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Department of Defense  
OFFICE OF PREPUBLICATION AND SECURITY REVIEW

# Modernized Selected Acquisition Report (MSAR) FFG 62 Guided Missile Frigate (FFG 62)

FY 2025 President's Budget

Effective: December 31, 2023

Defense Acquisition Visibility Environment

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**(U) Common DoD Abbreviations**

\$B	Billions of Dollars
\$K	Thousands of Dollars
\$M	Millions of Dollars
ACAT	Acquisition Category
Acq O&M	Acquisition-Related Operations and Maintenance
ADM	Acquisition Decision Memorandum
APA	Additional Performance Attribute
APB	Acquisition Program Baseline
APPN	Appropriation
APUC	Average Procurement Unit Cost
BA	Budget Authority or Budget Activity
Blk	Block
BY	Base Year
CAE	Component Acquisition Executive
CAPE	Cost Assessment and Program Evaluation
CARD	Cost Analysis Requirements Description
CCE	Component Cost Estimate
CCP	Component Cost Position
CDD	Capability Development Document
CLIN	Contract Line Item Number
CPD	Capability Production Document
CY	Calendar Year or Constant Year
DAB	Defense Acquisition Board
DAE	Defense Acquisition Executive
DAES	Defense Acquisition Executive Summary
DAVE	Defense Acquisition Visibility Environment
DoD	Department of Defense
DSN	Defense Switched Network
EMD	Engineering and Manufacturing Development
EVM	Earned Value Management
FD	Full Deployment
FDD	Full-Deployment Decision
FMS	Foreign Military Sales
FOC	Full Operational Capability
FRP	Full-Rate Production
FY	Fiscal Year
FYDP	Future Years Defense Program
ICD	Initial Capabilities Document
ICE	Independent Cost Estimate
Inc	Increment
IOC	Initial Operational Capability
IT	Information Technology
JROC	Joint Requirements Oversight Council
KPP	Key Performance Parameter
KSA	Key System Attribute

LRIP	Low-Rate Initial Production
MDA	Milestone Decision Authority
MDAP	Major Defense Acquisition Program
MILCON	Military Construction
N/A	Not Applicable
O	Objective
O&M	Operations and Maintenance
O&S	Operating and Support
ORD	Operational Requirements Document
OSD	Office of the Secretary of Defense
PAUC	Program Acquisition Unit Cost
PB	President's Budget
PE	Program Element
PEO	Program Executive Officer
PM	Program Manager
POE	Program Office Estimate
R&MF	Revolving and Management Funds
RDT&E	Research, Development, Test, and Evaluation
SAR	Selected Acquisition Report
SCP	Service Cost Position
T	Threshold
TBD	To Be Determined
TY	Then Year
U.S.	United States
U.S.C	United States Code
UCR	Unit Cost Reporting
USD(A&S)	Under Secretary of Defense (Acquisition and Sustainment)

**(U) Program Description****Full Name**

FFG 62 Guided Missile Frigate

**Short Name**

FFG 62

**PNO**

606

**Milestone Decision Authority**

Component Acquisition Executive

**Lead Component**

Department of the Navy

**Program Executive Office**PEO Unmanned and Small Surface  
Combatants**Joint Program**

No

**Acquisition Type**

Major Defense Acquisition Program

**Adaptive Acquisition Pathway**

Major Capability Acquisition

**Acquired Systems**

FFG(62)

**Acquisition Category**

IB

**Acquisition Status**

Active Acquisition

**Mission**

The CONSTELLATION Class Frigates are designed to be highly capable and survivable multi-mission platform designed for operations in blue water and the littoral environments. The platform will be able to conduct independent operations or as part of a Carrier and Expeditionary Strike Groups or a Surface Action Groups manned and equipped for Navy Composite Warfare and Joint Maritime Operations. The CONSTELLATION Class Frigates will conduct offensive and defensive Anti-Submarine Warfare, Surface Warfare, Electromagnetic Maneuver Warfare/ Information Operations, and Air Warfare operations.

**(U) Responsible Office****Program Executive Officer**

PEO Unmanned and Small Surface Combatants

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## (U) Executive Summary

### Program Highlights Since Last Report

The CONSTELLATION Class Frigates are designed to be highly capable and survivable multi-mission platform designed for operations in blue water and the littoral environments. The platform will be able to conduct independent operations or operations as a part of Carrier and Expeditionary Strike Groups or Surface Action Groups manned and equipped for Navy Composite Warfare and Joint Maritime Operations.

The CONSTELLATION Class Frigate will conduct offensive and defensive Anti-Submarine Warfare, Surface Warfare, Electromagnetic Warfare and Information Operations, and Air Warfare operations. The Detail Design and Construction (DD&C) contract was awarded to Fincantieri Marinette Marine (FMM) on 30 April 2020 and has since awarded the first three ships (FFG 62 – 64). The lead ship's (FFG 62) construction started 31 August 2022. The contract option for the fourth ship of the class (FFG 65) was exercised 18 May 2023.

The CONSTELLATION Class Frigate program has been focused on Functional and Detail Design maturation efforts, and the transition of that design into production work packages to support ship construction. FMM identified a one-year delay to the previously forecasted delivery of FFG 62 due to insufficient design progress and mounting production workload, driven primarily by inadequate number of workforce. The program has begun working on a bottom's up assessment of the schedule to discern the impact of delay and inform future budget submissions.

Additionally, the program is procuring representative propulsion equipment to outfit the Land Based Engineering Site (LBES) at NSWC Philadelphia while the facility is being prepared for equipment install. The program is continuing to procure combat system and equipment to support the production schedule.

