

# 712CD

## 75<sup>TH</sup> MORSS CD Cover Page

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# Toward Cost-Wise Readiness on a “METL” Track

MORRS 2007 WG22

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# What if....

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- We had an “in place” system to focus all continuous process improvement for “cost-wise readiness”?  
and
  - It could focus on effectiveness as well as efficiency?
  - It incorporates best practices and Lessons Learned?
  - It is applicable across all domains and at any level?
  - It produces and updates
    - Aligned expectations
    - Mission Readiness and Performance data
    - MOPs/MOEs- “Metrics that Matter”
    - Future systems requirements and DOTMLP-F solutions
  - AND is primed for LEAN SIX SIGMA Applications!
-

# Tire Swing Cartoon



As proposed by the project sponsor.



As specified in the project request.



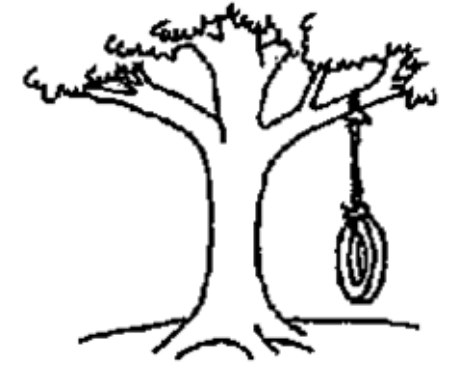
As designed by the senior analyst.



As produced by the programmers.



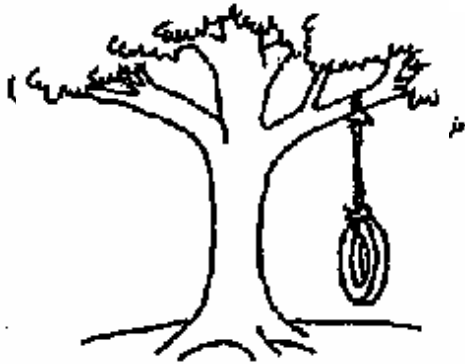
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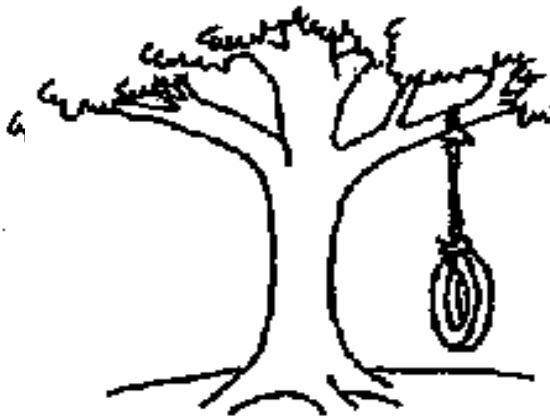
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<http://www.uoregon.edu/~ftepfer/SchlFacilities/TireSwingTable.html>

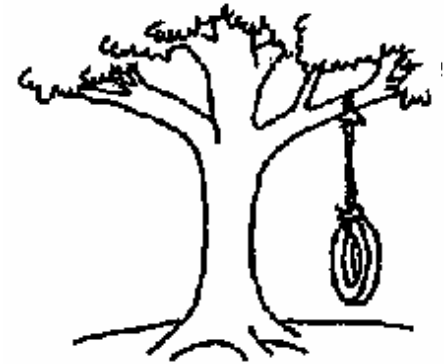
# Tire Swing Cartoon- 6



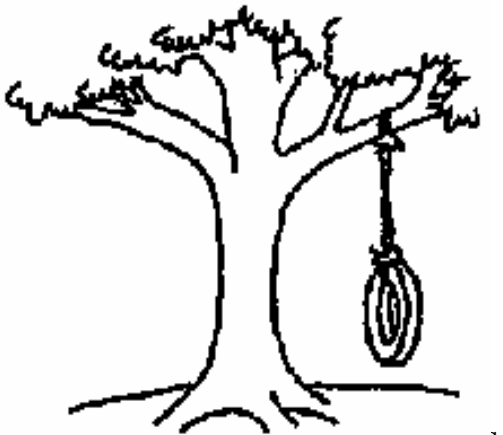
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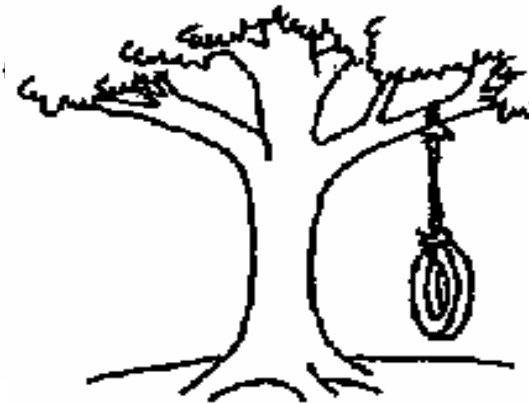
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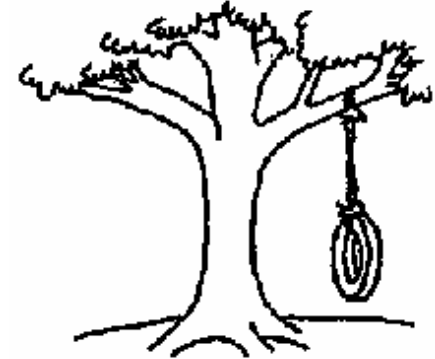
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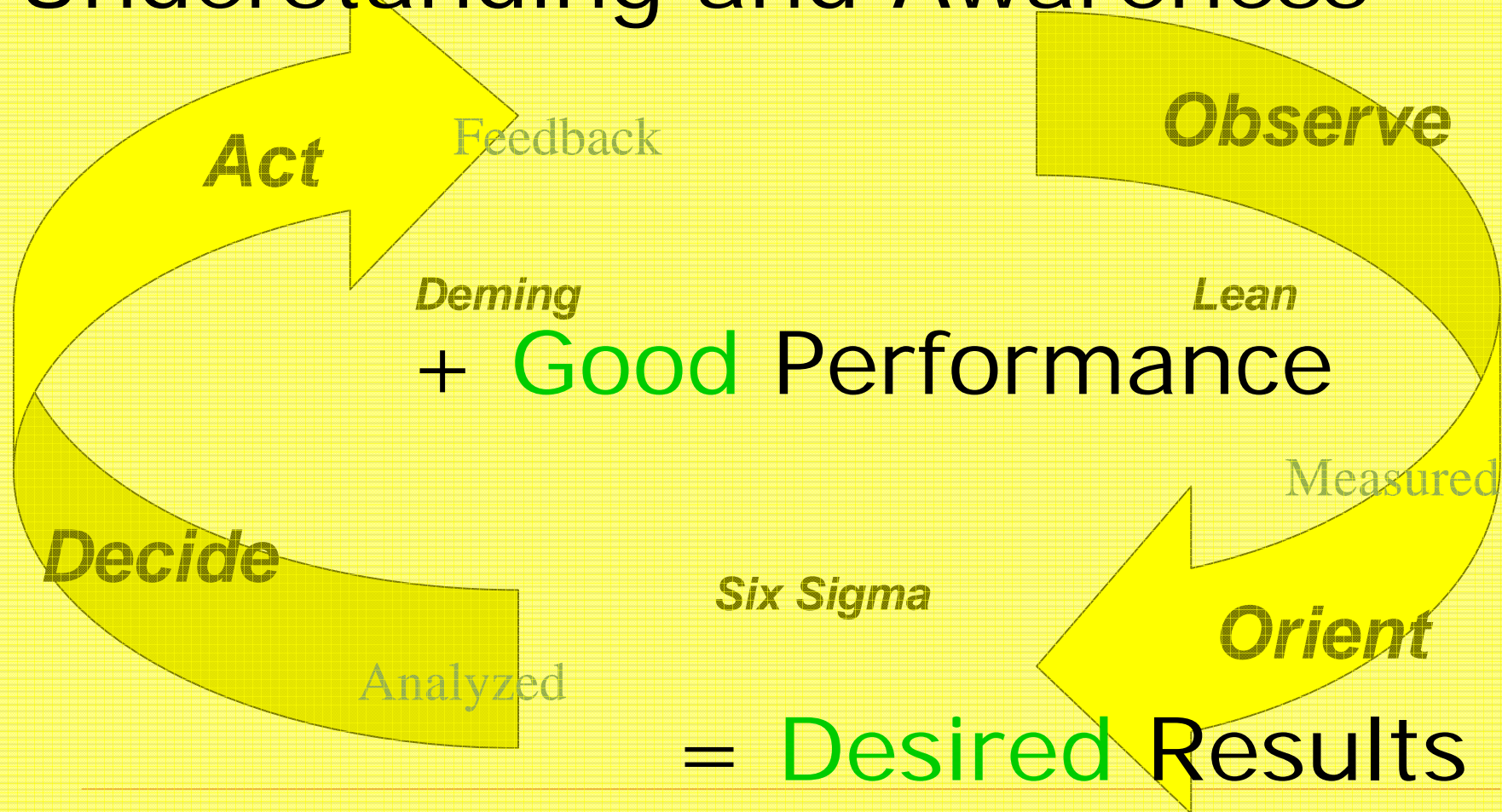
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# **O-O-D-A** Sequence to Success

