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CECW-CO

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Civil Works Facilities and Equipment Maintenance – Asset Criticality and Work Order Priority Framework

FOR THE COMMANDER:

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EDWARD E. BELK, JR.
Director of Civil Works

Purpose. The purpose of this engineer circular is to define and establish a consistent enterprise-wide method for identifying, managing, and communicating the U.S. Army Corps of Engineers Civil Works Asset Criticality and Work Order Priority to manage maintenance.

Applicability. This engineering circular is applicable to all U.S. Army Corps of Engineers major subordinate commands and U.S. Army Corps of Engineers Logistics Activity managing Civil Works assets, to include Division and District Head Quarters facilities. Implementation and compliance within U.S. Army Corps of Engineers Logistics Activity will align with U.S. Army Corps of Engineers Logistics Activity organizational requirements.

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

Proponent and Exception Authority. The proponent of this circular is CECW-CO. The proponent has the authority to approve exceptions or waivers to this regulation 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.

*This circular supersedes FRAGO 1 to OPORD 2013-01, dated July 2013.

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Glossary of Terms

1. Purpose

The purpose of this engineer circular (EC) is to define and establish a consistent enterprise-wide method for identifying, managing, and communicating the U.S. Army Corps of Engineers (USACE) Civil Works (CW) Asset Criticality and Work Order Priority to manage maintenance.

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 – Army (RRS-A). Detailed information for all related record numbers is located in the Army Records Information Management System (ARIMS)/RRS-A at https://www.arims.army.mil. If any record numbers, forms, and reports are not current, addressed, and/or published correctly in ARIMS/RRS-A, see Department of the Army (DA) Pamphlet 25-403, Guide to Recordkeeping in the Army, for guidance.

5. Overview

USACE CW ensures consistent maintenance management communication using standard definitions for asset criticality and work priority in the maintenance community. Maintenance managers must identify and understand their facility asset inventory, including both real and personal property. Managers must identify and understand the condition of each asset, down to the critical component level, and articulate how that condition affects the mission performance ability of the asset and the facility.

a. Standard asset criticality definitions and application of work priority allow clear communication of management priorities for both internal and external communication. These efforts provide managers (at the facility and beyond) an understanding of proper application of asset criticality and work priorities across the enterprise.

b. Categorizing the criticality of assets across the enterprise ensures consistent communication about work needs, priorities, and urgency. Similarly, communicating work priority based on an accepted scale improves decision-making regarding work accomplishment. Maintenance managers across the enterprise will use Work Order Calculated Priority values to record and communicate the priority of work.

c. The implementation instructions to meet the requirements of this policy are described in Appendix B.

6. Roles and responsibilities

USACE CW will maintain a three-level decentralized organization to implement this EC, comprising Headquarters USACE (HQUSACE), MSC, and District levels. The Commanders at each level—HQUSACE, MSC, and District—have ultimate responsibility for ensuring compliance with the policy and procedures outlined in this

EC. Each level is required to establish and maintain personnel and procedures to implement this EC.

a. Oversight. The HQUSACE CW will oversee the implementation and execution of this EC in coordination with related policies and programs.

b. Administration. The USACE CW Asset Management (AM) Program Manager will coordinate with the MSCs to provide guidance for implementation.

(1) The National Maintenance Manager and Facilities and Equipment Maintenance (FEM) System Project Manager will oversee and coordinate the changes to the FEM database necessary to support this framework and ensure information can be shared and synchronized with other USACE CW database systems, as appropriate.

(2) The National Maintenance Manager will support MSCs and Regional Asset Managers (RAMs) with the quality assurance of asset criticality and work priority data contained herein.

(3) The MSC Chief of Operations has responsibility at the MSC level for oversight and coordination in the region, to ensure maintenance priorities are set consistently, critical components are identified, and vertical communications are maintained.

(a) A regional maintenance management community of practice should be coordinated by the MSC.

(b) Accountability for consistent identification of critical components and maintenance prioritization should be ensured through command-level periodic inspections, site visits, maintenance records audits, or Quality Management System audits, as appropriate. MSC-sponsored reviews of maintenance management systems should assess FEM utilization and work practice compliance.

(4) RAMs will review regional processes or approaches for identifying critical and non-critical assets.

