2026 Taiwan Strait High-Intensity Conflict Scenario

Integrated Operational War-Game Report: USN / USAF vs. PLAN / PLAAF / PLARF

Scenario Variant: Multi-Domain Operations (AIM-174B Fleet Air Defense, Space ISR, Electronic Warfare, Manned Radar Pickets, Base Denial & Guam Logistics Bridge)

1. Executive Summary & Tactical Dynamics

This report presents a comprehensive operational wargame modeling a high-intensity 18-hour multi-domain maritime and air engagement in the Western Pacific. The scenario evaluates the capability of United States Naval, Air, and Joint forces to counter a dual-axis saturation attack by People's Liberation Army (PLA) forces and execute a standoff counter-strike against PLAN carrier assets in the Taiwan Strait.

Multi-Domain Battlespace Architecture

Domain Layer	U.S. / Allied Forces	PLA Forces
Space	USSF SBIRS & LEO Constellations	PLA Yaogan & Gaofen Reconnaissance Satellites
Air	USAF F-22A / F-15EX (Outer Air) USN F/A-18E/F (AIM-174B WRL) USAF B-52H / B-21 (LRASM Launch)	PLAAF H-6K/N Bombers + J-20A Escorts + J-16s PLANAF J-15T Flying Sharks + J-15D EW Flankers PLAAF KJ-500 / KJ-2000 Strategic AWACS

Domain Layer	U.S. / Allied Forces	PLA Forces
Surface	USN CSG-1 (CVN-76 + Flight III) USN CSG-2 (CVN-78 + Flight III) USN SAG (USS Shiloh Decoy Picket)	PLAN Carrier Task Group (Shandong & Liaoning) PLAN Type 055 Cruisers & Type 052D Escorts PLAN Coastal & Escort Defensive Screens
Undersea	USN Virginia SSNs (Illinois)	PLAN Submarine Screen (Type 09IIIA / Type 039C)
Logistics Hub	Andersen AFB (Guam + THAAD)	C-17 Airlift Bridge to Kadena AB (PAC-3 / Damaged)

Key Tactical Innovations & Domain Factors

- **The AIM-174B Game-Changer: Deploying the air-launched SM-6 configuration (AIM-174B) on USN F/A-18E/F Super Hornets extends the fleet anti-air engagement ring past 250 nmi. Firing prior to the bombers reaching their weapons-release line (WRL) neutralizes 60% of the inbound H-6K/N strike force, dramatically preserving surface VLS magazines.**
- **Space ISR & Weather Constraints: Space Force SBIRS and LEO satellites provide early launch tracking. PLA Yaogan ELINT/SAR satellites queue mainland missile assets. Intermittent partly cloudy conditions degrade EO/IR optical tracking, shifting targeting reliance onto active radar, Synthetic Aperture Radar (SAR), and Electronic Support Measures (ESM).**
- **Electronic Warfare (EW) Synergy: Dense jam-resistant environments define the engagement. USN EA-18G Growlers and SEWIP Block 3 active electronic attack modules jam active RF seekers, while PLAN J-15D EW Flankers execute standoff cooperative jamming against US Aegis arrays.**
- **The Burden of Manned Pickets: Without autonomous unmanned scouts to fuse a targeting picture, the U.S. Navy relies on forward-deployed manned surface action**

groups (SAGs) to draw ELINT targeting away from the carriers, exposing these destroyers to heavier saturation fires.

