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# 2021 INSURV ANNUAL REPORT

Distribution Statement A  
Approved for Public Release



## ASNE Tidewater

RDML Randall Peck  
20 April 2022



# 2021 Executive Summary

- **26 comprehensive recommendations spanning PMS, technical issues, logistics, manning, and training**
- **Material Inspections:**
  - Fleet material condition showed a positive trend, matching the six year average; however, decline in Functional Area averages is masked by improvement in demonstration scores
  - Several surface and/or CVN Functional Areas and subsystems remain challenged or show declining trends indicative of areas where material condition is stressed, such as (AV/AX/DC/DK/EL/EP/MP/OH/OP/VT/WP)
  - Service Craft, Combatant Craft, and Boats: Inspected 226 boats and craft; 4 craft found unfit
- **Trials:**
  - New construction LCS 2, EPF, ESB, YT programs performed well on trials
  - CVN 78, DDG 51, DDG 1000, LCS 1, SSN 774, WMSL 750, APL, SSC experienced significant deviations from OPNAV trial requirements or declining trial performance



# Current Legal Authority, Mission, and Inspection Requirements

- **U.S. Code, Title 10**

**Section 8674.** Examination by Board . . .

- (a) The Secretary of the Navy shall designate Boards of Naval Officers to examine Naval vessels... Each vessel shall be examined at least once every three years, if practicable.
- (b) ...any naval vessel examined under this section on or after January 1, 2020, shall be examined with minimal notice provided to the crew of the vessel.

- **Mission**

Conduct material inspections that provide technically accurate and actionable recommendations to improve the readiness, lethality, and survivability of the Fleet to Navy Leadership and Congress.

- **The Naval Vessel Register (NVR)** Official inventory of the US Navy
- **The Battle Force** is a subset of the NVR and consists of commissioned (USS) and in service (USNS) ships that are capable of contributing to combat operations, warfighting, or support missions.
- **Other Prioritized Vessels**– 3500+ Craft, Service vessels, Aegis Ashore, etc.

Vessels	NVR	Battle Force
Commissioned	250	237
In Service	110	57
Leased	7	0
<b>Subtotal</b>	<b>367</b>	<b>294</b>
Service Craft	342	0
<b>Total</b>	<b>709</b>	<b>294</b>

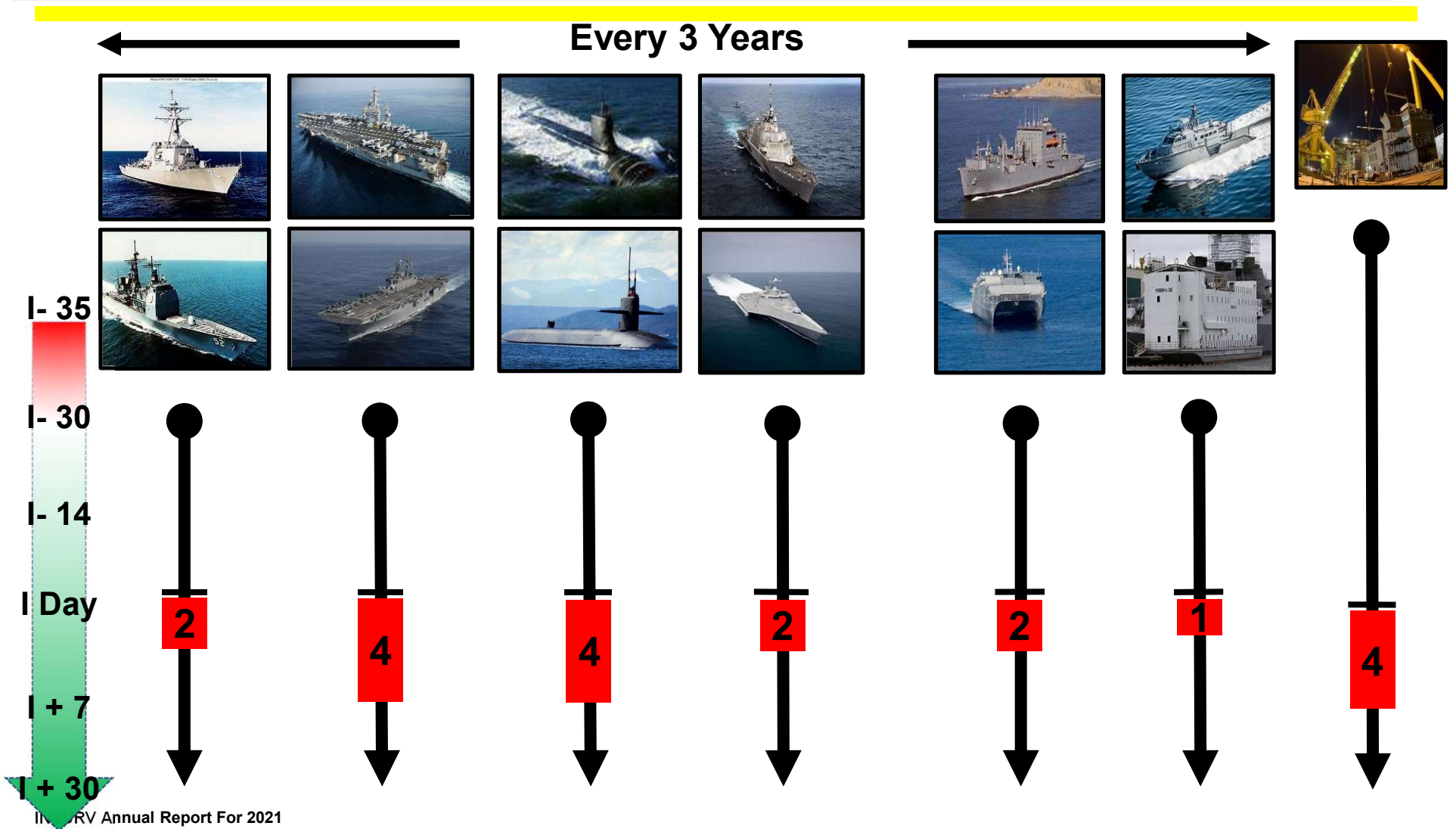


# 3 Types of Inspections

- **IN-SERVICE INSPECTIONS:**
  - MATERIAL INSPECTION (MI)
    - Minimal Notice, graded periodic inspection for all fleet units.
    - At least once every 3 years, if practicable.
- **NEW CONSTRUCTION TRIALS:**
  - ACCEPTANCE TRIAL (AT) / COMBINED TRIAL (CT)
    - Demonstration of newly-constructed ship's ability to meet Navy Operational Capabilities and contracted requirements.
    - Conducted prior to delivery by the shipyard to the Navy.
  - FINAL CONTRACT TRIAL (FCT) / GUARANTEED MATERIAL INSPECTION (GMI)
    - Conducted prior to Post-Shakedown Availability (PSA) to ensure that all contractual requirements are met before the end of the guarantee period.
  - SPECIAL TRIAL (ST)
    - Conducted following PSA to ensure an independent and timely assessment of the finished new construction baseline, as directed by CNO.
- **END OF LIFE INSPECTIONS**
  - SURVEY
    - Used to document material status of a ship prior to decommissioning.