7. Asset criticality

Maintenance managers must review their assets and determine the criticality of their assets and components. During this review, maintenance managers are required to assign an asset criticality value for each asset/component. The maintenance manager's decision about the asset's criticality will be made to conform to the following scale (see Table 1) and recorded in FEM.

8. Work order priority

Maintenance managers are responsible for reviewing work orders and determining the relative priority of the work. During this review, and on a continuous basis, the maintenance manager is required to determine the priority of the work order. The maintenance manager's work priority decision must conform to the following scale (see Table 2) and be recorded in FEM.

9. Work order calculated priority

The Work Order Calculated Priority is a calculation of Asset Criticality and Work Order Priority. The Work Order Calculated Priority scale ranges from 1 to 50 and is achieved by multiplying the value for Work Order Priority by the value for Asset Criticality. One is the lowest priority and 50 is the highest priority. Maintenance managers should be mindful of the Work Order Calculated Priority as they manage and schedule work. It is

the maintenance manager's responsibility to factor in known variables with the prioritized work order list and prioritize the work schedule accordingly. In most cases, the work with the higher Work Order Calculated Priority value should be given precedence.

10. Training

National training that supports the requirements of this policy will be provided by HQUSACE Asset Management. The utilization of FEM will be administered through the FEM National Support Center (NSC).

Table 1
Asset Criticalities, Values, and Consequences

Criticality	Asset Criticality	Consequences
Critical (Priority A): Those items of equipment or project facilities where a failure: • would be critical with respect to the functioning of the project to accomplish its assigned mission • would endanger the health and safety of the public or project employees • would cause substantial losses. (See ER 1130-2-500)	10	Failure expected to result in the loss of life under normal conditions.
	9	Failure results in unscheduled loss of function, causing an impact to public health laws and/or safety regulations.
	8	Failure results in unscheduled loss of function, causing a violation of federal, state, or local law.
	7	Failure results in unavailability of an authorized function that affects the public. Note: Loss of function does not result in a violation of public health laws and/or safety regulations.
	6	Failure results in unavailability of an authorized function.
Non-critical (Priority B): Those items of equipment or project facilities where a failure may cause considerable inconvenience but: • would not affect functioning of the project in performing its assigned mission • would not seriously affect the health and safety of the public or project employees • would not cause other than moderate or insignificant losses. (See ER 1130-2-500)	5	Failure results in a significant impact in providing an authorized function that affects the public.
	4	Failure results in a significant impact in providing an authorized function.
	3	Failure results in an inconvenience in providing an authorized function that affects the public.
	2	Failure results in an inconvenience in providing an authorized function.
	1	Failure does NOT result in impacts/inconvenience in providing service/availability of authorized function.

Table 1
Work Order Priorities

Work Order and Job Plan Priority	Work OTHER than Preventive or Predictive	Preventive/Predictive (Including Inspections)
5 – High Risk	Unscheduled or unplanned activities required immediately to prevent or correct situations that could: • endanger the health or safety of employees or the public • cause significant environmental damage • cause legal violation • cause immediate and severe damage to equipment or immediate loss of mission benefits	Regularly scheduled activities required to prevent situations that could: • endanger the health or safety of employees or the public • cause significant environmental damage • cause legal violation • cause immediate and severe damage to equipment or immediate loss of mission benefits
4 – Urgent	Activities to correct a deficiency that causes an asset to completely fail; for example: • unplanned work • no redundancy for the asset • reasonable workaround not available	
3 – Proactive		Regularly scheduled activities required to: • monitor and maintain condition • prevent accelerated failure • optimize life-cycle costs
2 – Moderate	Activities to correct a deficiency that substantially affects asset performance; for example: • planned work • the asset has redundancy • a reasonable workaround is available	Regularly scheduled activities required to: • monitor and maintain optimal operation/operational availability • reduce life-cycle cost
1 – Low	Activities that: • do not impact operating project operation or availability (for example, painting, lighting) • can be delayed	Regularly scheduled activities that: • do not impact project operation/availability • can be delayed

Appendix A
References

Section I

Required Publications

ER 1130-2-500
Partners and Support (Work Management Policies). (Available at https://www.publications.usace.army.mil/).

