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Project Operation
Guidance for Coastal Navigation Structures Operational Condition Assessment

FOR THE COMMANDER:

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Purpose. The purpose of this engineer pamphlet is to describe a consistent methodology to produce operational condition data for all U.S. Army Corps of Engineers coastal navigation structure assets in the Navigation business line.

Applicability. This pamphlet is applicable to all U.S. Army Corps of Engineers major subordinate commands having Civil Works responsibilities in the Navigation program. Any guidance and requirements in this pamphlet are specific to the Navigation business line.

Distribution Statement. Approved for public release; distribution is unlimited.

Proponent and Exception Authority. The proponent of this regulation is the Headquarters Asset Management Branch under the U.S. Army Corps of Engineers Operations and Regulatory Division. The proponent has the authority to approve exceptions or waivers to this pamphlet that are consistent with controlling law and regulations. Only the proponent of a publication or form may modify it by officially revising or rescinding it.

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Glossary of Terms

1. Purpose

The purpose of this engineer pamphlet is to describe a consistent method to produce operational condition data for all U.S. Army Corps of Engineers coastal navigation structure assets in the Navigation business line.

2. Distribution statement

Approved for public release; distribution is unlimited.

3. References

See Appendix A.

4. Records management (recordkeeping) requirements

The records management requirement for all record numbers, associated forms, and reports required by this publication are addressed in the Army Records Retention Schedule. Detailed information for all related record numbers is located on the U.S. Army Corps of Engineers (USACE) Records Management Site https://usace.dps.mil/sites/INTRA-CIOG6/SitePages/Records-Management.aspx. If any record numbers, forms, and reports are not current, addressed, and/or published correctly, see DA Pam 25-403 for guidance.

5. Associated publications

Policy and/or procedures associated with this pamphlet are found in ER 1130-2-554.

6. Background

a. Coastal navigation structures (CNS) include breakwaters, jetties, revetments, dikes, levees, bulkheads, and other structures along the coast to support navigation. These are unique assets due to environmental conditions, construction, location, and function. Typically, these structures are rubble mound (composed of large rock) and although they look similar, nomenclature is based on defined structure purpose and design and functional considerations. There is no standard type of CNS within the 1,036 USACE CNS inventory as of January 2022. Generally, CNS are used to reduce wave energy, direct or reduce current, control sediment movement, and to reduce erosion, all for the purposes of improving navigational efficiency and reliability. CNS do not include dredged material management activities or related features.

b. All CNS are subject to the assessment procedures described in this EP. CNS do not fit the more typical component-driven operational condition assessment (OCA) methods that have been developed for dams, locks, etc. Instead, the CNS OCA evaluates the structure in a holistic manner. This EP builds upon guidance initially developed by the coastal navigation community in 2018 and is now formalized across USACE.

7. Overview

a. In this EP, wherever the words “will” and “must” are used, that aspect is mandatory.

b. The intent of the OCA process is to provide USACE Civil Works asset and maintenance managers at all levels the information necessary to promote more effective maintenance and budget planning. This is achieved by obtaining unbiased and consistent operational condition data of USACE Civil Works assets.

c. An OCA is an assessment of an asset’s operational condition with the intention to identify all deficiencies that currently affect the project’s ability to meet its authorized purpose. This EP describes the process to accomplish these objectives as they relate to CNS. This EP also describes a system for recording and reporting condition and performance evaluations. The required information used in producing condition ratings is not directly described as it will vary across sites; however, examples of data sources are provided. Accurate data is necessary for an effective inspection process, analysis, and evaluation.

d. USACE uses the OCA-informed probabilities of failure as a factor in estimating risk, which is vital to the risk-informed budget development process.

e. The Asset Management program for CNS requires annual Level 1 OCAs. OCA results are entered into a central database.

f. The output of an OCA will be a structural assessment and rating that will assist to inform stakeholders of key vulnerabilities and expected variable structural degradation, which will inform the remaining useful functional purpose, probability of accelerated structure degradation, or the associated risk of failure of the asset being monitored.

g. The purposes of an OCA are to:

(1) Use a rational, standard procedure for evaluating the physical condition and performance of coastal navigation-related structures. The CNS OCA procedure is described in paragraphs 8 through 10 of this EP.