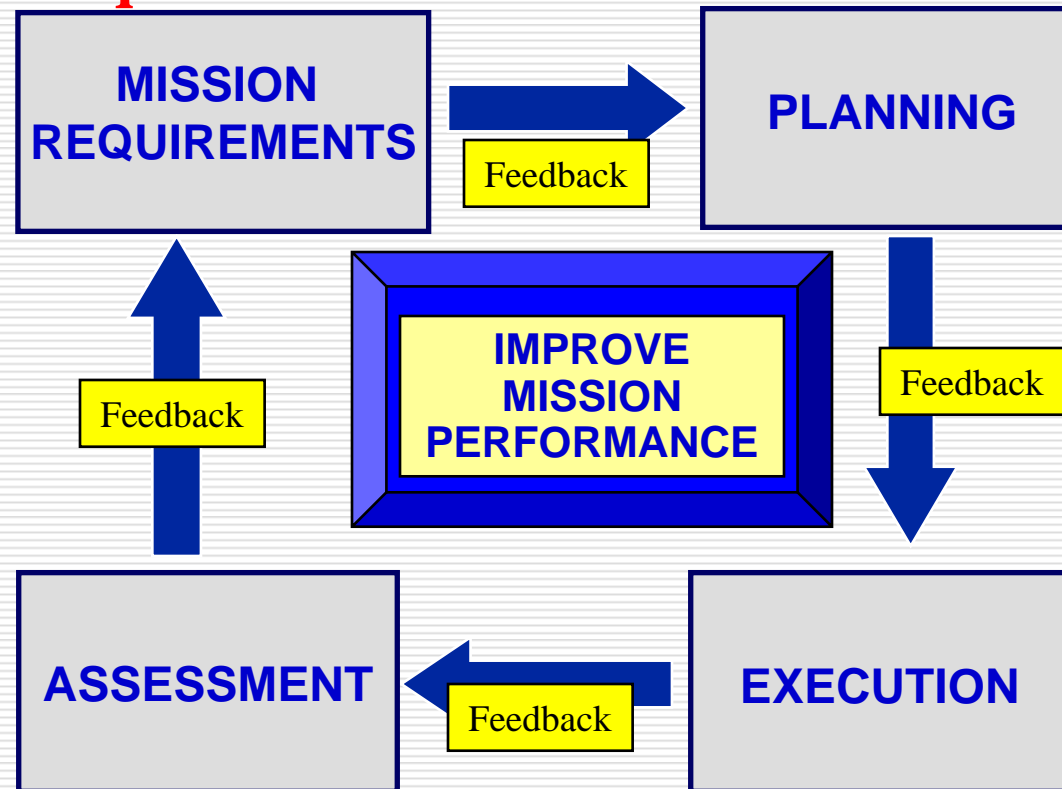
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Understanding and Awareness



# DOD Transformation and the Capabilities-based Four Phased Model

## A Conceptual “Continuous Improvement Engine” Requirements-Plans-Execution-Assessment



Use *Lessons Learned* in Ops and Training events to push Transformation  
*Innovation-flexibility-responsiveness-agility-readiness-accountability-efficiency*  
“Sustained American competitive advantage in Warfare”

# NMETLs and NWTS: Readiness and Continuous Improvement

- Mission Analysis expresses COCOM and Navy Mission Requirements as “NMETLS.”
- Mission Analysis-NMETL process can be applied to every new challenge.
- NMETLs linked up, out, and down to supporting commands.
- NMETLs align Navy with DOD Training Transformation.
- Fleet Training aligns to NMETLs.
- Plans and Accounts for Resources.
- Gives clear target for H-S-I and systems operator training.
- DRRS is MET-Based.  
**Any entity can report via MET construct.**

## Navy Warfare Training System



NWTS process integrates Navy Lessons Learned to drive improvements across the DOTMLP-F spectrum

