commission, the Centers for Medicare and Medicaid Services, or another internal or external assessment method.

02 LIFE SAFETY COMPLIANCE. Deficiencies in building construction that must be corrected for the building to be in full compliance with the Life Safety Code (NFPA 101), the National Fire Code, and the International Building Code. Examples of these deficiencies are inadequate fire barriers, smoke barriers, means of egress, door ratings, or fire protection equipment.

03 GENERAL SAFETY - Deficiencies occurring from the lack of compliance with the Occupational Safety and Health Act (OSHA); Federal, state, or local safety laws and regulations; or established health care industry and occupational safety standards and practices.

04 ENVIRONMENTAL COMPLIANCE. Deficiencies occurring from a lack of compliance with Federal, state or local environmental laws and regulations. Examples of environmental compliance deficiencies include the following that do not meet established environmental legal and regulatory standards and that require immediate remedial action: underground storage tanks, boiler and incinerator emissions, sewage effluent, radon, hazardous wastes disposal, back flow prevention, industrial hygiene, asbestos containing material or lead based paint, etc. [Note: environmental items that do not require immediate action and are deficiencies in practices or responsibilities are coded under Codes 44 and 45 respectively.]

05 PROGRAM IMPROVEMENTS. Deficiencies that document code-required or necessary modifications or enhancements, to a facility for continued building functionality and continued delivery of health care, without which, the facility would possibly lose accreditation. This may include renovation or modifications of space to meet existing functions required to deliver health care

services. However, this category does not include any additional or unmet space requirements. Some examples include increasing electrical service for new x-ray suite, increasing ventilation for isolation rooms or high heat-generating equipment, or facility upgrades to meet current sterile preparation standards for the pharmacy.

06 UNMET SUPPORTABLE SPACE NEEDS. Deficiencies that document a need to acquire additional program space to house an expansion in the delivery of health care services or the conversion of existing building space from one functional use to another (e.g., converting a quarters unit for health care services to achieve improved health program efficiencies). These deficiencies are typically not corrected using M&I funds and therefore are not included in BEMAR and the CI calculation. See Technical Handbook Chapter, “Facilities Supportable Space.”

07 HANDICAPPED COMPLIANCE. Deficiencies that document modifications to space, and/or equipment that is required to comply with Architectural Barriers Act Accessibility Guidelines (ABA). Some examples are handicapped accessibility in the parking areas, building entrances, restrooms, drinking fountains, elevators, telephones, fire alarms, etc.

08 ENERGY CONSERVATION. Deficiencies that document energy conservation opportunities for improvements to the structure or building service equipment systems that have a life cycle cost effectiveness.

09 PLANT MANAGEMENT. Deficiencies that document management tasks required to oversee, on a daily basis, the reliable, continuous, and efficient operation of engineering systems at the facility. Examples include monitoring energy management systems, regular testing of emergency systems, retaining service contracts to test and maintain digital controls systems, maintenance staffing and staff training, etc. These tasks are not included in BEMAR and the CI calculation.

10 ARCHITECTURAL. Deficiencies that document the need for repair or replacement of architectural items due to normal wear and tear to maintain the real property in good operating condition. Examples include repair or replacement of doors, ceilings, floor coverings, and windows and tuckpointing, and minor interior painting for aesthetics, etc.

11 STRUCTURAL/CIVIL. Deficiencies that document the need for repair or replacement of structural items to maintain the integrity of the structure that might be compromised because of normal wear and tear. Examples include repairing or replacing foundations, stem walls, floor joists, subfloor, trusses, roof decking, gravel parking lots, bridges, roadways, cattle crossings, and fences, as well as repairing damage due to differential settlement, etc.

12 MECHANICAL. Deficiencies that document the need for repair or replacement of mechanical systems or individual components of these systems due to normal wear and tear to maintain the real property in good operating condition. Examples include repair or replacement of Heating-Ventilation-Air-Conditioning (HVAC) central/packaged units, pneumatic controls, exhaust fans, chillers, cooling towers, plumbing, fuel systems, medical gas systems, potable water systems, etc. Systems that would be included under FEDS 12 are located within a specific building or constructed asset. Systems located outside of a building are typically categorized as 'Utilities' and are addressed under FEDS 14.

13 ELECTRICAL. Deficiencies that document the need for repair or replacement of electrical, generating, and power distribution systems, or components of these systems as well as interior building utilities associated with these systems, including communications, computer, and alarm systems requiring repair or replacement due to normal wear and tear to maintain the real property in good operating condition. Examples include the need to replace or repair transformers, emergency generators, switchgear, wiring, main breakers, and others. Systems that would be included under FEDS 13 are located within a building or constructed asset. Systems located outside of a building are typically categorized as 'Utilities' and are addressed under FEDS 14.

14 UTILITIES. Deficiencies that document the need for repair or replacement of utility service systems that are required for the building to be fully operational. Utility service systems are those portions of a system between the building installation and the systems owned and operated by the providing utility agency. Examples of utility services systems include water services lines, sewer service lines, etc.

15 GROUNDS. Deficiencies that document the need for repair or replacement of grounds components due to normal wear and tear. Examples of components that might be deficient include trees, sod, erosion, lawn sprinklers, landscape, etc.

16 PAINTING. Deficiencies that document the need for comprehensive painting or other surface treatment of the building interior or exterior surfaces, including window and door trims, to protect structural components. This does not include minor interior painting for aesthetics, which is included in 'Architectural' FEDS 10.

17 ROOF. Deficiencies that document the need for replacement or major repair of the roofing system to maintain the roof and building structural integrity.