### (U) History of Significant Developments Since Program Inception

Date	Description
May 2023	Exercised the option for the fourth ship, FFG 65
August 2022	Started Construction of the lead ship
July 2022	Conducted Program Readiness Review (PRR) for the lead ship
June 2022	Exercised the option for the third ship, FFG 64
May 2022	Conducted Critical Design Review (CDR)
September 2021	Executed FFG (62) Integrated Baseline Review (IBR)
August 2021	Build Specification integrated into the contract via no cost contract modification
June 2021	Build Specification Certified by NAVSEA 05
May 2021	Exercised the option for the second ship, FFG 63
October 2020	Executed FFG (62) Initial Baseline Review (IBR)
April 2020	Guided Missile Frigate (FFG(X)) completed Milestone B with all statutory requirements and the approval to proceed into DD&C
April 2020	The FFG(X) DD&C contract was awarded to Fincantieri Marinette Marine (FMM)

**(U) Schedule**

**(U) Schedule Events**

Events		Development APB (Milestone) 4/29/2020 Objective	Development APB (Current) 4/29/2020 Objective / Threshold		Current Estimate 12/31/2023	Actual
Milestone B	MS B	Apr 2020	Apr 2020	Apr 2020	-	29 Apr 2020
IOT&E Complete	IOT&E	Sept 2029	Sept 2029	Sept 2030	Sept 2030	-
Detail Design and Construction Contract Award	FRP Decision	Jul 2020	Jul 2020	Jan 2021	-	30 Apr 2020
Critical Design Review	CDR	Jun 2022	Jun 2022	Dec 2022	-	25 May 2022
Lead Ship Delivery	First Asset Delivery	Sept 2026	Sept 2026	Mar 2027	<b>Dec 2027*</b>	-
West Coast training and support facilities occupancy date	OSC	Sept 2028	Sept 2028	Mar 2029	Sept 2028	-
Initial Operational Capability(Start)	IOC	-	-	-	Sept 2028	-
Initial Operational Capability (Complete)	IOC	Sept 2029	Sept 2029	Sept 2030	Sept 2029	-
Full Operational Capability	FOC	Mar 2031	Mar 2031	Mar 2032	Mar 2031	-

\* Baseline Deviation

**Notes**

Shipyard identified one-year delay to the previous forecasted delivery. The program's bottoms-up schedule assessment will determine realistic schedule projections and impact on future milestones. Assessment expected to be complete by Summer of 2024. MDA specified Initial Operational Test & Evaluation (IOT&E), Initial Operational Capability (IOC), and Full Operational Capability (FOC) schedule thresholds at 12 months after objective at Milestone B.

**Schedule Baseline Deviation Explanation**

IOT&E Complete requires revision to account for slip in delivery schedule. Dates have been revised to align with shipbuilder Integrated Master Schedule (IMS). Delays related to ship issues include design maturity, first-of-class challenges, and shipyard workforce limitations.

**(U) Current Significant Schedule Risks and Risks Identified at Milestones/Decisions**

Event	Date	Description
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Current	12/31/2024	Design Completeness; Shipyard's Workload; Workforce Development
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(U) Performance

(U) Performance Attributes

Cyber Survivability		KPP
Current Estimate 12/31/2023		FFG 62 shall be designed in accordance with tailored Cyber Survivability Attributes for cyber resiliency by considering and implementing best practices for cyber defense in accordance with the Information Assurance Technical Authority Defense-in-Depth Functional Implementation Architecture Standard.
Demonstrated Performance -		Demonstrated through cyber events culminating with Operational Cyber Testing (OT-C5 events) conducted post-delivery.
Development APB (Current)  4/29/2020	Objective	(T=0) FFG(X) shall be designed in accordance with tailored Cyber Survivability Attributes for cyber resiliency by considering and implementing best practices for cyber defense in accordance with the Information Assurance Technical Authority Defense-in-Depth Functional Implementation Architecture Standard.
	Threshold	FFG(X) shall be designed in accordance with tailored Cyber Survivability Attributes for cyber resiliency by considering and implementing best practices for cyber defense in accordance with the Information Assurance Technical Authority Defense-in-Depth Functional Implementation Architecture Standard.
Development APB (Milestone)  4/29/2020	Objective	(T=0) FFG(X) shall be designed in accordance with tailored Cyber Survivability Attributes for cyber resiliency by considering and implementing best practices for cyber defense in accordance with the Information Assurance Technical Authority Defense-in-Depth Functional Implementation Architecture Standard.
Sustainment		KPP
Current Estimate 12/31/2023		FFG 62 class ships shall maintain their Material Availability, Operational Availability, and Reliability Threshold values in order to support the Blue/Gold crewing and deployment model delivering at least a 0.5 presence forward.
Demonstrated Performance -		Modeled through Product Lifecycle Tool and demonstrated in sustainment via Frigate Readiness Assessment Model, Model Based Product Support (MBPS) Tools, and Sustainment Program Baseline.
Development APB (Current)  4/29/2020	Objective	(T=0) FFG(X)s shall maintain their Material Availability, Operational Availability, and Reliability Threshold values in order to support the Blue/Gold crewing and deployment model delivering at least a 0.5 presence forward.
	Threshold	FFG(X)s shall maintain their Material Availability, Operational Availability, and Reliability Threshold values in order to support the Blue/Gold crewing and deployment model delivering at least a 0.5 presence forward.

Development APB (Milestone) 4/29/2020	Objective	(T=0) FFG(X)s shall maintain their Material Availability, Operational Availability, and Reliability Threshold values in order to support the Blue/Gold crewing and deployment model delivering at least a 0.5 presence forward.
<b>Material Availability</b>		<b>KPP</b>
Current Estimate 12/31/2023		At least 0.56
Demonstrated Performance -		Modeled through Product Lifecycle Tool and demonstrated in sustainment via Frigate Readiness Assessment Model, Model Based Product Support (MBPS) Tools, and Sustainment Program Baseline.
Development APB (Current) 4/29/2020	Objective	At least 0.56
	Threshold	At least 0.46
Development APB (Milestone) 4/29/2020	Objective	At least 0.56
<b>Operational Availability</b>		<b>KPP</b>
Current Estimate 12/31/2023		At least 0.87
Demonstrated Performance -		Modeled through Product Lifecycle Tool and demonstrated in sustainment via Frigate Readiness Assessment Model, Model Based Product Support (MBPS) Tools, and Sustainment Program Baseline.
Development APB (Current) 4/29/2020	Objective	At least 0.87
	Threshold	At least 0.72
Development APB (Milestone) 4/29/2020	Objective	At least 0.87
<b>Net Ready</b>		<b>KPP</b>
Current Estimate 12/31/2023		FFG 62 class ships shall support net centric military operations. FFG 62 systems shall be able to enter and be managed in the network, and exchange data in a secure manner to enhance mission effectiveness. These systems must continuously provide interoperable, secure, and operationally effective information exchanges to enable a net centric military capability.
Demonstrated Performance -		-
Development APB (Current) 4/29/2020	Objective	(T=0) FFG(X) shall support net centric military operations. FFG(X)'s systems shall be able to enter and be managed in the network, and exchange data in a secure manner to enhance mission effectiveness. These systems must continuously provide interoperable, secure, and operationally effective information exchanges to enable a net centric military capability.
	Threshold	FFG(X) shall support net centric military operations.