# DOTMLP-F = “System”

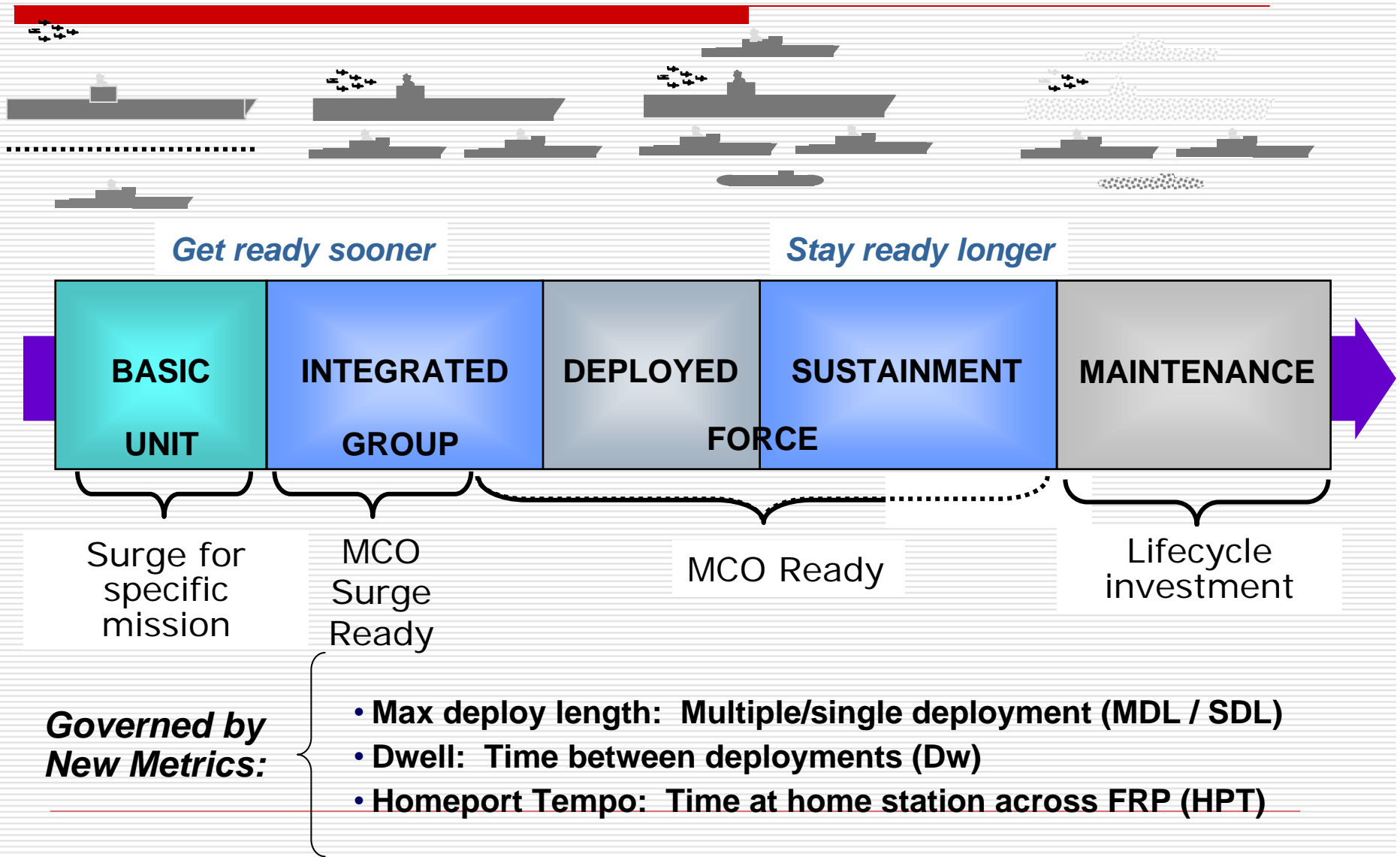
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- Doctrine
- Organization
- Training
- Material
- Leadership Development and Education
- Personnel
- Facilities

“SYSTEM” in new DOD Terminology

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# Fleet Response Plan (FRP)



# NMETLs and Capabilities-Based Readiness

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- ❑ New Defense Readiness Reporting System is MET- based.
  - ❑ Navy METLS supplied from NTIMS
  - ❑ *Readiness* is a confidence factor in being able to get the job done!
  - ❑ Readiness = f {future Met performance}  
Future MET performance depends on "DOTMLP-F" stability and "METT-TC"  
*(another way to think about METL "Conditions")*
  - ❑ Early ESORTS both resource and performance history based.
-

# DRRS

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- ❑ “Near Real Time” readiness reporting. Eliminates separate “SORTS” messages.
  - ❑ DRRS Readiness screen displays each MET vs each required mission/ capability.
    - MET can be shown with all standards and demonstrated performance values
  - ❑ System generates a recommended score based on authoritative data sources.
  - ❑ Commander’s review/ assessment validates & updates system score-- Mission by Mission, MET by MET and Standard by Standard.
  - ❑ Tools: Aggregation/ Drill down/ Planning capability- “What if...”
-

# NMETL framework

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Perform this task....

.... Under these conditions....

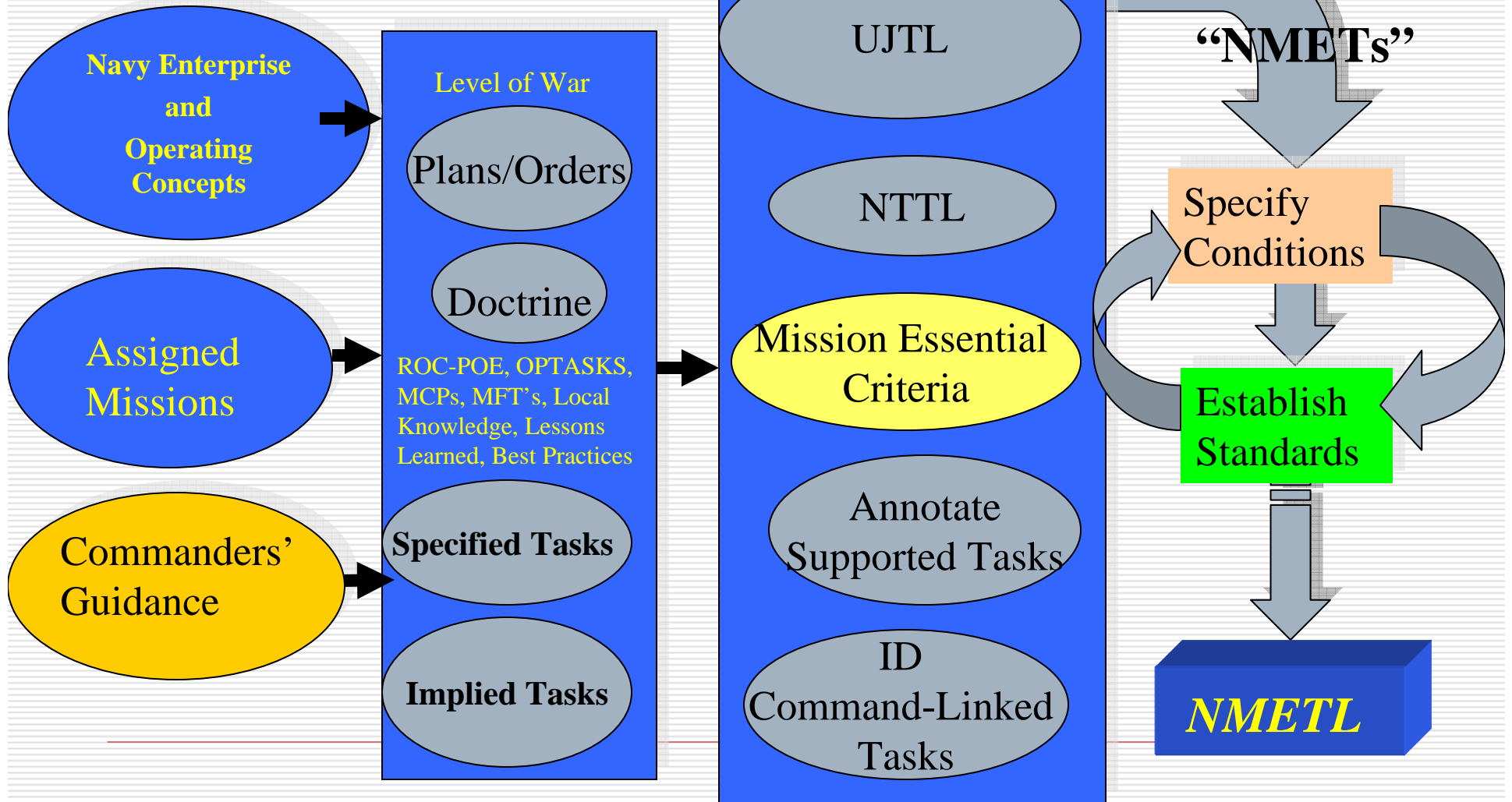
....To this standard.