Fragmentary Order 1 Maintenance Management Improvement Plan Implementation Process Phase 1 to Operation Order 2013-01 (USACE Infrastructure Strategy), July 2013.
(Available at https://usace.dps.mil/sites/KMP-MM)

Maintenance Management Improvement Plan, May 2013.
(Available at https://usace.dps.mil/sites/KMP-MM)

Memorandum, CECW-CO, Facilities and Equipment Maintenance Program Management Plan, Deployment Plan, and Configuration Management Plan, 17 October 2006.
(Available at https://usace.dps.mil/sites/KMP-FEM)

USACE Civil Works Asset Management Program FY22–FY26, 6 December 2021.
(Available at https://usace.dps.mil/sites/KMP-AM)

USACE Daily Tasking Order 16-03-24 Phase 3 of the MMIP per OPORD 2013-01 (USACE Infrastructure Strategy), March 2016.
(Available at https://usace.dps.mil/sites/KMP-MM)

Section II

Prescribed Forms

This section contains no entries.

Appendix B
Asset Criticality and Work Order Priority Implementation

B–1. Overview
This appendix identifies roles and responsibilities, implementation strategies, training resources, and data quality metrics.

B–2. Oversight Responsibilities
a. The HQUSACE CW Asset Manager will oversee the implementation and execution of this EC by communicating the policy to the MSC Operations Chiefs and their roles and responsibilities for implementing and complying with the policy.

b. The National Maintenance Manager will perform annual analysis of the data for compliance with the policy. This analysis will provide the results for each facility in terms of the metrics provided in this guidance for use by the RAMs. Data reports will be posted in the Enterprise Data Warehouse (EDW) to assist maintenance managers in implementing the policy requirements for asset criticality and work order priority, performing data quality review, and prioritizing maintenance work based on work order calculated priority. Further, the Asset Criticality Search Tool will remain available for use on the AM SharePoint site. In addition to EDW reports, a FEM Start Center can be created to review the data to verify compliance.

c. The FEM Project Manager will oversee and coordinate the changes required in the FEM system to support this policy and ensure information can be shared and synchronized with other USACE CW database systems. The FEM Project Manager will also ensure the FEM NSC provides keystroke training during implementation and as needed in the future.

d. The RAMs will hold quarterly metric reviews to ensure compliance of applying criticality to assets and priorities to work orders. These reviews may reveal concerns with performance at a District or facility level and will be coordinated with the MSC Chief of Operations for resolution.

e. District Chiefs of Operations will coordinate with the Operations Project Managers (OPMs) as necessary to ensure facilities are documenting asset criticality and work order priorities as required in the policy.

f. The OPM is responsible to determine the appropriate asset criticality for facilities under their responsibility. The OPM or designee is responsible to assign work order priorities for work at facilities under their responsibility. The OPM is responsible to ensure asset criticality and work order priority decisions are recorded in FEM according to this guidance.

g. Maintenance managers will ensure all assets for the facility are assigned the proper asset criticality and work orders are assigned the proper work order priority according to the policy. Maintenance managers will review this information weekly or at the time of work order approval. The Work Order Calculated Priority will be considered when scheduling of work for crews and used to further discussions of recommended budget packages. EDW reports will be referenced when checking quality of data and determining precedence of maintenance projects. Maintenance managers may add Results Sets to their Start Center in FEM to view the data and to verify there is no preventive maintenance/predictive maintenance (PM/PDM) work with a work order priority of 4 or work other than PM/PDM with a work order priority of 3.

B–3. Procedures – Asset Criticality

a. Maintenance managers must review their assigned asset criticalities in FEM against the asset criticality definitions provided in this document. Maintenance managers are responsible for determining which criticality value should be assigned to the given asset. All assets and components identified in FEM should have an Asset Criticality value. When new assets are created, the Asset Criticality field will be blank, and the value must be selected. Asset Criticality values currently assigned to assets in FEM may remain unchanged after review; however, it is necessary to review all assets to ensure they are assigned a value consistent with Maintenance Management Improvement Plan guidance.

b. The Asset Criticality Search Tool (see Figure B-1) is a searchable list of assets with their suggested asset criticalities. Managers are required to use the definitions in this EC but may find the Asset Criticality Search Tool useful in assisting with the assignment of an asset criticality value. While the tool does not prescribe asset criticalities, managers should be prepared to provide justification for significant deviations (greater than +/– 1) from the Asset Criticality Search Tool.

c. The link to the Asset Criticality Search Tool is provided on the AM SharePoint site. To access the Asset Criticality Search Tool, click on Asset Criticality Search Tool.

d. The Asset Criticality Search Tool:

(1) Is used to compare specific assets performing similar functions across the enterprise.

