



ASSET MANAGEMENT DATABASE BRIEF

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US Army Corps
of Engineers®





STRATEGIC ACCOMPLISHMENTS



First of its kind in USACE - Maintenance Management Policy

- Portfolio needs addressed (complementing local drivers for FEM use)
- Life-cycle needs
- Minimum data requirements (i.e., downtime, estimates, actuals)
- Use of work orders
- Maintenance QA/QC

Condition Assessment Modernization

- Basis for ratings clarified
- Subjectivity and bias addressed
- Inspection and assessment program integration

Asset Registry

- Data integration
- Cross-functional integration
- Long-term information system planning



TWO MAJOR INFORMATION SYSTEMS



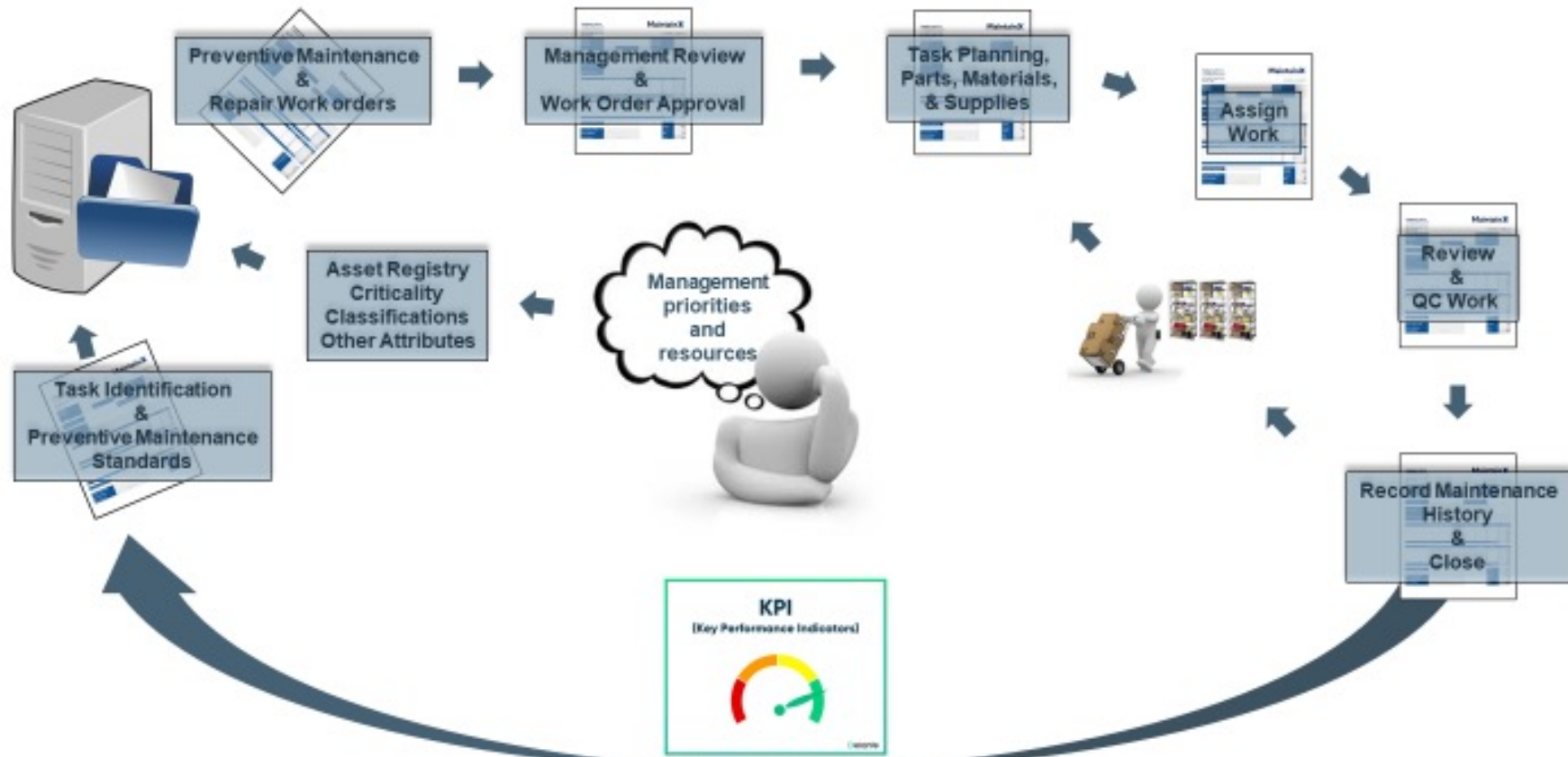
- **Managing Maintenance**
 - Know your requirements: all preventive and corrective maintenance recorded/scheduled in FEM
 - Be accountable: perform preventive maintenance as scheduled to prevent or minimize unexpected asset failures and maintain asset performance
 - Plan sustainment: corrective maintenance needs known and reported following the Maintenance Portfolio/Backlog Policy. This includes recording the target start date and cost estimates on work orders.