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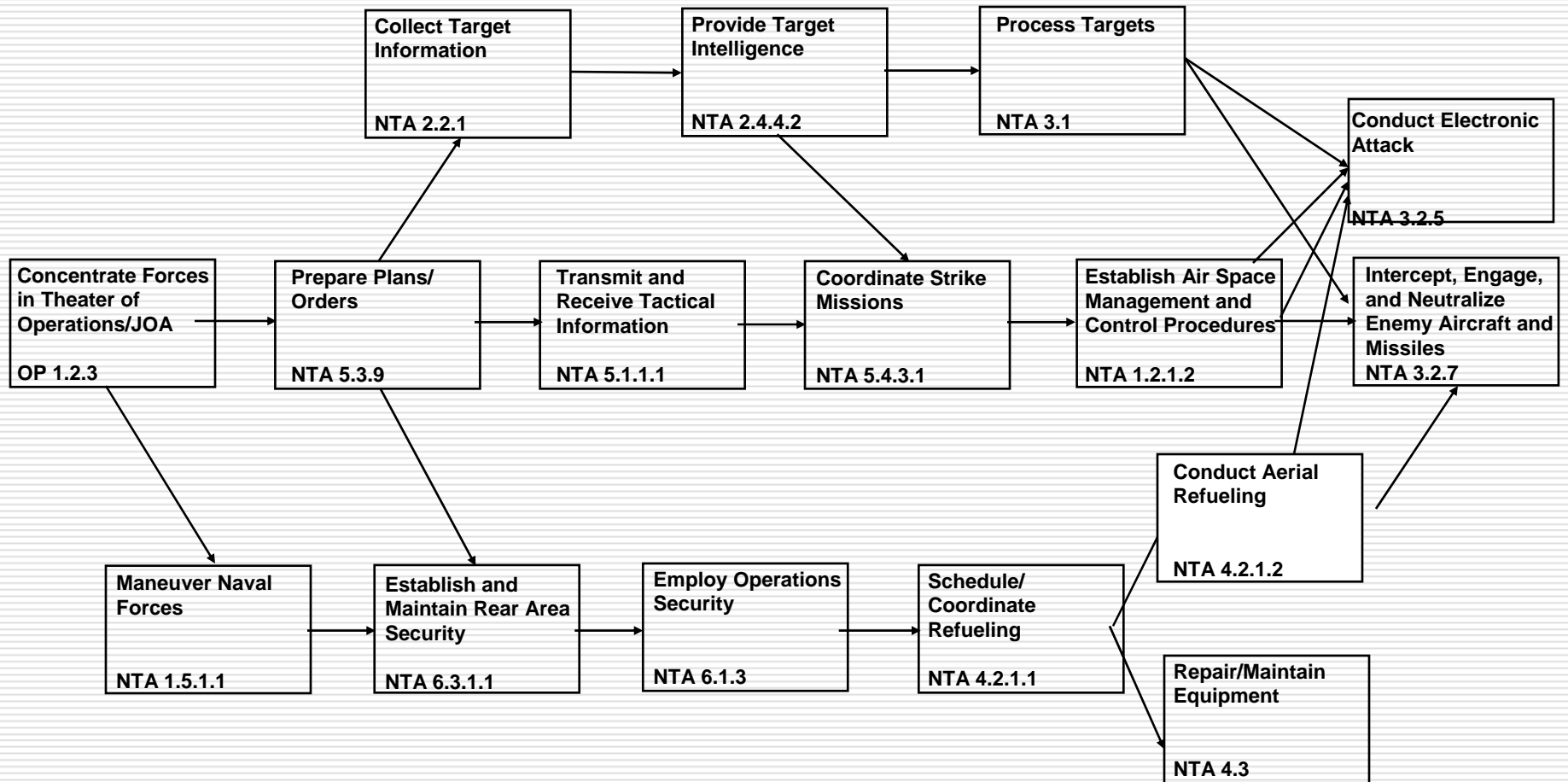
# The Navy's NMETL Process

Common Language/ Framework

## Mission Analysis



# Building Mission-Task Capability





# Navy Warfare Training System

## Requirements

### Derived From Assigned Missions

- Based on Commander's Intent, Navy Core Competencies, & Joint/ Navy Doctrine

#### This Phase Produces:

- NMETL Tasks, Conditions & Standards
- Links to Commands With Roles in NMETL Accomplishment
- NMETL data for DRRS-N

## Plans

### Driven by Mission Requirements, Training Audience, and Method

- Based on Output of Requirements Phase

#### This Phase Produces:

- Standardized Training Plans: Fleet, Group, Commander, Staff & Unit
- Synchronized Schoolhouse-FST-Live Training
- Training Resource Requirements (FTCCS)
- De-conflicted and aligned Training Schedules

## Assessment

### Commander Assesses Training Effectiveness & Navy Training Readiness

- Ability to Meet Navy Standards: Strengths/Weaknesses in DOTMLP-F

#### This Phase Produces:

- Overall Training & Mission Proficiency Assessments
- DRRS-N (TFIRM) -- \$\$/increase in Readiness
- Key Issues & Lessons Learned
- DOTMLP-F enhancements to improve performance

