

# Incorporating Combined Operations Training Enablers Into Test And Evaluation

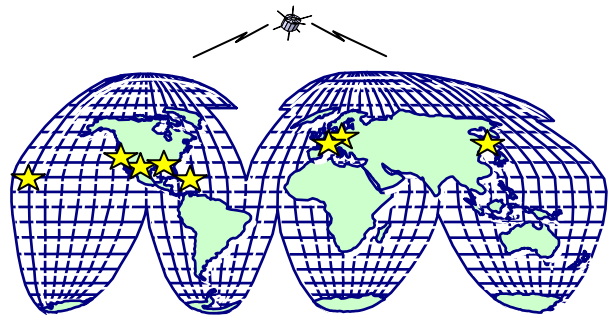


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## ***Joint* – The Training Transformation Definition**

- **Multi-service, Multi-National, Interagency, *and Industry?***
- **The concept of a Joint National Training Capability (JNTC) in the 21<sup>st</sup> century will be more aptly described as a Joint Global Training Capability.**
- **Joint Tactical Task (JTT) analysis is used to identify the full scope of joint training requirements. Results from “Operation Iraqi Freedom” are examined for needed changes in the training strategy.**
- **Joint Use Operational Training Feasibility Must Be Integrated Into Test And Evaluation Of Future Generation Complex Weapons Systems.**

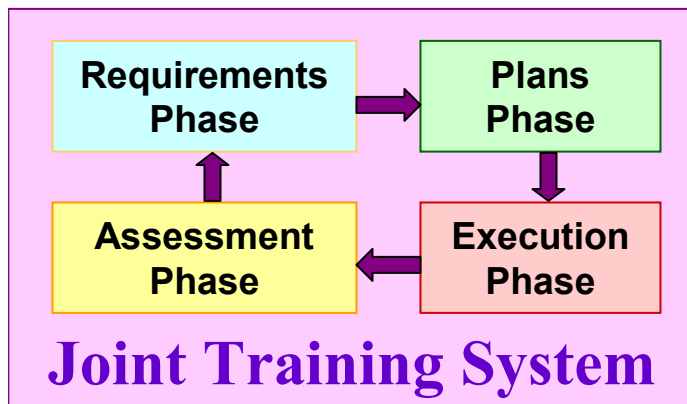


A global network of joint training enablers;

comprised of live, virtual,  
and constructive components;



that provides a seamless training environment across a broad spectrum of Joint training requirements.





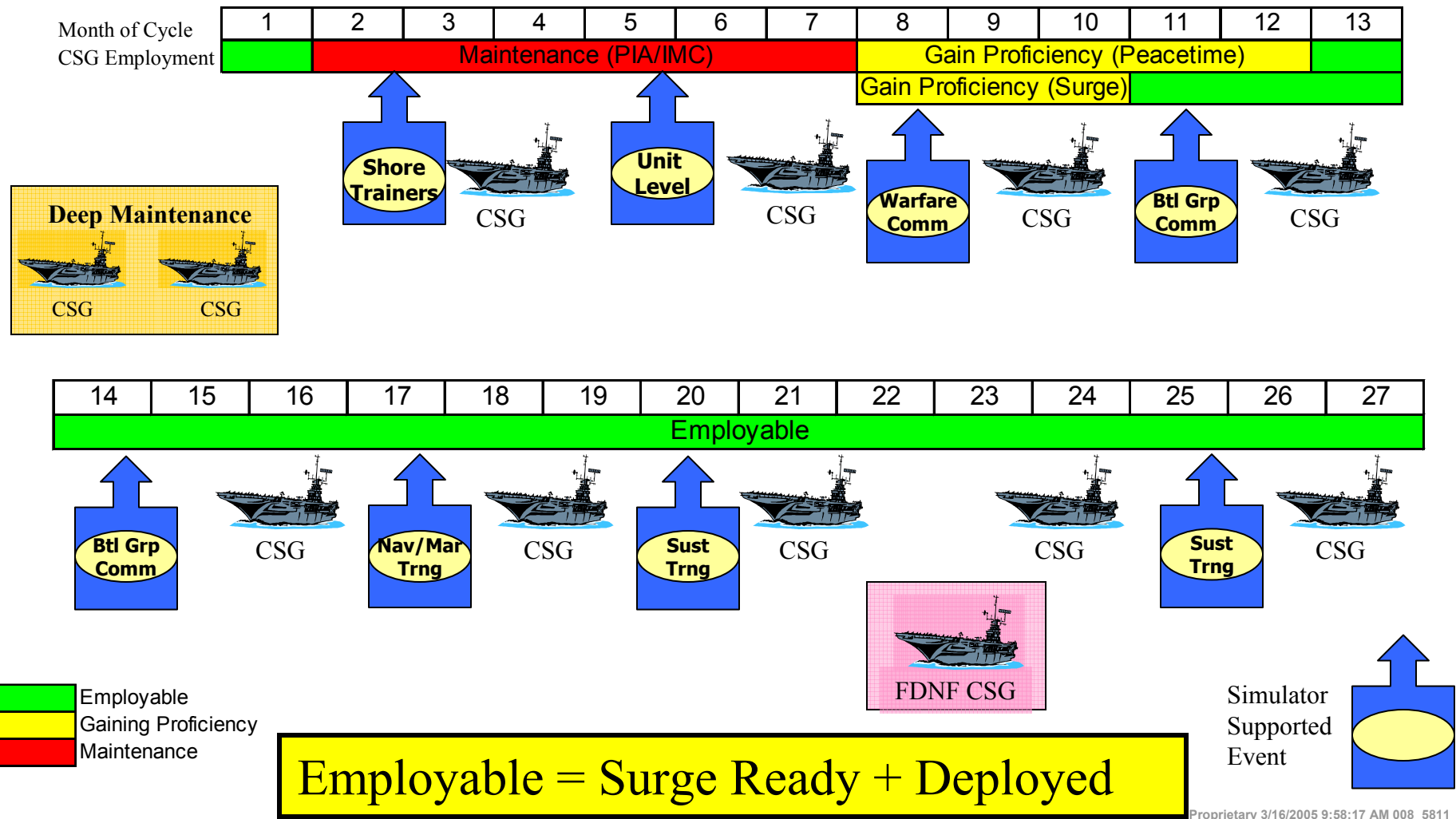
## CFFC Requirement: Deploy Combat Ready Forces

- Joint **Training** Initiatives
- Inter-Deployment **Training** Cycle (IDTC)
- Use existing DoD **Ranges** (including **T&E**)
- Use **Modeling and Simulation**
- Enhancements programmed for **training** effectiveness based on validated **requirements**