- **Managing the Condition of Assets**
 - Know and report conditions: perform condition assessments on all assets per the OCA Policy
 - Keep asset condition data current in the OCA system

OPM'S SHOULD KNOW THE ASSET INVENTORY, CONDITION, AND MAINTENANCE NEEDS AT THEIR FACILITY

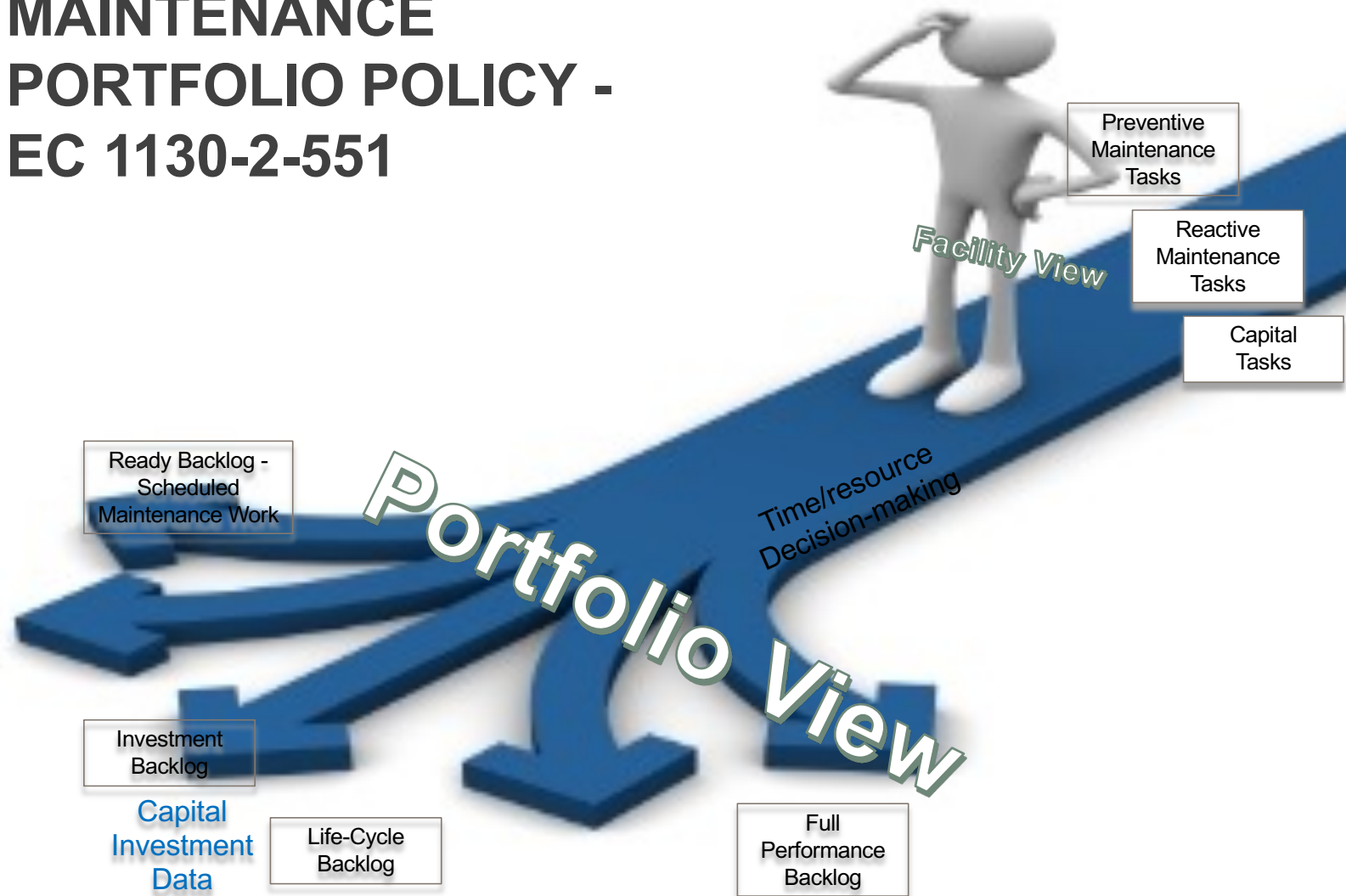


FEM WORK ORDER MANAGEMENT





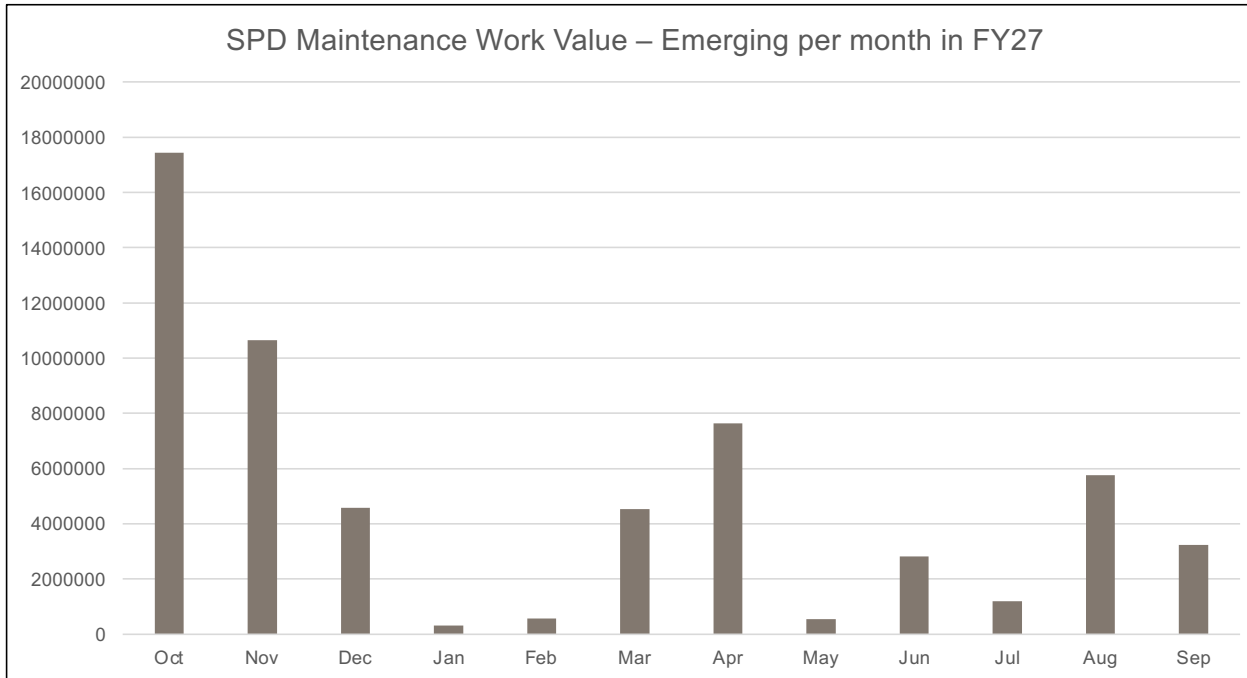
MAINTENANCE PORTFOLIO POLICY - EC 1130-2-551





WHAT'S BEHIND THE CURTAIN?