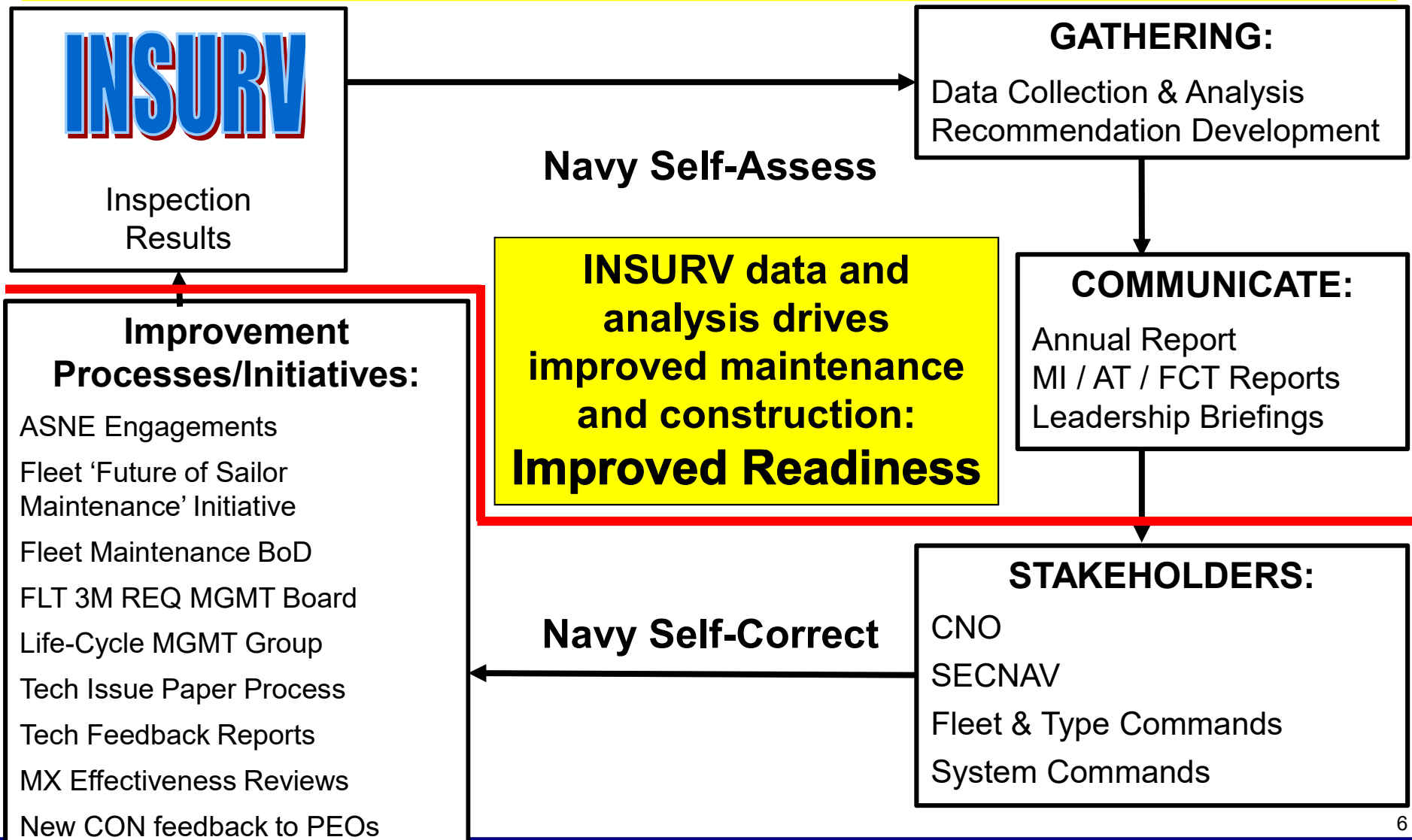
# Material Inspections TODAY



IIIRV Annual Report For 2021  
MAR 2022



# A Virtuous Cycle





# Surface Functional Area Scores

SURFACE								
Functional Areas (Ships Inspected)	2016 (22)	2017 (17)	2018 (18)	2019 (36)	2020 (25)	2021 (17)	6-Year Average	2021 Comparison to 6-Year Avg
Main Propulsion	0.76	0.78	0.76	0.64	0.70	0.73	0.72	ABOVE
Auxiliaries	0.82	0.83	0.83	0.81	0.82	0.79	0.81	BELOW
Electrical	0.79	0.73	0.69	0.70	0.75	0.73	0.73	NEUTRAL
Damage Control	0.78	0.80	0.79	0.78	0.76	0.76	0.78	BELOW
Deck	0.80	0.83	0.78	0.76	0.69	0.74	0.76	BELOW
Mine Warfare	NA	0.98	0.85	0.83	0.80	NA	0.85	NA
Anti-Sub Warfare	0.88	0.92	0.81	0.84	0.77	0.85	0.84	NEUTRAL
Operations	0.86	0.88	0.83	0.80	0.79	0.73	0.81	BELOW
Navigation	0.92	0.92	0.92	0.92	0.90	0.86	0.91	BELOW
Weapons Systems	0.85	0.85	0.78	0.74	0.72	0.77	0.78	BELOW
Aegis Weapon Systems	0.86	0.88	0.81	0.77	0.73	0.80	0.80	NEUTRAL
Communications	0.85	0.87	0.84	0.80	0.83	0.81	0.83	BELOW
Information Systems	0.90	0.89	0.91	0.83	0.85	0.85	0.87	BELOW
Aviation	0.72	0.75	0.78	0.68	0.70	0.69	0.71	BELOW
Supply	0.78	0.77	0.78	0.80	0.81	0.81	0.79	ABOVE
Habitability	0.81	0.80	0.80	0.80	0.81	0.80	0.80	NEUTRAL
NAVOSH	0.88	0.88	0.81	0.81	0.82	0.79	0.83	BELOW
Ventilation	0.79	0.78	0.78	0.78	0.79	0.63	0.76	BELOW
Environmental Protection	0.84	0.84	0.81	0.76	0.76	0.71	0.78	BELOW
Medical	0.97	0.97	0.96	0.95	0.95	0.94	0.96	BELOW
Preservation	0.83	0.82	0.80	0.83	0.82	0.78	0.81	BELOW