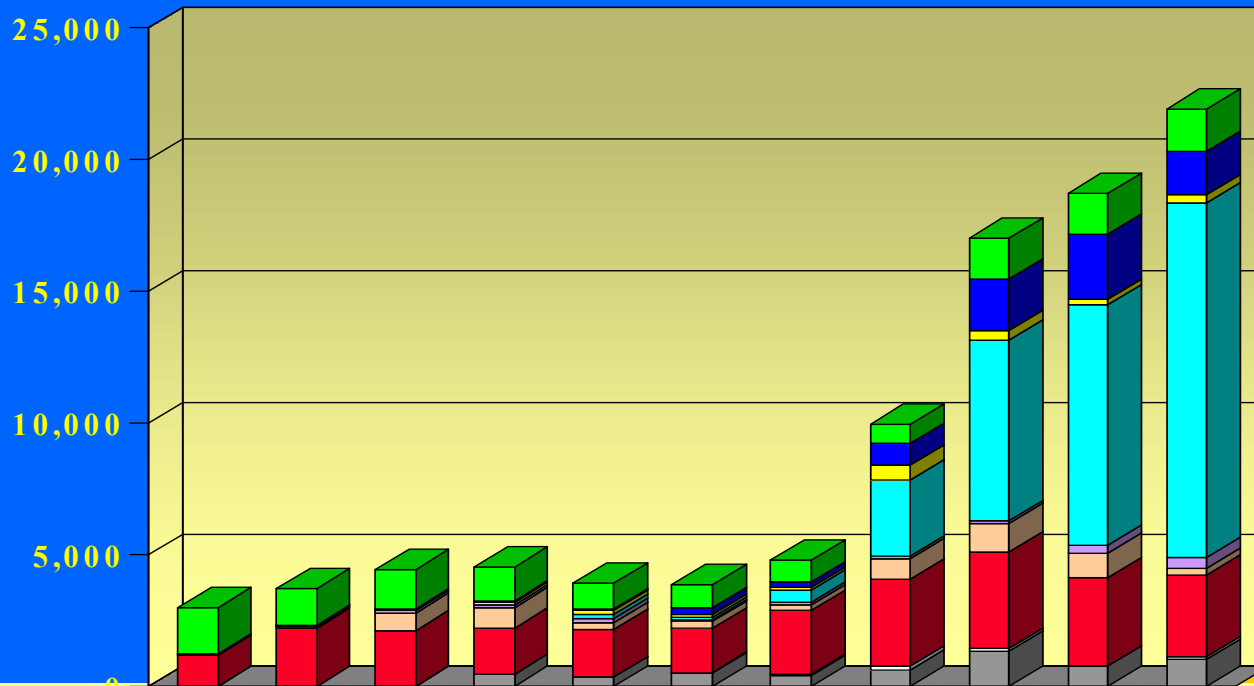


# CSC Operational Transformation

## Fleet Response Plan

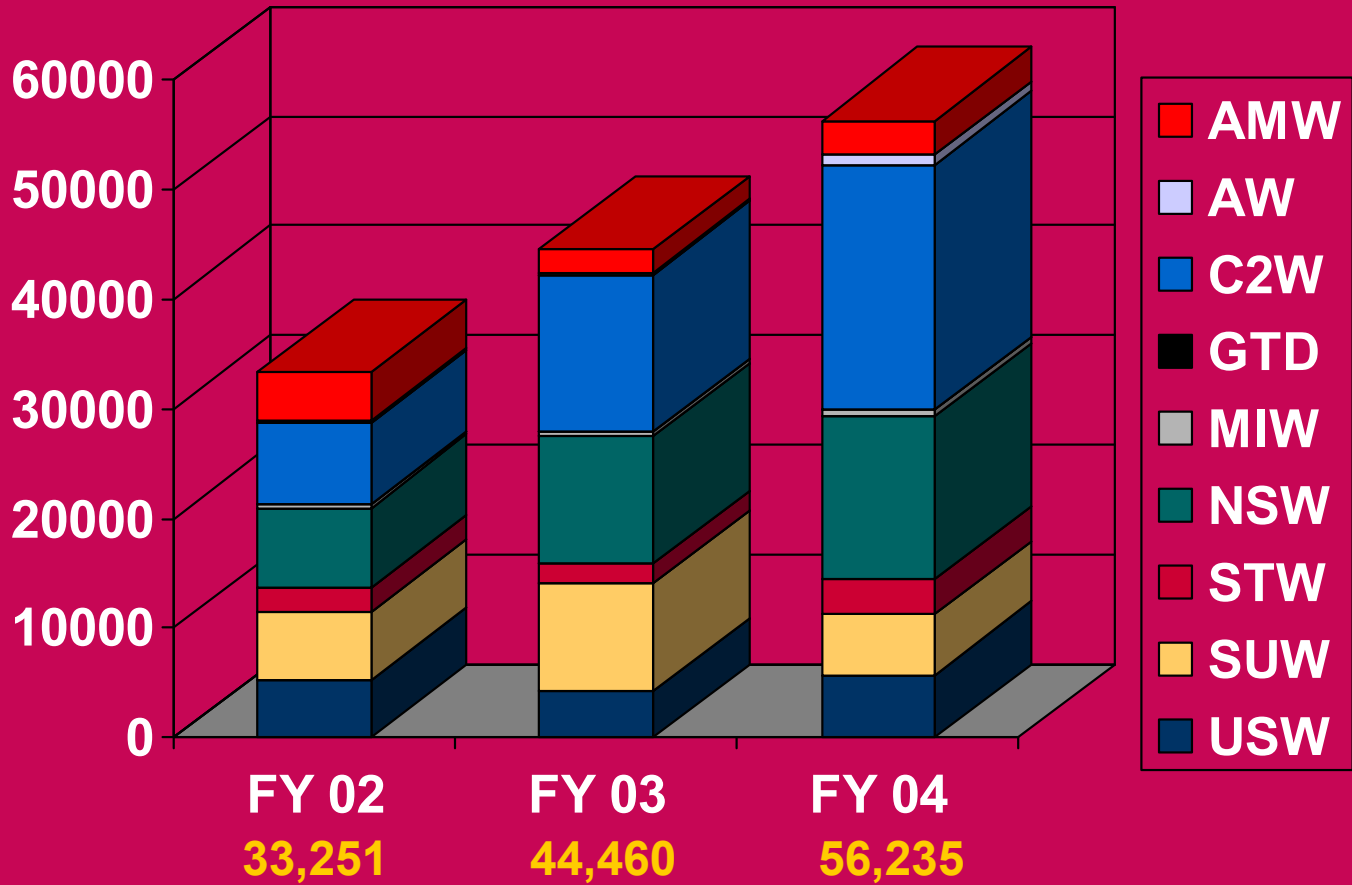


# SCORE Operation Hours



21,908 event hrs. in FY04

	94	95	96	97	98	99	00	01	02	03	04
USW	1,748	1,395	1,492	1,250	995	871	838	731	1,547	1,546	1,583
SUW	0	0	4	56	33	248	220	810	1,929	2,494	1,651
STW	0	5	62	116	149	122	85	565	408	185	334
NSW	0	0	0	10	192	73	467	2,877	6,831	9,103	13,45
MIW	58	63	84	115	141	89	74	97	95	310	404
GTD	0	57	664	743	236	224	252	784	1,068	971	257
C2W	1,175	2,214	2,125	1,775	1,806	1,688	2,382	3,307	3,706	3,306	3,094
AW	0	0	0	0	12	49	78	138	65	41	122
AMW	0	0	0	451	369	492	403	624	1,356	753	1,010





# SCORE Advanced Training OPTEMPO

	'00	'01	'02	'03	'04	'05	'06
MITT	-	-	1	1	4	6	?
ESGEX	-	-	-	1	2	3	?
CTX	1	3	2	3	3	6	?
TSTA	1	1	2	1	3	6	?
JTFEX	2	2	2	4	2	5	?
Sustmt	-	-	-	2	4	6	?
ARP	-	-	-	-	2	2	?
<b>TOTAL</b>	<b>4</b>	<b>6</b>	<b>7</b>	<b>12</b>	<b>22</b>	<b>34</b>	<b>?</b>



- **To maximize the value of the test and evaluation community as it develops and then advances new weapons, there must be a method developed and incorporated that fully supports the weapons lifecycle.**
- **Consideration to facilitating routine and repetitive training, without development of parallel systems, one for testing and one for training, is essential.**
- **The expansive employment envelopes of new weapons such as Tactical Tomahawk, JASSM, SLAM-ER, ERGM and the Vertical Gun for Advanced Ships (VGAS) demand that the ability to control flight and impact hazard areas is absolute in the training environment.**
- **New technology must leverage current and developmental GPS applications, as well as telemetry to incorporate a common Flight Termination concept into ALL future precision-guided weapons.**