		FFG(X)'s systems shall be able to enter and be managed in the network, and exchange data in a secure manner to enhance mission effectiveness. These systems must continuously provide interoperable, secure, and operationally effective information exchanges to enable a net centric military capability.
Development APB (Milestone) 4/29/2020	Objective	(T=0) FFG(X) shall support net centric military operations. FFG(X)'s systems shall be able to enter and be managed in the network, and exchange data in a secure manner to enhance mission effectiveness. These systems must continuously provide interoperable, secure, and operationally effective information exchanges to enable a net centric military capability.
<b>Training</b>		<b>KPP</b>
Current Estimate 12/31/2023		FFG 62 crew shall be able to achieve Qualification and Certification in an off-ship training environment shall be used to the fullest extent in accordance with current SFTRM and TYCOM training guidance for Basic, Advanced, and Integrated Phase Training certification to support Blue and Gold rotational crewing.
Demonstrated Performance -		Modeled through Product Lifecycle Management Tool; Planned via the Training TIMs which monitors Training Readiness Levels (TRLs). Demonstrated in sustainment via Product Lifecycle Management Tool and Sustainment Program Baseline.
Development APB (Current) 4/29/2020	Objective	(T=0) FFG(X) crew shall be able to achieve Qualification and Certification in an off-ship training environment shall be used to the fullest extent in accordance with current SFTRM and TYCOM training guidance for Basic, Advanced, and Integrated Phase Training certification to support Blue and Gold rotational crewing.
	Threshold	FFG(X) crew shall be able to achieve Qualification and Certification in an off-ship training environment shall be used to the fullest extent in accordance with current SFTRM and TYCOM training guidance for Basic, Advanced, and Integrated Phase Training certification to support Blue and Gold rotational crewing.
Development APB (Milestone) 4/29/2020	Objective	(T=0) FFG(X) crew shall be able to achieve Qualification and Certification in an off-ship training environment shall be used to the fullest extent in accordance with current SFTRM and TYCOM training guidance for Basic, Advanced, and Integrated Phase Training certification to support Blue and Gold rotational crewing.
<b>Energy</b>		<b>KPP</b>
Current Estimate 12/31/2023		6000nm at 16kts
Demonstrated Performance -		Demonstrated during Fuel Economy Trials conducted post-delivery.
Development APB (Current) 4/29/2020	Objective	6000nm at 16kts
	Threshold	4000nm at 16kts

Development APB (Milestone) 4/29/2020	Objective	6000nm at 16kts
Average Follow Cost (average SCN end cost across a 20 ship program (ships 2-20))		KSA
Current Estimate 12/31/2023		\$812M (CY20\$)
Demonstrated Performance -		\$987M (CY20\$)
Development APB (Current) 4/29/2020	Objective	\$832M (CY20\$)
	Threshold	\$987M (CY20\$)
Development APB (Milestone) 4/29/2020	Objective	\$832M (CY20\$)

**(U) Requirement Source:**

Sponsor(s): None

1. Document Type Not Provided

Notes: Guided Missile Frigate (FFG(X)) CDD dated February 11, 2019

**Notes**

None

**Performance Deviation Explanation**

None

**(U) Acquisition Budget Estimate**

**(U) Total Acquisition Estimates and Quantities**

Category (\$M) Base Year: 2020	Development APB (Milestone) 4/29/2020 CY\$ obs Objective	Development APB (Current) 4/29/2020 CY\$ obs Objective / Threshold		Current Estimate PB 2025 CY\$ obs / TY\$ obs	
		RDT&E	1,151.2	1,151.2	1,266.3
Procurement	19,003.0	19,003.0	20,903.3	17,688.3	23,574.6
MILCON	685.4	685.4	753.9	227.8	324.8
O&M	0.0	0.0	0.0	0.0	0.0
R&MF	-	-	-	-	-
Total Acquisition	20,839.6	20,839.6	-	19,072.4	25,230.0
Program Acquisition Unit Cost	1,041.980	1,041.980	1,146.178	953.620	1,261.500
Average Procurement Unit Cost	950.150	950.150	1,045.165	884.415	1,178.730
Program End-Item Quantity					
Development	0	0		-	
Procurement	20	20		20	
O&M-Acquired	-	-		-	

**Budget Notes**

The December 2023 SAR is aligned with the PB 2025 budget submission. Values in the APB are based on the Guided Missile Frigate, FFG (62) Component Independent Cost Estimate (C-ICE) of April 15, 2020. Procurement values include End Cost for procurement of 20 ships, and Outfitting & Post Delivery MILCON includes funding for the facilitation to support FFG (62) training requirements. O&S Cost includes unit level manpower, unit operations, maintenance, sustaining support, indirect support costs, and disposal costs.

**Quantity Notes**

None

**Cost Baseline Deviation Explanation**

None

**(U) Risk and Sensitivity Analysis**

Current Procurement Estimate Risks (12/31/2023)	
1	Current Baseline Estimate is the same as the Original Baseline Estimate.

2	The December 2023 MSAR is aligned with the PB 2025 budget submission.
Current Baseline Risks (4/29/2020)	
The Component Independent Cost Estimate (C-ICE), dated April 15, 2020, reflects risk-adjusted estimates for End Cost and point estimates for all other cost areas. The risk and sensitivity analysis is detailed in the C-ICE.	
Original Baseline Risks (4/29/2020)	
The Component Independent Cost Estimate (C-ICE), dated April 15, 2020, reflects risk-adjusted estimates for End Cost and point estimates for all other cost areas. The risk and sensitivity analysis is detailed in the C-ICE.	

**(U) Unit Costs**

**(U) Current Estimate Compared with Current Baseline**

Category (CY\$M) Base Year: 2020	Current Baseline 04/29/2020	Current Estimate PB 2025	% Change
<b>Program Acquisition Unit Cost</b>			
Acquisition Cost	20,839.6	19,072.4	
Program Quantity	20	20	
PAUC	1,041.980	953.620	-8.48%
<b>Average Procurement Unit Cost</b>			
Procurement Cost	19,003.0	17,688.3	
Procurement Quantity	20	20	
APUC	950.150	884.415	-6.92%

**(U) Current Estimate Compared with Original Baseline**

Category (CY\$M) Base Year: 2020	Original Baseline 04/29/2020	Current Estimate PB 2025	% Change
<b>Program Acquisition Unit Cost</b>			
Acquisition Cost	20,839.6	19,072.4	
Program Quantity	20	20	
PAUC	1,041.980	953.620	-8.48%
<b>Average Procurement Unit Cost</b>			
Procurement Cost	19,003.0	17,688.3	
Procurement Quantity	20	20	
APUC	950.150	884.415	-6.92%

**Notes**

December 2023 MSAR is aligned with the PB 2025 budget submission.