(2) Represents the majority of USACE-owned assets/components.

(3) Is based on input from peer level and subject matter expert reviews.

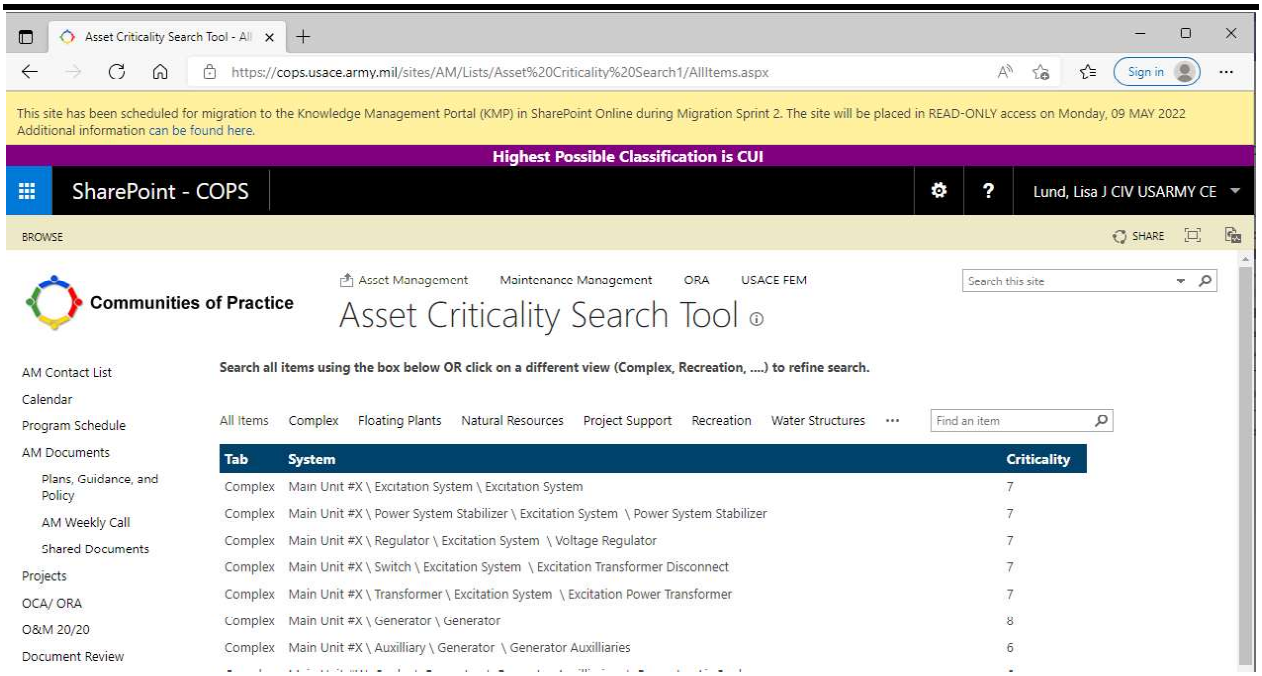

Figure B-1: Example of the Asset Criticality Search Tool

e. Consideration should be given to the availability of redundant assets and spare assets. Spare assets and redundant assets may not necessarily have the same asset criticality as the corresponding operational assets. Spare assets and redundant assets should be assigned asset criticalities based on the definitions.

f. The asset criticality scale determined for use by USACE CW emphasizes both safety and environmental consequences. The asset criticality review process should evaluate the potential impact of asset failure considering the following categories:

(1) safety,
(2) environmental,
(3) loss of revenue,
(4) operational objectives,
(5) legal requirements, and
(6) impact to the mission(s)

g. Maintenance managers should begin the review of asset criticality with those assets most critical to the facility's authorized mission(s). It is recommended that the review, determination, and final assignment of asset criticality be completed by business line (mission). Following are the steps recommended to complete the review.

(1) Maintenance managers may use the Mission field on the Asset record to execute the initial review and for any data quality reports compiled. The asset record Mission field identifies the primary business line mission or the associated benefits the asset serves. Maintenance managers may use the EDW report "FEM Asset Hierarchy" to assist in reviewing the assets by Mission.