**West Coast Strike  
Group Training**

**San Francisco Complex**

**Fallon Complex**

**China Lake Complex**

**Point Mugu  
Range Complex**

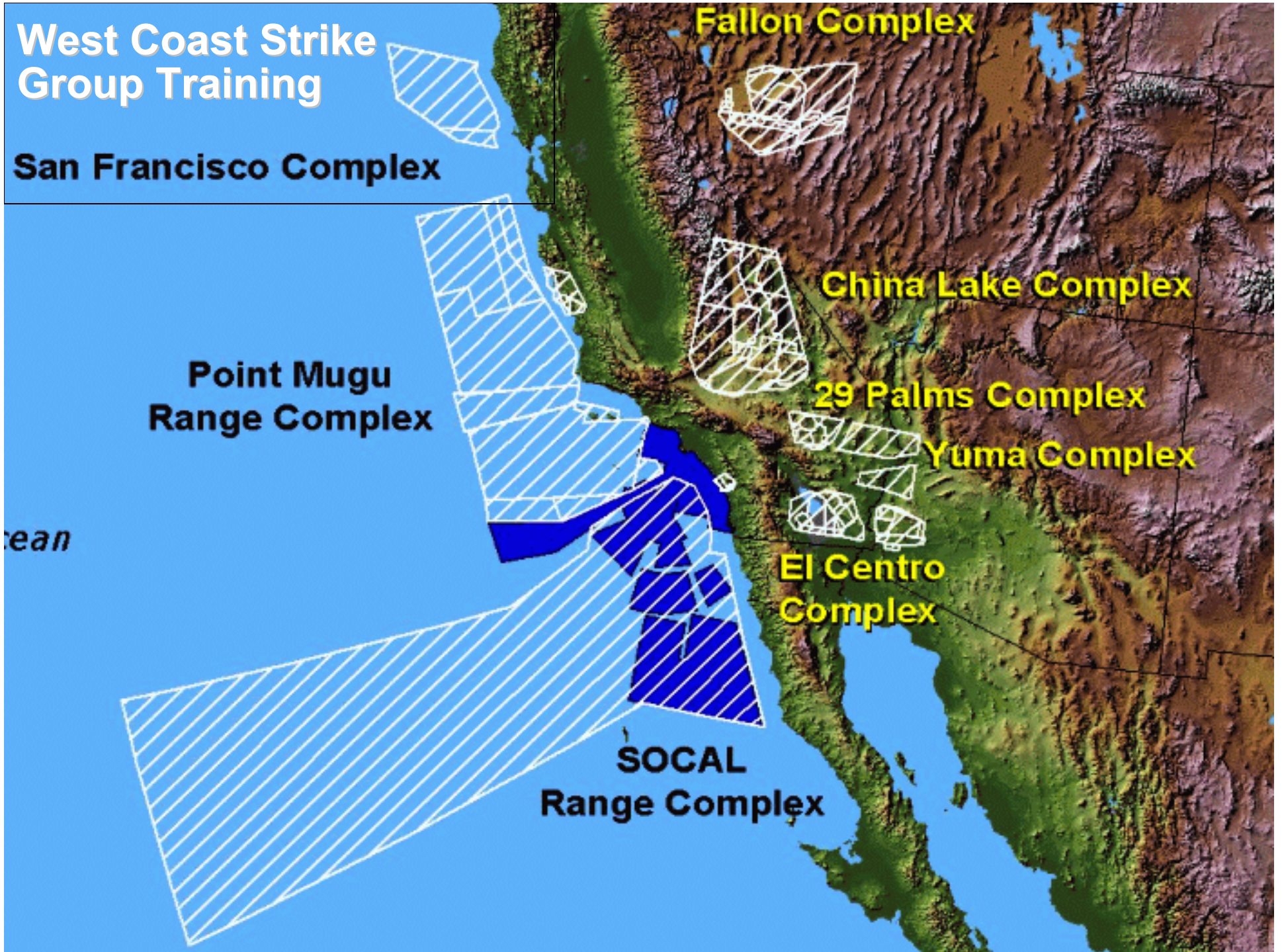
**29 Palms Complex**

**Yuma Complex**

ean

**El Centro  
Complex**