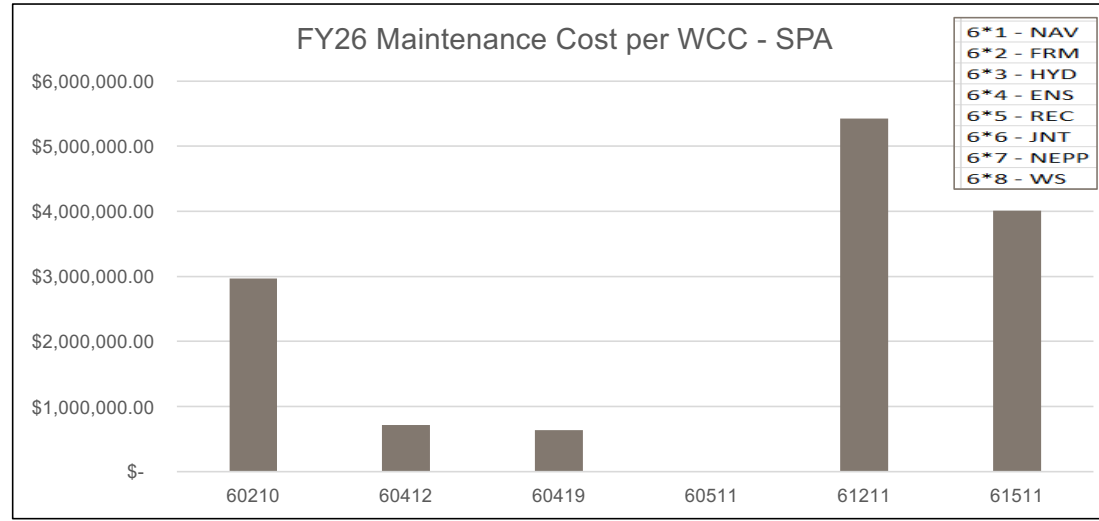
Project Name	Symbol	Work Order Number	Work description	Priority	Work Type Code	Target State Date	Work Category Code	Estimated amount	Status
Pine Flat Lake	SPK-SB-R	L224-12494	Sustainability - Reduction of restroom facilities - Remove 5 full-service restrooms and replace with	8	MM	10/15/2026	61515	\$850,000	WFUNDS
Pine Flat Lake	SPK-SB	L224-15323	Remove Sediment to Restore Sluiceway 1 Functionality	8	MM	11/1/2026	61211	\$4,000,000	WFUNDS
Santa Fe Dam	SPL-O-L-SF	L124-3207	Repaint Slide Gates and Replace the U-bolts - Santa Fe	20	RM	10/1/2026	61211	\$0	WENGR
Santa Fe Dam	SPL-O-L-SF	L124-3205	Replace Spillway Perimeter Fence - Santa Fe	4	DM	10/1/2026	61211	\$1,090,000	WFUNDS
Santa Rosa Project	SPA-SR-S	L422-11199	Outlet Works - Flip Bucket - Extend Culvert Outlet /Eastern Wing Wall - Monitor Large Cracks	16	DM	10/1/2026	61211	\$0	WFUNDS
Santa Rosa Project	SPA-SR-R	L4SR20-12939	Replace Potable Water Distribution Lines	16	DM	10/5/2026	61211	\$270,000	WFUNDS
Santa Rosa Project	SPA-SR-S	L422-11200	Flip Bucket - Sidewalk Crack/Through Training Wall - Install/Monitor Crack Gauges	14	DM	10/1/2026	61211	\$0	WFUNDS
Santa Rosa Project	SPA-SR-S	L422-11202	Flip Bucket - Personnel Ladder Cage - Corroded - Re-Paint	8	DM	10/1/2026	61211	\$0	WFUNDS
Stanislaus River Parks	SPK-SP-E	L218-15535	FY20 SWA New Melones- Knights Ferry- Historic Mill Restoration	12	RM	10/12/2026	61412	\$500,000	WFUNDS



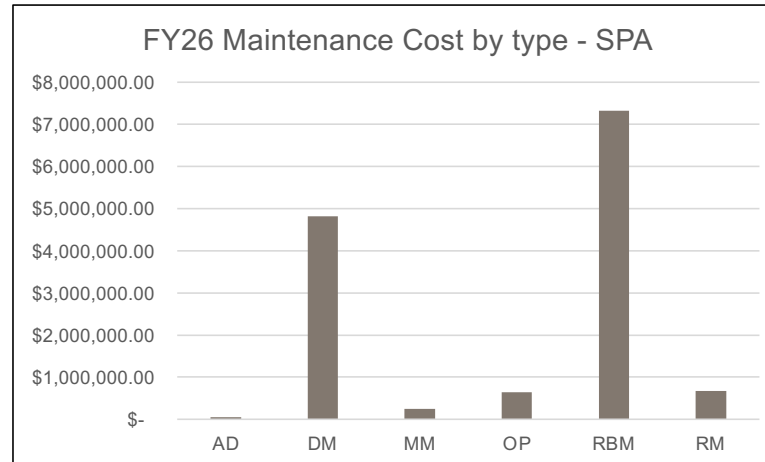
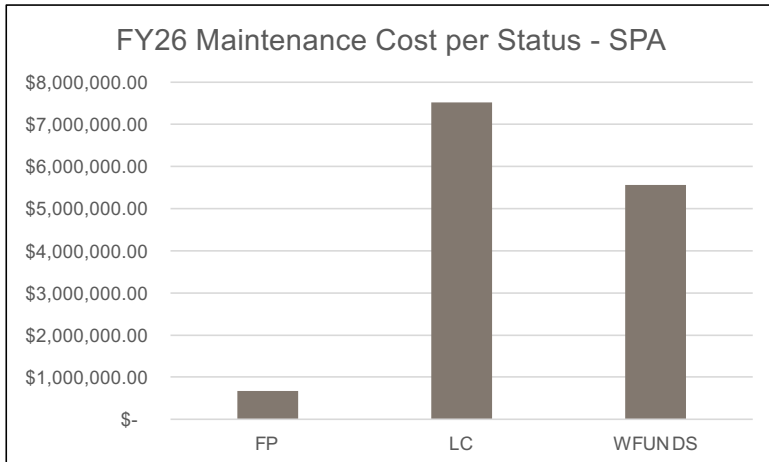
[WO_CATEGORY.DESC]	↑	Sum(ESTCOST)
Ready (WSCH)		\$250,290
Investment (WFUNDS)		\$42,169,149
Planning (WENG/WPLAN)		\$208,053
Full Performance (FP)		\$5,926,468
Total Lifecycle (LC)		\$10,753,994