## Execution

### Training Conducted & Evaluated

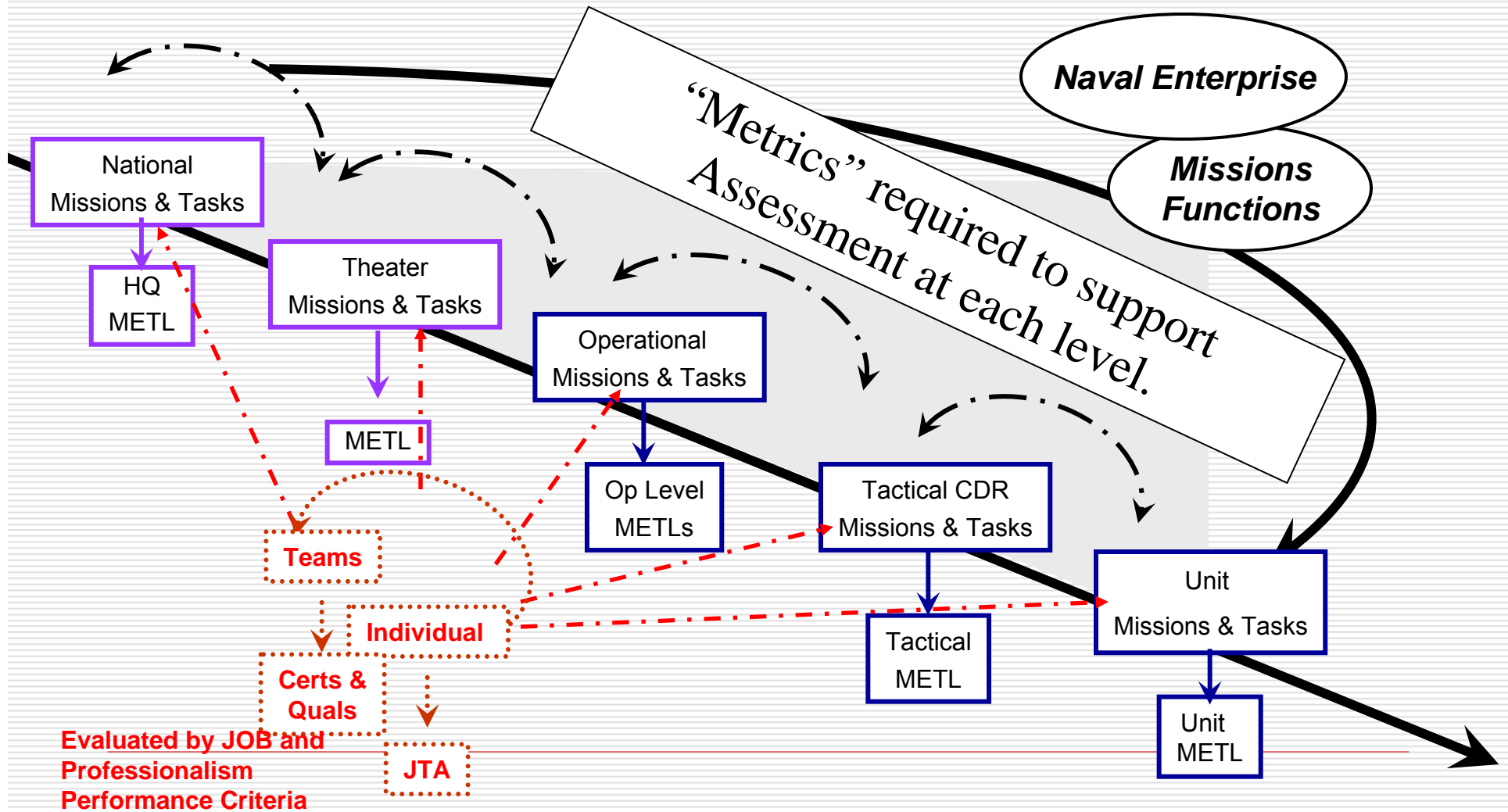
- Training Events Based on Output of Plans Phase

#### This Phase Produces:

- Performance/ Experience data
- Resource utilization data (FTCCS)
- After Action Reports
- Key Issues & Lessons Learned

# Requirements Phase

## Generic Operations/ Functions/ Organizations Context



# Navy Warfare Training System

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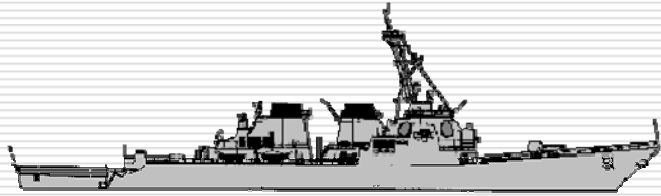
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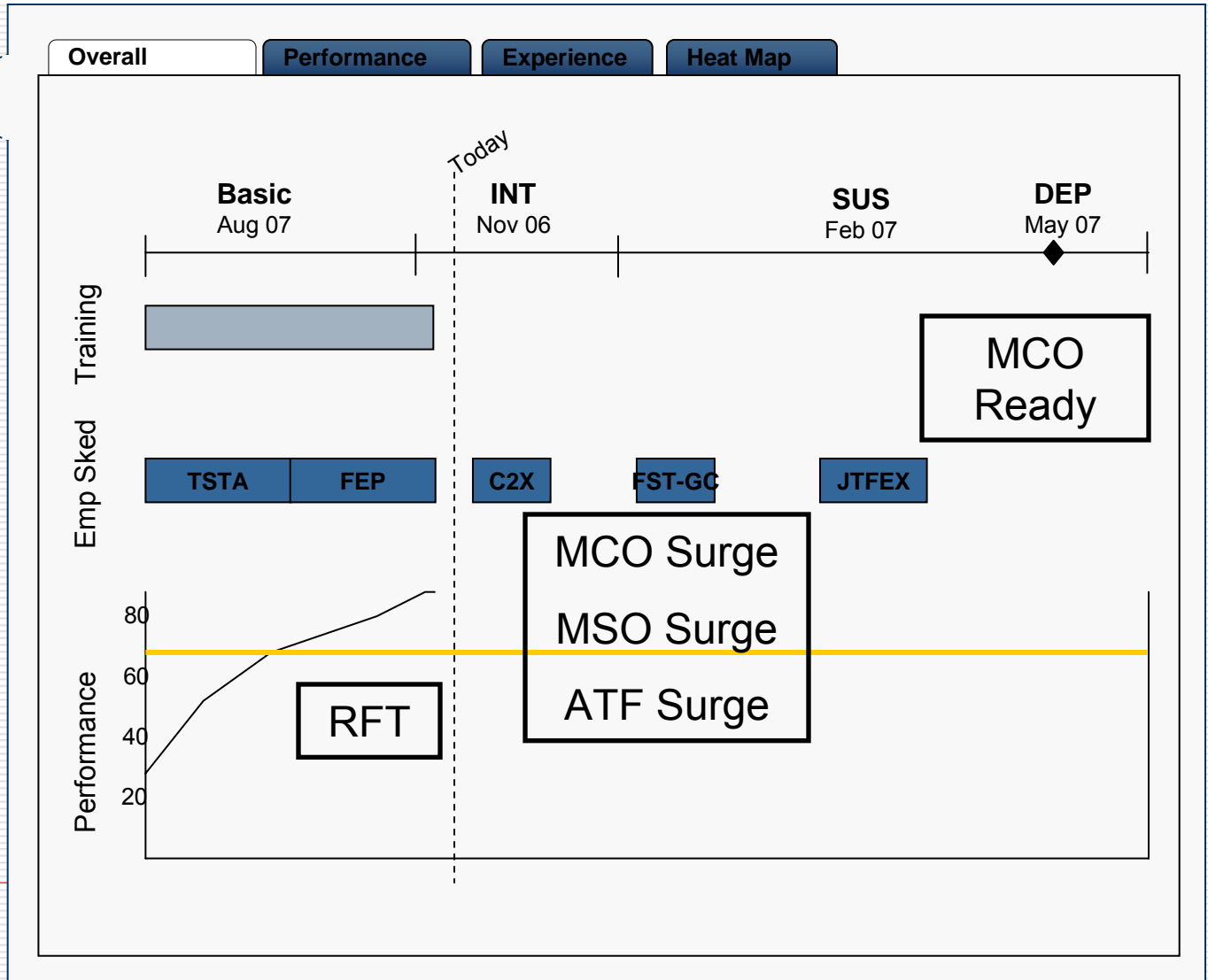
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**USS SHIP (DDG55)**  
**Strike Group: ENTSTKGRU**  
**Current Employment: C2X**  
**Scheduled Deployment: 18 JAN 09**