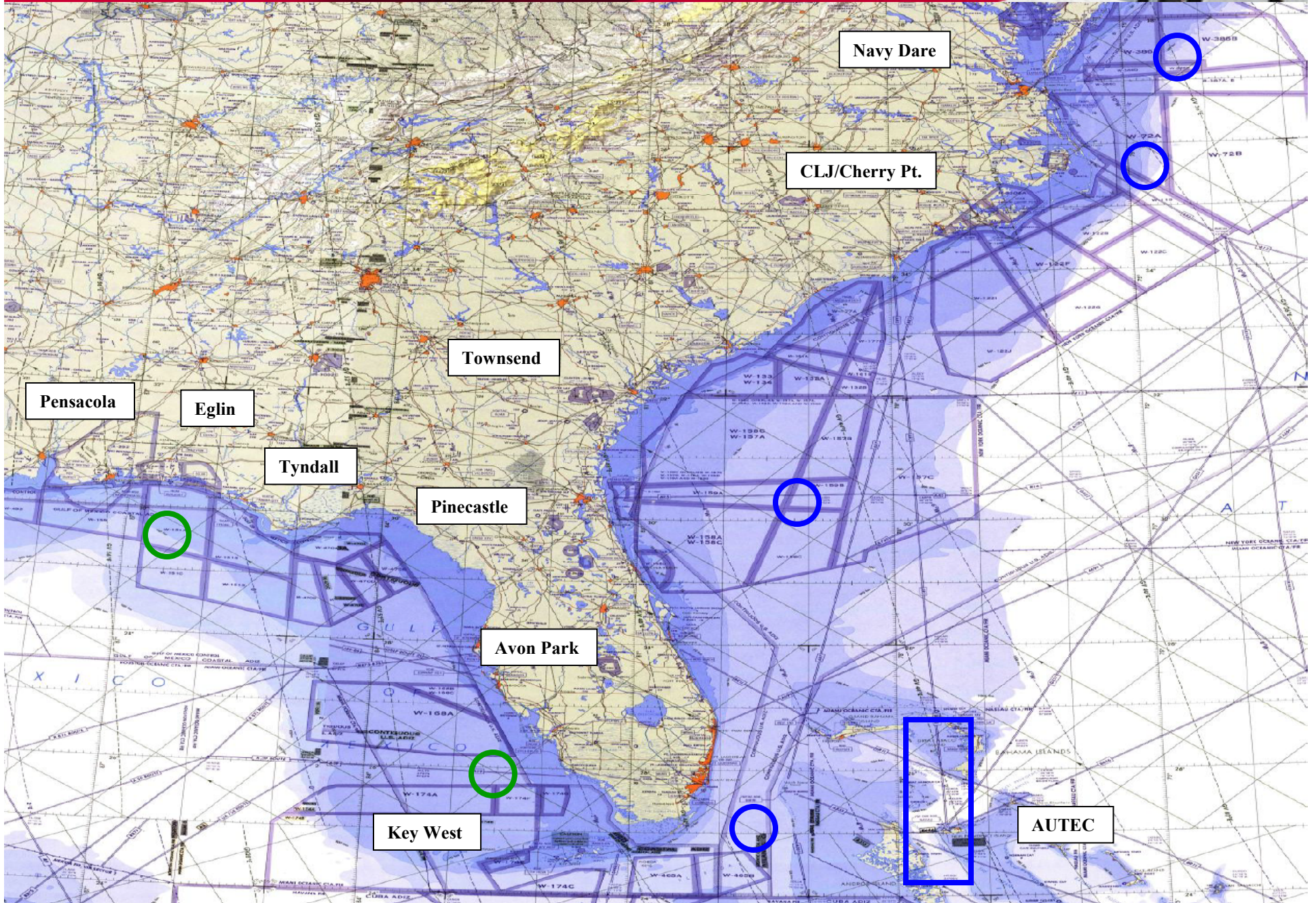
**SOCAL  
Range Complex**



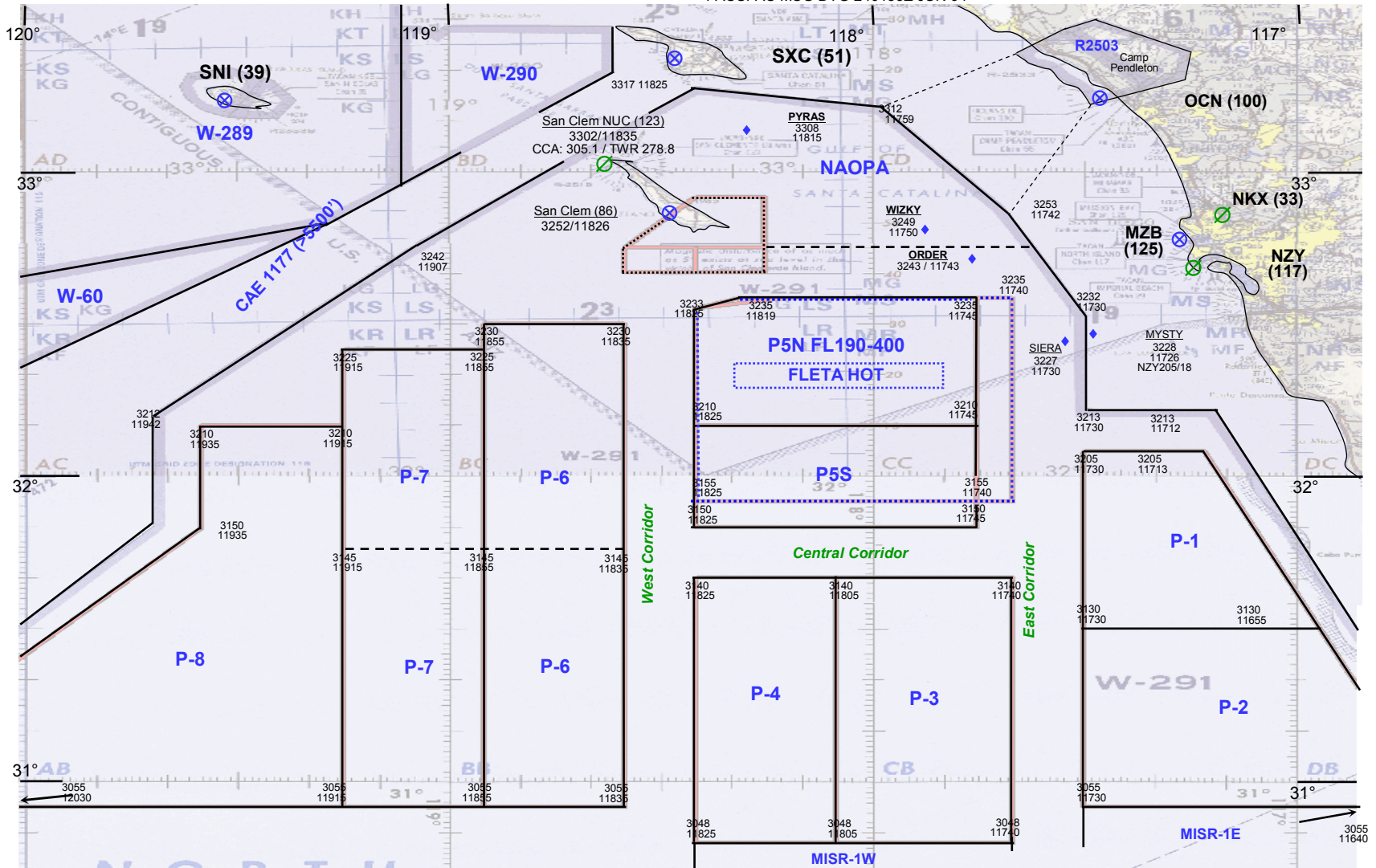




# Atlantic Fleet Battle Group Training

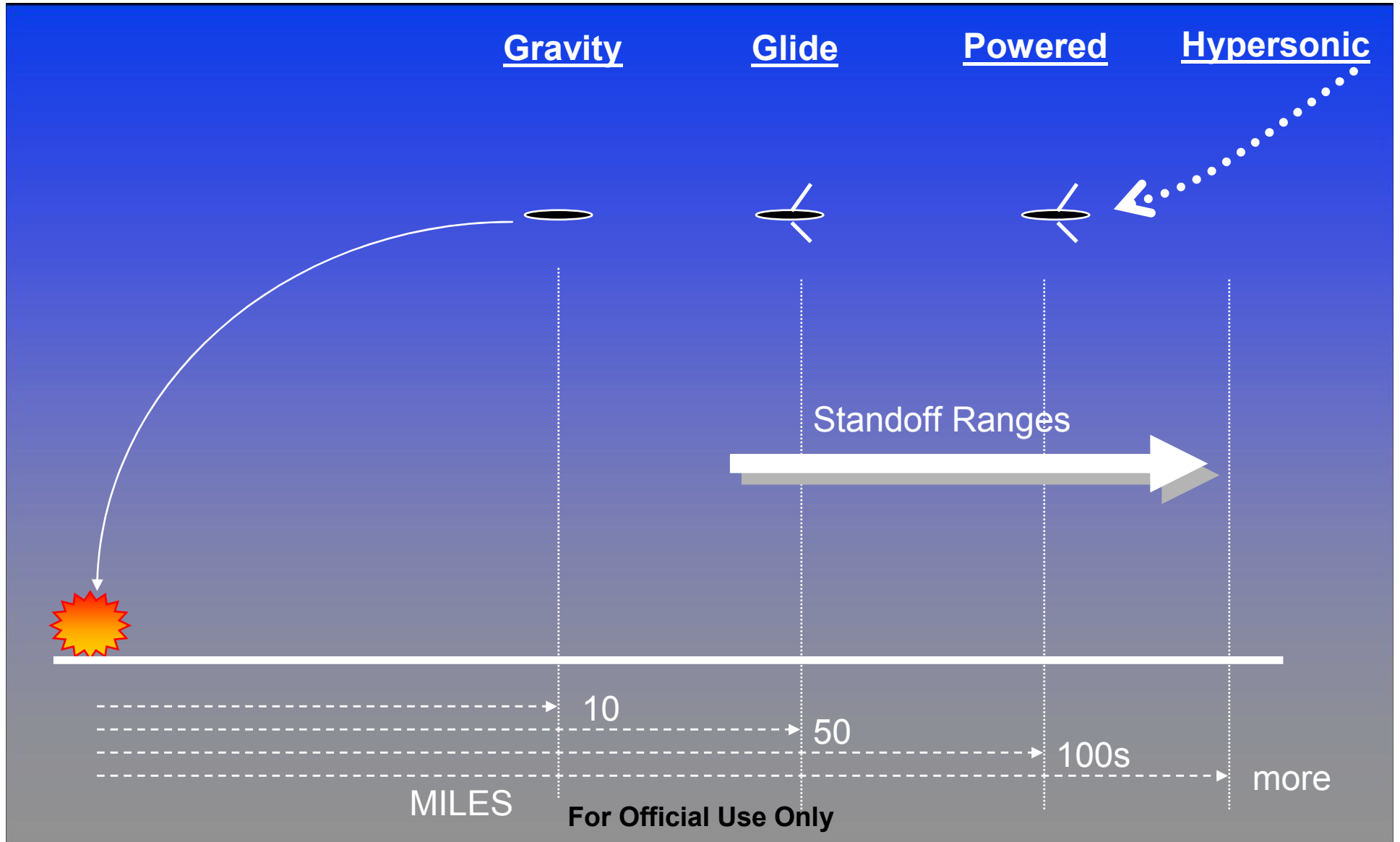




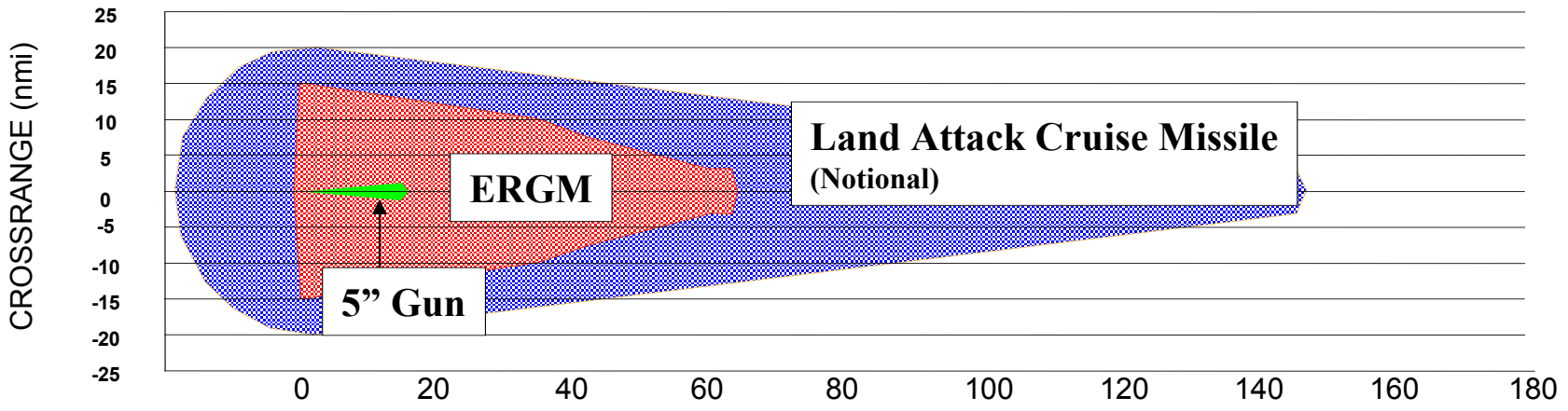
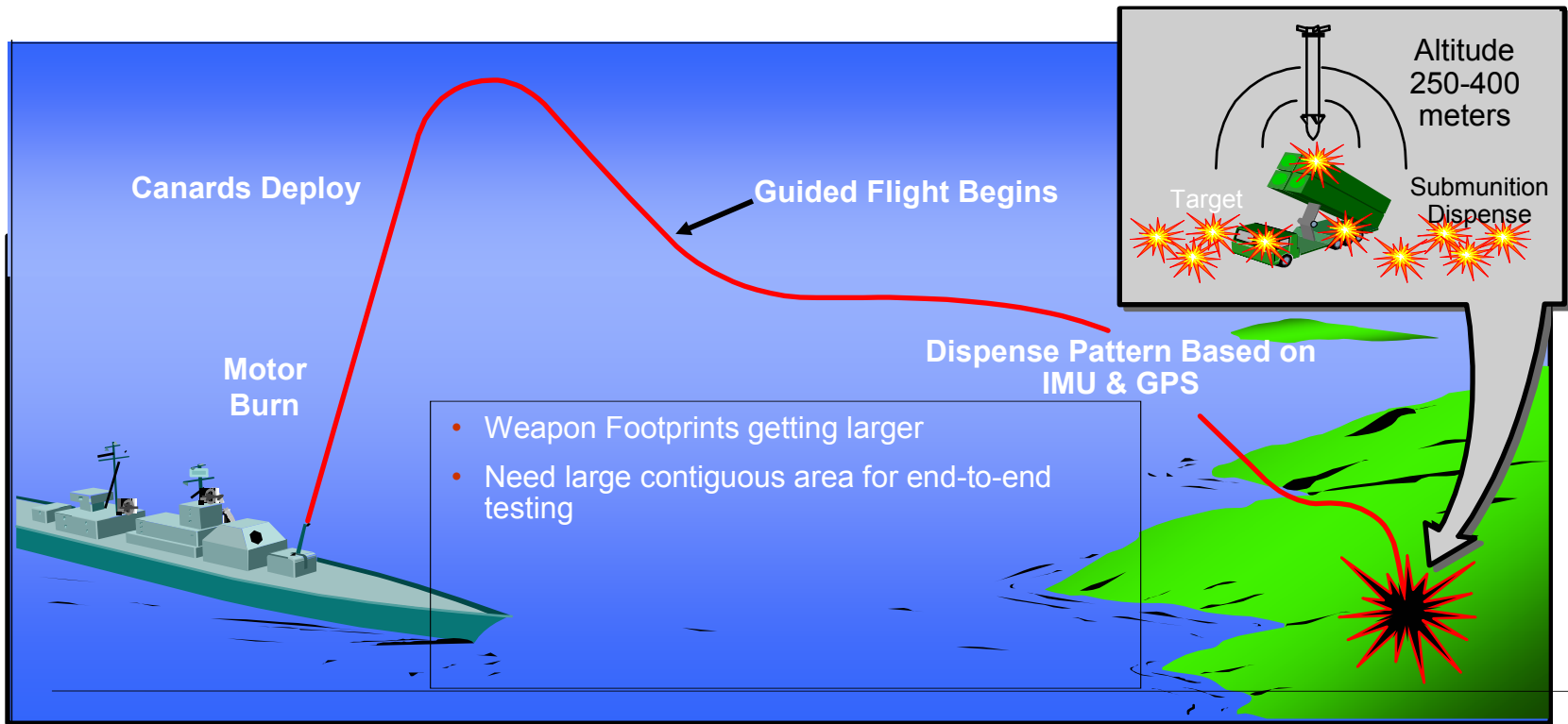