(2) To establish structural and functional condition ratings, which are then used to produce a District Condition Rating (DCR) rating for each coastal navigation structure, the DCR is combined with risk and consequence data that can later be used to inform the budget prioritization process.

h. Within this EP, “Operational condition” refers specifically to the following properties of an asset:

(1) “Structural condition” is the state of an asset’s material parts or components. In OCAs, an asset’s structural condition might be “like new,” or it may consist of several deficiencies.

(2) “Functional condition” is a measure of an asset’s current ability to execute the function for which it was designed and meet its authorized purpose. Functional condition is an attribute of the asset, and when an asset is not performing as designed, it can impact operational procedures and/or maintenance requirements. Conversely, an asset may be in a deteriorated structural condition, but may be functioning adequately to meet its authorized purpose.

(3) “Probability of accelerated structural degradation” is assessed as the likelihood of the asset reaching a functional condition rating of “D” or “F” or accelerated damage within the next two years.

(4) “Assessment” refers to the use of existing data to determine the asset’s operational condition. Data sources that may be used in an assessment are described in paragraph 8.

8. Process overview

This section provides an overview of the steps required to complete a CNS OCA, both OCA Level 1 and OCA Level 2 assessments. The Level 1 assessment is conducted by each district based on available data with quality assurance by both the major subordinate command (MSC) and the national Coastal Navigation Structures Asset Management (CNSAM) team. The Level 2 assessment is a more detailed structure review and field inspection performed by the national CNSAM team in collaboration with the district. CNS OCAs will use the following steps:

a. An OCA team will be assembled. This team will consist of a team leader(s) and team members with the appropriate backgrounds and experience. A representative from Operations (an operations manager) and a representative from Engineering usually co-leads the team; however, each district has latitude to develop their own team membership. Assessments must be conducted as a cooperative effort between Engineering and Operations personnel. Districts are encouraged to include the Regional Asset Manager in the process. The team leads are responsible for organizing a qualified OCA team. The CNS OCA Level 1 Tool (the Tool) allows multiple team members to sign off on the assessment.

b. The OCA will be conducted using the rating scales defined in paragraph 9. Data sources for the OCA may include, but are not limited to:

(1) Observations from USACE operations and engineering staff or OCA team members.

(2) Reported observations from Port or Harbor staff and stakeholders (U.S. Coast Guard, fishermen, commercial and recreational users).

(3) Periodic inspections or periodic assessments, where applicable to the operational context.

(4) Test or performance data.

(5) Engineering analysis.

(6) Facility and Equipment Maintenance (FEM) system data.

(7) Condition monitoring, which may be gathered from multiple sources such as aerial imagery, topographic surveys, bathymetric surveys, light detection and ranging (LiDAR) scanning, sonar/acoustic imagery or profiles, or others.

(8) Post-event inspections or assessments, where applicable to the operational context.

c. Quality control (QC) will occur at the district level. Quality assurance (QA) will occur at the MSC and National level. Level 1 and Level 2 OCAs generally include an in-person site visit.

9. Level 1 process

a. The purpose of the CNS OCA Level 1 is to have a national inventory of all USACE coastal navigation structures and each structure's current structural and functional condition. Condition data must be updated annually. To accomplish this, the Tool has been developed to contain this data inventory and record and track changes to the structural and functional condition of each structure.

b. The OCA Level 1 ratings are based on site visits, district information (including a review of surveys, inspection reports rating criteria and operation and maintenance records), and input from subject matter experts. The CNS OCA Level 1 evaluation is used in the annual budget process, and additional details are provided in the navigation section of the annual budget program development guidance (Civil Works Program Development Manual**)**. Each district is responsible for an annual OCA Level 1 evaluation on each of their CNS.

c. Annually district representatives must enter or verify the Structural Condition Rating (SCR), Functional Condition Rating (FCR), Subjective Risk Assessment (SRA), and consequence rating in the Tool. The district is responsible for the continuous completeness and accuracy of the list of projects and structures.