**(U) Life-Cycle Costs**

**(U) Operating and Support and Disposal Cost Estimates Compared with Baseline**

Category (\$M) Base Year: 2020	Development APB (Milestone) 4/29/2020 CY\$ obs Objective	Development APB (Current) 4/29/2020 CY\$ obs Objective / Threshold		Current Estimate CY\$ obs / TY\$ obs	
Total O&S	57,928.1	57,928.1	63,720.9	57,928.0	96,520.0
Total Disposal	-	-	-	179.6	385.8

**(U) Current Cost Estimate Sources**

**Operating and Support Cost**

Type: Independent Cost Estimate  
 Approved by: D, CAPE, April 15, 2020

**Disposal/Demilitarization Cost**

Type: Independent Cost Estimate  
 Approved by: D, CAPE, April 15, 2020

**Operating and Support Baseline Deviation Explanation**

None

**Cost Notes**

O&S Cost includes unit level manpower, unit operations, maintenance, sustaining support, indirect support costs, and disposal costs. The estimates are based on Guided Missile Frigate, (FFG (62)) Component Independent Cost Estimate (C-ICE) of April 15, 2020 supporting the FFG-62 Milestone B Review and APB. They are based on 20 ships in the class with an average service life of 25 years.

Disposal/Demilitarization Cost Estimate and Source of Estimate: \$179.6M

Disposal cost support the total program quantity of 20 ships. This estimate is from the O&S Life Cycle Cost Baseline date supporting the Program Milestone B certification. Disposal Cost is included in the O&S Cost of the current APB objective and threshold for this program \$385.8 M (TY) \$179.6M (CY 2020).

**Sustainment Strategy:**

The program strategy to characterize and define measurable performance based targets within cost constraint(s) based on unique system and support functions necessary to meet the program sustainment KPP (engineering support, software support, training, maintenance and supply support). FFG (62) will leverage current fleet depot maintenance policies and procedures and existing depot repair infrastructure, including organic, defense industry (Naval Shipyards) and commercial capabilities to the maximum extent practicable.

For Each Acquired System or System Variant:

- i. Quantity to Sustain: 20

- ii. First Operational Fiscal Year: 2026
- iii. Final Operational Fiscal Year: 2065
- iv. Unit Expected Service Life: 25 years
- a. Antecedent System(s) O&S Costs: N/A

**(U) Operating and Support Variance with Prior Estimate**

(CY\$M) Base Year: 2020		Estimate	
Prior Estimate (date not provided)		57,928.0	
Current Estimate		57,928.0	
Category	Variance	Explanation	
Unit-Level Manpower	0.0	Updated from Blue/Gold crewing concept to single crewing concept. Updated Shore Support personnel (574 personnel (MIL, CIV, KTR) to 281 personnel (i.e., 181 (MIL, CIV, KTR), plus an additional 100 Crew Ashore) at steady state)	
Unit Operations	0.0	Updated Speed Time Profile (Steaming Hours Underway from 4,603 to 3,287; Steaming Hours Not Underway from 218 to 156). Updated cost estimating methodology: removable of LCS artifacts and replaced with DDG-51 Class FLT IIA data	
Maintenance	0.0	Updated Maintenance Strategy to be in-line with POM-25 OPNAVLTR (i.e., update from POM-21 data to POM-25 data). Updated Cost estimating methodology: I-Level methodology changed from initial PMS 515 guidance for Restricted Availability (RAV) and Mid-Cycle Availability (MCA) and Fly-Away Team to DDG-51 Class FLT IIA VAMOSC data based methodology	
Sustaining Support	0.0	Updated Training Strategy for Simulators and Instructors per the latest CARD update	
Continuing System Improvements	0.0	Updated cost estimating methodology ? from cost per class to cost per ship; VAMOSC data update. Modernization estimated as a percent of total maintenance (changes in maintenance will affect modernization)??	
Other	0.0	Removed CES 6.0 (Indirect Support) due to CAPE guidance. CES 6.0 estimated as a fixed percentage of manpower (MIL / CIV) from CES 1.0	
Not Categorized	0.0		

**(U) Operating and Support Cost Element Structure Estimates by Acquired System**

(CY\$M) Base Year: 2020							
System	Unit-Level Manpower	Unit Operations	Maintenance	Sustaining Support	Continuing System Improvements	Other	Total
FFG 62	16,561.0	5,397.0	9,848.0	10,686.0	6,457.0	8,979.0	57,928.0

Program	16,561.0	5,397.0	9,848.0	10,686.0	6,457.0	8,979.0	57,928.0
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**(U) Annual Operating and Support Costs per Unit Compared with Antecedent System**

No Data

**(U) Operating and Support Cost Estimate Assumptions**

No Data

**Additional O&S Estimate Assumptions**

Unit Level Manpower - Driven by increase in crew size

Unit Operations - Driven by program changes in OPTEMPO (speed-time profile)

Maintenance - Driven by requirements changes in OPNAVLTR 4700

Sustaining Support - Driven by program changes in training requirements and GFE

Continuing System Improvements - Driven by changes in Maintenance (estimated as a percentage of total maintenance)

**Antecedent Estimate Assumptions**

None

**O&S Annual Cost Calculation Memo**

None

**(U) Technologies and Systems Engineering**

**(U) Current Significant Technical Risks and Risks Identified at Milestones/Decisions**

Event	Date	Description
Current	12/21/2022	Surface Combatant Industrial Base (SCIB) - If Northeast Wisconsin area has a challenged industrial base to support the Navy's current force structure and shipbuilding plans, then Frigate Program will have a reduced capacity to timely-deliver warships.
Current	12/21/2022	Air Warfare (AW) Test Dependency - If CRUDES AEGIS CP22-1, CP23-1(TBR) and DDG FLT III/BL 10.0 AW DT/OT events are not executed as projected per the FFG-62 TEMP leveraged plan, then additional FFG-62 AW DT/OT testing will be required to satisfy data needs to VV&A the Combat System Test Bed (CSTB) model needed for IOT&E /COTF Runs for Record (RfR).
Current	12/21/2022	Mooring and Channel Depth Clearance - If the timing of the Menominee River navigable channel and pierside mooring improvement efforts (dredging) do not support FFG milestones, then there may be impacts to FFG launch, mooring, and/or sea trial evolutions. Continuing technical evaluation of ship displacement/draft and planning required to support critical milestones including launch, BT, AT and sail-away.
Current	12/21/2022	Performance Measurement Baseline (PMB) - If Performance Measurement Baseline (PMB) is not established and maintained, then Government is unable to validate adequate rigor has been applied to facilitate mutual understanding of cost and schedule risk, and underlying management processes used for planning and controlling Program. This item presents major schedule risk.