# Large Footprint Weapons



# CSC AIR, LAND & SEA SPACE







# ERGM Near-Max Range



File Config Scale Options Help



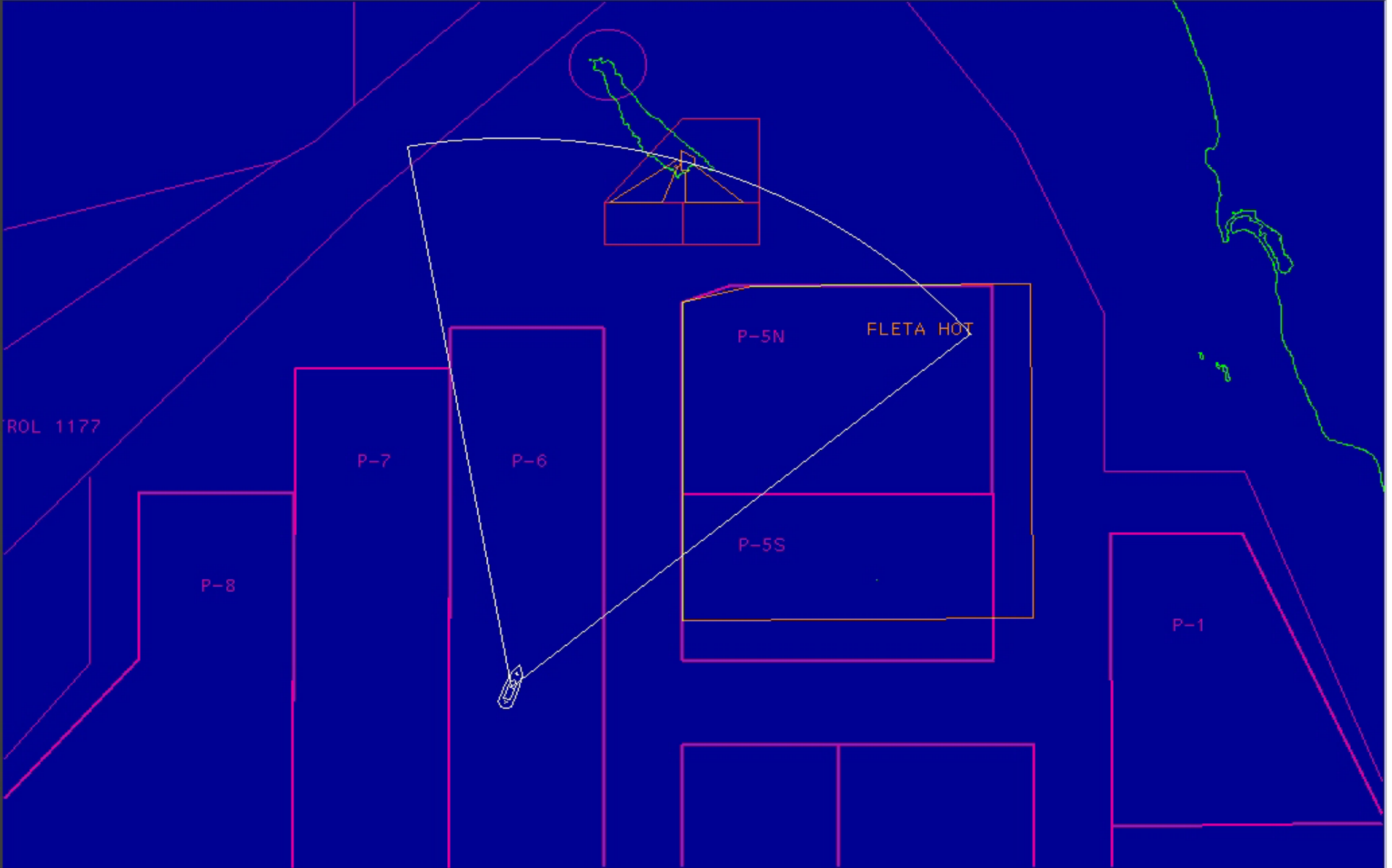
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# CSC SLAM-ER Typical Tactical Range