(2) Maintenance managers should apply the definitions provided in the policy and should consult the Asset Criticality Search Tool to assist with identifying the values.

(3) While assigning criticality of assets, where uncertainties prevail, maintenance managers are encouraged to coordinate with other maintenance managers and the RAM to help determine the proper asset criticality and ensure uniform application across the enterprise.

(4) Maintenance managers should commit any changes to the asset criticality in FEM on the FEM Asset record.

(5) Follow the above process until all asset criticalities are confirmed. The “FEM Asset Hierarchy” report may be printed to review and verify the asset criticalities. Where needed, changes will be made in FEM.

B–4. Procedures – Work Order Priority

a. Work order priority definitions were evaluated to properly identify prioritization of maintenance work and to distinguish work order precedence between PM/PDM work and work other than PM/PDM work. Maintenance managers must review their assigned priority for all existing open work orders, active PM records, and active job plans against the definitions provided in the policy. When new work orders are created, the Work Order Priority field will be blank. The Work Order Priority field should be filled in with an appropriate work order priority prior to the first work order status change or within seven calendar days of work order creation. Further, the maintenance managers should perform regular reviews of data for compliance with applying the definitions as stated in the policy.

b. Work orders have been separated into two categories of maintenance for the purposes of assigning appropriate work order priority values. The two categories are: Preventive or Predictive and Work OTHER than Preventive or Predictive. The process for applying the work order priority to each category is listed below.

(1) Preventive or Predictive Work or Inspections.

(a) Inspections, preventive, or predictive work should be proactive in nature. Proactive work is regularly scheduled work with a focus on maintaining the asset’s condition, preventing failure, and optimizing the asset’s life cycle. Preventive or predictive maintenance work should not be assigned a work order priority value of 4 as that does not comply with the definitions in the policy. Existing PM/PDM work with a work order priority value of 4 must be changed to an appropriate work order priority value. Refer to the “QA/QC – Work Order Priority Review” report to verify compliance with this policy. Maintenance managers will conduct a review and determine the correct work order priority value for all PM or PDM work following the steps outlined below.

- Step 1: Maintenance mangers should review existing PM and PDM work and apply the work order priority value consistent with the definitions in the policy.
- Step 2: Maintenance managers will verify that all PM and PDM records and associated job plans are assigned the appropriate priority value.
- Step 3: Maintenance managers will monitor the creation of PM or PDM work orders to verify the assigned work order priority value is not 4.
- Step 4: A work order priority value of 3 may be considered for most PM or PDM work orders, including inspections.

(b) Where elevation of work order priority is necessary, the maintenance manager may consider a work order priority value of 5 when such work would prevent the following situations:

- endangering the health or safety of employees or the public,
- causing significant environmental damage,
- causing legal violation, and
- causing immediate and severe damage to equipment or immediate loss of mission benefits.

(c) Maintenance managers should consider a work order priority value of 2 for less pressing or crucial activities where accelerated failure is not an issue to mission delivery.

(d) Work order priority value of 1 should be reserved for use with less pressing or crucial activities that can be delayed without impacting project operations and mission delivery.

(2) Work OTHER than Preventive or Predictive.

(a) Work OTHER than preventive or predictive is primarily considered corrective maintenance and is typically reactive in nature or addresses an asset already exhibiting deficiencies. Corrective maintenance is not considered proactive work.

(b) Work other than inspections, preventive, or predictive work orders should not be assigned a work order priority value of 3 as that does not comply with the definitions in the policy. Existing work orders that fall into this category with a work order priority value of 3 must be changed to an appropriate work order priority value. Refer to the enterprise “QA/QC – Work Order Priority Review” report to verify compliance with this policy.

(c) Maintenance managers will conduct a review and determine the correct work order priority value for each open Work OTHER than Preventive or Predictive work order following the steps outlined below.

- Step 1: Maintenance managers should review current work other than preventive or predictive maintenance work orders and apply the work order priority value consistent with the definitions in the policy.
- Step 2: Maintenance managers will monitor the creation of new work orders that are in the Work Other than PM or PDM category to ensure they do not have a work order priority value of 3.
- Step 3: As a starting point, a work order priority value of 4 may be considered for reactive, unplanned work to correct deficiencies causing complete failure of an asset. This includes situations where there is a lack of redundancy of assets and no reasonable workaround is available to keep the asset operating.