**(U) Performing Activities and Contracts**

**(U) External Government Activities**

None

**(U) Contracts and Efforts**

Contract Title	Contract Number / Effort	Contractor	Phase
Guided Missile Frigate Detail Design and Construction (DD&C)	N0002420C2300 / FFG-62 (Hull 1)	Marinette Marine Corp	Development
Guided Missile Frigate Detail Design and Construction (DD&C)	N0002420C2300 / FFG-63 (Hull 2)	Marinette Marine Corp	Development
Guided Missile Frigate Detail Design and Construction (DD&C)	N0002420C2300 / FFG 64 (Hull 3)	Marinette Marine Corp	Development

**(U) Contract and Effort Identification, Price, Quantity and Performance**

<b>Contract Number:</b>	N0002420C2300	<b>Order Number:</b>	-
<b>Contract Title:</b>	Guided Missile Frigate Detail Design and Construction (DD&C)	<b>Strategy:</b>	-
<b>CAGE:</b>	-- Marinette Marine Corp	<b>Contracting Office:</b>	-
<b>City, State/Province:</b>	Marinette, WI		
<b>Effort Number:</b>	FFG-62 (Hull 1)	<b>Supported Phase:</b>	Development
<b>Type:</b>	Fixed-Price Incentive (Firm Target)	<b>Award Date:</b>	April 30, 2020
<b>Latest Modification Date:</b>	-	<b>Definitization Date:</b>	April 30, 2020
<b>Latest Modification No.:</b>	-	<b>Work Start Date:</b>	-
<b>Technical Data Rights:</b>	-		
<b>Notes:</b>	Cumulative SPI value is 0.62 in dollars. Current SPI is attributed to a few factors early in the contract. Some factors are: 1) Design changes to major CFE components (Main Reduction Gear, and Propulsion system) caused scope change in contracts with shipbuilder vendors. 2) Reallocation and contract restructuring of major Subcontractor work to align to milestone schedules and changes between subcontractors. 3) Delays in completing design - resulting in the inability to release work orders for production execution. Cumulative CPI is 0.69 in dollars. Current CPI is attributed to: 1) FMM rate/ usage variances. 2) Functional Design Cost		

Initial Price (TY\$M) Target / Ceiling		Current Price (TY\$M) Target / Ceiling		Estimate at Completion (TY\$M) Contractor / PM		Initial Quantity	Current Quantity	Delivered Quantity
794.4	836.5	798.6	844.1	1,014.0	836.8	1	1	-

Work Completed (%): 40.36%  
 Cost Variance (TY\$M): -128.5  
 Schedule Variance (TY\$M): -170.7

**Factors Contributing to Cost Variance and Projected Effects on Program Costs**

The 40.4% work completed reflects detail design work coming to completion, material purchase orders on contract and the start of fabrication. Since the start of CY2024, PMS 515 and NAVSEA have been working onsite with the shipbuilder to expedite detail design completion in order to reduce future engineering design cost risk associated with first-of-class hulls.

**Factors Contributing to Schedule Variance and Projected Effects on Program Schedule**

Majority of schedule variance is attributed to issues with FMM subcontractor management: 1) Inability to flow down proper requirements resulting in stop work orders and delays in progress. 2) Inability to provide complete Vendor Furnished Information (VFI) to subcontractors to allow them to complete their work. 3) Late task starts due to purchase order negotiations taking longer than planned. Since the start of CY2024, PMS 515 and NAVSEA have been working onsite with the shipbuilder to expedite detail design completion in order to improve drawing accuracy and mitigate engineering drawing delays to Production to improve schedule performance.

**(U) Contract and Effort Identification, Price, Quantity and Performance**

<b>Contract Number:</b>	N0002420C2300	<b>Order Number:</b>	-
<b>Contract Title:</b>	Guided Missile Frigate Detail Design and Construction (DD&C)	<b>Strategy:</b>	-
<b>CAGE:</b>	-- Marinette Marine Corp	<b>Contracting Office:</b>	-
<b>City, State/Province:</b>	Marinette, WI		
<b>Effort Number:</b>	FFG-63 (Hull 2)	<b>Supported Phase:</b>	Development
<b>Type:</b>	Fixed-Price Incentive (Firm Target)	<b>Award Date:</b>	May 20, 2021
<b>Latest Modification Date:</b>	-	<b>Definitization Date:</b>	May 20, 2021
<b>Latest Modification No.:</b>	P0005	<b>Work Start Date:</b>	-
<b>Technical Data Rights:</b>	-		
<b>Notes:</b>	None		

Initial Price (TY\$M)		Current Price (TY\$M)		Estimate at Completion (TY\$M)		Initial Quantity	Current Quantity	Delivered Quantity
Target	Ceiling	Target	Ceiling	Contractor	PM			
553.9	582.6	559.6	590.2	648.4	582.6	1	1	-

Work Completed (%): 13.89%  
 Cost Variance (TY\$M): -22.6  
 Schedule Variance (TY\$M): -76.5

**Factors Contributing to Cost Variance and Projected Effects on Program Costs**

None

**Factors Contributing to Schedule Variance and Projected Effects on Program Schedule**

None

**(U) Contract and Effort Identification, Price, Quantity and Performance**

<b>Contract Number:</b>	N0002420C2300	<b>Order Number:</b>	-
<b>Contract Title:</b>	Guided Missile Frigate Detail Design and Construction (DD&C)	<b>Strategy:</b>	-
<b>CAGE:</b>	-- Marinette Marine Corp	<b>Contracting Office:</b>	-
<b>City, State/Province:</b>	Marinette , WI		
<b>Effort Number:</b>	FFG 64 (Hull 3)	<b>Supported Phase:</b>	Development
<b>Type:</b>	Fixed-Price Incentive (Firm Target)	<b>Award Date:</b>	June 16, 2022
<b>Latest Modification Date:</b>	-	<b>Definitization Date:</b>	June 16, 2022
<b>Latest Modification No.:</b>	P00016	<b>Work Start Date:</b>	-
<b>Technical Data Rights:</b>	-		
<b>Notes:</b>	None		