File Config Scale Options Help

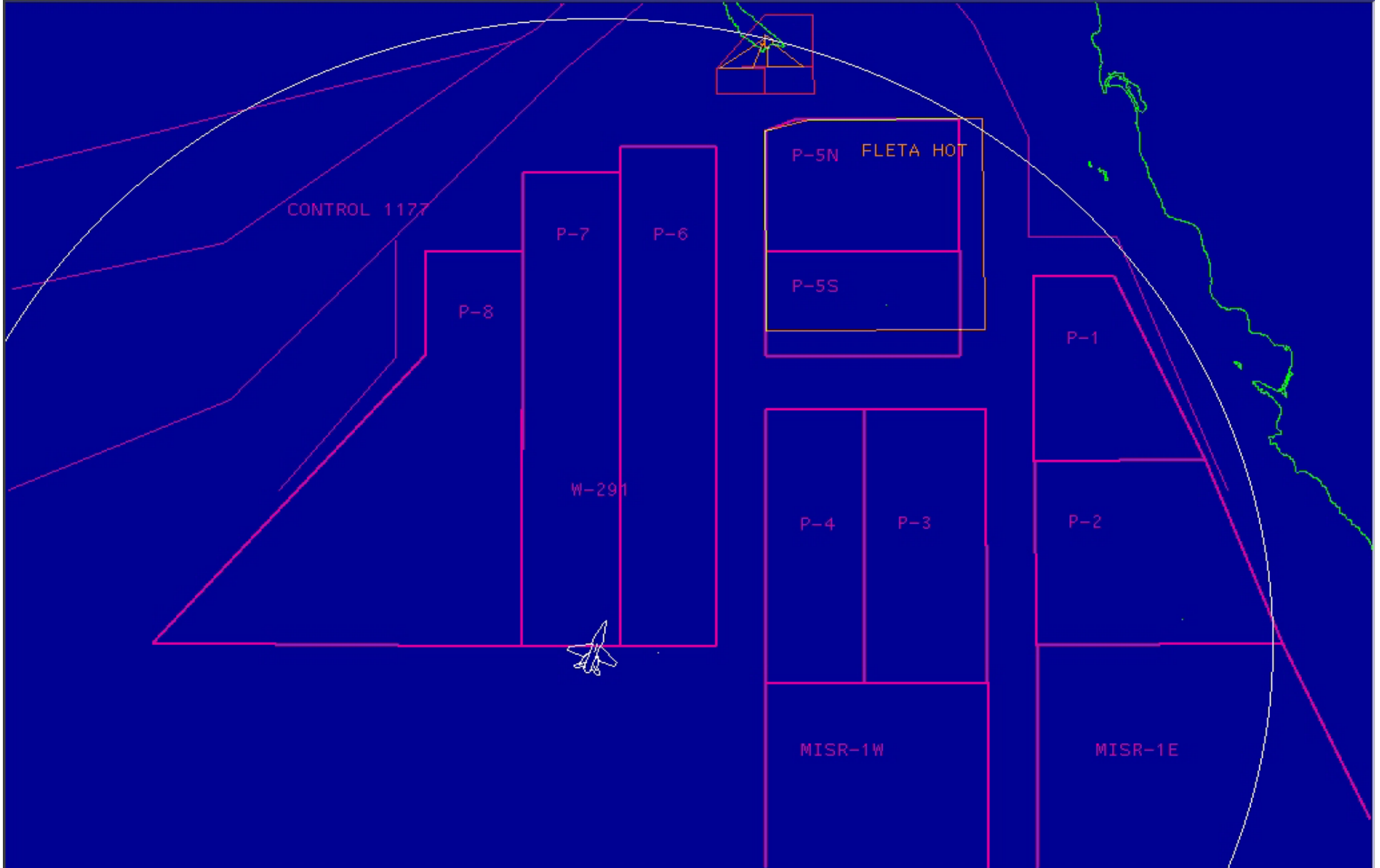
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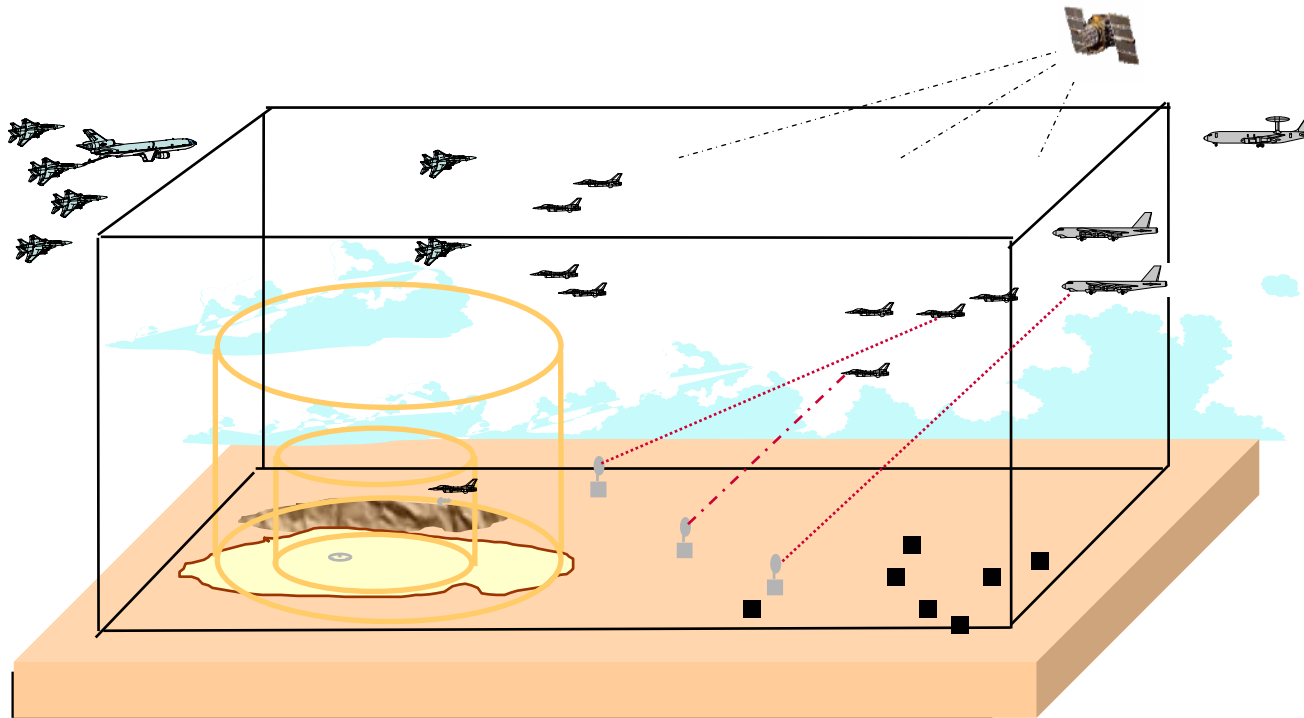
40000