Can we break this down?



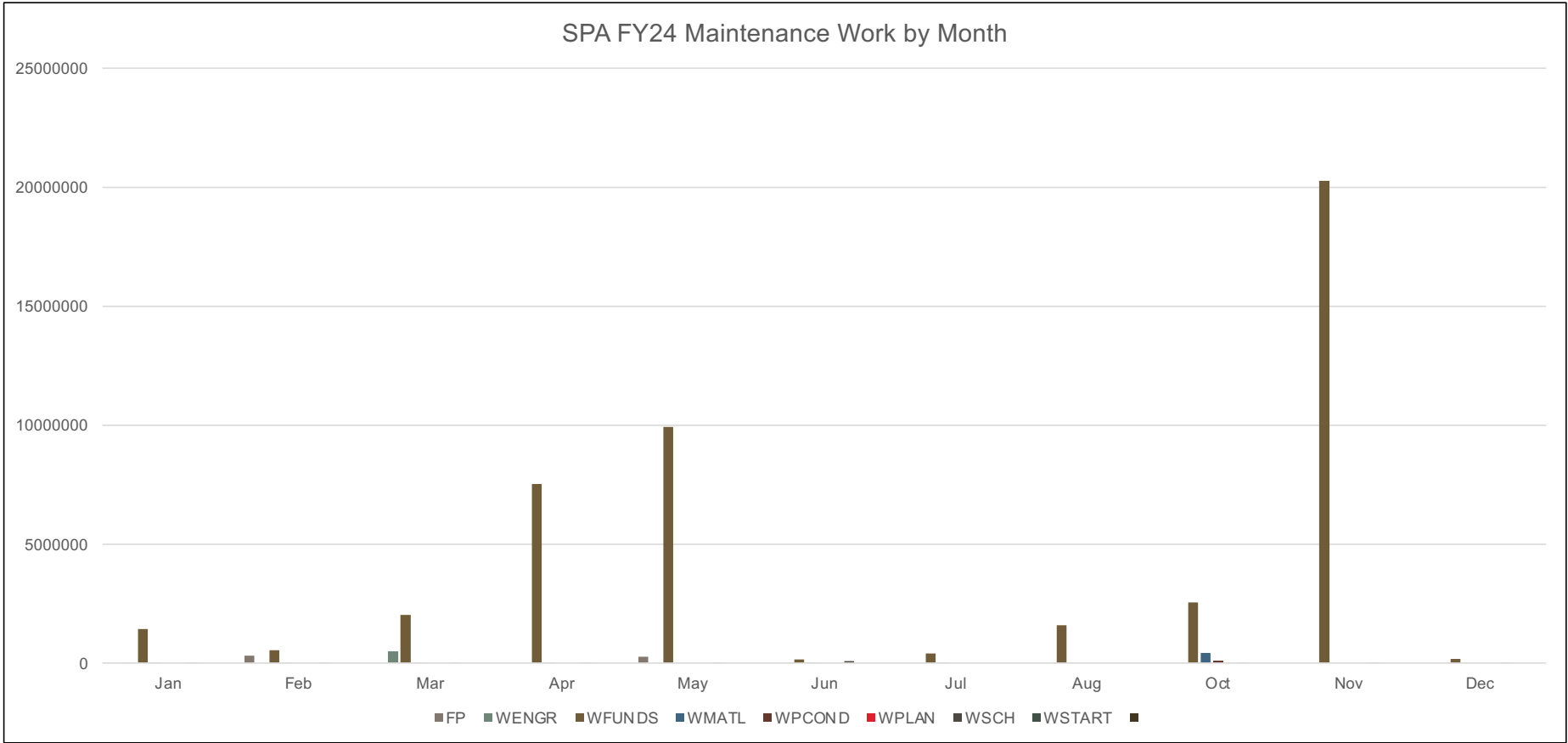
- 6*1 - NAV
- 6*2 - FRM
- 6*3 - HYD
- 6*4 - ENS
- 6*5 - REC
- 6*6 - JNT
- 6*7 - NEPP
- 6*8 - WS