Initial Price (TY\$M) Target / Ceiling	Current Price (TY\$M) Target / Ceiling	Estimate at Completion (TY\$M) Contractor / PM	Initial Quantity	Current Quantity	Delivered Quantity
-	-	-	-	-	-

**(U) Deliveries and Expenditures****(U) Acquisition Funding**

	Total Estimate	Actual to Date	Actual, Percent Complete
Years Appropriated	17	9	52.9%
Appropriations (TY, \$M)	25,230.0	7,935.2	31.5%
Expenditures (TY, \$M)	25,230.0	2,186.6	8.7%

**(U) End Items Delivered**

	Total Required	Planned to Date	Actual to Date	Actual, Percent Complete
Procurement	20			
<b>Total</b>	<b>20</b>	<b>-</b>	<b>-</b>	<b>-</b>

**Notes**

None



**(U) International Program Aspects****General Memo**

None

**Exportability and Business Issues**

None.

Is design for international exportability planned?	No	Industry/Partner Exportability Cost-Sharing?	No
If not, has the MDA approved an exportability waiver for a U.S.-only design?	Not Applicable		

**Program Protection: Technology Security and Foreign Disclosure Issues**

None.

**(U) Agreements**

No International Agreements have been defined for FFG 62



UNCLASSIFIED

**Modernized  
Selected Acquisition Report  
Supplement**

**FFG(62) Guided Missile Frigate  
(FFG(62))**

FY 2025 President's Budget  
As of: December 31, 2023

UNCLASSIFIED

## **MSAR Supplement Sections**

Program Description

Program Use of the Adaptive Acquisition Framework

Technologies and Systems Engineering

Funding Sources (Acquisition)

Funding Sources (Operating and Support)

Acquisition Estimate and Quantity Summary

Annual Acquisition Estimates by Appropriation Account

Acquired System Annual End-Item Quantities by Appropriation Account

Nuclear Costs

Operational Fielding Plan

O&S Independent Cost Estimate

Annual Operating and Support Estimates by Cost Element

## Program Description

**Full Name**

FFG(62) Guided Missile Frigate

**Short Name**

FFG(62)

**PNO**

606

**Lead Component**

Navy

**AAF Pathway**

MCA

**Acquisition Type**

MDAP

**Acquired Systems**

FFG(62)

**Related Programs**

Full Name	PNO	Pathway	Type	ACAT/ BCAT	Acquisition Status	Costs in SAR?	
						Acq	O&S

## **Program Use of the Adaptive Acquisition Framework**

This acquisition is accomplished by a single program in the Major Capability Acquisition Pathway

## Technologies and Systems Engineering

### FFG(62) Guided Missile Frigate

#### Major Software Efforts

Title	Status	Fielding Date	Description

#### Major Engineering Changes

Title	Original Need Date	Fielding Date	Description, Rationale and Program Impacts

## Funding Sources (Acquisition)

### Acquisition Funding Notes

None

### FFG(62) Guided Missile Frigate

Category	Account	BA	Line Item	Program Element	RDT&E Project	Shared	Sunk
Procurement	1611N	02	2128 - FFG-Frigate	0204224N	-		
Procurement	1810N	04	5543 - Items Less Than \$5 Million	0204224N	-	x	
Procurement	1810N	04	5664 - Surface Training Equipment	0804731N	-	x	
RDT&E	1319N	04	0603599N - Frigate Development	0603599N	3086 - Frigate		
MILCON	1205N	01	68967667 - FFG(X) SUPPORT FACILITY AND PARKING GARAGE	0911376N	-		

## Funding Sources (Operating and Support)

*Note: Budget lines fund activities executed by the Program Office or Sustainment Office.*

### Operating and Support Funding Notes

None

### FFG(62) Guided Missile Frigate

Category	Account	BA	Line Item	Program Element	RDT&E Project	Shared	Sunk
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## Acquisition Estimate and Quantity Summary

### FFG(62) Guided Missile Frigate

#### Acquisition Estimates

Category	PB 2025	TY (\$M)	Current Base Year	Original Base Year	Report Fiscal Year
			CY2020 (\$M)	CY2020 (\$M)	CY2024 (\$M)
RDT&E		1,330.6	1,156.3	1,156.3	1,367.6
Procurement		23,574.6	17,688.3	17,688.3	20,920.5
MILCON		324.8	227.8	227.8	269.4
O&M		-	-	-	-
Total Acquisition		25,229.9	19,072.4	19,072.4	22,557.5
PAUC		1,261.497	953.620	953.620	1,127.877
APUC		1,178.728	884.416	884.416	1,046.027

#### Acquisition End-Item Quantities

System	PB 2025	Development	Procurement
FFG(62)		-	20
<b>Total</b>		-	<b>20</b>

#### Unit Description

The Guided Missile Frigate (FFG 62 Class) is a more lethal and survivable multi-mission small surface combatant. With the FFG 62 Class, the Navy will maximize the small surface combatant capabilities in the Anti-Surface Warfare (SUW), Anti-Submarine Warfare (ASW), Electronic Warfare/Information Operations (EW/IO), Air Warfare (AW) mission areas, and survivability while keeping the ship affordable and as a part of a "high-low" mix of surface ships. The FFG 62 Class Capability Development Document was JROC approved in Feb 2019 and completed Milestone B, an informed Independent Cost Estimate, and award of the Detail Design & Construction contract in April 2020.