(d) Where elevation of work order priority is necessary, the maintenance manager may consider a work order priority value of 5 when such work would prevent:

- endangering the health or safety of employees or the public,
- causing significant environmental damage,
- causing legal violation,
- causing immediate and severe damage to equipment or immediate loss of mission benefits.

(e) Maintenance managers should consider a work order priority value of 2 for less critical activities or work that is not immediately necessary to prevent total failure of the asset. The asset may have redundance and/or a reasonable workaround is available to keep the asset operational.

(f) A work order priority value of 1 should be reserved for activities that can be delayed without impacting project operations and delivery of mission.

B–5. Procedures – Work Order Calculated Priority

a. The Work Order Calculated Priority value assists maintenance managers in making informed decisions, providing an excellent starting point for planning and scheduling maintenance work activities. This is an auto-populated field in FEM that multiplies Asset Criticality with Work Order Priority to achieve an overall work order ranked value ranging from 1 to 50.

b. The Work Order Calculated Priority will calculate when an Asset Criticality and Work Order Priority value is assigned to the work order. The Work Order Calculated Priority will be blank until both the Asset Criticality and Work Order Priority values are added. Maintenance Managers will monitor the Work Order Calculated Priority and ensure the field is not null or has a value of 0. When the Work Order Calculated Priority is either null or 0, this indicates a portion of the work order is incomplete. If this situation arises, ensure the Asset Criticality field as well as the Work Order Priority field has been assigned an appropriate value.

c. Maintenance managers should be mindful of the Work Order Calculated Priority as they manage and schedule work. It is the responsibility of the maintenance manager to factor in known variables with the prioritized work order list and prioritize the work schedule, as necessary. In most cases, work with the higher Work Order Calculated Priority value should be given precedence.

d. Value and Use of Work Order Calculated Priority.

(1) The Work Order Calculated Priority is useful in providing justification for budget packages. The calculated priority should be considered when ranking packages in a business line.

(2) Using the Work Order Calculated Priority can also be used to develop annual maintenance schedules for maintenance teams throughout an organization.

B–6. Records and Measurements

a. Metrics.

(1) Metric 1 – Work Order Priority Assignment

(a) The Work Order Priority field should be filled in prior to the first work order status change or within seven calendar days of work order creation with an appropriate work order priority. Work order priority assigned within seven calendar days is acceptable. Work order priority assigned eight calendar days and beyond is unacceptable.

(b) EDW Metric 1 Report: “QA/QC – Unassigned Work Order Priority 7 Days After Reported Date.” The Work Order Priority should be filled in prior to the first work order status change or within seven calendar days of work order creation, whichever comes first, with an appropriate Work Order Priority. Those work orders that do not meet the metric are highlighted in yellow and red representing the following ranges: 8–14 days yellow, and 15+ days red.

(2) Metric 2 – Low Work Order Calculated Priority work orders performed before High Work Order Calculated Priority work orders.

(a) High Work Order Calculated Priority work orders should be performed before Low Work Order Calculated Priority work orders. Work centers where Low Work Order Calculated Priority work orders are shown to be given precedence should receive attention from the maintenance manager to determine the cause and make necessary corrections.

(b) EDW Metric 2 Report: “Work Order Calculated Priority Framework”. The report will indicate Low Work Order Calculated Priority work orders versus High Work Order Calculated Priority work orders In Progress and waiting. This report should be considered a work management report, as it allows sorting in various fields to assist the maintenance manager in determining the schedule.

(3) Metric 3 – PM/PDM Work Orders not =4, Other Work orders not =3.

(a) PM and PDM work must not have a work order priority of 4. Work other than PM/PDM must not have a work order priority of 3. Managers will use this metric to verify compliance with this policy.

(b) EDW Metric 3 Report: “QA/QC – Work Order Priority Review”. The report identifies PM/PDM work with a value of 4, which is incorrect; and identifies work other than PM/PDM with a value of 3, which is incorrect.

b. Data Reports.

(1) EDW Report: “FEM Asset Hierarchy.” The report lists assets and asset criticality values by facility, including the option to select the parameter by the asset’s Mission field. (Field selections include: HYD, FRM, NAV, REC, ENV, WAT.)