- **Base Denial & Strategic Logistics Alignment: A PLARF DF-17 hypersonic strike degrades Kadena Air Base's Sortie Generation Rate (SGR) by 50%. Heavy bombers shift to Andersen AFB (Guam), protected by THAAD Task Force Talon and sustained by a C-17 precision munitions airlift bridge.**

2. Order of Battle & Exact Geographic Coordinates

United States & Allied Force Dispositions

Node	Coordinates	Notes
Kadena AB (Okinawa Hub)	26°21'19"N, 127°46'05"E	Land-based air hub
CSG-1 (Philippine Sea North)	23°30'00"N, 126°30'00"E	CVN-76
CSG-2 (Philippine Sea South)	16°30'00"N, 124°30'00"E	CVN-78
USN SAG (120 nmi West of CSG-2)	16°30'00"N, 122°20'00"E	USS Shiloh (CG-67) + 3 DDGs
Outer Air Battle (Bashi Channel)	20°00'00"N, 121°00'00"E	Outer air engagement zone
Undersea Trench (East of Taiwan)	23°45'00"N, 122°30'00"E	Virginia-class SSNs

CSG-1 ("North Strike Group" — Philippine Sea / Ryukyu South)

- **Coordinates: ~23°30'00"N, 126°30'00"E**
- **Capital Ship: USS Ronald Reagan (CVN-76) (62 aircraft: 12x F-35C, 28x F/A-18E/F, 6x EA-18G, 4x E-2D, 12x MH-60R/S).**
- **Air Defense Commander: USS Jack H. Lucas (DDG-125) — Flight III (AN/SPY-6(V)1 AMDR).**
- **Escort Screen: USS Louis H. Wilson Jr. (DDG-126), USS Milius (DDG-69), USS Higgins (DDG-76), USS Howard (DDG-83).**

CSG-2 ("Southwest Strike Group" — Philippine Sea / Luzon East)

- **Coordinates: ~16°30'00"N, 124°30'00"E**
- **Capital Ship: USS Gerald R. Ford (CVN-78) (69 aircraft: 24x F-35C, 20x F/A-18E/F, 6x EA-18G, 5x E-2D, 4x MQ-25A, 10x MH-60R/S).**
- **Air Defense Commander: USS Ted Stevens (DDG-128) — Flight III (AN/SPY-6(V)1 AMDR).**
- **Escort Screen: USS Jeremiah Denton (DDG-129), USS Dewey (DDG-105), USS Wayne E. Meyer (DDG-108), USS Rafael Peralta (DDG-115).**

USN Surface Action Group (SAG / Hunter-Killer Picket — 120 nmi West of CSG-2)

- **Coordinates: ~16°30'00"N, 122°20'00"E**
- **Command Cruiser: USS Shiloh (CG-67).**
- **Destroyer Screen: USS John Basilone (DDG-122), USS Ralph Johnson (DDG-114), USS Benfold (DDG-65).**

Undersea Strike Force (Deep Water Trench — East of Taiwan)

- **Coordinates: ~23°45'00"N, 122°30'00"E**
- **Submarines: USS Illinois (SSN-779), USS North Carolina (SSN-777), USS Washington (SSN-787).**

Land-Based Air Nodes & Strategic Hubs

- **Kadena Air Base (Okinawa): 26°21'19"N, 127°46'05"E — 18x F-22A, 18x F-15EX, 12x P-8A, 12x KC-46A, 16x KC-135T, 3x E-3G, PAC-3 MSE Batteries.**
- **Andersen AFB (Guam): 13°34'52"N, 144°55'28"E — 8x B-52H, 4x B-21, 4x RQ-4B, Task Force Talon (THAAD Battery).**
- **Basa Air Base (Philippines): 14°59'11"N, 120°30'04"E — 12x F-35B, 4x KC-135T.**
- **Camilo Osias Air Base (Philippines): 18°30'15"N, 122°08'55"E — 8x USMC NMESIS Mobile Anti-Ship Missile Units.**

People's Liberation Army Force Dispositions

PLAN Carrier Task Group (Taiwan Strait / Pingtan Zone)

- **Coordinates: ~25°30'00"N, 119°50'00"E**
- **Capital Ships: Shandong (Type 002), Liaoning (Type 001).**