240000





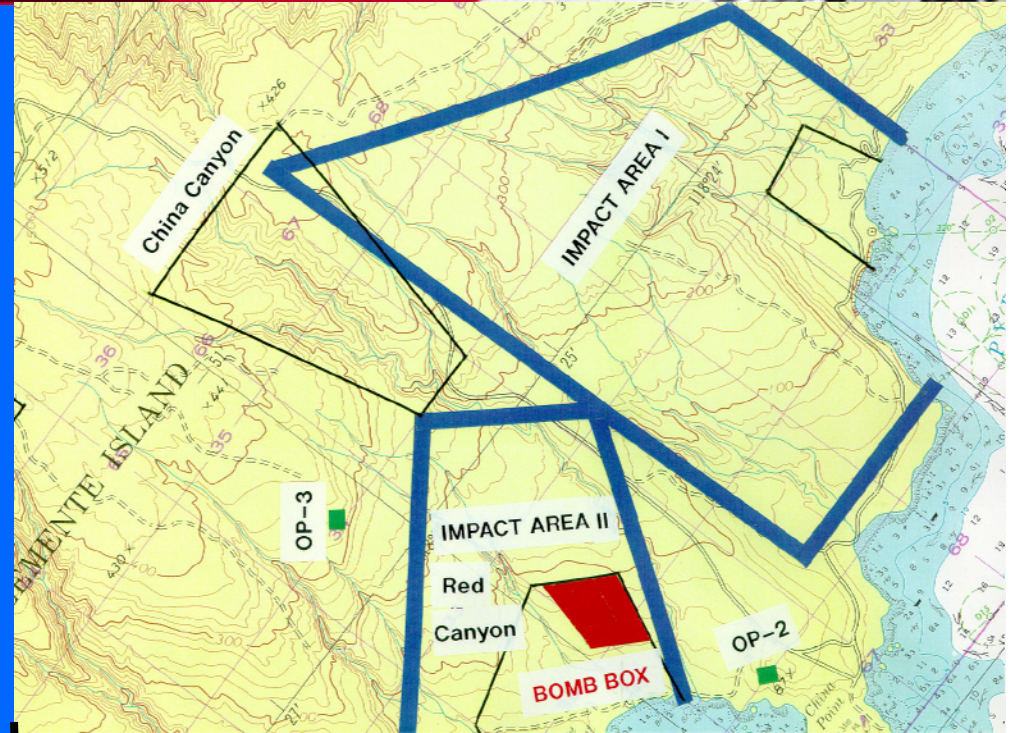
- Higher performance systems
- Stand-off & long-range weapons
- Increasingly sophisticated training



**Smaller Force Doesn't Mean Reduced Range/Airspace Need**



# SHOBA – Live Fire Impact Area

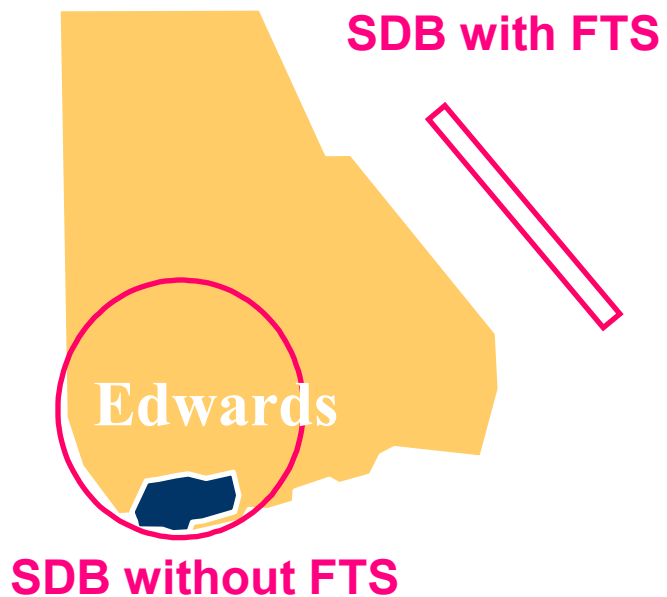






# Flight Termination System

## R-2508 Complex



## NAWC Sea Range







# Tactical Combat Training System



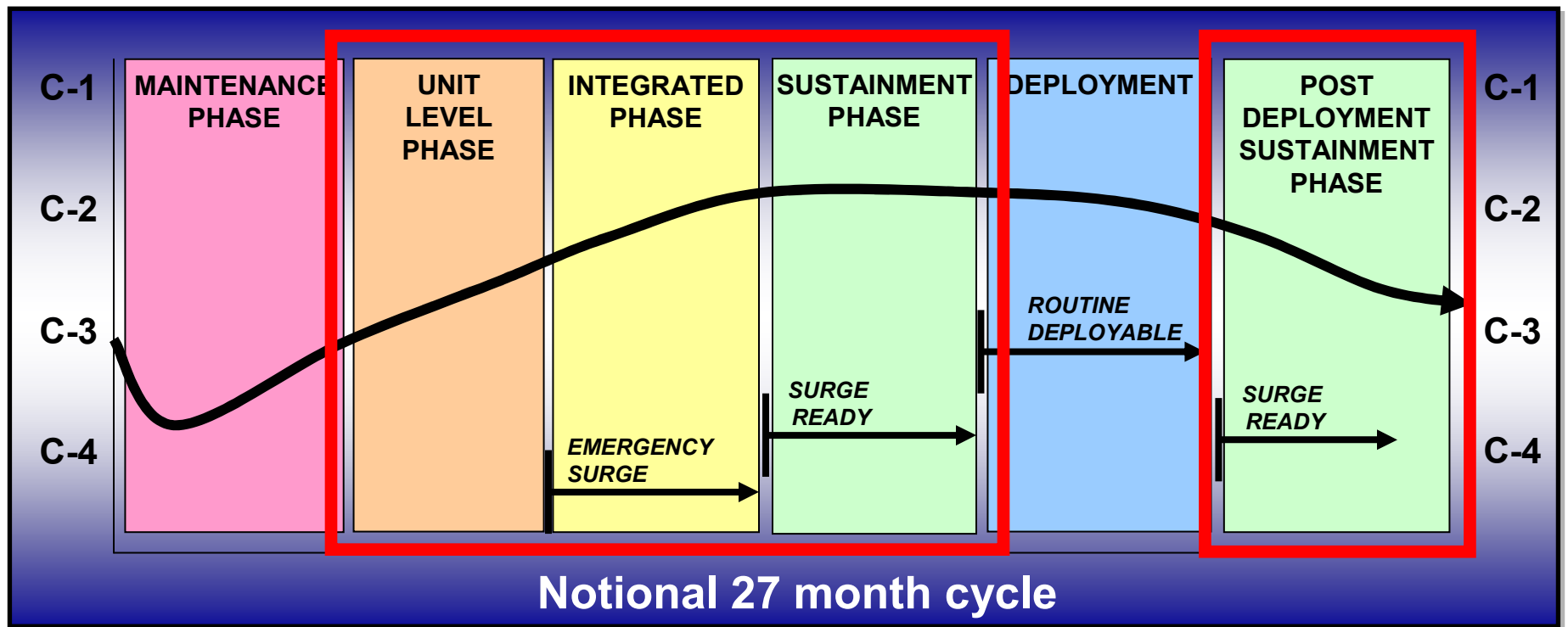


- **Training after the schoolhouse**
  - **Fleet Response Plan inter-deployment readiness cycle**
    - **6 + 2 metric**
  - **Fleet training exercises (COMPTUEX, JTFEX, etc)**
  - **Fleet Schoolhouses (TACTRAGRU, EWTG, ATG, etc)**
  - **Synthetic training**
    - **LVC, MBGIE / BGIE, CNSF Apr 04 msg canceling live fire missile exercises**
  - **Training management**
  - **OSD led Training Transformation (T2) initiative**
    - **Joint National Training Capability**
    - **Joint Knowledge Development and Distribution Capability**
    - **Joint Assessment and Enabling Capability**