General Decrease in Material Condition Across Surface Ships



# Subsystem Analysis

Functional Areas	2016	2017	2018	2019	2020	2021
(Ethnic Inspected)	(22)	(17)	(16)	(20)	(20)	(17)
Main Propulsion	0.74	0.78	0.76	0.64	0.70	0.72
Assistories	0.85	0.85	0.89	0.87	0.88	0.79
Electrical	0.79	0.73	0.89	0.70	0.75	0.72
Damage Control	0.75	0.88	0.79	0.78	0.76	0.76
Deck	0.86	0.85	0.78	0.76	0.68	0.74
Mine Warfare	NA	0.86	0.85	0.83	0.80	NA
Anti-Sub Warfare	0.86	0.92	0.91	0.84	0.77	0.86
Operations	0.84	0.84	0.83	0.80	0.79	0.72
Navigation	0.83	0.82	0.82	0.82	0.80	0.80
Weapons Systems	0.80	0.80	0.79	0.74	0.72	0.77
Avionics	0.83	0.82	0.82	0.82	0.80	0.80
Avionics	0.72	0.72	0.74	0.68	0.70	0.69
Supply	0.71	0.77	0.78	0.80	0.81	0.81
Medical	0.81	0.86	0.86	0.80	0.81	0.80
NAVOSR	0.88	0.88	0.81	0.81	0.82	0.79
Ventilation	0.79	0.78	0.78	0.78	0.79	0.62
Environmental Protection	0.84	0.84	0.81	0.76	0.76	0.71
Medical	0.87	0.87	0.84	0.85	0.80	0.84
Preservation	0.83	0.82	0.86	0.83	0.82	0.78

MAIN PROPULSION SUBSYSTEMS	2019 - 20	2021
MAIN FEED SYSTEM	0.78	0.27
F. D. BLOWERS	0.85	0.39
EDG	0.65	0.57
CONTROLS	0.58	0.68
MAIN COND SYSTEMS	0.85	0.69
PROP BOILERS	0.65	0.70
MAIN ENGINES	0.63	0.71
GENERATORS	0.70	0.75
SHAFTING/REDUCTION GEARS	0.79	0.77
BLEED AIR SYSTEMS	0.64	0.77
FUEL OIL SYSTEMS	0.69	0.81
STEAM SYSTEM	0.97	0.86
LUBE OIL SYSTEMS	0.88	0.88
CRP SYSTEMS	0.89	0.89
MAIN CIRC SYSTEMS	1.00	1.00

MP EOC:  
0.73

The following subsystem discrepancies caused the degraded MP Functional Area:

<ul style="list-style-type: none"> <li><b>MAIN FEED SYSTEM:</b> <ul style="list-style-type: none"> <li>ELOP auto start switches set incorrect</li> <li>Low suction trips INOP/Degraded</li> <li>Overspeed trip throttle valves INOP</li> <li>Emergency MFP's INOP/Degraded</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><b>CONTROLS:</b> <ul style="list-style-type: none"> <li>Consoles INOP/Degraded, RSC's INOP or CANAB for parts to repair critical stations.</li> <li>Alarms INOP/Degraded</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><b>MAIN ENGINES:</b> <ul style="list-style-type: none"> <li>Excessive fuel/lube oil leaks</li> <li>Blow in Door INOP/Degraded</li> <li>Fire Stops INOP/Degraded</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li><b>FORCED DRAFT BLOWERS:</b> <ul style="list-style-type: none"> <li>ELOP auto operation INOP. MAN operation only</li> <li>LO temp reg valves INOP/Degraded</li> <li>Centrifugal LO filter systems INOP</li> <li>Uncontrollable oil leakage from various components</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><b>MAIN CIRC SYSTEM:</b> <ul style="list-style-type: none"> <li>Sea valve MOV's INOP/Degraded</li> <li>Unable to maintain vacuum while on scoop injection</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><b>GENERATORS:</b> <ul style="list-style-type: none"> <li>Excessive fuel/lube oil leaks</li> <li>Blow in Doors INOP/Degraded</li> <li>Shutdown/fire stops INOP/Degraded</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li><b>EMERGENCY DIESEL GENERATOR:</b> <ul style="list-style-type: none"> <li>EDG's INOP</li> <li>Temp reg valves set incorrectly</li> <li>Numerous alarms/safety switches INOP or set incorrectly</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><b>PROPULSION BOILERS:</b> <ul style="list-style-type: none"> <li>Air casing lights INOP</li> <li>Burn front console consoles INOP</li> <li>Excessive air casing leaks</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><b>SHAFTING/REDUCTION GEARS:</b> <ul style="list-style-type: none"> <li>Vent Fog Precipitators INOP/Degraded</li> <li>Dehumidifiers INOP/Degraded</li> <li>MRG bearing alarm set points set incorrectly</li> <li>MRG bearing RTE/RTD's INOP/Degraded</li> <li>MRG Most Remote Bearing pressures not maintain within spec or erratic</li> <li>DDG MRG LO temp regulator not maintaining temperature setpoint in automatic</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li><b>BLEED AIR SYSTEMS:</b> <ul style="list-style-type: none"> <li>BA/MA/PA valves leak</li> <li>Air cooler materiel condition degraded</li> <li>MA flow meter setpoints degraded</li> </ul> </li> </ul>	





# Assessed Root Causes and Recommendations:

## Root Causes:

1. Maintenance personnel possess insufficient level of knowledge to:
  - Identify material deficiencies
  - Troubleshoot to determine root causes
  - Effect repairs on many of these systems
2. Corrective maintenance requirements generated from PMS are not followed up to completion
3. Replacement parts for obsolete components have a long lead times