d. The CNS OCA Level 1 data required for all structures includes: Division, District, Project Name, Structure Name, Structure Type, Assessment Method, SCR, FCR, Consequence Category, SRA, Primary Authorized Purpose, Program Code, Latitude and Longitude of project, QC date, QC user, last edited by, and last edited date. The DCR is auto populated in the Tool. Districts may add FEM Asset ID number(s) and P2 numbers for each structure. For all structures with an SCR of D or F and an FCR of C, D, or F, the district is required to identify and include supporting information in the Tool using the dropdown "Show/Modify Remarks" dialog box.

e. If the district has already received approval and/or funding for repair of a CNS, they are required to acknowledge this and describe the type/extent of planned or in-progress repair(s) in the "District Comments" column of the Tool. If there is a funding

work package request for a structure, the associated work package ID is required to be recorded in the Tool.

f. Districts must ensure the structure condition is field verified and that functional condition is evaluated based on information such as dredging records, communications with locals, the harbor master, U.S. Coast Guard, pilots, etc. For CNS with structural ratings of D or F, or functional ratings of C, D, or F, districts must identify and include information that supports these low ratings. Table 1 through Table 5 within this EP include basic definitions related to the CNS OCA process and grading categories.

g. The CNS Structural and Functional condition ratings are combined in a 5x5 matrix to develop a DCR. The DCR for existing condition is auto populated in the Tool. Consequences of diminished CNS feature performance are based on criteria defined in Table 5. SRA is a district estimate of the risk of future degradation of the structure during the next two years. The district must explain any expected change in condition and the expected incremental change, as represented by SRA in the "District Comments" column of the Tool. The SRA may be used to defend interim, targeted repairs, or actions needed to improve the structural and functional condition.

h. A single CNS may have elements with different levels of degradation. Structures are to be inventoried and rated for their entire length and are not to be subdivided into reaches. The combined scores from different elements will impact the structure's overall rating. To generate the overall score, refer to the percentages of deterioration and their contribution to the overall score as described in Table 1.

(1) *Structural Condition Rating.* The SCR is an overall letter rating, A–F, for structure condition as it currently exists. It does not include predictions of future structure condition. Table 1 lists SCR rating criteria. For each level described, only one criteria needs to be met to rate the structure at that level.

Table 1
Coastal navigation structures structural condition rating

Severity	Value	Rating Criteria
Insignificant damage or defects	**A**	1. There is no evidence that the structure has a critical design flaw or has been significantly damaged. Only small areas of the structure show signs of deterioration, which are considered to be insignificant. 2. Loss or deterioration of any material composing the structure is limited to very few units. 3. There is no change in the geometry of the structure. There are no apparent areas of settlement or displacements of the structure's alignment and slopes. The head, the root, and any corner or spurs of the structure show no change. 4. There is no exposure of any other critical material or elements of the structure. 5. The foundation of the structure is sound and there is no evidence of scour or loss of supporting substrate around the base of the structure.

Severity	Value	Rating Criteria
Minor damage or defects	**B**	1. Deterioration is visible but the structure appears to be sound and repairs are not indicated. Minor deterioration is noted over small areas of the structure. 2. In deteriorated areas, less than approximately 10% of any material composing the structure shows signs of deterioration, and less than approximately 10% of any type of the material composing the structure has been lost. 3. The geometry of the structure shows limited change. The crest elevation may have been reduced by less than 10% of the structures above Mean Lower Low Water (MLLW) profile, and the crest width may have slightly decreased. Minor displacement of the structure's alignment and side slopes is evident. The head root, and corners or spurs of the structure show no more change than other sections of the structure. 4. The noted deterioration does not expose any other critical materials composing the structure. 5. Foundation assets are sound but slight scour may exist near the toe of the structure.
Moderated damage or defects	**C**	1. The structure is showing deterioration that may require repair in the near future. 2. Moderate deterioration of materials is noted over many areas of the structure. A moderate amount (10% to 20%) of materials composing the structure shows signs of deterioration, and a moderate amount (10% to 20%) of any material composing the structure has been lost. 3. The geometry of the structure is showing significant change in some areas. The structure's cross section is losing crest elevation and/or crest width. Some areas of the structure may have settled, collapsed, or eroded to an extent that other portions of the structure are exposed or left unsupported. In the damaged area, the above MLLW cross-sectional profile area may be reduced by 20% to 50%. The crest width may reduce up to 1/3 of its original width at the elevation of the original crest, but repairs would be possible by replacing a few armor units. A moderate amount of displacement in the structure's alignment and slopes is present (often as a result of lost or slumping material on one side of the structure causing the centerline of the structure to shift or due to units sliding down the side slopes). 4. Bridging of armor stones may also be occurring. The extent of these displacements renders the structure's stability to be vulnerable. The head(s) may have receded by 10% to 20% of its original length. The root is still firmly attached to the shore but scour or flanking may exist at the trailing end of the structure. Corners or spurs of the structure may have slightly greater damage than the rest of the structure. 5. In the deteriorated regions, minor amounts of other critical materials composing the structure are now exposed but there is no evidence of the exposed material being lost or damaged.