- **Air Wing: 48x J-15T Flying Sharks, 8x J-15D EW Flankers, 12x Z-18F ASW Helos, 4x Z-18J AEW Helos.**
- **Cruisers / Destroyers: Nanchang (101), Lhasa (102) (Type 055); Xiamen (154), Zhengzhou (151), Taiyuan (131), Nanning (162), Suzhou (132), Huainan (164) (Type 052D).**
- **Frigates: Yiyang (548), Linyi (547), Weifang (550), Huangshan (570) (Type 054A).**

PLAN Outer Submarine Screen (East Coast Blockade Barrier)

- **Coordinates: ~23°30'00"N, 123°00'00"E**
- **SSNs / SSKs: Changzheng 15 (Hull 418), Changzheng 16 (Hull 419) (Type 09IIIA); 4x Type 039C Yuan-class (Hulls 336, 337, 338, 339).**

PLAAF / PLANAF & Land-Based Missile Units

- **PLAAF Bomber Staging (Anqing & Luqiao Airbases): Anqing (30°35'00"N, 117°03'00"E), Luqiao (28°33'44"N, 121°25'43"E) — 16x H-6K (YJ-12 ASCM), 8x H-6N (YJ-21 ALBM).**
- **PLAAF Escort Bases (Fujian): Longling/Wuyi Airfields — 36x J-20A Stealth Fighters, 24x J-16 Multi-Role Flankers.**
- **PLAAF Strategic AEW Hubs: 6x KJ-500A, 2x KJ-2000 AWACS.**
- **PLARF Brigades: 61st (Anhui - DF-21D ASBM), 62nd (Guangdong - DF-26B IRBM / DF-17 HGV), 63rd (Hunan - DF-16 TBM / DF-100 Cruise).**

3. Detailed Engagement Log (Phases I – IV)

Phase I: Satellite-Queued Undersea Interception & Radar Picket (H-Hour to H+3 Hours)

Operational Context: Space Force SBIRS and LEO satellites detect acoustic and wake signatures of the PLAN submarine barrier east of Taiwan. Without USV scouts to safely gather data, the USN relies on its forward surface assets to probe the environment.

- **[H+01:30] USS Illinois (SSN-779) fires 2x Mk 48 Mod 7 CBASS torpedoes, destroying PLAN Type 09IIIA SSN Changzheng 15 (Hull 418).**
- A P-8A Poseidon drops 1x Mk 54 HAAWC glide torpedo, heavily damaging Type 039C (Hull 336); crew scuttles the hull.
- Shandong launches Z-18F ASW helicopters, laying sonobuoy fields and launching 2x Yu-7 lightweight torpedoes. USS Illinois is forced into evasive maneuvers, diving deep and breaking contact, sparing the surviving Type 039C SSKs.

- The USN SAG (USS Shiloh leading) powers up AN/SPY-1A radars 120 nmi west of CSG-2 to manually fuse a targeting picture, successfully drawing primary PLA ELINT tracking away from the carriers.

Actor / Platform	Action	Result
USSF LEO Satellite	Queues USS Illinois (SSN-779)	Fires 2x Mk 48 CBASS — sinks PLAN SSN-418
P-8A Poseidon	Drops Mk 54 HAAWC torpedo	PLAN SSK-336 damaged and scuttled
PLAN Z-18F Helos	Counter-launch Yu-7 torpedoes	USS Illinois forced to break contact

Phase II: The Outer Air Battle, AIM-174B Decapitation & Dual-Axis Salvo (H+04 to H+08 Hours)

Operational Context: PLA launches a synchronized dual-axis attack: 24x H-6K/N bombers route over the Bashi Channel alongside a 44-missile PLARF ASBM salvo. SBIRS satellites detect mainland thermal launch blooms.

