



Program Executive Office, Ships



DDG 51 Program Update

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DDG 51 Program Overview



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- Both DDG 51 shipyards, Huntington Ingalls Industries – Ingalls Shipbuilding (HII) and General Dynamics – Bath Iron Works (BIW) in serial production
 - 70 ships delivered to date including 8 ships since program restart
 - ❑ HII – DDG 113, DDG 114, DDG 117, DDG 119, DDG 121 (delivered 30 November 2021)
 - ❑ BIW – DDG 115, DDG 116, DDG 118 (delivered 08 March 2021)
 - 19 more ships on contract through Fiscal Year 2022 (FY22); 12 under construction
- First Flight III ship (DDG 125) on track to deliver in April 2023
 - DDG 125 is 71% complete; launched 4 June 2021; 4160VAC switchboards, HES-C air conditioning plants, and SPY-6 support equipment lit off
 - Aegis Light Off (ALO) achieved 17 December; combat systems testing in progress
 - Seven Flight III ships under construction (DDGs 125-126, DDGs 128-132)
- Land-based test sites continue to support Flight III test and activation
 - Combat Systems Engineering Development Site (CSEDS) in Moorestown, NJ: Baseline 10 (BL10) software & SPY-6 equipment installed and lit off; integration testing ongoing
 - Land Based Engineering Site (LBES) in Philadelphia, PA: Electric Plant integration complete; Machinery Control System software integration ongoing

Maintaining course and speed on delivering Flight III capability



DDG 121 (Delivered)
 Delivered Nov 2021
 Commissioning planned Apr 2022



DDG 123 (89% complete)
 ALO completed 9 Jul 2021
 Builder's Trials planned Spring 2022



DDG 125 (71% complete)
 ALO achieved 17 Dec 2021
 Builder's Trials planned Fall 2022



DDG 128 (27% complete)
 Lay Keel achieved 29 Jun 2021
 Launch planned late 2022



DDG 129 (12% complete)
 Start Fab achieved 7 Jan 2021
 Lay Keel planned Spring 22



DDG 131 (<1% complete)
 Start Fab achieved 6 Dec 21

Production Status (BIW)



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DDG 118 (Delivered)
Delivered 8 Mar 2021
Commissioned 8 Dec 21



DDG 120 (89% complete)
Christened 2 Oct 2021
Builder's Trials planned Spring 2022



DDG 122 (75% complete)
Keel Laid 25 Jan 2020
Christening & Launch planned
Spring 2022



DDG 124 (57% complete)
Keel Laid 21 May 2021



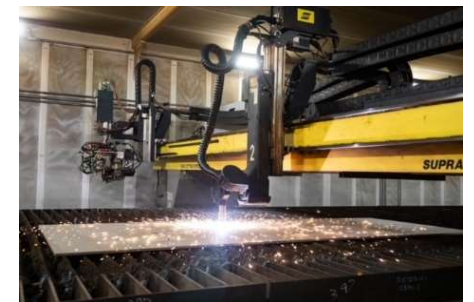
DDG 127 (36% complete)
Keel lay planned Spring 2022



DDG 126 (14% complete)
Start Fab achieved 3 Mar 2020
Keel lay planned 2023



DDG 130 (~2% complete)
Start Fab achieved
14 May 2021



DDG 132 (<1% complete)
Start Fab achieved
16 Nov 2021

Flight III Changes



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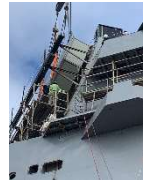
Enclosures

- Added starboard enclosure and stacked RHIBs

Full Load Operational Displacement Enhancement System (FLODES)

AN/SPY-6(V)1; AMDR-S SPY+15dB

- 14.1 ft x 13.6 ft x 5 ft Array Structure
- Replaces AN/SPY-1D(V)



BL 10 / TI 16 for Flight III Upgrade to AWS

- Added 3 Warfare Commander consoles

Rapid Removal Routes

- Incorporates reservations for depot level structural cuts to facilitate future Combat Systems equipment upgrades



Water Mist

- Baseline change to install Water Mist in Machinery Spaces to replace Halon 1301



AC Plant

- 5 x 350 Ton HES-C AC Plants
Replacing 5 x 200 Ton AC Plants

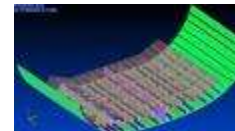
4160VAC Electric Plant

- 3 x 4MW, 4160 VAC SSGTGs replacing 3 x 3MW, 450 VAC SSGTGs
- Add ship service transformers, PCMs, modified switchgear
- Modified controls for MCS and MFMs



Heptafluoropropane (HFP)

- HFP in Gas Turbine Modules & Flammable Liquid Storerooms replaces Halon 1301



Increased Innerbottom Scantlings

- Adds 90 LT to improve KG

Habitability Changes and roll-down impacts to incorporate AN/SPY-6(V)1 and equipment

- **Capability Increase**
- **Enabling Changes**
- **Other Changes**

Flight III Land-Based Testing



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- Flight III Electric Plant Testing at LBES

- Conducting integration testing of 4160VAC electric plant (EP) systems from generator through power conversion module
- EP remote light off through Machinery Control System software achieved 10 December
- Machinery Control System software delivery ongoing to support DDG 125 builder's trials



- BL10 and SPY-6 Power Distribution Testing at CSEDS

- Conducting integration testing of ship-representative power, Aegis BL10 combat system, and AN/SPY-6(V)1 array
- SPY-6 array initial light off achieved April 2021
- First Baseline 10 software delivery ongoing to support combat systems test program at HII

DDG 125 (Jack H. Lucas) Construction



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- DDG 125 is the first Flight III ship
 - Flight III baseline consists of the integration of the AN/SPY-6(V)1 radar along with upgrades to the electrical power and cooling capacity plus additional associated changes
- Construction on Track
 - Ship currently 71% complete
- Production Milestones
 - ✓ Start Fab: 07 May 2018
 - ✓ Lay Keel: 07 Oct 2019
 - ✓ Float Off: 04 Jun 2021
 - ✓ 4160VAC Light off: 06 Nov 2021
 - ✓ SPY-6 Light off: 15 Dec 2021
 - ✓ AEGIS Light Off: 17 Dec 2021
 - GLO/MELO: Feb – May 2022
 - Trials: Sep 2022 – Jan 2023
 - Delivery: Apr 2023



Summary



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- DDG 51 continues to provide backbone of surface fleet
- Both shipyards building and delivering ships, including 8 since program restart with 19 more on contract
- Flight III will provide advanced capability and crucial capacity to pace the threat



Delivering capability to the fleet for current and future missions