Severity	Value	Rating Criteria
		6. Foundation assets of the structure may be starting to show deterioration by changing in shape or movement of the base material or by corrosion. Evidence of scour at the toe of the structure or under the structure is present.
Seriously Degraded	**D**	1. An extensive portion of the structure has deteriorated to a condition that repairs are indicated. 2. Deterioration of materials is noted over a significant area of the structure. A significant amount (>20% to 40%) of materials composing the structure shows signs of deterioration, and a significant amount (>20% to 40%) of any material composing the structure has been lost. 3. The geometry of the structure is significantly changed. The above MLLW cross-sectional profile area may have been reduced to >50% of its original above MLLW profile. Some areas of the structure have settled, collapsed, or eroded to an extent that, in the damaged area(s), no portion of the crest is still located at the original elevation and the resulting crest has lost 70% of the above MLLW crest elevation (crest elevation is at MLLW or a few feet above MLLW). A significant amount of displacement in the structure's alignment and slopes is present. Bridging of stones is likely. Sliding of the armor units may be present as well as displacement of the armor units. The head(s) has receded by >20% to 40% of its original length. The root is still attached but flanking of the tail occurs for about 1/3 the length of the trailing end. The extent of these displacements renders the structure unstable. 4. Deterioration exposes significant amount of other critical materials composing the structure and there is evidence that under layer material and substructure assets are being damaged or lost. 5. The foundation could exhibit failure modes over short distances (100 ft.) to include scour and erosion around the toe and under the structure, lost substrate material, major subsidence, reduced thicknesses or diameters by approximately 15% for support members, and buckling or failure of piles.
Completely Degraded	**F**	1. General failure with extensive deterioration indicates repair is needed for a major section of the structure. 2. More than 50% of materials composing the structure show signs of extreme deterioration, and more than 40% of any material composing the structure has been lost. 3. The geometry of the structure clearly shows that much of the structure is lost or severely damaged. Significant lengths (>300 ft.) of the structure have settled, collapsed, or eroded to an extent that the expected crest elevation has been reduced to at or below the MLLW level. The structure appears to be a pile of armor stones or units rather than an engineered structure. The structure may flex, or structural material may be mobile under hydrodynamic forces. An extreme amount of displacement in the structure's alignment and slopes is present. The extent of the displacement renders the structure critically unstable.

Severity	Value	Rating Criteria
		4. The deterioration exposes significant amounts of other critical materials composing the structure, and there is evidence that under layer material and substructure assets are being damaged or lost over long (>300 ft) sections of the structure. 5. There is evidence that the underwater portions of the structure are severely degraded over long sections (>300 ft.) of the structure. The foundation could exhibit failure modes over long distances (>300 ft.) to include scour and erosion around the toe and under the structure, lost substrate material, major subsidence, reduced thicknesses, or diameters by approximately 25% for support members and buckling or failure of piles.

(2) *Functional Condition Rating.* The FCR is an overall letter rating, A–F, on how the structure is performing its authorized purpose. It does not include predictions of future structure functionality. To generate the FCR rating, refer to the Levels of Functionality and Impact as described in Table 2. For each level described, only one criterion needs to be met to rate the structure at that level.