#### Current and Future Years Defense Program Summary, TY(\$M)

Appropriation	Prior	2024	2025	2026	2027	2028	2029	To Complete	Total
RDT&E	701.0	100.1	107.7	107.9	107.2	104.1	102.7	-	1,330.6
Procurement	4,918.9	2,201.4	1,185.0	2,226.8	1,286.6	2,304.7	1,152.5	8,298.7	23,574.6
MILCON	3.7	10.2	-	-	-	-	-	310.9	324.8
O&M	-	-	-	-	-	-	-	-	-
<b>PB 2025 Total</b>	<b>5,623.6</b>	<b>2,311.6</b>	<b>1,292.7</b>	<b>2,334.7</b>	<b>1,393.8</b>	<b>2,408.8</b>	<b>1,255.2</b>	<b>8,609.6</b>	<b>25,229.9</b>

## Annual Acquisition Estimates by Appropriation Account

(Aligned to Budget Position: PB 2025)

### FFG(62) Guided Missile Frigate

Source for TY\$-CY\$ Conversion: ASN FMB-6 Inflation Rates and Outlay Factors for DA, DoN and DW accounts: 17 Jan 2024

1319N - Research, Development, Test & Eval, Navy					
fiscal year		Other/ Unallocated	Total TY(\$M)	Weighted Rate	Total CY2020 (\$M)
<b>Total</b>		<b>1,330.6</b>	<b>1,330.6</b>	<b>-</b>	<b>1,156.3</b>
2016		18.249	18.2	0.951319	19.2
2017		81.787	81.8	0.969119	84.4
2018		137.655	137.7	0.992857	138.6
2019		119.821	119.8	1.011979	118.4
2020		56.890	56.9	1.049194	54.2
2021		79.963	80.0	1.096349	72.9
2022		98.022	98.0	1.153625	85.0
2023		108.626	108.6	1.187969	91.4
2024		100.060	100.1	1.215087	82.3
2025		107.658	107.7	1.240863	86.8
2026		107.901	107.9	1.266921	85.2
2027		107.186	107.2	1.293526	82.9
2028		104.075	104.1	1.320690	78.8
2029		102.702	102.7	1.348425	76.2

## Annual Acquisition Estimates by Appropriation Account

(Aligned to Budget Position: PB 2025)

### FFG(62) Guided Missile Frigate

Source for TY\$-CY\$ Conversion: ASN FMB-6 Inflation Rates and Outlay Factors for DA, DoN and DW accounts: 17 Jan 2024

1611N (OSD Compt) - Shipbuilding and Conversion, Navy									
fiscal year	End Item Recurring Flyaway	Non-End Item Recurring Flyaway	Non-Recurring Flyaway	Initial Spares	Depot Activation	Other/ Unallocated	Total TY(\$M)	Weighted Rate	Total CY2020 (\$M)
<b>Total</b>	<b>23,338.8</b>	-	-	-	-	-	<b>23,338.8</b>	-	<b>17,504.9</b>
2016							-	0.988094	-
2017							-	1.013635	-
2018							-	1.043656	-
2019							-	1.078875	-
2020	1,386.177						1,386.2	1.120770	1,236.8
2021	1,102.523						1,102.5	1.164999	946.4
2022	1,159.300						1,159.3	1.205489	961.7
2023	1,270.905						1,270.9	1.233855	1,030.0
2024	2,183.861						2,183.9	1.260325	1,732.8
2025	1,170.442						1,170.4	1.286839	909.5
2026	2,152.742						2,152.7	1.313862	1,638.5
2027	1,173.257						1,173.3	1.341453	874.6
2028	2,294.994						2,295.0	1.369624	1,675.6
2029	1,145.863						1,145.9	1.398386	819.4
2030	2,422.810						2,422.8	1.427752	1,696.9
2031	2,455.710						2,455.7	1.457735	1,684.6
2032	3,420.196						3,420.2	1.488347	2,298.0

## Annual Acquisition Estimates by Appropriation Account

(Aligned to Budget Position: PB 2025)

### FFG(62) Guided Missile Frigate

Source for TY\$-CY\$ Conversion: ASN FMB-6 Inflation Rates and Outlay Factors for DA, DoN and DW accounts: 17 Jan 2024

1810N - Other Procurement, Navy									
fiscal year	End Item Recurring Flyaway	Non-End Item Recurring Flyaway	Non-Recurring Flyaway	Initial Spares	Depot Activation	Other/ Unallocated	Total TY(\$M)	Weighted Rate	Total CY2020 (\$M)
<b>Total</b>	<b>235.8</b>	-	-	-	-	-	<b>235.8</b>	-	<b>183.4</b>
2016							-	0.959000	-
2017							-	0.979369	-
2018							-	1.001688	-
2019							-	1.025995	-
2020							-	1.062122	-
2021							-	1.114082	-
2022							-	1.161332	-
2023							-	1.194952	-
2024	17.505						17.5	1.222038	14.3
2025	14.560						14.6	1.247953	11.7
2026	74.050						74.1	1.274160	58.1
2027	113.340						113.3	1.300918	87.1
2028	9.720						9.7	1.328237	7.3
2029	6.600						6.6	1.356130	4.9

## Annual Acquisition Estimates by Appropriation Account

(Aligned to Budget Position: PB 2025)

### FFG(62) Guided Missile Frigate

Source for TY\$-CY\$ Conversion: ASN FMB-6 Inflation Rates and Outlay Factors for DA, DoN and DW accounts: 17 Jan 2024

1205N - Military Construction, Navy					
fiscal year		Other/ Unallocated	Total TY(\$M)	Weighted Rate	Total CY2020 (\$M)
<b>Total</b>		-	<b>324.8</b>	-	<b>227.8</b>
2016			-	0.994467	-
2017			-	1.020082	-
2018			-	1.057938	-
2019			-	1.098636	-
2020			-	1.145028	-
2021			-	1.184817	-
2022			-	1.211464	-
2023	3.700		3.7	1.239605	3.0
2024	10.200		10.2	1.266164	8.1
2025			-	1.292821	-
2026			-	1.319970	-
2027			-	1.347690	-
2028			-	1.375991	-
2029			-	1.404887	-
2030	310.900		310.9	1.434390	216.7

## Acquired System Annual End-Item Quantities by Appropriation Account

(Aligned to Budget Position: PB 2025)

### FFG(62) Guided Missile Frigate

1319N - Research, Development, Test & Eval, Navy				
fiscal year	FFG(62)			Total
<b>Total</b>	-			-
Undistributed				-

## Acquired System Annual End-Item Quantities by Appropriation Account

(Aligned to Budget Position: PB 2025)

### FFG(62) Guided Missile Frigate

1611N (OSD Compt) - Shipbuilding and Conversion, Navy				
fiscal year	FFG(62)			Total
<b>Total</b>	<b>20</b>			<b>20</b>
Undistributed				-
2020	1			1
2021	1			1
2022	1			1
2023	1			1
2024	2			2
2025	1			1
2026	2			2
2027	1			1
2028	2			2
2029	1			1
2030	2			2
2031	2			2
2032	3			3

