



LCS Mission Modules Program



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LCS Mission Modules (PMS 420)**



Mission Package Completed Milestones



☐ Surface Warfare (SUW): All Mission Modules (MM) certified for deployment

- ☐ Deliveries complete for Gun MM and Maritime Security MM
- ☐ SUW MP with Surface-to-Surface Mission Module (SSMM) deployed



☐ Anti-Submarine Warfare (ASW): Completed Integration on FRE variant (LCS 3)

- ☐ Demonstrated ability to track submarine Q1 FY21
- ☐ First production unit procured; deliver FY22



☐ Mine Counter Measures (MCM): Completing final Integration and testing of unmanned systems

- ☐ All Aviation MCM (AMCM) Mission Modules certified for deployment
- ☐ Completed Unmanned Influence Sweep System (with USV) IOT&E
- ☐ Completed MCM MP C2 Integration events during shore based events



Surface Warfare (SUW) Mission Package



- ❑ SUW MP supporting Fleet Deployments
 - ❑ SUW with SSMM completed a successful deployment on LCS 7 in FY19/20
 - ❑ Three SUW MPs currently deployed to 4th FLT AOR
- ❑ Achieved SSMM IOC in Feb 2019
 - ❑ Surface-to-Surface Mission Module (SSMM) 90% successful engagement rate w/ over 100 live-fire shots in formal testing.
- ❑ (5) SSMM in production; deliveries commence in FY22



SUW MP deployed in numbers supporting Fleet Operations



Anti-Submarine Warfare (ASW) Mission Package



- ☐ Currently conducting integration and DT events
 - ☐ Successfully tracked submarine Q1 FY20
 - ☐ Currently testing hydrodynamics through full range of operational requirements
 - ☐ System suitability and reliability improvements
- ☐ DT and IOT&E planned Q1-Q3 FY22
- ☐ Plan to achieve ASW MP IOC in FY22



**Provides a game-changing ASW capability not fielded on
any other USN surface combatant**



Mine Countermeasures (MCM) Mission Package



- ☐ MCM MP's Aviation MMs are currently deployed aboard LCS 16 and 18
- ☐ Successful MCM/Vessel of Opportunity (VOO) demo aboard ESB 4
 - ☐ Control of MCM USV with Mission Package Portable C2 Station (MPPCS)
 - ☐ Demonstrating Beyond LOS technologies
- ☐ MCM MP completing integration of final MCM Mission Modules on IND
 - ☐ Buried Minehunting Integration from IND and FRE
 - ☐ MCM USV Launch and Recovery completed on IND
- ☐ MCM MP IOC Q4 FY22



MCM MP on track to deliver IOC FY22



MCM USV (UISS/Minehunt)



- ☐ Completed UISS IOT&E June 21 - USS Manchester (LCS 14)
 - ☐ MCM USV + Sweep (UISS) UNDEX and CYBER
 - ☐ UISS IOC- Q4 FY21
- ☐ MCM USV Minehunt
 - ☐ Contractor verification testing in progress
 - ☐ MCM USV Minehunt DT/OT- Q1FY22
- ☐ MCM USV/ Payload Production
 - ☐ MCM USV Low Rate Initial Production (4)- delivery Q3/Q4 FY22
 - ☐ MCM USV Production in source selection
 - ☐ AQS-20A being upgraded to AQS-20C- Deliveries commence Q1FY23
 - ☐ Payload Production—RFIs on the street- RFP release planned FY22



Completed Sweep Payload (UISS) IOT&E

MCM USV in Low Rate Initial Production

Distribution A: Approved for Public Release; Distribution Unlimited



Knifefish



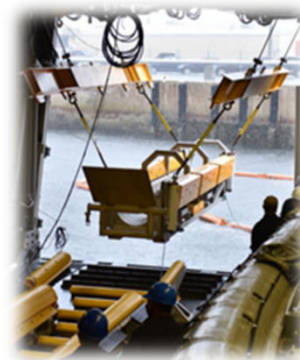
☐ Knifefish (KF) in Low Rate Initial Production (LRIP)

- ☐ First KF Block 0 System delivered; KF Block 0 Systems will support MCM MP testing through FY22
- ☐ KF Block 1 IOT&E planned Q1FY23
- ☐ KF Block 1 Production contract planned FY23



☐ Knifefish Block improvement program is delivering improved performance in deeper and more complex bottom types to meet GPC requirements

- ☐ Enhanced Automated Target Recognition algorithms
- ☐ Partnering with Naval Research Laboratory



**Knifefish Block 0 Low Rate Initial Production units being delivered/tested;
Knifefish Block 1 provides increased capability to Fleet**



Summary



- ❑ Mission Packages deliver critical combat capability to LCS
- ❑ MCM MP and ASW MP are completing final integration and testing
- ❑ LCS MMs are in production, fielding and deploying to the Fleet



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NAVAL SURFACE WARFARE CENTER PANAMA CITY DIVISION
Ensuring Warfighting Dominance in the Littoral Battlespace



USV IOTE Videos

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Expanding the Advantage Through Collaboration

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Launch



Release



Capture



Recovery





QUESTIONS?