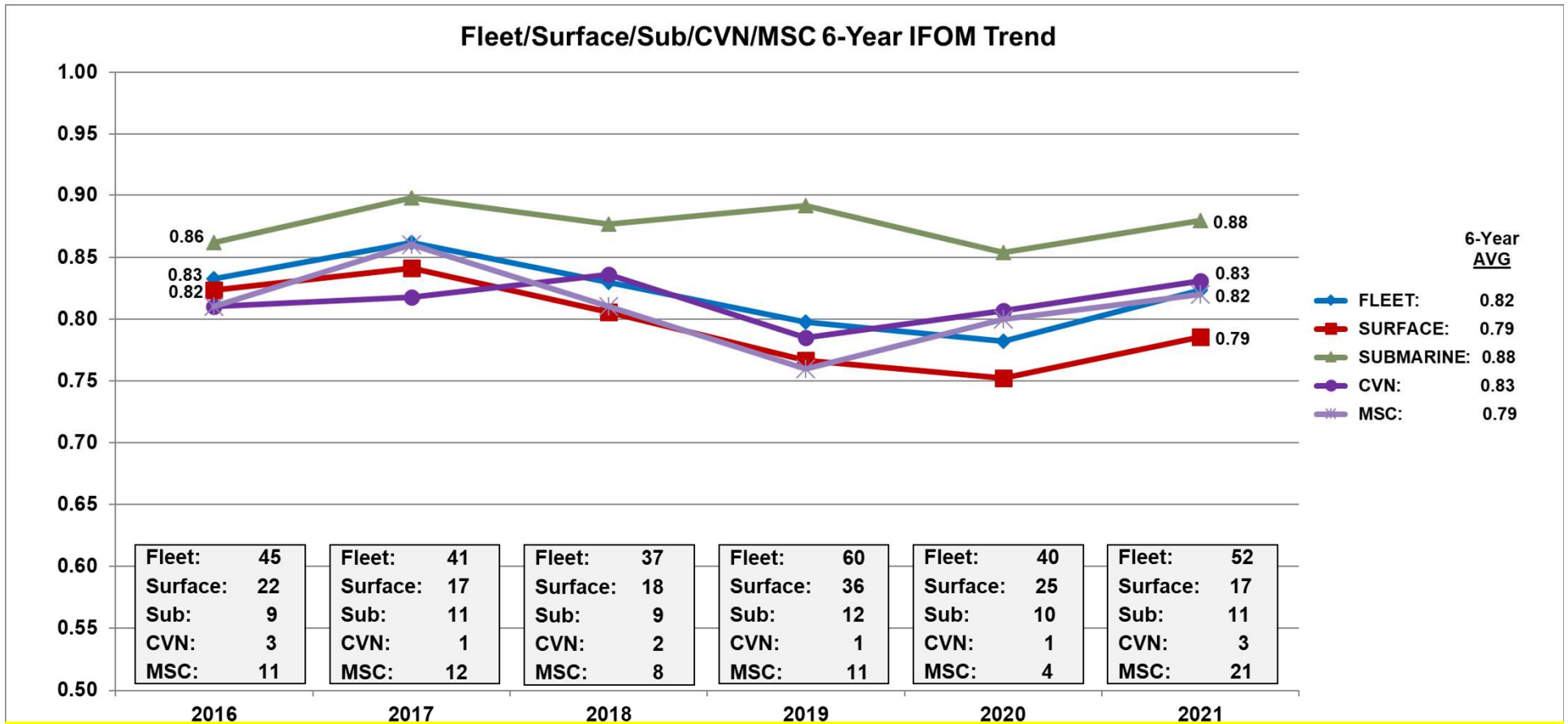
## Recommendations:

- Provided to Fleet Maintenance Board of Directors (FMBoD)
- Accepted by FMBoD for action

Actioned at TYCOM and SYSCOM Levels



# Fleet 6-Year Material Inspection IFOM Trends



**26 comprehensive recommendations:  
(PMS, technical issues, logistics, manning, and training)**

MAR 2022



# Surface MI Results

## Functional Areas

Functional Areas (Ships Inspected)	SURFACE							2021 Comparison to 6-Year Avg
	2016 (22)	2017 (17)	2018 (18)	2019 (36)	2020 (25)	2021 (17)	6-Year Average	
Main Propulsion	0.76	0.78	0.76	0.64	0.70	0.73	0.72	ABOVE
Anti-Sub Warfare	0.88	0.92	0.81	0.84	0.77	0.85	0.84	NEUTRAL
Aegis Weapon Systems	0.86	0.88	0.81	0.77	0.73	0.80	0.80	NEUTRAL
Mine Warfare	NA	0.98	0.85	0.83	0.80	NA	0.85	NA
Communications	0.85	0.87	0.84	0.80	0.83	0.81	0.83	BELOW
Information Systems	0.90	0.89	0.91	0.83	0.85	0.85	0.87	BELOW
Weapons Systems	0.85	0.85	0.78	0.74	0.72	0.77	0.78	BELOW
Auxiliaries	0.82	0.83	0.83	0.81	0.82	0.79	0.81	BELOW
Deck	0.80	0.83	0.78	0.76	0.69	0.74	0.76	BELOW
Operations	0.86	0.88	0.83	0.80	0.79	0.73	0.81	BELOW
Aviation	0.72	0.75	0.78	0.68	0.70	0.69	0.71	BELOW
Electrical	0.79	0.73	0.69	0.70	0.75	0.73	0.73	NEUTRAL
Damage Control	0.78	0.80	0.79	0.78	0.76	0.76	0.78	BELOW
Navigation	0.92	0.92	0.92	0.92	0.90	0.86	0.91	BELOW
NAVOSH	0.88	0.88	0.81	0.81	0.82	0.79	0.83	BELOW
Preservation	0.83	0.82	0.80	0.83	0.82	0.78	0.81	BELOW
Ventilation	0.79	0.78	0.78	0.78	0.79	0.63	0.76	BELOW
Medical	0.97	0.97	0.96	0.95	0.95	0.94	0.96	BELOW
Environmental Protection	0.84	0.84	0.81	0.76	0.76	0.71	0.78	BELOW
Supply	0.78	0.77	0.78	0.80	0.81	0.81	0.79	ABOVE
Habitability	0.81	0.80	0.80	0.80	0.81	0.80	0.80	NEUTRAL

## Demonstrations

Demos (Ships Inspected)	SURFACE							2021 Comparison to 6-Year Avg
	2016 (22)	2017 (17)	2018 (18)	2019 (36)	2020 (25)	2021 (17)	6-Year Average	
Full Power Ahead	0.69	0.58	0.63	0.47	0.31	0.69	0.55	ABOVE
Quick Reversals	0.78	0.44	0.64	0.49	0.22	0.67	0.54	ABOVE
Steering	0.85	0.94	0.89	0.89	0.93	0.98	0.91	ABOVE
Anchoring	0.76	0.96	0.91	0.78	0.86	0.91	0.85	ABOVE
Ballast	0.70	0.60	0.52	0.67	0.72	0.72	0.64	ABOVE
AD DTE	0.87	0.95	0.88	0.79	0.74	0.83	0.83	NEUTRAL
Self Defense DTE	0.88	0.97	0.88	0.79	0.72	0.81	0.83	BELOW
Long Range Detect	NA	0.99	0.87	0.83	0.62	0.95	0.85	ABOVE
USW	0.74	0.95	0.81	0.88	0.84	0.89	0.85	ABOVE
Main Battery Firing	1.00	0.86	0.89	0.84	0.75	0.88	0.83	ABOVE
25MM Live Firing	NA	NA	NA	0.79	0.70	0.80	0.76	NA
BMD	0.83	1.00	0.94	0.68	0.74	0.73	0.77	BELOW
Mine Sweeping	NA	NA	0.67	0.00	NA	NA	0.45	NA
Mine Hunting	NA	1.00	0.96	0.77	NA	NA	0.92	NA