- **[H+05:15] AIM-174B Outer Air Battle Interception: 16x USN F/A-18E/F Super Hornets launch from CSG-1 and CSG-2. Guided by E-2D Hawkeyes and E-3G Sentries, the Super Hornets fire a salvo of 32x AIM-174B missiles at ranges exceeding 250 nmi.**
- **Impact: 14x H-6 bombers (7x H-6K, 7x H-6N) and 2x KJ-500 AWACS platforms are destroyed before reaching their weapons-release line. Escorting J-20A stealth fighters are caught out of position due to the extreme standoff range.**
- **[H+05:45] Dual-Axis Terminal Engagement: The surviving 10x H-6 bombers launch a reduced salvo of 24x YJ-12 ASCMs and 4x YJ-21 ALBMs, merging with the 44x PLARF ASBMs (DF-21D / DF-26B).**
- **Defensive Execution: USS Ted Stevens (DDG-128) and USS Jack H. Lucas (DDG-125) use SPY-6 arrays to track exo-atmospheric targets, launching 36x SM-3 Block IIA interceptors to neutralize the ballistic warheads.**
- The forward USN SAG absorbs the brunt of the low-altitude YJ-12 wave. EA-18G Growlers and SEWIP Block 3 EW modules jam missile RF seekers. 12x SM-6 Dual I and 10x SM-2 Block IIIC interceptors destroy surviving cruise missiles.
- 2x YJ-12s leak through and strike USS Benfold (DDG-65) topside, causing significant radar damage and disabling VLS launcher bay 1 (16 cells offline). Zero impacts on CSG aircraft carriers.

Actor / Platform	Action	Result
USN F/A-18E/F (16x)	Fires 32x AIM-174B (250+ nmi range)	Destroys 14x H-6 bombers & 2x KJ-500s
PLARF & residual raid	Launches 44x ASBMs + 28x cruise missiles	SPY-6 radar hand-off
Flight III escorts	Fires 36x SM-3 IIA + 12x SM-6 + SEWIP EW	2x YJ-12s hit USS Benfold topside

Phase III: Standoff Counter-Strike on PLAN Taiwan Strait Fleet (H+09 to H+13 Hours)

Operational Context: US SAR satellites confirm PLAN carrier coordinates in the Taiwan Strait. US standoff bombers (B-52H/B-21) and Carrier Air Wings execute a saturation counter-salvo.

- **[H+10:45] Bomber packages release 80x AGM-158C LRASMs and 32x AGM-158B JASSM-ER decoys.**
- Alerted by Z-18J AEW helicopters, 24x J-15T Flying Sharks scramble from Shandong, launching 24x PL-15 AAMs to intercept incoming LRASMs. They down 14 missiles.
- Because the PLAN Type 055 cruisers and Type 052D destroyers were not forced to exhaust their magazines on USV drone swarms prior to the bomber strike, they possess a fully stocked HQ-9B defensive umbrella. They deploy multi-spectral smoke and fire 144x SAMs.
- **Revised Penetration: The thicker PLAN defenses intercept a higher percentage of the strike. Only 18 low-observable LRASMs penetrate the defensive screen:**
    - **Shandong (Type 002): Hit by 3x LRASMs. Flight deck is heavily damaged and offensive flight operations are suppressed, but the vessel avoids grounding and maintains mobility.**
    - **Liaoning (Type 001): Hit by 2x LRASMs. Superstructure and primary radar arrays damaged.**
    - **Type 052D Destroyer Huainan (164): Takes a direct hit to its forward superstructure, is severely crippled and withdrawn from the task group, but avoids sinking.**

Actor / Platform	Action	Result
USAF/USN bombers/CVWs	Launches 80x LRASM + 32x JASSM-ER decoys	Meets fully stocked PLAN VLS
PLAN J-15T / SAMs	Fires 24x PL-15 + 144x HQ-9B/S-400	Intercepts 94 inbound weapons

Actor / Platform	Action	Result
18x penetrating LRASMs	Strike PLAN fleet	Hits Shandong (3x, suppressed); Liaoning (2x); cripples DDG Huainan

Phase IV: PLARF Base-Denial Salvo & Strategic Realignment (H+14 to H+18 Hours)

Operational Context: PLARF executes a retaliatory strike using hypersonic glide vehicles and tactical ballistic missiles against Kadena Air Base.