Table 1
Coastal navigation structures functional condition rating

Level of Functionality	Rating Criteria
Full – A	No notable impact, structure performing as designed.
Sufficient – B	1. Infrequent or periodic limitations on navigability. 2. Minor/periodic increases in dredge quantity.
Reduced – C	1. Less than 10% of the time, design vessels cannot navigate or operate within authorized limits. 2. O&M dredging requirements in the Entrance and Bar Channel have increased less than 10%, as compared to the long-term average annual rate.
Severely Degraded – D	1. 10% to 20% of the time, design vessels cannot navigate or operate within authorized limits. 2. O&M dredging requirements in the Entrance and Bar Channel have increased 10% to 20%, as compared to the long-term average annual rate.
Completely Degraded – F	1. >20% of the time, design vessels cannot navigate or operate within authorized limits. 2. O&M dredging requirements in the Entrance and Bar Channel have increased >20%, as compared to the long-term average annual rate.

(3) *District Condition Rating.* The DCR is determined from the A to F Matrix composed of the structure's SCR and FCR found below. The SCR and FCR are combined automatically by the Tool to develop a DCR, as shown in Table 3.

Table 3
Coastal navigation structures matrix for district condition rating

		Structural Condition Rating (SCR)				
		F	D	C	B	A
Functional Condition Rating (FCR)	F	F[1]	F[1]	F	F	F
	D	F[1]	D[1]	D	D	D
	C	D[1]	D[1]	C	C	C
	B	D	C	B	B	B
	A	C	B	B	A	A

Notes:
[1] Additional information is required; submit using dropdown "Show/Modify Remarks" dialog box in CNS OCA Level 1 Tool.

This table applies a heavier weighting to the FCR value than to the SCR value in combining the two ratings to determine a combined value or DCR, thus valuing the function of navigation over the structural integrity.

(4) *Subjective Risk Assessment.* The SRA is a district estimate of the potential for future degradation of the structure during the next two years. SRA will be used to capture key vulnerabilities as well as expected variable structural degradation, which will impact the structure's functional purpose at the project. SRA rating levels are shown in Table 4.

Table 4
Coastal navigation structures subjective risk assessment

Value	Risk Scale (%)[1]
1	0–10
2	11–30
3	31–50
4	51–70
5	71–100

Notes:
1 Percent chance that one or more of the following will occur in next two years:

Functional Condition Rating Only decreases to D or F.

Exposure of Core or Foundation asset(s) that would result in accelerated degradation.

(5) *Consequence category.* The consequence category is an overall evaluation from I–V describing economic, maritime, and life safety impacts to the project. The consequence category rating is performed by the district based on existing use(s) of the project. Consequence categories are shown in Table 5.

Table 2
Coastal navigation structures consequence category

Consequence Category	Consequence Category Rating Criteria
I	1. Demonstrated highest economic impact.[1] 2. Imminent life safety impact. 3. Critical to safe navigation by commercial vessels at High Use Navigation Project (>10 million tons). 4. Critical to safe navigation at DoD Strategic Ports. 5. No alternate modes of transportation exist for Energy Distribution Facilities.
II	1. Demonstrated high economic impact.[1] 2. Probable life safety impact. 3. Probable impacts to subsistence harbors/critical harbors of refuge. 4. High economic loss (>5-10 million tons). 5. Alternate modes of transportation exist for Energy Distribution Facilities, but at a higher cost than waterborne transportation.
III	1. Demonstrated moderate economic impact.[1] 2. Possible life safety impact. 3. Possible impacts to subsistence harbors/critical harbors of refuge. 4. Moderate economic loss (1–5 million tons).
IV	1. Low economic impact.[1] 2. No life safety impact. 3. Little impacts to subsistence harbors/critical harbors of refuge. 4. Low economic impact (<1 million tons).
V	1. Negligible economic impact. 2. No life safety impact. 3. No impacts to subsistence harbors/harbors of refuge. 4. Negligible economics (Recreation Harbors, No commercial Activity).

Notes:
[1] Measures of economic impact can be demonstrated using rate savings benefit, transportation cost savings, or damages avoided.