AD	Administrative
DM	Deferred Maintenance
MM	Modification
OP	Operation
RB	Rebuild Maintenance
M	
RM	Repair Maintenance



SPA FY24 Maintenance Work by Month





Asset Condition Management Uses/Awareness

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Operational Condition Assessments (OCA)



Governance:

- ✓ ER 1130-2-554, EP 1130-2-553 (FRM/INAV L&D's), EP 1130-2-554 (Rec), more to come...
- ✓ Must be done a minimum of every 5-years
- ✓ As maintenance is conducted, condition must be updated appropriately, using qualified assessors

Why??

- ✓ We should know and document the condition of our facilities
- ✓ HQ and MSCs view and use maint, cond and risk data – be aware of what your data is communicating!!!
- ✓ Budget development:
 - Operational Risk Assessment (ORA) (FRM/INAV) tool and the CNS OCA tool
 - **Packages containing non-compliant condition data will not be allowed!**
- ✓ CWIFD entry
- ✓ Maint, condition and risk data support your funding requests and directly impact their funding priority
- ✓ Future cross business line ranking

Who's responsible?

- ✓ The Regional Asset Manager (RAM) has the onus of the overall program quality, **but...**
- ✓ **Managers must take responsibility for their sites condition data!!**



How Can Data & Support Items Be Viewed??



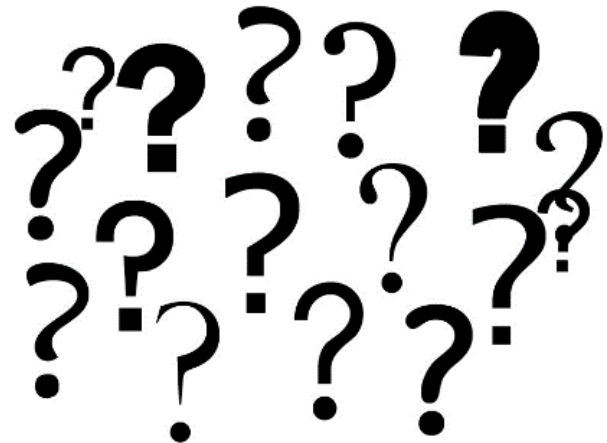
OCA tools page: <https://assetmanagement.usace.army.mil/tools.html>

- ✓ Links to all OCA programs.
- ✓ Links to policy and guidance
- ✓ Other condition assessment programs (HSS, CEBIS, SMS).
- ✓ Operational Risk Analysis (ORA).
- ✓ Others

Power BI viewer tools: <https://app.mil.powerbigov.us/groups/d03f2e4b-dbc9-4818-8703-5ae782ff91f5/list>

The RAM or their delegate can help

The HQ AM team can help





Who's Viewing The Data??

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Regional Asset Manager (RAM)

OPMs

Maintenance/sustainment planning team

District Operations Staff

HQ Business Line Managers (district and MSC BLMs also)

Senior leadership

Others!





INFORMATION USED FOR FUND REQUESTS

- Supporting documents for funding requests should include
 - Work Orders in FEM that are awaiting funds (*Maintenance Portfolio Management, EC 1130-2-551*)
 - Work Orders in FEM with a high Work Order Calculated Priority (*Asset Criticality and Work Order Priority Framework, EC 34-1-1*)
 - Work Orders in FEM with a prior Target Start Date (*Maintenance Portfolio Management, EC 1130-2-551*)
 - Assets with Downtime data recorded in FEM (*Operational Readiness Reporting, EC 1130-2-552*)
 - Condition assessments on assets with ratings below a C (*OCA of iNav and FRM Assets, EP 1130-2-553*)
 - Consequence and risk data for assets
 - ORA Relative Risk Values below 11
- Additional data to support funding requests
 - Asset imminent failures/downtime
 - Personnel or end user safety
 - Continuing work
 - Environmental/legal requirements