(2) EDW Report: “QA/QC – PM Record Priority & Job Plan Priority Review.” The report shows job plans and PMs that should have a job plan priority other than 4.

(3) EDW Report: “Work Management.” The report provides a list of work orders based on Work Order Calculated Priority that can be exported to an MS Excel spreadsheet for maintenance managers to use in prioritizing work.

c. Training. Training will be provided by the FEM NSC.

(1) Training will be provided through standard NSC training courses, User Guides, and Quick Cards.

(2) Training will address initial review and proper application of the policy definitions to the asset criticality and work order priority.

(3) Training for creating new work orders and applying the Work Order Priority value will be provided.

(4) All training guides will be available on the FEM SharePoint site.

d. Work Order Calculated Priority Heatmap. The following Work Order Calculated Priority heatmap (see Figure B-2) indicates the calculated values between asset criticality and work order priority. Managers may use this to assist in prioritizing maintenance work. The values “boxed in” at the top left of the graphic indicate High Work Order Calculated Priority values, whereas any values outside of the box indicate Low Work Order Calculated Priority values. Maintenance managers should be mindful of the Work Order Calculated Priority. Work should be scheduled in such a manner that managers consider the relative urgency and importance of the overall job. The Work Order Calculated Priority heatmap indicates the need for managers to consider critical assets and critical work for scheduling priority and create a schedule that allows less critical work to be planned, scheduled, and executed as the schedule allows.

