LCS Mission Modules Program

Transition from Development to Production
2019 Completed Milestones

- **SUW**: Achieved SSMM IOC on FRE variant in Feb 2019 and commenced DT/OT on IND variant in Jul 2019
  - Transitioned to production with first SSMM production asset to deliver in FY21

- **ASW**: Commenced DT on FRE variant in Dec 2019
  - Completed testing at AUTEC and install onboard USS FT Worth (LCS 3)
  - Commenced Developmental Testing Phase 1

- **MCM**: All Aviation MCM (AMCM) Mission Modules (Near Surface Detection, Coastal Mine Reconnaissance, and Airborne Mine Neutralization) certified for deployment on the IND Variant
  - Completed all FRE variant testing and on track to certify Aviation MCM for deployment in Q2FY20
  - Integration of MCM Systems on IND continues throughout 2020
Surface-to-Surface Mission Module (SSMM) has executed 79 live-fire shots in formal STF/DT/IT/OT, achieving more than a 90% successful engagement rate

- Achieved IOC on FRE variant in Feb 2019
- Successful IT event on LCS 6 in Nov 2019
- SSMM transitioned to production in FY2019 and will deliver first production asset in FY21
  - On track to complete procurement of SSMMs in FY24
- SUW with SSMM deployed on LCS 7 in 2019

SSMM delivers the premier counter FAC/FIAC Capability to the Fleet
Integrated SUW MP Testing

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(#2019-0691)
ASW MP Testing
Anti-Submarine Warfare (ASW) Mission Package

- ASW Began Testing in Sep 2019
  - DT-B3 Phase 1 testing commenced in Dec 2019
  - DT-B3 Phase 2 testing will begin Q2 FY20

- On track to achieve ASW MP IOC in FY20

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

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Mine Countermeasures (MCM) Mission Package

- All Aviation MCM (AMCM) Mission Modules certified for deployment on the IND Variant Ships
  - Completed FRE variant testing and on track to certify in Q2FY2020
- Phase I & II of MCM VOO feasibility demonstration conducted aboard USNS Hershel “Woody” William (T-ESB 4) in Sep 2019
  - Phase III to include aviation assets is planned for Apr 2020
- Plan to conduct MCM MP developmental/operational testing in FY21 and achieve IOC in FY22

MCM MPs is on the cutting edge of unmanned technology

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MCM on Vessels of Opportunity (VOO)

- Provides increased MCM operational capability to the Joint Force Commander by operating MCM MP onboard non-LCS vessels and frees up LCS hulls for other missions
  - 2017 - 2018: CNO requested investigation into integration of MCM MP on Vessels of Opportunity (VOOs)

- Demonstrations:
  - 2018 - 2019: Royal Navy Auxiliary Mounts Bay Experiment
  - 2018 - 2019: EPF Feasibility and Integration Assessments
  - 2019: USNS Hershel Williams (T-ESB 4) Pierside and Underway Demo

- 2020: ESB Phase III feasibility demonstration planned

“The Ability to Deploy MCM Capability from VOO is a True Force Multiplier”
Knifefish At-Sea Integration on LCS 2

- Highly successful test event 15-26 Jul 2019
  - 13 of 13 test cases completed
  - Successful test of grapple launcher
  - Zero mishaps
  - Completed ahead of schedule

- Data captured, lessons learned & procedures redlined

Successful Launch and Recovery of Knifefish vehicle Demonstrated At-Sea on LCS 2
UISS Launch & Recovery

Successful Pierside Launch and Recovery of UISS
OAMCM Integration

- Conducted Integration and Evaluation of Organic Aviation and MCM Systems Onboard FRE Variant – LCS 11
- Tested both MQ-8B and MH-60S
GARC/TALONs At-Sea Demo

- Greenough Advanced Rescue Craft (GARC) and Towed Airborne Life of Naval Systems (TALONS) – experiment to provide Beyond Line of Sight (BLOS) capability to MCM Unmanned Surface Vessel (USV)

- Completed week long demonstration in Oct 2019

- Excellent example of successful rapid acquisition and OTA Execution – initial concept to demonstration accomplished in 10 months!!!

- Plan to test again in May 2020 to build upon data capture

Signals Potential for Enhanced Future Capabilities in Unmanned Systems Across the Fleet

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Summary

- Mission Packages deliver critical combat capability to LCS
- LCS MMs are in Test and Evaluation in preparation to transition to production and fielding

Continuing to Deliver Warfighting Capability