OPM'S SHOULD KNOW WHERE TO VIEW AND ACCESS THIS DATA



FACILITY DATA NEED IN BUDGET DEVELOPMENT



Use of data to support, justify and prioritize maintenance funding requests in the annual budget development process:

- USACE facility's asset condition data is tracked as A-F or Completely Failed
- Facility condition assessment data is required to be updated a minimum of every 5 years - Recommend annual review/update of condition data for assets repaired/replaced and to capture assets degrading to worse condition ratings (reference the OCA rating definitions)
- Condition assessments performed by engineering/operations teams trained in the OCA condition assessment process
- F (failing) and CF (completely failed) CRITICAL asset conditions are a priority in budget ranking processes
- D condition assets have a clear mode of failure
- C condition assets have an accelerated degradation greater than normal wear



FACILITY DATA NEED IN BUDGET DEVELOPMENT



- The CNS OCA tool, REC CW-IFD module and the INAV/FRM ORA tools populate authoritative condition data from OCA to CW-IFD.
- Your facility’s asset condition ratings are used to formulate the Prior – Condition Assessment Classification field in CW-IFD that feeds the Prior – Relative Risk (current risk) of your assets.
- Asset data is being traced to budget work packages from OCA for each work package built through these tools to understand the mission importance of each asset to better justify high priority needs. Example: Rec OCAs capture condition data for waste-water treatment plants and dump stations that populates into REC-CWIFD as the highest priority asset category for funding in the REC BL.
- Other business lines are beginning to adopt similar asset mission importance tracking from OCA to budget work packages also.

		CONDITION ASSESSMENT CLASSIFICATION				
		F	D	C	B	A
CONSEQUENCE CATEGORY	I	1	3	6	10	15
	II	2	5	9	14	19
	III	4	8	13	18	22
	IV	7	12	17	21	24
	V	11	16	20	23	25



FACILITY DATA NEED IN BUDGET DEVELOPMENT

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- The INAV ORA webtool populates Economic Risk Reduction data to CW-IFD that is being incorporated directly into Nav budget prioritization.
- Asset downtime as reported in FEM will be useful in identifying maintenance needs that have already caused outages.
- FEM Work Order Calculated Priority is being considered as a maintenance data point useful in understanding maintenance needs.
- Continuing work, identified as PFV – A, for critical assets where maintenance has been started is a high priority to BLMs.
- O&M efficiency improvements a.k.a. sustainability
- Asset divestitures reducing O&M costs
- Environmental/legal requirements that are must fund such as fish passage or avoidance of emptying raw sewage into lakes/rivers
- As we continue to improve our asset data (maintenance history, condition, consequence, risk, downtime...) these data points will be more valuable in identifying highest priority maintenance needs.



Questions?



Backup Slides



Section 10. OCA Ratings (Cont'd)

A standard OCA rating scale is used to assign an OCA rating to each component.

See table on next slide.

- ✓ School style system of A through F and CF for completely failed
- ✓ A “-” rating can be applied when a component lies at a transitional spot between two ratings
- ✓ Each of the ten standard OCA ratings may also be described by a qualitative descriptor (such as “Excellent” for A or “Failing” for F) or an index value (such as 9 for A or 0 for CF)

See table on next slide.

- ✓ The A through CF scale remains as the single official representation of OCA ratings
- ✓ A rating of U (Unratable) will be applied only when, after applying due diligence in reviewing available data sources, an assessor does not have adequate confidence in rating a component A to CF
- ✓ The FRM OCA program contains a Dam Safety (DS) rating for certain components.
 - The DS designation is automatic and can't be changed.
 - Support data can be entered.



ASSET CONDITION AWARENESS

POLICY REQUIREMENTS

- USACE facility's asset condition data is tracked as A-F or Completely Failed
- Facility condition assessment data is required to be updated a minimum of every 5 years
 - Recommend annual review/update of condition data for assets repaired/replaced or
- Condition assessments performed by engineering/operations teams trained in the OCA condition assessment process

- F (failing) and CF (completely failed) CRITICAL asset conditions are a priority in budget ranking processes
- D condition assets have a clear mode of failure
- C condition assets have an accelerated degradation greater than normal wear

- **Demo a facility condition assessment report from the OCA viewer and advise OPMs/Maintenance Managers to understand their asset condition data is easily obtainable for their visibility of asset condition



