# **USACE ASSET MANAGEMENT & ISO 55000**

### Bob Leitch Asset Management Program Manager Headquarters USACE







#### **Civil Works Responsibilities:**

- Roughly a quarter-trillion dollars in replacement value
- All 50 states, some international boundaries
- Largely multi-asset, multipurpose projects:
  - > 24,000 miles of navigable waterways
  - 700+ dams and thousands of levee miles
  - 75 hydropower plants
  - > Millions of acres of environmental stewardship
  - 400+ recreation sites

(>370M visitors/year)





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## **CIVIL WORKS DIRECTION**



#### **Director of Civil Works Intent**





of Engineers ®



"The policy changes in this Circular modernize existing efforts by requiring agencies to implement an Enterprise Risk Management (ERM) capability..."

### **INITIAL USACE AM STRATEGY**



Civil Works Strategic Investment Framework







### **USACE AM FUTURE STRATEGY USING ISO 55000**



#### **Organizational Strategic Plan** (Civil Works Strategic Plan + USACE Campaign Plan) Strategic Asset Management Plan (SAMP) Program Management Plan (PgMP) **Business Model** Asset O&M 20/20 **Risk-Informed** Strategic Lifecycle Information and Improvement Budget Cultural Investment (Continuous Integration Data Transformation Decision Quality Communications Managemen Improvement)

Institute of Asset Management: ISO 55000 Conceptual Asset Management Model Framework

- 4 Fundamental improvements offered by ISO 55000:
  - 1. Alignment
  - 2. Use of Risk
  - 3. Lifecycle
  - 4. Organizational Enabling





# **3QFY18 ASSET MANAGEMENT RESULTS - MM**



- Civil Works currently averages ~300,000 maintenance Work Orders annually
- Required Work Order elements:
  - ✓ Preventive Maintenance (PM) on Critical Assets
  - ✓ Estimated Labor Hours & Costs
  - ✓ Actual Labor Hours & Costs
  - ✓ Supplies & Materials Cost
  - ✓ Failure Reporting





# **3Q FY18 CONDITION ASSESSMENT STATUS**



Vertical scale is logarithmic





### VALUE OF APPROACH: RISK-INFORMED EXAMPLE

- Downward trend in unscheduled outages is a positive development
- Reflects increased use of risk to inform investment decisions
- Reduces economic impacts to waterborne commerce
- Potentially available for all assets for entire lifecycle

#### UNSCHEDULED AND SCHEDULED MECHANICAL UNAVAILABLE HOURS





INLAND AND INTRACOASTAL WATERWAYS

March 201

TWENTY-YEAR CAPITAL INVESTMENT STRATEGY

# **O&M DREDGING PROJECT SELECTION**

- What is it?
  - ➢ Optimization tool → minimizes potential cargo disruptions nationwide
- What does it do?
  - Recommends project dredging quantities
  - Provides maintained depth targets

DS ANGELES JONG BEACH HADBODS (00747) FEXAS OFFY SHIP CHANNEL: TX ( FTEOIT BIVER MICHIGAN (000 RAYS REEF PASSAGE: MI (0074160 DUILUTH, SUPERIOR HADROD- MN ACOMA HARBOR (0072902) N FRANCISCO HARBOR (001613) ORK & NEW JERSEY CHANNE ON HADROD, MA (0001960 AUT HARBOR (0003770 BATON BOLIGE HARBOR - DEVIL'S SWAMP LA ( LAWARE RIVER; PHILADELPHIA; PA TO TREP ORPLIS CHRISTI SHIP CHANNEL (0014340) INE-NECHES WATERWAY (001578) ASHTABLILA HADBOD (000065 DELAWARE RIVER; PHILADELPHIA TO THE SEA COOK INLET SHOALS; AK (0010324) VORFOLK HARBOR : VIRGINIA (00128) YPORT SHIP CHANNEL (008891 ORTSMOLITH HARBOR AND PISCATAQUA WARK BAY HACKENSACK & PASSAIC BYS # PORT EVERGLADES HARBOR (00) BADBEDS POINT HADBOD- HI (0) NEW HAVEN HARBOR CT (001238) FEMS BAYOU CHANNEL TY (0088) ALCASIEU RIVER AND PASS: LA (0002 **BOVIDENCE BIVER & HARBO** ALLIMET HARBOR AND RIVER 5472 5472 5472 2931

Years



- How does it do it?
  - Compares cargo drafts to maintained depths
  - Considers shared cargo across projects

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# **DREDGE SCHEDULING OPTIMIZATION**

- Schedules are not coordinated formally
- Inefficiencies due to "wasted travel" between projects
- Contributes to low # of bids on some projects
- Minimize mobilization costs → dredge more projects for same amount of funding
- Better align schedules with env. work windows and dredge plant capabilities



- Why bother?
  - Increasing dredging needs
  - Demonstrated minimal capacity to handle spikes in need
- Successfully used on West, Gulf, and Atlantic Coasts

#### When you listen, what are others <u>really</u> focused on?

Managing Assets	Asset Management
<ul> <li>Your colleagues are focused on:</li> <li>Asset data, location and condition assessment</li> <li>Current KPIs</li> <li>Department budget</li> </ul>	<ul> <li>Your colleagues are focused on:</li> <li>Information supported decisions (strategic context and related to customer needs)</li> <li>Strategies to select and exploit assets over their lifecycles to support business aims</li> <li>Collaboration across departments to optimise resources allocated and activities</li> </ul>
<ul> <li>Your stakeholders are focused on:</li> <li>Costs</li> <li>Current performance</li> <li>Response to failures / maintaining function</li> </ul>	<ul> <li>Your stakeholders are focused on:</li> <li>Triple bottom line and value</li> <li>Clarity of purpose of the organization</li> <li>Focus on impact of activities on organization's objectives</li> </ul>
<ul> <li>Your top management is focused on:</li> <li>Short term gain / loss</li> <li>Departmental / individual performance</li> <li>Savings, especially OPEX</li> </ul>	<ul> <li>Your top management is focused on:</li> <li>Long term value for the organization</li> <li>Developing competence and capability across workforce</li> <li>Business risks understood and mitigated</li> </ul>
<ul> <li>Your suppliers are focused on:</li> <li>Short term contracts and performance</li> <li>Service level agreements are focused on contract specifications</li> </ul>	<ul> <li>Your suppliers are focused on:</li> <li>Long term contracts and/or partnering relationships in support of client value and objectives</li> <li>Understanding client strategy and needs in 5-10 years</li> </ul>

### The Difference Between Managing Assets and Asset Management





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