(6) *Supporting documentation for CNS OCA processes*. Examples of the types of information that can inform an OCA rating are listed below. Information sources may include any of the following:

(a) Coastal engineering expert review.

(b) Engineering reports and analysis.

(c) Structure type.

(d) Geotechnical data.

(e) Project history (including activities such as deepening, dredging, rehabilitation, etc.).

(f) Risk and reliability investigations.

(g) Coastal and hydraulic analysis of waves, sediments, water levels, ice, storm intensity, or other physical influences.

(h) Functional data, including maritime user information, safety information.

(i) Structure condition inspections (on foot, on a boat, underwater dive inspections, etc.)

(j) Bathymetric or side scan sonar surveys.

(k) Topographic or LiDAR surveys.

(l) Other data relevant to the structure.

(7) CNS OCA Level 1 QA/QC process.

(a) The OCA QC checks will be conducted at the district level by the OCA team and representatives from the district's Operations and Engineering personnel. QA checks of annual updates will be conducted at the MSC level. The national CNSAM team will perform a final QA review to ensure consistency and completeness of MSC OCA ratings. The national CNSAM team is composed of subject matter experts that are coastal engineers with significant design and inspection experience relative to coastal structures. The members provide a diverse national perspective and represent districts from all four coastlines.

(b) When questions arise relative to a district rating, the district point of contact is contacted by the national CNSAM team and asked to explain the rating, provide back-up data, and discuss their evaluation. If necessary, the national CNSAM team may seek a revision of a rating in consultation with the district to ensure consistency from a national perspective. CNS with structural ratings of D or F, or functional ratings of C, D, or F, require additional documentation and are reviewed in detail by the national CNSAM team. At the conclusion of the national CNSAM OCA Level 1 review, a memorandum is prepared and sent to the Headquarters (HQ) Chief, Asset Management Branch and the HQ Navigation Business Line Manager for their information and use. In some cases, during or after the QA process, a Level 2 OCA may be recommended and can be requested by the district (see paragraph 10).

10. Level 2 process

a. The OCA Level 2 assessment is a more detailed structure review and field verification performed collaboratively with the district, MSC, and national CNSAM team. A CNS OCA Level 2 is performed at the request of the district or HQ and is funded by the project. The team reviews the Level 1 process and product from the district.

b. The product from an OCA level 2 is a concise report that documents the findings of the national CNSAM team and either validates or adjusts the rating in the Tool. The CNS OCA Level 2 document provides additional detailed information that should help make more informed investment decisions.

(1) *Requirements.* An official OCA Level 2 Assessment will include the following:

(a) A minimum of three national CNSAM OCA Team members are required to conduct an OCA Level 2 assessment.

(b) It is highly recommended that district participation includes the lead Coastal Engineer, Navigation Project Manager, and others as needed to articulate the past project performance and desired future performance level. The effort may be used to train junior district staff.

(c) An OCA Level 2 review budget should be limited to an approximate one-week effort by at least three national CNSAM OCA Team members, including travel, and result in a written report to the district.

(2) *Schedule.* A typical schedule for an OCA Level 2 assessment is as follows:

(a) Pre-brief webinar on problem statement and data gaps in advance of visit.

(b) Day 1: Briefing of project to the national CNSAM Team by the district. The district project briefing should include:

1. Function of coastal navigation structure, including authorization(s).

2. Any function of the structure other than navigation (such as flood risk management, coastal storm damage reduction, environmental, etc.). Relevant functions may include protection of historic sites or other federal property (such as U.S. Coast Guard stations or lighthouses).

3. Structure history.

4. Structure design and condition (plan and representative cross sections).

5. Damage area concerns.

6. Physical environment (weather, waves/currents, littoral processes (if applicable), etc.).

7. Functional condition: impacts on navigation/economy in current condition and if it fails.

8. Environmental considerations (endangered/threatened species, pertinent laws or regulations significantly affecting the assessment).

9. Site access and conditions.

10. Presentation of any characteristics or conditions unique to the site that are not familiar to all members of the team. For example, coral reefs or oyster reefs instead of typical sediment transport, specific environmental restrictions, wave or current hazards, etc.