- **[H+15:20] PLARF fires 16x DF-17 HGVs and 24x DF-16 TBMs at Kadena AB.**
- US Army PAC-3 MSE batteries intercept 16 tactical ballistic targets.
- 4x DF-17 HGVs perform terminal skip-glide maneuvers, bypassing intercept cones, cratering parallel runways (05L/23R, 05R/23L) and destroying 2x parked KC-135T tankers.

Operational Impact & Logistics Realignment:

- Kadena turnaround times degrade by 50% for 24 hours. USAF Rapid Airfield Damage Repair (RADR) teams deploy.
- Heavy bombers (B-52H, B-21) and tankers shift operations to Andersen AFB (Guam). Air Mobility Command activates a continuous C-17 Globemaster III airlift bridge from Hickam AFB to ferry AGM-158C/B munitions stocks to Guam.
- Task Force Talon (Guam THAAD) successfully intercepts follow-on long-range PLARF DF-26B salvos aimed at Andersen AFB, securing the primary strategic logistics bridge.

4. Battlespace Grid Map & Engagement Envelopes

Tactical Grid Map & Threat Rings (Nautical Miles)

Range bands from the mainland coastline outward to the Guam hub, and the primary activity occurring in each.

Range Band	Zone	Key Activity
0 nmi	Mainland Coastline	PLARF DF-17 hypersonic strike launch; S-400 / HQ-9B 200 nmi SAM umbrella
150 nmi	Taiwan Strait & Taiwan Is.	PLAN carriers (Shandong / Liaoning) operating; U.S.

Range Band	Zone	Key Activity
		LRASM standoff launch impact zone
300 nmi	Bashi Channel / Ryukyu Arc	AIM-174B WRL (AAM engagement); H-6K/N WRL (YJ-12/21 release); Kadena AB (PAC-3 defense)
500 nmi	Philippine Sea (CSG positions)	F/A-18E/F CAP (CSG air wings); USN SAG decoy picket; CSG-1 & CSG-2 (SPY-6 / SM-3 IIA)
800 nmi	Outer Arc (SSN trench)	B-52H / B-21 standoff vectors
1,500 nmi	Guam Hub (Andersen AFB)	THAAD defense; terminus of PLARF DF-26B IRBM long-range strategic strike
—	Cross-cutting	PLARF DF-21D / DF-26B ASBMs follow a terminal ballistic trajectory spanning the mainland coastline through the Philippine Sea

Weapons Release Lines (WRL) & Engagement Parameters

Weapon System	Launch Platform / Unit	Maximum Effective Range	Target Node / Interception Envelope	Tactical WRL / Engagement Envelope
AIM-174B (SM-6 ALC)	USN F/A-18E/F Super Hornet	~250+ nmi (460+ km)	H-6K/N Bombers & KJ-500 AWACS	Fired at 250–300 nmi outer defensive CAP radius
DF-21D ASBM	PLARF 61st Brigade (Anhui)	~1,500 km (810 nmi)	USN CSG-2 & SAG Picket	Apogee > 150 km; high-angle exo-atmospheric reentry
DF-26B IRBM	PLARF 62nd Brigade (Guangdong)	~4,000 km (2,160 nmi)	USN CSGs & Andersen AFB (Guam)	Full theatre coverage; intercepted by SM-3 IIA / THAAD

Weapon System	Launch Platform / Unit	Maximum Effective Range	Target Node / Interception Envelope	Tactical WRL / Engagement Envelope
DF-17 HGV	PLARF 62nd Brigade (Guangdong)	~1,800 km (970 nmi)	Kadena Air Base (Okinawa)	Skip-glide trajectory at Mach 5–10; low terminal angle
YJ-21 ALBM	PLAAF H-6N Bomber	~1,500 km (810 nmi)	USN Capital Ships (CSG-1/CSG-2)	Air-launched release at 300–400 nmi standoff
YJ-12 ASCM	PLAAF H-6K Bomber	~400 km (215 nmi)	USN SAG & Escort Screen	Mach 3+ sea-skimmer; WRL at 200–250 nmi from fleet
AGM-158C LRASM	USAF B-52H/B-21 / USN F-35C	~370–500 nmi (680–920 km)	PLAN Carriers (Shandong / Liaoning)	Standoff air launch outside mainland S-400 envelope
SM-3 Block IIA	USN Flight III DDGs	~2,500 km (1,350 nmi)	Inbound DF-21D / DF-26B / YJ-21	Exo-atmospheric interception cone (100–300 km alt)