# Submarine MI Results

## Functional Areas

SUBMARINE								
Functional Areas (Boats Inspected)	2016 (9)	2017 (11)	2018 (9)	2019 (12)	2020 (10)	2021 (11)	6-Year Average	2021 Comparison to 6-Year Avg
Main Propulsion	0.90	0.94	0.90	0.94	0.92	0.91	0.92	BELOW
Auxiliaries	0.84	0.88	0.82	0.85	0.79	0.89	0.85	ABOVE
Electrical	0.83	0.88	0.87	0.90	0.88	0.86	0.87	BELOW
Damage Control	0.87	0.88	0.89	0.89	0.91	0.88	0.88	NEUTRAL
Combat Systems	0.80	0.88	0.85	0.84	0.78	0.88	0.84	ABOVE
Navigation	0.90	0.90	0.89	0.89	0.90	0.90	0.90	NEUTRAL
Operations	0.84	0.89	0.92	0.91	0.83	0.87	0.87	NEUTRAL
Information Systems	0.89	0.92	0.95	0.92	0.88	0.85	0.90	BELOW
Deck	0.88	0.90	0.87	0.90	0.85	0.83	0.87	BELOW
Supply	0.92	0.91	0.87	0.89	0.87	0.90	0.90	NEUTRAL
Habitability	0.93	0.93	0.89	0.89	0.88	0.88	0.90	BELOW
NAVOSH	0.91	0.88	0.88	0.80	0.81	0.79	0.84	BELOW
Environmental Protection	0.94	0.91	0.91	0.85	0.87	0.89	0.89	NEUTRAL
Survivability/Escapes	0.85	0.85	0.84	0.90	0.88	0.81	0.85	BELOW
Medical	0.94	0.95	0.94	0.92	0.92	0.90	0.93	BELOW
Preservation	0.87	0.91	0.88	0.92	0.93	0.87	0.90	BELOW
Strategic Systems	0.97	0.96	0.96	0.97	0.98	0.96	0.96	NEUTRAL

## Demonstrations

SUBMARINE								
Demos (Boats Inspected)	2016 (9)	2017 (11)	2018 (9)	2019 (12)	2020 (10)	2021 (11)	6-Year Average	2021 Comparison to 6-Year Avg
Full Power Ahead	0.87	0.94	0.90	0.91	0.71	0.91	0.88	ABOVE
Quick Reversal Astern	0.84	0.88	0.74	0.86	0.54	0.88	0.80	ABOVE
Quick Reversal Ahead	0.98	1.00	0.99	1.00	0.76	1.00	0.96	ABOVE
Steering	0.92	0.98	0.97	0.92	0.81	0.91	0.91	NEUTRAL
Anchoring	0.72	0.68	0.29	0.71	0.67	0.93	0.69	ABOVE
Angles	0.89	0.91	0.89	0.91	0.84	0.84	0.89	BELOW
Countermeasures	0.90	0.73	0.95	0.94	0.96	0.95	0.92	ABOVE



# CVN MI Results

## Functional Areas

Functional Area (Ships Inspected)	CVN				
	2010-2012 (6)	2013-2017 (7)	2018-2021 (7)	12-Year Average	2018 – 2021 Comparison to 12-Year Average
Damage Control	0.66	0.69	0.73	0.69	ABOVE
Deck	0.68	0.84	0.76	0.76	NEUTRAL
Auxiliaries	0.77	0.80	0.84	0.80	ABOVE
Electrical	0.79	0.73	0.72	0.75	BELOW
Propulsion	0.78	0.81	0.89	0.83	ABOVE
Communications	0.75	0.84	0.82	0.81	ABOVE
Information Systems	0.84	0.72	0.87	0.82	ABOVE
Navigation	0.82	0.90	0.87	0.87	NEUTRAL
Operations	0.82	0.81	0.78	0.80	BELOW
Weapons	0.79	0.85	0.79	0.81	BELOW
Aviation	0.87	0.82	0.85	0.84	NEUTRAL
NAVOSH	0.80	0.74	0.70	0.75	BELOW
Ventilation	0.69	0.83	0.75	0.76	BELOW
Environmental Protection	0.77	0.89	0.79	0.82	BELOW
Supply	0.78	0.71	0.71	0.73	BELOW
Habitability	0.83	0.80	0.80	0.81	BELOW
Medical	0.89	0.95	0.95	0.93	ABOVE
Preservation	0.75	0.81	0.81	0.79	ABOVE

## Demonstrations

Demos (Ships Inspected)	CVN				
	2010-2012 (6)	2013-2017 (7)	2018-2021 (7)	12-Year Average	2018 - 2021 Comparison to 12-Year Avg
Steering Demo	0.69	0.83	0.89	0.81	ABOVE
Anchoring Demo	0.69	0.85	0.92	0.83	ABOVE
Full Power Ahead	0.72	0.78	0.86	0.79	ABOVE
Quick Reversal	0.64	0.90	0.87	0.81	ABOVE
Long Range Detect	0.69	0.93	0.89	0.85	ABOVE
SD DTE	0.78	0.81	0.71	0.76	BELOW



# MSC SMART Results

## Functional Areas

MSC (All Classes)							
Functional Areas (Ships inspected)	2017 (12)	2018 (8)	2019 (11)	2020 (4)	2021 (21)	5-Year Average	2021 Comparison to 5-Year Avg
Main Propulsion	0.89	0.81	0.72	0.83	0.82	0.82	NEUTRAL
Auxiliaries	0.88	0.80	0.81	0.85	0.80	0.82	BELOW
Electrical	0.86	0.84	0.84	0.80	0.87	0.85	ABOVE
Damage Control	0.83	0.69	0.74	0.74	0.73	0.75	BELOW
Deck	0.83	0.76	0.77	0.76	0.84	0.81	ABOVE
Communications	0.92	0.92	0.94	0.86	0.95	0.93	ABOVE
Aviation	0.80	0.69	0.84	0.89	0.84	0.81	ABOVE
Supply/Habitability	0.86	0.84	0.89	0.86	0.95	0.89	ABOVE
Environmental Protection	0.92	0.85	0.90	0.94	0.92	0.92	NEUTRAL
Medical	0.94	0.91	0.95	0.93	0.95	0.95	NEUTRAL
Safety/NAVOSH	0.87	0.80	0.80	0.85	0.89	0.85	ABOVE

## Demonstrations

MSC (All Classes)							
Demos	2017 (12)	2018 (8)	2019 (11)	2020 (4)	2021 (21)	5-Year Average	2021 Comparison to 5-Year Average
Full Power Ahead	0.76	0.63	0.37	0.64	0.56	0.58	BELOW
Quick Reversal	0.82	0.49	0.39	0.66	0.53	0.57	BELOW
Steering	0.99	0.96	0.94	0.99	0.88	0.93	BELOW
Anchoring	0.87	0.99	0.65	0.66	0.90	0.87	ABOVE
Nixie	0.93	1.00	0.50	0.50	0.86	0.86	NEUTRAL



# 2021 Executive Summary - Boats and Craft

SERVICE CRAFT			
Hull Type	Inspected	Hull Type	Inspected
APL	10	YP	5
ARDM	1	YR	2
FSF	1	YRBM	21
IX	7	YRDM	1
YC	46	YT	3
YD	2	YTB	3
YFN	7	YTL	1
YFNX	5	YTT	1
YON	3	YWO	1
YOS	3		