## **Nuclear Costs**

### **FFG(62) Guided Missile Frigate**

#### **Program's Use of Department of Energy Resources**

None



## Operational Fielding Plan

### FFG(62) Guided Missile Frigate

**System: FFG(62)**

#### Fielding and Inventory Notes

None

#### FFG(62) Fielding Plan and Inventory

fiscal year	Store	Field	Expend/Loss	Decommission	Inventory
2023					
2024					-
2025					-
2026					-
2027					-
2028					-
2029					-

## O&S Independent Cost Estimate

### FFG(62) Guided Missile Frigate

#### Independent and Current Cost Estimate Comparison

Category	CY2020 (\$M)	Independent Cost Estimate 4/15/2020	Current Estimate 4/15/2020	Variance with ICE (%)
Unit-Level Manpower		16,560.6	16,560.6	0%
Unit Operations		5,397.2	5,397.2	0%
Maintenance		9,848.4	9,848.4	0%
Sustaining Support		10,686.0	10,686.0	0%
Continued System Improvements		6,456.6	6,456.6	0%
Other		8,979.2	8,979.2	0%
<b>Total O&amp;S</b>		<b>57,928.0</b>	<b>57,928.0</b>	<b>0%</b>

#### Independent Cost Estimate Source

Event: MS B  
 Type: Independent Cost Estimate  
 Approved by: OSD Cost Assessment & Program Evaluation, April 15, 2020  
 Note: Disposal cost is captured under "Other" category above

#### Current Cost Estimate Source

Type: Independent Cost Estimate  
 Approved by: OSD Cost Assessment & Program Evaluation, April 15, 2020  
 Note: Disposal cost is captured under "Other" category above

#### Cost Estimate Variance Explanation

Updated Speed Time Profile; increased Crew Size to 193 (23 Officers, 170 Enlisted); Updated from Blue/Gold crewing strategy to Single Crew; Updated Shore Support personnel to 181, plus an additional 100 Crew Ashore; Updated to most recent OPNAVLTR (CARD); Updated Training Strategy for Simulators and Instructors (CARD); Updated to latest Light Ship Weight estimate (CARD)  
 Updated inflation/escalation calculation accordance with the latest CAPE inflation/escalation guidance (i.e., PB24 JIC); Utilized to most recent Labor Rates; Updated VAMOSOC  
 Updated to reflect cost per ship vs. class cost; Included I-Level Maintenance Updates (DDG Basis); Removed LCS Artifacts and Replaced with FMM Estimates; Implemented Crew & Ship Service Life for CNO Phasing; Updated Hull Modernization to be phased parametrically

## Annual Operating and Support Estimates by Cost Element

### FFG(62) Guided Missile Frigate

#### System: FFG(62)

Source for TY-CY Conversion:

Operating and Support Cost Elements							
fiscal year	1.0 Unit-Level Manpower	2.0 Unit Operations	3.0 Maintenance	4.0 Sustaining Support	5.0 Continuing System Improvements	Other	Total CY2020 (\$M)
<b>Total</b>	<b>16,560.6</b>	<b>5,397.2</b>	<b>9,848.4</b>	<b>10,686.0</b>	<b>6,456.6</b>	<b>8,979.2</b>	<b>57,928.0</b>
2024	16.188	-	-	-	-	7.852	24.0
2025	48.565	-	-	-	-	23.557	72.1
2026	64.753	6.509	12.928	109.423	38.457	32.695	264.8
2027	113.318	19.527	39.027	173.031	67.165	58.823	470.9
2028	145.695	26.035	62.539	221.835	82.639	78.563	617.3
2029	226.636	45.562	111.221	188.247	119.021	121.681	812.4
2030	291.389	58.580	127.129	219.855	136.525	156.439	989.9
2031	437.084	121.116	187.565	251.462	156.800	230.491	1,384.5
2032	518.025	154.148	230.063	298.874	186.147	273.609	1,660.9
2033	582.778	176.169	271.212	330.482	212.178	307.589	1,880.4
2034	615.155	198.190	365.769	362.090	219.751	325.865	2,086.8
2035	647.532	220.211	344.892	393.698	246.647	344.140	2,197.1
2036	647.532	220.211	403.746	393.698	248.252	344.140	2,257.6
2037	647.532	220.211	409.822	393.698	253.582	344.140	2,269.0
2038	647.532	220.211	368.212	393.698	250.384	344.140	2,224.2
2039	647.532	220.211	447.964	393.698	249.958	344.140	2,303.5
2040	647.532	220.211	465.753	393.698	248.252	344.140	2,319.6
2041	647.532	220.211	396.305	393.698	253.582	344.140	2,255.5
2042	647.532	220.211	475.163	393.698	240.452	344.140	2,321.2
2043	647.532	220.211	397.473	393.698	246.647	344.140	2,249.7
2044	647.532	220.211	393.250	393.698	248.252	344.140	2,247.1
2045	647.532	220.211	419.089	393.698	253.582	344.140	2,278.3
2046	647.532	220.211	404.200	393.698	250.384	344.140	2,260.2
2047	647.532	220.211	390.760	393.698	249.958	344.140	2,246.3
2048	647.532	220.211	407.803	393.698	248.252	344.140	2,261.6
2049	647.532	220.211	396.648	393.698	253.582	344.140	2,255.8
2050	647.532	220.211	344.183	393.698	238.321	344.140	2,188.1
2051	615.155	209.200	383.391	377.894	232.779	329.692	2,148.1
2052	550.402	187.179	350.164	346.286	211.870	304.146	1,950.0
2053	518.025	176.169	298.497	330.482	191.588	290.505	1,805.3
2054	420.896	143.137	287.077	283.070	160.535	238.727	1,533.4
2055	356.142	121.116	237.986	251.462	139.834	213.988	1,320.5
2056	291.389	99.095	185.562	219.855	119.132	174.116	1,089.1

**System: FFG(62)**

Source for TY-CY Conversion:

<b>Operating and Support Cost Elements</b>							
<b>fiscal year</b>	<b>1.0 Unit-Level Manpower</b>	<b>2.0 Unit Operations</b>	<b>3.0 Maintenance</b>	<b>4.0 Sustaining Support</b>	<b>5.0 Continuing System Improvements</b>	<b>Other</b>	<b>Total CY2020 (\$M)</b>
2057	194.259	66.063	144.205	172.443	88.079	125.688	790.7
2058	129.506	44.042	62.155	140.835	67.378	95.057	539.0
2059	64.753	22.021	26.605	109.227	46.676	55.186	324.5
2060						16.867	16.9
2061						11.783	11.8