18 SEISMIC MITIGATION. Deficiencies that document the need for upgrading the structure and/or equipment to meet current seismic standards.

44 ENVIRONMENTAL PRACTICES. Deficiencies related to documentation of environmental health and safety procedures such as Material Safety Data Sheets (MSDS), hazardous materials handling plans, management plans, etc. These tasks are not included in the BEMAR and CI calculation.

45 ENVIRONMENTAL RESPONSIBILITIES. Deficiencies that document environmental issues and concerns that may not require action, but that should be included in FEDS for tracking purposes. These items may be covered under an operation & maintenance plan and may not currently require abatement or remediation. These tasks are not included in BEMAR and the CI calculation.

99 OTHER. Deficiencies, not included in any of the categories above, that document the need for replacement or repairs to real property components, but that do not immediately require correction (i.e., within the next five years). These tasks are not included in the BEMAR or the CI calculation because they are 'deferrable'. These tasks are not included in BEMAR because they also may be desired without meeting any of the above Codes criteria.

73-3.6 PROCESS

The IHS facilities deficiencies are identified as part of the FCAP through a series of annual general inspections, facilities condition survey, or other inspection methods. The FEDS is a module contained within the Health Facilities Data System (HFDS) used to capture these deficiencies, including the Backlog of Essential Maintenance, Alteration, and Repair (BEMAR). The broader HFDS also includes the IHS Real Property Inventory (RPI) and Asset Management information. See Table 1, "Relationship of the HFDS/FEDS/BEMAR/RPI."

The deficiencies identified in the FEDS are categorized to establish and prioritize projects for allocation of M&I funds. The FEDS deficiencies are further classified as BEMAR and "Program and Management Deficiencies." The BEMAR deficiencies are those that must be addressed to meet legal requirements (Public Law), to maintain or repair the facility (Maintenance and Repair or M&R), or to improve a facility (Improvements) but that have been deferred because of a lack of staffing or funds to implement corrective measures. "Program and Management Deficiencies" are those related to expanding space to address program requirements and those related to Plant Management, Environmental Practices, Environmental Responsibilities, etc.

Table 1 Relationship of the HFDS/FEDS/BEMAR/RPI

<table>
<tr><td colspan="6"><---------- HFDS ----------></td></tr>
<tr><td colspan="4"><---------- FEDS ----------></td><td colspan="2">Non-FEDS Segment of the HFDS</td></tr>
<tr><td colspan="3"><----------BEMAR ----------></td><td rowspan="2">Program and Management Deficiencies</td><td rowspan="2"><--- RPI ---></td><td rowspan="2"><-- Asset Management, etc. --></td></tr>
<tr><td>Public Law</td><td>M&R</td><td>Improvements</td></tr>
<tr><td colspan="6">HFDS- Health Facility Data System, a data system that tracks IHS real property, documents facility deficiencies, and provides mechanisms for reporting inventory and condition.
FEDS-Facilities Engineering Data System, a portion of the HFDS containing deficiency data for IHS and participating tribal facilities.
BEMAR-Backlog of Essential Maintenance and Repair, a list, obtained from the FEDS, of corrective actions that are needed to maintain IHS and participating tribal real property in good operating condition but that have been deferred because of a lack of staffing or funds to implement corrective measures.
RPI-Real Property Inventory, a list of IHS real property obtained from the HFDS</td></tr>
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The FEDS deficiencies are categorized according to type. Each category is assigned a code for identification in the FEDS database. In many cases, the category is determined by reporting requirements of Executive Orders, laws, regulations, etc. Deficiencies classified as "Public Law," "Maintenance and Repair," or "Improvement" may be included in the BEMAR. Table 2, " FEDS List Showing BEMAR Applicability," lists the FEDS deficiency categories and provides a summary of how the deficiencies are categorized and coded according to deficiency type and BEMAR category.

Table 2 FEDS List Showing BEMAR Applicability

Def Code	Deficiency Description	FEDS	BEMAR & CI		
			Maint. & Repair	Public Law	Improvements
01	Patient Care	Yes			Yes
02	Life Safety Compliance	Yes		Yes	
03	General Safety	Yes		Yes	
04	Environmental Compliance	Yes		Yes	
05	Program Improvements	Yes			Yes
06	Unmet Supportable Space	Yes			
07	Handicapped Compliance	Yes		Yes	
08	Energy Conservation	Yes		Yes	
09	Plant Management	Yes			
10	Architectural	Yes	Yes		
11	Structural	Yes	Yes		
12	Mechanical	Yes	Yes		
13	Electrical	Yes	Yes		
14	Utilities	Yes	Yes		
15	Grounds	Yes	Yes		
16	Painting	Yes	Yes		
17	Roof	Yes	Yes		
18	Seismic Mitigation	Yes		Yes	

Def Code	Deficiency Description	FEDS	BEMAR & CI		
			Maint. & Repair	Public Law	Improvements
44	Environmental Practices	Yes			
45	Environmental Responsibilities	Yes			
99	Other	Yes			

73-3.7 IMPLEMENTATION AND RESPONSIBILITIES

As part of the FCAP, Area Offices Facility Managers are responsible for coordinating the entry of deficiency data into the FEDS. This database is then utilized by facilities managers to generate projects for their annual FEPP.

The database is utilized by management to determine priorities and weigh the aggregate cost of correcting individual deficiencies in an installation versus the cost of replacement of the entire installation. Corrective actions and their cost estimates will assist program managers and facilities managers in making determinations about their installation.