**Training Readiness Dashboard**

Capability		
ASW	80	↓
ASU	80	↓
AMW	80	↓
CCC	80	↓
C2W	80	↓
INT	80	↓
LOG	80	↓
FSO	80	↓
MOB	80	↓
NCO	80	↓
MOS	80	↓
STW	80	↓



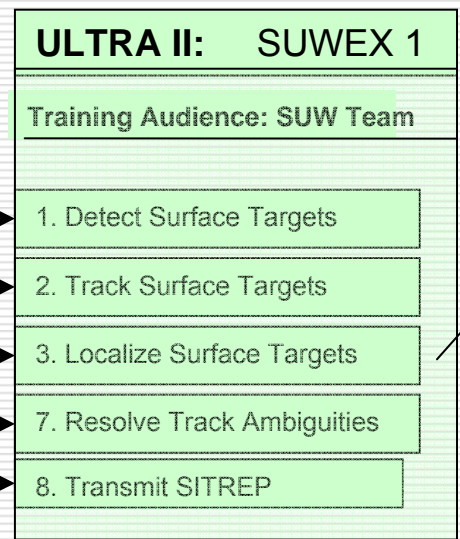
# NMETL-based NWTP Plans

<b>Navy METL</b>
Organization: CG Mission: Power Projection
Task: NTA X.X.X.X
Condition: C.X.X.X Standard: MX Supported Task: Org+Task Command-Linked Task: Org+Task Equipment: Org+Task
Task: NTA X.X.X.1
Condition: C.X.X.1 Standard: MX.1 Supported Task: Org+Task Command-Linked Task: Org+Task Equipment: Org+Task

A **training objective** is a statement that describes the desired outcome of a training activity. A training objective is derived from Navy mission essential tasks, conditions, and standards. Objectives may be for individuals or teams.

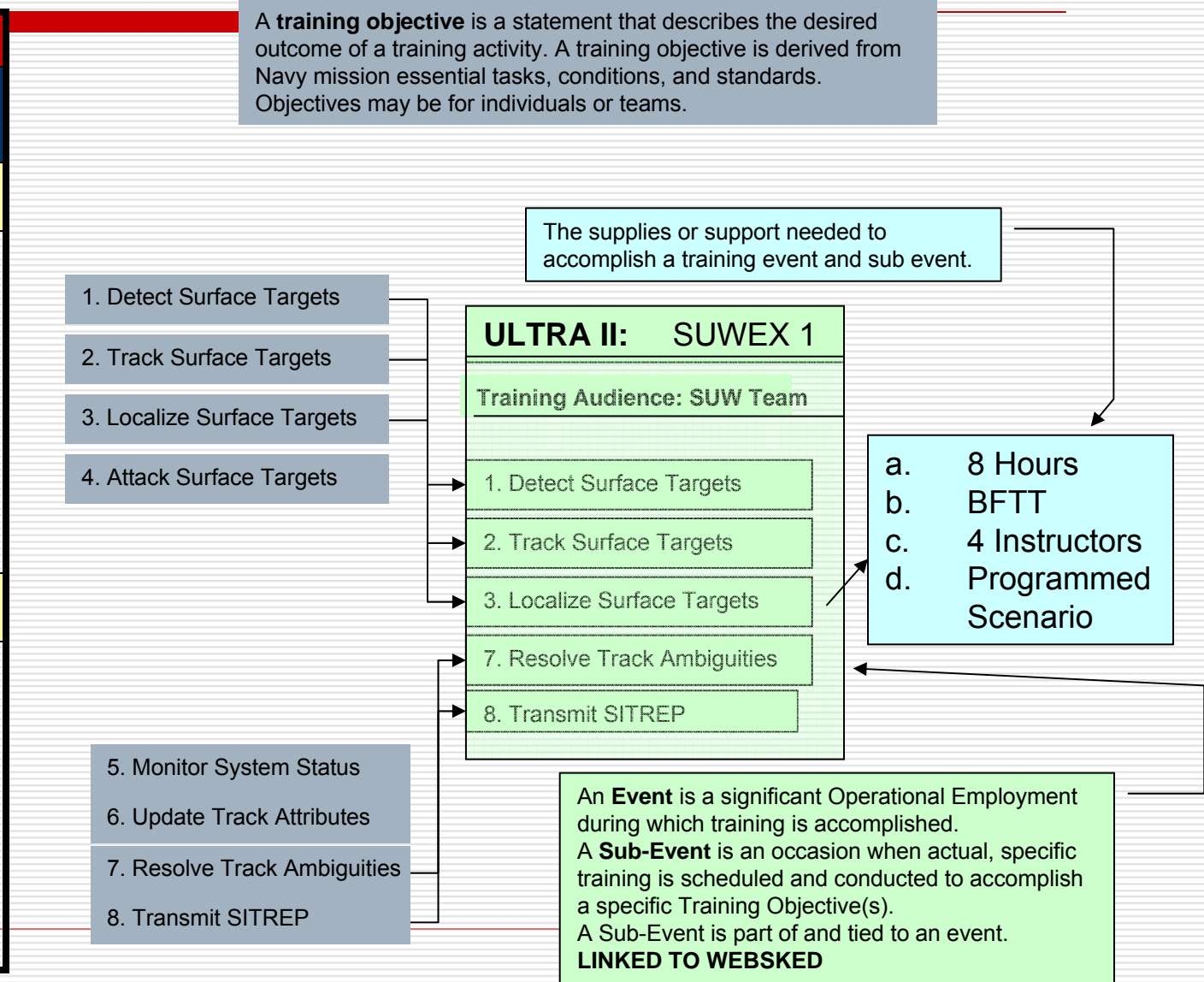
1. Detect Surface Targets
2. Track Surface Targets
3. Localize Surface Targets
4. Attack Surface Targets
5. Monitor System Status
6. Update Track Attributes
7. Resolve Track Ambiguities
8. Transmit SITREP

The supplies or support needed to accomplish a training event and sub event.