5. Master Munitions Expenditure Ledger

Force / Node	Launch Platform / Unit	Weapon System Type	Expended Quantity	Primary Target / Operational Role
USN Air Wing	F/A-18E/F Super Hornets	AIM-174B (SM-6 ALC)	32	PLAAF H-6K/N Bombers & KJ-500 AWACS
USAF Air	F-22A Raptor / F-15EX	AIM-260 JATM	8	Escorting PLAAF J-16 Fighters
USN Undersea	USS Illinois (SSN-779)	Mk 48 Mod 7 CBASS	2	PLAN Type 09IIIA SSN (Changzheng 15)

Force / Node	Launch Platform / Unit	Weapon System Type	Expended Quantity	Primary Target / Operational Role
USN Air (ASW)	P-8A Poseidon (Kadena)	Mk 54 HAAWC	1	PLAN Type 039C SSK (Hull 336)
USN Aegis	DDG Flight IIA / Flight III	SM-3 Block IIA	36	PLARF DF-21D / DF-26B & YJ-21 ALBMs
USN Aegis	DDG Flight IIA / Flight III	SM-6 Dual I	12	Inbound Sea-Skimming YJ-12 ASCMs
USN Aegis	DDG Flight IIA / Flight III	SM-2 Block IIIC	10	Inbound Sea-Skimming YJ-12 ASCMs
USAF / USN	B-52H / B-21 / F-35C	AGM-158C LRASM	80	PLAN Carriers (Shandong / Liaoning) & Escorts
USAF	B-52H / B-21 Bombers	AGM-158B JASSM-ER	32	Standoff Decoys & SEAD Penetration
US Army ADA	PAC-3 Battery (Kadena AB)	PAC-3 MSE	32	PLARF DF-16 Tactical Ballistic Missiles
US Army ADA	Task Force Talon (Guam)	THAAD Interceptor	12	PLARF DF-26B IRBMs targeted at Andersen AFB
PLANAF Air	Z-18F ASW Helicopter	Yu-7 Lightweight Torpedo	2	USS Illinois (SSN-779) Counter-ASW
PLANAF Air	J-15T Flying Sharks	PL-15 AAM	24	Incoming AGM-158C LRASMs
PLAAF Strike	H-6K Maritime Bombers	YJ-12 ASCM	24	USN SAG & CSG-2 (7x H-6K bombers destroyed pre-launch by AIM-174B)
PLAAF Strike	H-6N Ballistic Bombers	YJ-21 ALBM	4	USN Capital Ships (7x H-6N

Force / Node	Launch Platform / Unit	Weapon System Type	Expended Quantity	Primary Target / Operational Role
				bombers destroyed pre-launch by AIM-174B)
PLARF Strike	61st / 62nd Brigades	DF-21D / DF-26B ASBM	44	USN CSG-2 & SAG Decoy Picket
PLARF Strike	62nd Missile Brigade	DF-17 HGV	16	Kadena Air Base Primary Runways
PLARF Strike	63rd Missile Brigade	DF-16 TBM	24	Kadena Air Base Facilities
PLAN / PLA	Type 055 / Mainland S-400	HQ-9B / S-400 Missile	144	Inbound AGM-158C LRASM / JASSM-ER Salvo

6. Pre-Battle vs. Post-Battle VLS Capacity & Loadout Analysis

US Navy Surface Fleet VLS Analysis

The U.S. Navy surface force in theatre comprises 14 warships (1 Ticonderoga Cruiser + 13 Arleigh Burke Destroyers) providing a baseline total of 1,352 surface VLS cells.