COMBATANT CRAFT	
Hull Type	Inspected
HSB	22
INLS	4
LCAC	8
LCU	4
MERC	24
MK VI	3
MPFUB	2
PB	32

BOATS (> 85')	
Hull Type	Inspected
Virginia Anne	1
Independence	1
Navy Transporter	1
RSC-1	1

<u>Inspection Summary</u>	
Service Craft:	123
Combatant Craft:	99
Boats:	4
Total:	<b>226</b>

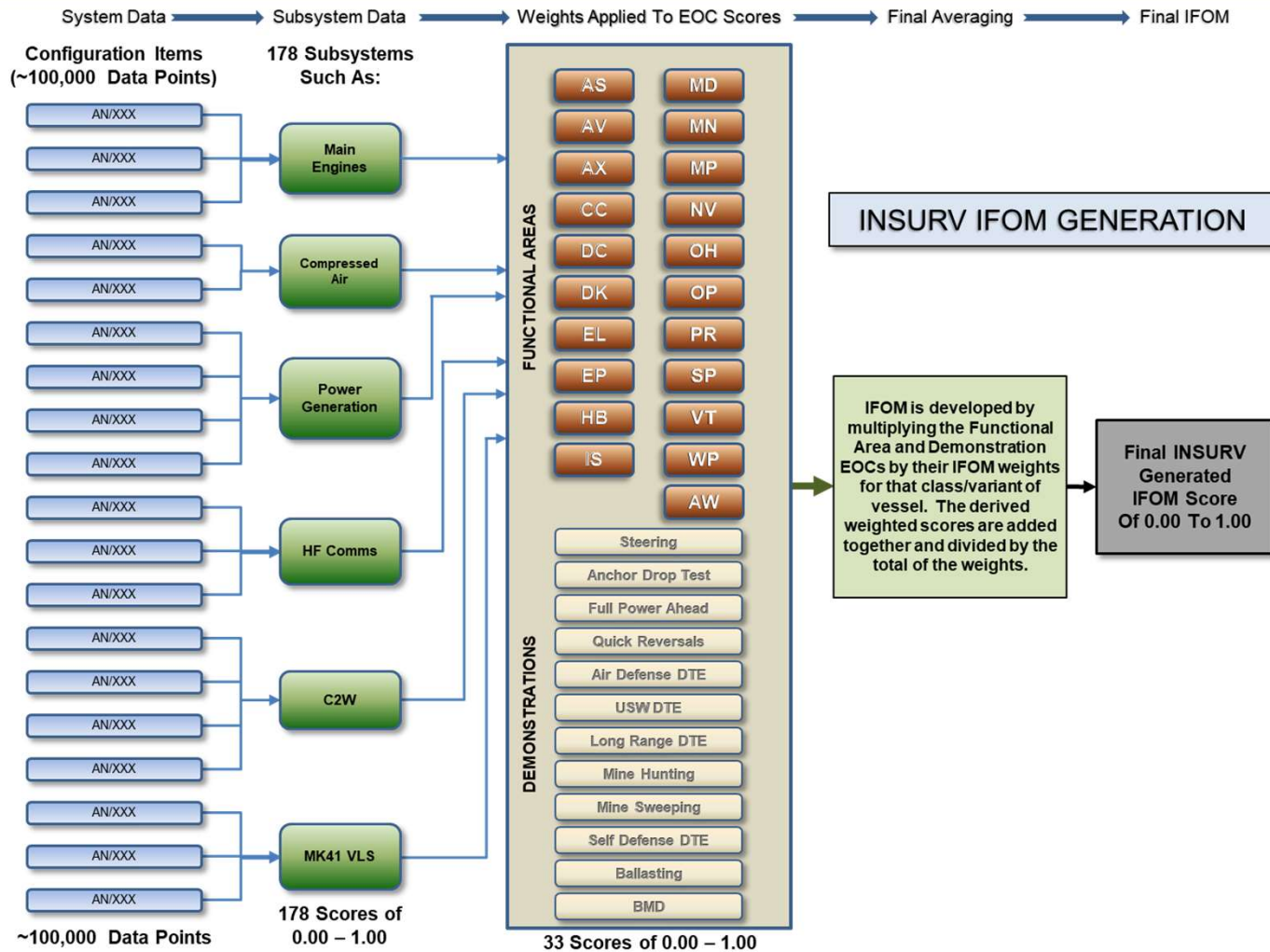
Service Craft	UNFIT Reasons	Date of Inspection	Message DTG	Response Repair/Strike	Re-Inspect Date
IX 527	<b>Personnel Safety</b> - Lack of conformance to commercial or NAVSEA standards; lack of approved alterations, configuration controls, and technical authority guidance.	08/10/2021	311225Z AUG 21	Repair	TBD
IX 528	<b>Personnel Safety</b> - Lack of conformance to commercial or NAVSEA standards; lack of approved alterations, configuration controls, and technical authority guidance.	08/10/2021	311231Z AUG 21	Repair	25JUL22
YTT 10	<b>Not Mission Capable</b> – Lack of a Diesel Engine Inspection Program, the removal of the oily waste separator system, the failure to replace AFFF firefighting agent, and an INEFFECTIVE Calibration Program.	2/24/2021	111556Z MAR 21	Repair	21MAR22
YFNX 42	<b>Personnel Safety</b> - Inoperative fire detection, flooding detection, and emergency lighting systems.	1/21/2021	101258Z FEB 21	Repair	10MAY22