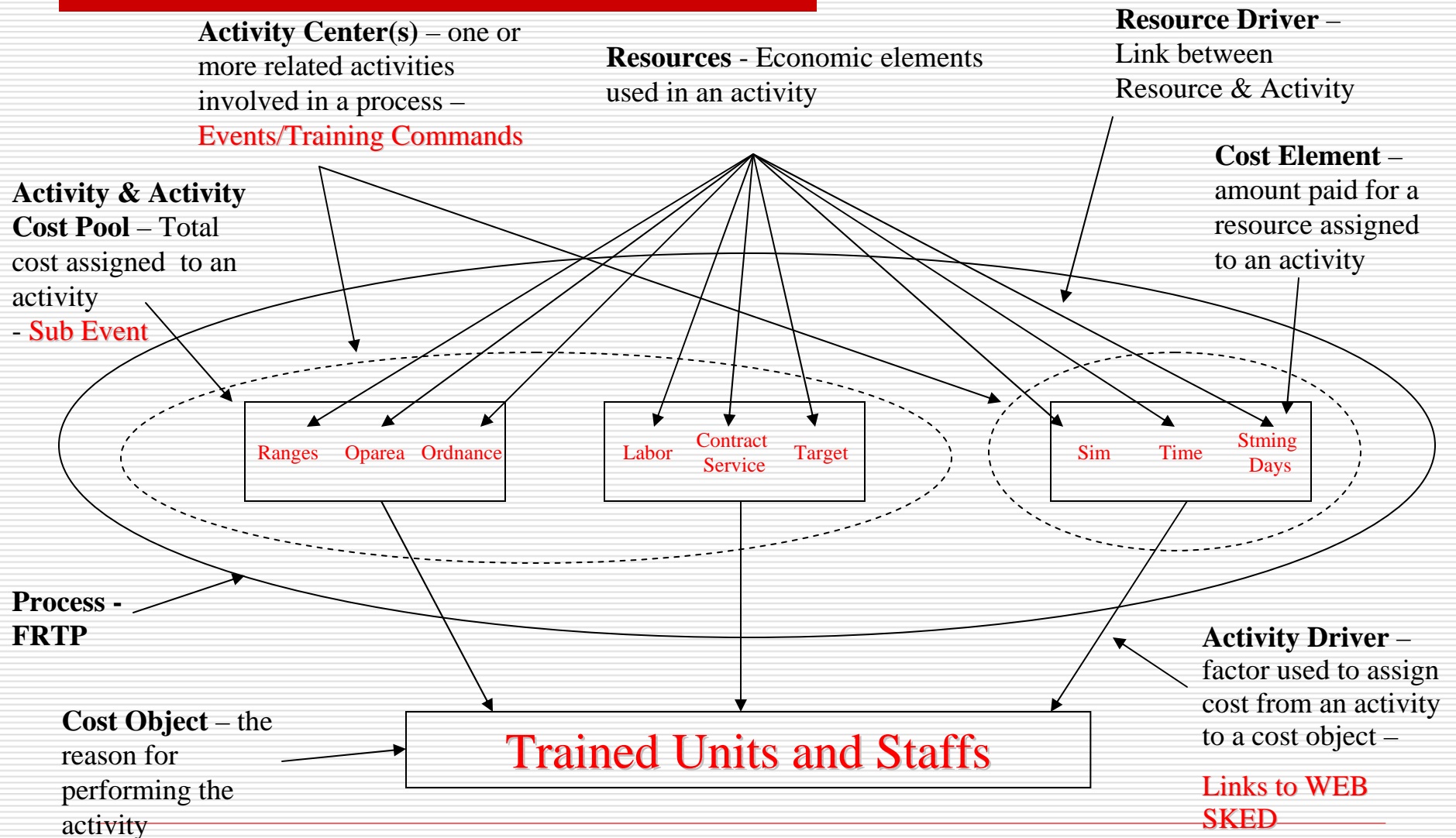


- a. 8 Hours
- b. BFTT
- c. 4 Instructors
- d. Programmed Scenario

An **Event** is a significant Operational Employment during which training is accomplished.  
 A **Sub-Event** is an occasion when actual, specific training is scheduled and conducted to accomplish a specific Training Objective(s).  
 A Sub-Event is part of and tied to an event.  
**LINKED TO WEBSKED**



# Fleet Training Capability Cost



# Fleet Training Capability Cost System

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**Activity Center(s)** – one or more related activities

**Resources** - Economic elements

**Resource Driver** – Link between

**We will understand how much an improvement in Readiness and an Operational Capability Costs!**

**Cost Object** – the reason for performing the activity

**Trained Units and Staffs**

cost from an activity to a cost object –

**Links to WEB SKED**

# Navy Warfare Training System

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# Data Requirements

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- Crew/ Operator/ Commander Performance and Experience
  - Systems Performance
  - Training Systems Performance
  - Resource Expenditures
  - Actual Conditions
-

# Navy Warfare Training System

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# Assessment

- ❑ Near real time assessments
- ❑ Assess Training Effectiveness & Readiness
  - Ability to Meet Navy Standards:
- ❑ This Phase Produces:
  - Overall Training & Mission Proficiency Assessments (DRRS-N)
  - Enterprise “T” pillar information
  - “Track history” on task performance
- ❑ Supports:
  - Analysis of task performance
  - View across force “metrics”
  - Cues potential DOTMLP-F fixes
  - Training resource decision making (FTCCS)

NMET Training Readiness – USS BHP (DDG65) – Power Projection

Show:  Red  Yellow  Green

Index: [Index Text]

NMET	DRRS-N Normalized Training	Training Readiness	Performance Factor	Experience Factor	Calculation Date	Actions
NTA 1 – Provide Mobility	50	50	100	50	17 July 2006	↑
NTA 2 – Provide Intelligence	50	50	100	50	17 July 2006	↑
NTA 3 – Provide Firepower	50	45	70	70	17 July 2006	↑
NTA 4 – Provide Logistics	72	35	100	35	17 July 2006	↑
NTA 5 – Provide Command and Control	50	25	50	50	17 July 2006	↑
NTA 6 – Provide Force Protection	72	35	100	35	17 July 2006	↑

<< Previous (1-6 of 20) Next >>

# A Readiness Assessment

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Hypothesis:

- Successful accomplishment of every MET = Mission Success.
  - Mission Readiness = Confidence in Future Mission Performance.
  - Confidence in Future Mission Performance =  $f$  {most recent performance, mean, trends, changes to DOTMLP-F, time, Conditions, ....}
  - =  $\Sigma$  Confidence in future Individual MET performance.
-

# A MET Confidence Example

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Confidence that a given unit will achieve a given Performance level on a specific task with given Conditions

= f {recent MET performance, trends, changes to DOTMLP-F, METT-TC}

NMET Example (Less specified Conditions & Standards) for CG Power Projection:

- ❑ NTA 3.2.2 Attack Enemy Land Targets
  - ❑ Commander's Assessment: "They can do it well." Based on the following:
    - Recent Task performance exceeded all standards. (And Standards are traceable to COCOM mission requirements.)
    - CG's Performance "continually" improving. (Can show graph of sub-event evals)
    - No changes in watch teams, equipment or people. (Stable system)
    - No new DOTMLP-F to incorporate. (Simplifies mission rehearsal)
    - Minimal degradation due to Time between MET accomplishments. (Based on experienced judgment of Commander and amplified by NWTS data. (Forgetting Curve)
    - Other environmentals (conditions) unchanged. (Stable system)
-

# NMETL framework & DRRS-N

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Perform this task....

.... Under these conditions....

....To this standard.