Metric	Value
Pre-Battle VLS Capacity	100% (1,352 cells)
Post-Battle Available	94.5% (1,278 cells)
Combat Expenditure	4.3% (58 cells expended)
Structural Launcher Loss	1.2% (16 cells disabled on USS Benfold)

Complete Missile-by-Missile Loadout Breakdown (USN). Note: RIM-162 ESSM quad-packs allow 4 missiles per cell; all figures below are individual missile counts.

Missile Type	Primary Mission Role	Pre-Battle Inventory	Combat Expended	Disabled / Sunk (USS Benfold)	Post-Battle Inventory	% Inventory Remaining
SM-2 Block IIIC	*Medium/Long-Range SAM*	*470*	*10*	*6*	*454*	*96.6%*
SM-6 Dual I / Block IA	*Multi-Mission (AAW/ASuW/BMD)*	*340*	*12*	*4*	*324*	*95.3%*
SM-3 Block IIA	*Exo-Atmospheric BMD*	*135*	*36*	*0*	*99*	*73.3%*
AGM-158C / RGM-109	*VLS-Launched LRASM / Tomahawk*	*270*	*0*	*4*	*266*	*98.5%*
RIM-162 ESSM	*Point Defense SAM (Quad-Pack)*	*140 (35 cells)*	*0*	*8 (2 cells)*	*132*	*94.3%*
RUM-139 VL-ASROC	*Anti-Submarine Rocket*	*67*	*0*	*0*	*67*	*100.0%*
USN Fleet Totals	—	*1,422 missiles (1,352 cells)*	*58 missiles*	*22 missiles (16 cells)*	*1,342 missiles*	*94.3%*

PLA Navy Surface Fleet VLS Analysis

The PLAN Carrier Task Group surface screen comprises 12 warships (2 Type 055 Cruisers, 6 Type 052D Destroyers, 4 Type 054A Frigates) providing a baseline total of 736 surface VLS cells.

Metric	Value
Pre-Battle VLS Capacity	100% (736 cells)
Post-Battle Available	70.7% (520 cells)
Combat Expenditure	20.7% (152 cells expended)
Structural Launcher Loss	8.7% (64 cells disabled on crippled Type 052D Huainan)

Complete Missile-by-Missile Loadout Breakdown (PLAN)

Missile Type	Primary Mission Role	Pre-Battle Inventory	Combat Expended	Disabled (Huainan)	Post-Battle Inventory	% Inventory Remaining
HHQ-9B	Long-Range Fleet Defense SAM	322	144	35	143	44.4%
HHQ-16 / 16C	Medium-Range SAM (Type 054A)	96	8	0	88	91.7%
YJ-18	Anti-Ship Cruise Missile (ASCM)	141	0	16	125	88.7%
YJ-21	Hypersonic ASBM (Type 055)	22	0	0	22	100.0%
CJ-10 / CJ-1000	Land-Attack Cruise Missile	61	0	6	55	90.2%
CY-5 / Yu-8	Anti-Submarine Rocket	94	0	7	87	92.6%
PLAN Fleet Totals	—	736 missiles (736 cells)	152 missiles	64 missiles (64 cells)	520 missiles	70.6%