# IFOM (2013 – 2021)





# JFMM Scoring

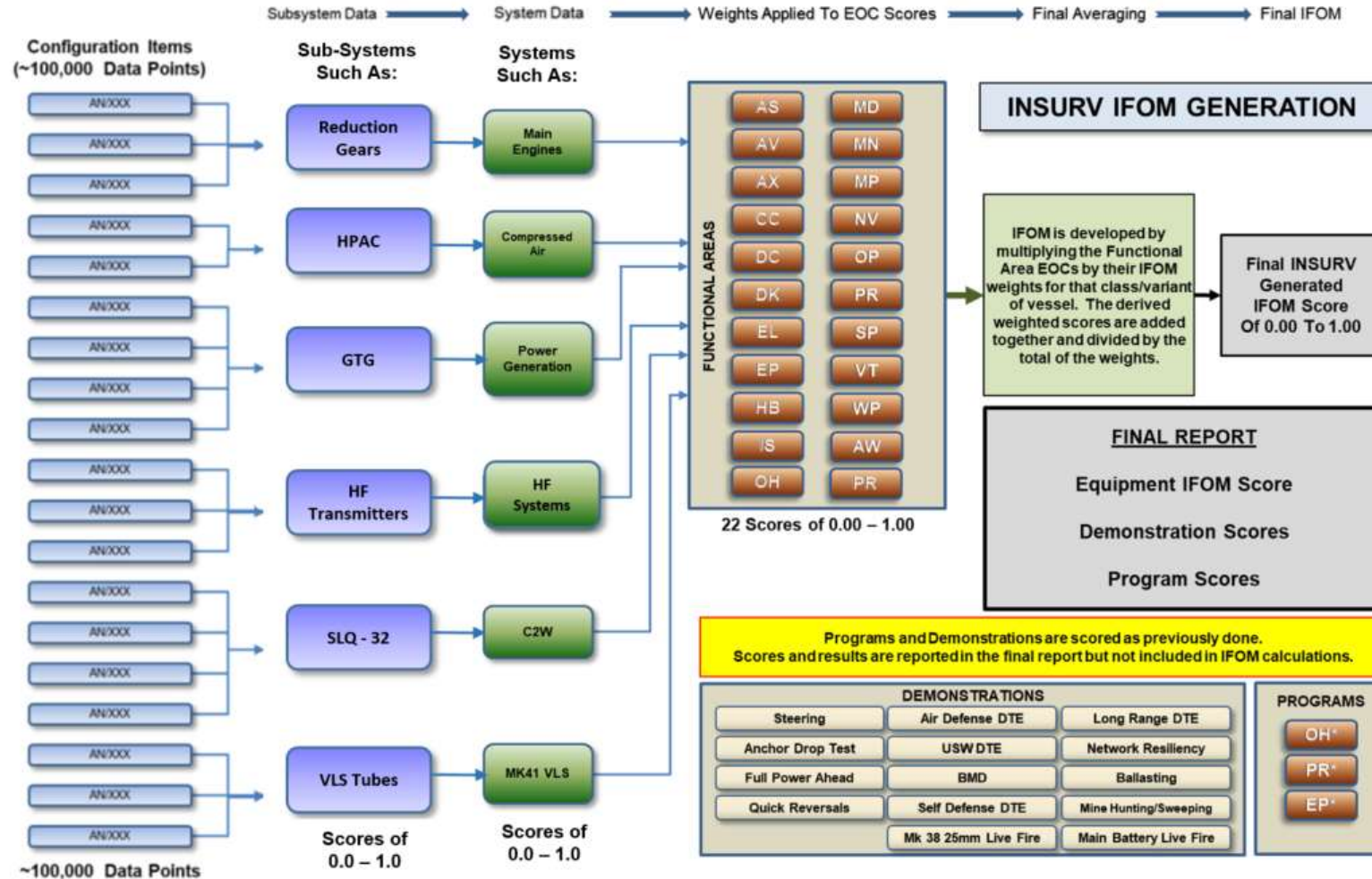
## Value – Definition - Description

JFFM EOC Scoring Definitions (Abridged)			
EOC Value	EOC Definition	EOC Description	EOC Action
1.0	Fully Operable	1.0 = Configuration or maintenance worthy object appears to be in very good material condition.	No Action
0.9	Fully Operable with Cosmetic Discrepancies	0.90 = Maintenance worthy object works with only cosmetic discrepancies.	Ship's Force cleaning or maintenance
0.8	Fully Operable with No Performance Impacting Discrepancies	0.80 = Maintenance worthy object works with no loss in performance but has minor discrepancies or minimal corrosion.	Document via 4790/2K deferral for future Ship's Force actions
0.7	Operable with minor discrepancies that do not impact performance	0.70 = Maintenance worthy object works with no loss in performance but has significant discrepancies that need to be corrected or monitored. One of many modes may be inoperative. Minor corrosion.	4790/2k and/or troubleshooting
0.6	Operable with discrepancies that could potentially impact performance in the future. No Restrictions.	0.60 = Maintenance worthy object works with no current loss in performance but performance degradation is anticipated. Significant discrepancies need to be corrected or troubleshooting initiated to prevent performance degradation.	Temporary standing order and 4790/2K
0.5	Operable with discrepancies that effect performance. No restrictions on operation.	0.50 = Maintenance worthy object is capable of performing intended functions, but not to all designed performance standards, or not capable of performing required functions in all operating modes.	Temporary standing order and 4790/2K, possible CASREP
0.4	Restricted operation. Significant discrepancies.	0.40 = Maintenance worthy object not operating correctly and no means or work-arounds allow the object to do everything it was designed to perform.	4790/2K, possible CASREP.
0.3	Severely degraded with major operational restrictions.	0.30 = Maintenance-worthy object not operating correctly or performing intended functions. Not a threat to personnel safety but further equipment damage may occur from continued operations.	4790/2K, possible CASREP.
0.2	Repair Before Operation (RBO).	0.20 = Maintenance-worthy object not functioning within designed parameters and may only be operated under emergency conditions.	Secure or turn off immediately. 4790/2K, possible CASREP.
0.1	Should not be operated/Battle Short.	0.10 = Maintenance-worthy object not functioning. Secure or turn off immediately.	Secure or turn off object. Use object only in an operational emergency. 4790/2K, possible CASREP.
0.0	Totally Inoperative.	0.0 = Maintenance worthy object does not work at all.	4790/2K, possible CASREP.



CUI

# IFOM (2022 and beyond)



CUI



# INSURV Self-Assess & Self-Correct Initiatives

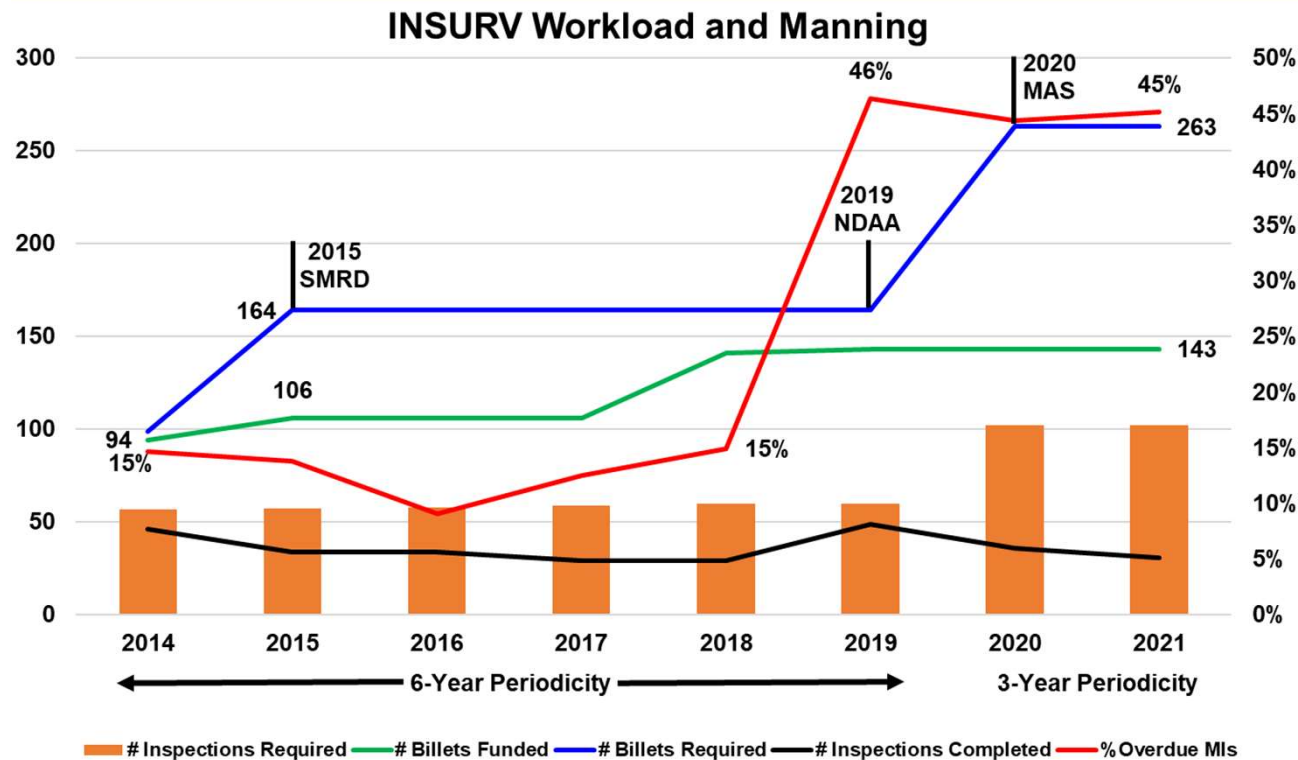
- Quarterly/Interim Deep Dives
  - Fully inform TYCOM / SYSCOM problem-solving
  - Investigating support to P2P Workshop and Data Collect functions.
- Expand MI to include Self-Repair Assessment
  - ISO FFC/SURFOR self-repair initiatives/priorities
- Reinvigoration of INSURV Feedback to NAVSEA ISO PMS improvement
  - Maintenance Effectiveness Reviews
  - Technical Feedback Reports