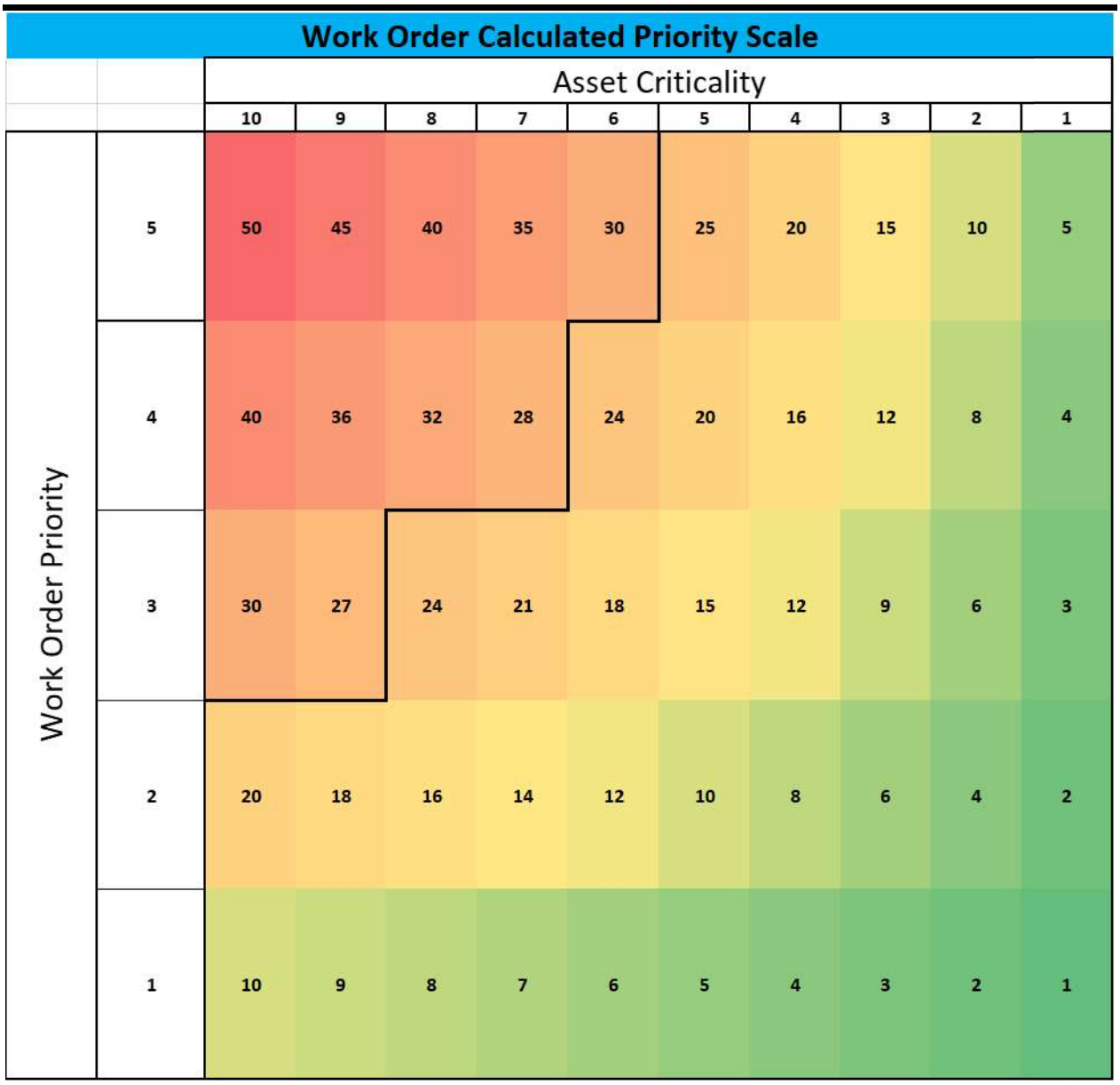

Figure B-2: Work Order Calculated Priority scale

Glossary of Terms

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

Asset Criticality
Refers to a FEM tool (and record) to prioritize assets according to their relative criticality. This tool is used, with urgency of the work itself, to assist managers in prioritizing maintenance work. Criticality ranges from 1 to 10. One is the lowest criticality and 10 is the highest criticality. Aligned with Engineer Regulation 1130-2-500, asset criticality should be recorded 1 to 5 for non-critical assets and 6 to 10 for critical assets. Assets can be safety-critical, environment-critical, or performance-critical, and can relate to legal, regulatory, or statutory requirements. Increased values for asset criticality designate those assets as necessary to achieve the organization's objectives.

Asset Management (AM)
AM is the coordinated activity of the USACE CW to realize value from assets. Realization of value involves a balancing of costs, risks, opportunities, and performance benefits. (USACE Civil Works Asset Management Program FY22–FY26, December 6, 2021)

Component
For the purposes of maintenance management, a component is a defined part or feature of a USACE asset to be maintained, repaired, or replaced. For example, a roof, exterior building envelope, and HVAC system are components of a building asset.

Corrective Maintenance (CM)
The repair or renewal of an item which has failed or is about to fail. In a mature maintenance organization, this corrective maintenance work is frequently identified during the performance of preventive maintenance work and corrected before an unplanned failure occurs.

Facilities and Equipment Maintenance (FEM) System
The Facilities and Equipment Maintenance System is 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 AM, 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 AM, dated 26 September 2007)

Maintenance Management Improvement Plan (MMIP)
The USACE CW national guide for planning, executing, and documenting maintenance for both real and personal property assets. (Maintenance Management Improvement Plan, May 2013)

Planned Work
Planned work has gone through a formal planning process to identify labor, materials, tools, work sequence, safety requirements, etc., to perform that work effectively. This information is assembled into a job plan or work package and is communicated to craft workers prior to the starting the work. Planning is different from scheduling. Planning defines what and how, scheduling defines who and when.

Predictive Maintenance (PDM)
The practice of choosing maintenance actions based on a well-developed program that includes equipment history, monitoring, analysis, scheduling, documentation, and benchmark testing to determine imminent equipment operational degradation and the implementation of appropriate maintenance repair/replace evaluation. Predictive maintenance is a technique used extensively in a reliability centered maintenance program.

Preventive Maintenance (PM)
The systematic care, servicing, and inspection of assets, facilities, equipment, and components for the purpose of detecting and correcting emergent failures and accomplishing minor maintenance (based on Army Regulation 420-1). The frequency of preventive maintenance is generally less than one year.

Redundant Asset
An asset that is intended to increase the reliability of the system, usually in the case of a backup or fail-safe.

Spare Asset
An asset kept in case another item of the same type is lost, broken, or worn out.

Unplanned Work
Work performed without planning, typically related to a breakdown, repair, or corrective work. Unplanned work may be scheduled during the normal schedule cycle.

Work Order Calculated Priority
The overall scheduling priority for a work order. The Work Order Calculated Priority is achieved by multiplying the Asset Criticality value by the Work Order Priority value.

Work Order Priority and Job Plan Priority
The relative importance of a single work order or job plan related to other work orders or job plans based on equipment condition, operational needs, safety, etc. One is the lowest priority and 5 is the highest priority.