7. Strategic Findings & Tactical Conclusions

1. **AIM-174B as the Fleet Air Defense Anchor: The deployment of the AIM-174B fundamentally alters the Outer Air Battle. By knocking down 60% of the H-6 bomber fleet prior to cruise missile release, U.S. Navy surface escorts preserve over 95% of their SM-6 and SM-2 missile inventories. This solves the critical VLS magazine depletion problem observed in earlier scenario variants.**
2. **The Burden of Manned Pickets & Thicker PLAN Defenses: Without the "Hellscape" unmanned barrier to act as an attritable decoy force, the U.S. relies on manned destroyers (USS Shiloh's SAG) to draw fire, exposing them to heavier localized damage. Conversely, because PLAN escorts do not exhaust their VLS cells on USV swarms, they preserve their defensive HHQ-9B inventory, intercepting a significantly higher percentage of the incoming U.S. standoff strike and sparing the carriers from catastrophic loss.**
3. **Electronic Warfare (EW) Multiplier: Dense multi-spectral electronic warfare reduces reliance on hard-kill interceptors. SEWIP Block 3 modules and EA-18G jamming successfully defeat multi-axis missile guidance seekers in high-clutter environments.**
4. **Logistics Resilience via Guam: Base-denial strikes using hypersonic glide vehicles (DF-17) impose a temporary 50% SGR penalty on forward nodes like Kadena. However, integrated THAAD coverage at Andersen AFB coupled with continuous C-17 airlift bridges ensures sustained long-range standoff counter-strike capacity.**

Appendix: Ship and Patrol formations

Here is the consolidated breakdown of the naval formations, distances, and air patrol stations for your scenario, formatted for easy copying.

U.S. Navy Distributed Defense Geometry

The U.S. strategy relies on a distributed screen to push radar and interception horizons as far forward as possible to protect the carriers.

Asset / Role	Station Distance & Bearing	Primary Tactical Function
Carrier Core (CVN-78 / CVN-76)	Center (0 nmi)	Hub for strike and air defense operations.
Plane Guard (e.g., USS Dewey)	3–5 nmi Astern	Rescues aviators and provides inner point defense against leak-through missiles.
ASW & AAW Escorts	15–25 nmi Flanks	Deploys towed sonars and fires medium-range interceptors.
Air Defense Commander	35–50 nmi Forward	Maximizes SPY-6 radar horizon for exo-atmospheric ballistic missile defense.
Forward SAG Picket	120 nmi West	Radiates active radar to act as a decoy, drawing enemy fires away from the main fleet.

PLA Navy Concentric Defense Geometry

The PLAN utilizes a tightly clustered formation to build a dense, overlapping surface-to-air missile umbrella that operates within mainland defensive ranges.

Asset / Role	Station Distance & Bearing	Primary Tactical Function
Dual-Carrier Core	Center (0–5 nmi)	Pools short-range defenses and cycles joint flight operations for *Shandong* and *Liaoning*.
Heavy Cruiser Ring (Type 055s)	8–12 nmi Forward	Positions massive VLS capacity directly facing incoming threat vectors.
Destroyer Ring (Type 052Ds)	15–25 nmi (360° Ring)	Forms a continuous HQ-9B missile envelope against massed cruise missiles.
Frigate ASW Screen (Type 054As)	25–35 nmi Perimeter	Deploys Variable Depth Sonars to screen the perimeter for submarines.
Static Submarine Barrier	~300 nmi East	Acts as a static ambush line against approaching U.S. surface forces.

Combat Air Patrol (CAP) Stations

Airborne assets extend the defensive reach and situational awareness of both fleets significantly.

- **USN Outer Air Battle: 16x F/A-18E/F Super Hornets patrol 250–300 nmi forward to intercept bombers before weapons release.**

- **USN AEW & EW: E-2D Hawkeyes and EA-18G Growlers orbit 80–120 nmi forward to manage airspace and jam enemy targeting networks.**

- **PLAN Fleet Defense CAP: J-15T fighters operate 30–60 nmi from the carriers to intercept incoming cruise missiles.**

- **PLAN Standoff Interceptors: Land-based J-20A and J-16 fighters push 150–200 nmi forward to challenge U.S. airborne assets.**

Multi-Domain Tactical Summary

- **The U.S. spreads combatants over 120+ nmi to force threat systems to search a vast grid and prevent localized saturation.**

- **The PLAN clusters surface escorts within a 35 nmi radius to maximize the density of interceptors against standoff strikes.**