# BACKUP



# INSURV Inspections and Manning

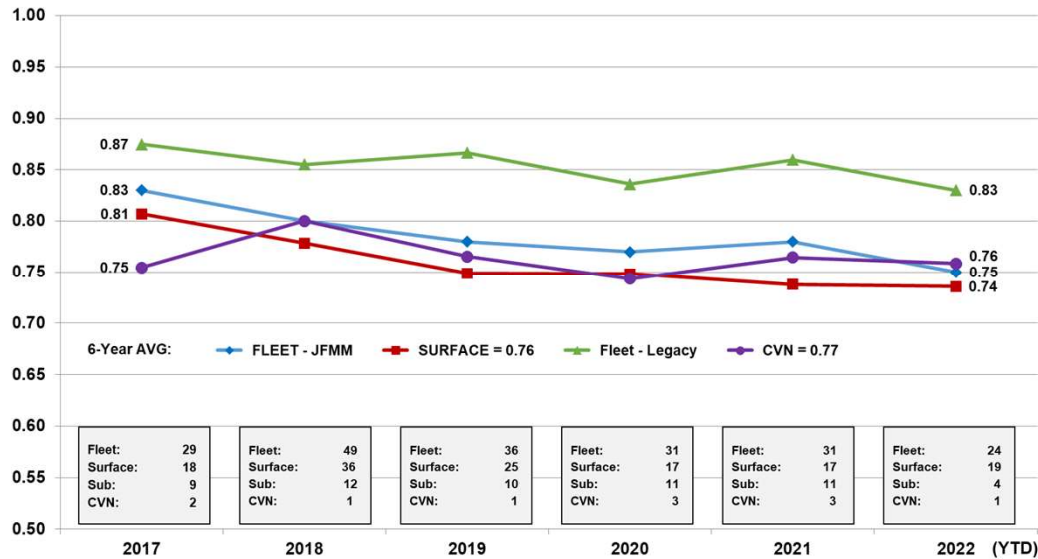


- FY15 SMRD validated billet gap mitigated by prior policy considerations (Scheduling, TIs)
- FY20 MIs double prior year requirements, 3-year periodicity policy drives execution
- FY20 MAS aligns billet requirements to current inspection requirements
- Mitigations for billet gap: Hiring authorities, geographic dispersal, contracting

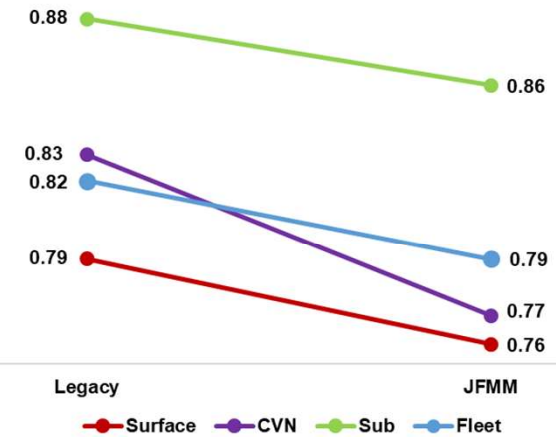


# Fleet 6-Year JFMM IFOM Trends

Fleet/Surface/Sub/CVN 6-Year JFMM IFOM Trend



Legacy vs JFMM 6 - YR Averages FY 2017 - 2022



**JFMM Scoring Impacts to IFOM:**  
**Better measure of material condition**  
**impact to operational capability**

Functional Areas (Ships Inspected)	2016 (22)	2017 (17)	2018 (18)	2019 (36)	2020 (25)	2021 (17)
Main Propulsion	0.76	0.78	0.76	0.64	0.70	0.73
Auxiliaries	0.82	0.83	0.83	0.81	0.82	0.79
Electrical	0.79	0.73	0.69	0.70	0.75	0.73
Damage Control	0.78	0.80	0.79	0.78	0.76	0.76
Deck	0.80	0.83	0.78	0.76	0.69	0.74
Mine Warfare	NA	0.98	0.85	0.83	0.80	NA
Anti-Sub Warfare	0.88	0.92	0.81	0.84	0.77	0.85
Operations	0.86	0.88	0.83	0.80	0.79	0.73
Navigation	0.92	0.92	0.92	0.92	0.90	0.86
Weapons Systems	0.85	0.85	0.78	0.74	0.72	0.77
Aegis Weapon Systems	0.86	0.88	0.81	0.77	0.73	0.80
Communications	0.85	0.87	0.84	0.80	0.83	0.81
Information Systems	0.90	0.89	0.91	0.83	0.85	0.85
Aviation	0.72	0.75	0.78	0.68	0.70	0.69
Supply	0.78	0.77	0.78	0.80	0.81	0.81
Habitability	0.81	0.80	0.80	0.80	0.81	0.80
NAVOSH	0.88	0.88	0.81	0.81	0.82	0.79
Ventilation	0.79	0.78	0.78	0.78	0.79	0.63
Environmental Protection	0.84	0.84	0.81	0.76	0.76	0.71
Medical	0.97	0.97	0.96	0.95	0.95	0.94
Preservation	0.83	0.82	0.80	0.83	0.82	0.78