(c) Day 2: Site visit. Focus of the site visit is on the structures or portion of structures that the district identified as being in the worst condition. In many cases it will not be practical to inspect all of the project structures. However, the OCA team should see as much of the project as possible.

(d) Day 3: Out brief and discussion with the district staff on initial findings.

(e) Follow-up: The national CNSAM Team Lead will complete the final report. In addition to the conclusions and recommendations, the report may include supporting materials such as condition photographs, bathymetry surveys, and maps. The document is reviewed by and approved by all members of the team. The goal is to have the report completed in one month or less.

c. The final CNS OCA Level 2 reporting requirement includes a memorandum for record documenting the findings of the CNS OCA team. The district is responsible for dissemination of the final memorandum.

Appendix A
References

Section I

Required Publications

Unless otherwise indicated, Army publications are available at https://armypubs.army.mil/, and USACE publications are available at https://www.publications.usace.army.mil.

Civil Works Program Development Manual
Section 9 Navigation (Available at https://team.usace.army.mil/sites/HQ-CW/PDT/budget/)

DA Pam 25-403
Army Guide to Recordkeeping

ER 1130-2-554
USACE Condition Assessments

Section II

Prescribed Forms

This section contains no entries.

Glossary of Terms

Term	Definition
CNS	Coastal Navigation Structures
SNSAM	Coastal Navigation Structures Asset Management
SCR	Structural Condition Rating
FCR	Functional Condition Rating
SRA	Subjective Risk Assessment
DCR	District Condition Rating
MSC	Major Subordinate Command
LiDAR	Light detection and ranging

Assessment
The application of professional judgment using data from asset monitoring to determine and apply an asset's condition rating.

Asset
Any resource (for example a facility, area, structure, installation, or piece of equipment) for which USACE has the responsibility to identify needs, prioritize work, perform maintenance, and/or track results.

Asset Component
A defined feature of an asset that is maintained, repaired, or replaced. For example, a roof and HVAC system are components of a building asset and septic field lines, and a lift station are components of a sewer system asset.

Asset Management (AM)
The systematic and coordinated activities and practices through which USACE optimally and sustainably manages its assets and asset systems along with their associated performance, risks, and expenditures over their life cycles for the purpose of achieving its organizational strategic plan.

Bias
A particular tendency, trend, inclination, feeling, or opinion, especially one that is preconceived or based on subjective data or incomplete objective data.

Deficiency
A physical characteristic (such as deterioration, damage, or other irregular flaw) and/or a violation of regulations.

Facilities and Equipment Maintenance (FEM) System
The Department of Defense Joint Logistics Systems Center's standard Computerized Maintenance Management System. FEM is the USACE tailored version of MAXIMO Enterprise Base System, which is a commercial-off-the-shelf system. FEM is an enabler for life cycle asset management, providing critical data and information required to meet real property performance measures related to "right" cost and condition of assets. (Memorandum, CECW-CO, Implementation of Facilities and Equipment Maintenance for Asset Management, dated 26 September 2007)

Operational Condition
An asset's ability to meet its feature mission requirements, within the operational circumstances for which the feature is designed to perform.

Operational Condition Assessment (OCA)
The application of professional judgment considering a component's mission requirements, and using data from asset monitoring, to determine/apply an asset's condition rating.

Operational Condition Assessment (OCA) Infrastructure Hierarchy
The three-layer HQ USACE AM framework that aligns assets to systems at facilities that HQ AM uses for asset condition awareness and informing AM decisions.

Performance
A measure of an asset's current ability to execute the function for which it was designed.

Physical Condition
The observed state of an asset with respect to its material parts.

Quality Assurance (QA)
A systematic process of checking whether a product or service in development meets specified requirements, especially one where the process is applied by an independent party that did not perform the work and is not part of the organization that performed the work.

Quality Control (QC)
A process through which an organization seeks to ensure that product quality is maintained or improved and that errors are reduced or eliminated. QC is a first-line verification performed by the team and/or organization that performed the work.

Risk
The measure of the probability and severity of undesirable consequences; the relationship between the consequences resulting from an adverse event and its probability of occurrence. Risk is measured as (Probability of an Event) x (Probability of Adverse Response to the Event) x (Consequences of the Event).