EP 1130-2-553 RATING SCALES



OCA Rating	Index Value	Descriptor	Physical Condition	Performance	Likelihood of Failure
A	9	Excellent	No signs of degradation and recently put into service.	No performance issues and was recently put into service.	Extremely unlikely to fail within the next 5 years.
A-	8				
B	7	Good	Minor deficiencies.	No performance issues.	Low likelihood of failure within the next 5 years.
B-	6				
C	5	Fair	Moderate deficiencies.	Deficiency is beginning to affect component's performance, operational procedures, and/or maintenance requirements.	Potential failure mode with a moderate likelihood of failure within the next 5 years.
C-	4				
D	3	Poor	Significant deficiencies affecting a substantial portion or critical feature of the component.	Deficiency increasingly affects component's performance, operational procedures, and/or maintenance requirements.	Potential failure mode with a high likelihood of failure within the next 5 years.
D-	2				
F	1	Failing	Severe deficiencies affecting a substantial or critical feature of the component.	Deficiency substantially affects component's performance, operational procedures, and/or maintenance requirements.	Potential failure mode that could fail imminently.
CF	0	Completely Failed	Due to degradation, component has failed and does not perform its intended function.	Component has failed or does not perform its intended function.	Component is failed.
U	n/a	Unratable	Unratable.	Unratable.	Unratable.



FACILITY CONDITION ASSESSMENT REPORT

Sub in whatever example report you want?

OCA: LAKE SHELBYVILLE DAM				OCA Team Members: Ramseyer, Adam; Scukanec, Jeffrey;				Project Staff												
Report Date: 5/31/2024		Last Assessment Creation: 02/22/2023		Last Update:																
OCA Components				OCA Rating Data				OCA Component Data												
Sys	Sul	Su	Component	OCA Rating	Rating Reason	OCA Rating Comment	Rating Sources				FEM Work Order Number	Other Name	Description	Date in Service	Discipline	Force Fit	Component ID	Component Type ID		
							Observation	Testimony	PH	PA	HSS	Bridge Infr	Other							
Dam Sections																				
			Embankment Section, Earthen Fill															44538	1	
			Main Structure	DS	1-Physical													246763	90	
			Upstream Face	B	1-Physical													246768	335	
			Downstream Face	B	1-Physical													246770	336	
			Foundation	DS	1-Physical													246764	337	
			Right Primary Abutment	DS	1-Physical													246766	338	
			Left Primary Abutment	DS	1-Physical													246769	341	
			External Surface Drain	B	1-Physical													246767	342	
			Embankment Section, Earthen Fill 1															246765	4882	
			Main Structure	DS	1-Physical													44539	90	
			Upstream Face	B	1-Physical													44630	335	
			Downstream Face	B	1-Physical													44631	336	
			Foundation	DS	1-Physical													44632	337	
			Seepage Cutoff	DS	1-Physical													44633	338	
			Right Primary Abutment	DS	1-Physical													44634	339	
			Left Primary Abutment	DS	1-Physical													44636	341	
			Internal Drainage System	B	1-Physical													44637	342	
			External Surface Drain	B	1-Physical													44638	4881	
			Concrete Section, Mass Concrete 2															44639	4882	
			Main Structure	DS	1-Physical													44540	92	
			Upstream Face	B	1-Physical													44640	359	
			Downstream Face	B	1-Physical													44641	360	
			Monolith Joints/Water Stops	B	1-Physical													44642	361	
			Gate Pier	B	1-Physical													44643	362	
			Foundation	DS	1-Physical													44644	363	
			Foundation Pressure Relief	B	1-Physical													44645	364	
			Right Primary Abutment	DS	1-Physical													44646	365	
			Left Primary Abutment	DS	1-Physical													44647	366	
			Operating Galleries	B	1-Physical													44648	367	
			Inspection Galleries	B	1-Physical													44649	370	
				R	1-Physical													44650	371	



OCA Links

[OCA Tools Page](#)

- ✓ Links to all OCA programs.
- ✓ Other condition assessment programs (HSS, CEBIS, SMS).
- ✓ Operational Risk Analysis (ORA).
- ✓ Others

[OCA PowerBI Apps](#)

[EP 1130-2-553 - OCA Guidance For FRM-INAV Programs](#)

[EP 1130-2-554 - OCA Guidance For Rec](#)

[ER 1130-2-554, Project Operation – USACE Condition Assessments](#)

[Condition Assessment Newsletter](#)