***“ESORTS” captures Resource Requirements to meet the standard.***

---

# DRRS-N (ESORTS)

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DRRS-N Readiness display will also include resource categories:

“P” Personnel requirements for the NMET

“E” Equipment requirements for the NMET

“S” Supply/ sustainment requirements for the NMET

“T” Training requirements for the NMET

“O” Ordnance requirements for the NMET

----- and soon-----

“F” Facilities requirements for the NMET

TFIRM Cross Functional Teams (CFTs) working on specifics. Stay tuned for updates!

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# NMETs to ESORTS to Systems

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## ***NMETL***

### **NMET**

Task

Conditions

Standards

- Measure + Criterion
- “Measures” show us what to measure
- “Criterion” is the target value

## ***DRRS***

Based on each NMET Standard, ESORTS needs to fill certain factors:

- Personnel
- Equipment
- Supply
- Training
- Ordnance
- (soon) Facilities

These must be met to ensure the NMET standard can be accomplished.

## ***Continuous Improvement***

Based on each PESTO(F) factor

Each requires a “DOTMLPF” system that meets the specs-standards.

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***One objective is to create a performance confidence/ predictability.***

# CNO Sea Enterprise

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1. Senior leaders must drive transformation by setting aligned expectations. – NMETL Standards.
  2. Leaders must create a continuous improvement culture by defining and measuring outputs, balancing risks and ensuring accountability. – NWTS process is a CPI engine.
  3. Navy-wide alignment of organizations and processes must share best practices, leverage core competencies, and become more efficient and effective. -- NWTS process runs on Lessons Learned.
  4. All must embrace best practices and employ lessons learned in a continuous improvement process. -- In step w/ NMETL-based NWTS! This process is LEAN SIX SIGMA ready!
  5. All must develop “business acumen.” Leaders must become knowledgeable about the systems and processes leading to greater efficiency and effectiveness. -- A “Navy Ops Analysis System”– or “Readiness Enterprise” System or “Capabilities Development” System– one common process-many adaptations.
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# Universal Applications for METLs

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- CONOPS development
- Training Transformation: Joint and Navy Warfare Training Systems
- Defense Readiness Reporting System
- All DOTMLP-F systems -- "Capabilities" development
  - System architectures and specifications (DOD AF)
  - FORCEnet
  - Simulators, stimulators and emulators
  - Sea Power 21 and MCPs
- Test, Evaluation and Experimentation
  - Joint Concept Development and Experimentation, Sea Trial
- Capabilities-based Planning
- Navy Enterprise and Establishing Management Controls
- ROC-POE constructs

# CONOPS and NMETLS

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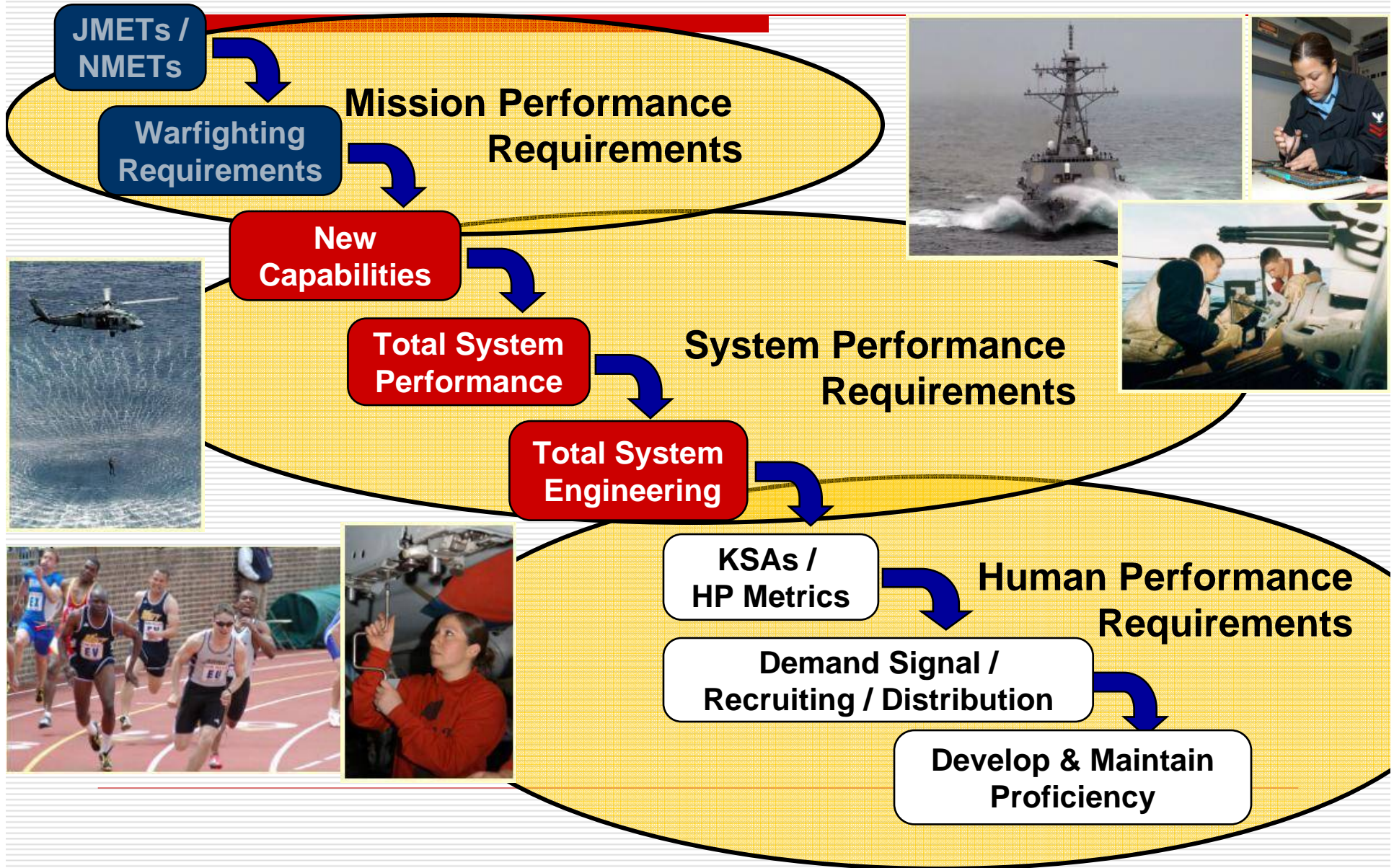
Both are products of Mission Analysis

METLS say what and how well; CONOPS describe How

- ❑ Going in with no CONOPS, NMETL helps frame it.
  - ❑ Going in with CONOPS, NMETL helps improve it!
  - ❑ The primary purpose of the NMETL is to be the target and alignment tool for all improved mission performance.
  - ❑ The NMETL itself should be improved whenever we can advance the articulation of the tasks, conditions or standards or supporting commands' responsibilities.
-

# NAVSEA H-S-I Slide

## From Requirements (METs) to Proficiency



# Welcome into the world of NMETLS

Bewilderment

Confusion



Denial

Hostility

Understanding

Advocacy

“Careful, could be a trick.”

# NMETLs and NWTS: Readiness and Continuous Improvement

- Mission Analysis expresses COCOM and Navy Mission Requirements as “NMETLS.”
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