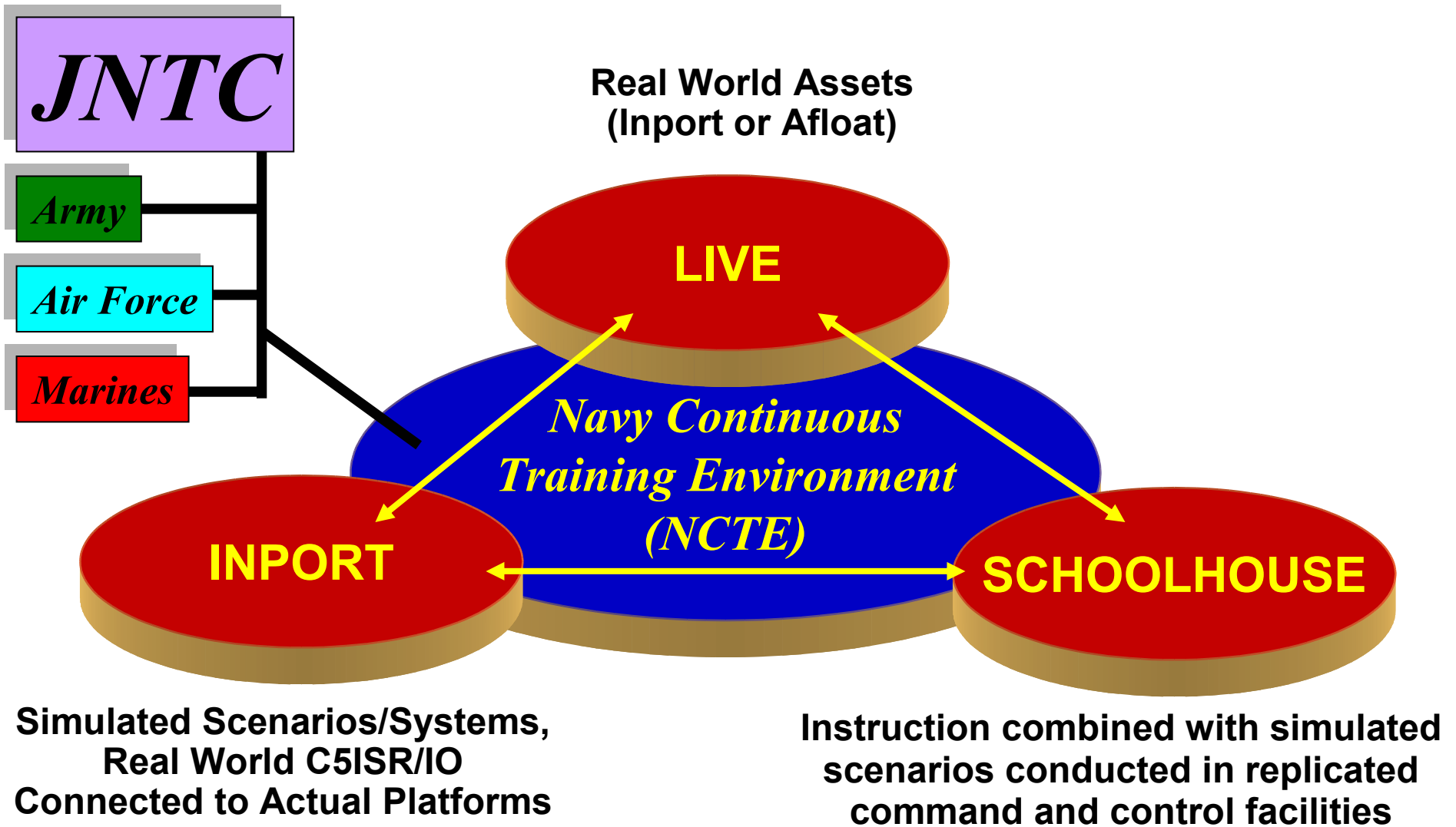
## Fleet Training

- **Inter-deployment readiness cycle training events**
- **Live and synthetic exercises**
  - COMPTUEX, JTFEX, etc
  - LVC, MBGIE / BGIE,

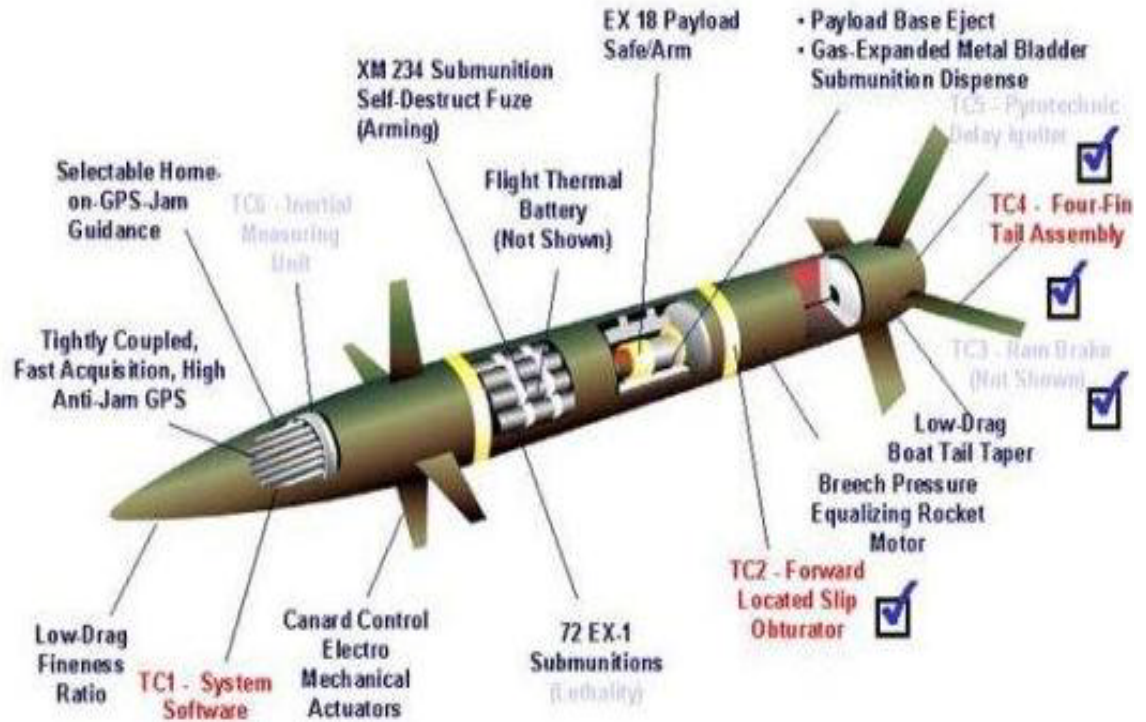




# Joint Live, Virtual, Constructive Training











- **JASSM** - Attacks both fixed and relocatable targets at ranges **beyond enemy air defenses**. JASSM's midcourse guidance is provided by a Global Positioning System (GPS)-aided inertial navigation system (INS). In the terminal phase, **JASSM is guided by an imaging infrared seeker and a general pattern match-autonomous target recognition system that provides aimpoint detection, tracking and strike.**
- **VGAS** - Beyond ERGM is the Vertical Gun/Advanced Ship (VGAS) system. This system is composed of a 155 millimeter gun and automatic loading system placed vertically below the main deck of the ship. The gun could deliver seven times the payload of the 5-inch ERGM to 75 miles, or double the ERGM's payload to 200 miles.“
- **SDB/JDAM** - The Small Diameter Bomb range is classified but expected to be extended by pop-out wings and the speed and altitude of the aircraft using it. A Phase 3 version may have the ability to loiter or autonomously seek out targets. The Small Diameter Bomb is considered one of the most significant programs on the books because it will dramatically increase the strike capability of every combat aircraft in the inventory.
- **SLAM-ER** - **Over-the-horizon range, in excess of 135 nautical miles**. High Subsonic speed. Ring Laser Gyro Inertial Navigation System (INS) with multi-channel GPS; **infrared seeker for terminal guidance with Man-in-the-Loop control data link from the controlling aircraft.**
- **Tactical Tomahawk – Range = 1000+ NM**
- **Next Generation - ???**



**The Test and Evaluation community must evolve into a cradle-to-grave cognizant body that will not only provide the warfighters with the superior weapons systems that allow them to employ overwhelming firepower in an precise, stand-off environment, but will allow them to train with these same weapons, in a realistic training environment unencumbered by artificial limitations imposed by excessive weapon envelopes and hazard patterns.**





# Questions?

