Transformation of
Army National Guard
Environmental Performance Assessment System
(EPAS)

Technologies and Best Practices in Field Audit Automation

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Agenda

- **Overview of the ARNG EPAS Program**

- **Assessment Process and Logistical Challenges**

- **Transformation of Process and into eMS**

- **Transformation of Technologies in Audit Automation & Management Tool**

- **Training for Transformation**

- **Partnership with USMC**

- **Success and Lessons learned**

The ARNG EPAS Program

EPAS Goal

Assist Commanders in achieving and maintaining environmental program excellence through continuous improvement and by employing sound, cost-effective environmental management practices.

~USAF= ESOHCAMP

~USCG= ECE

~USMC= ECE

~DOE= EACAP

EPAS Objectives

- Aid in long-term **sustainment** of installations and missions
- Minimize Environmental Impact
- Aid in development of highly effective, cost efficient environmental management system (eMS)
- Achieve and maintain regulatory compliance
- Eliminate fines and regulatory actions

- **External Assessment**
  - ARNG centrally manages and executes for 54 Installations.
  - Installations assessed every 3 years.
  - ARNG suggests corrective alternatives for Installation Corrective Action Plan (ICAP) development.
  - Installations develop, implement, and manage ICAP.
  - ARNG monitors ICAP progress.

- **Internal Assessment**
  - Voluntary effort from FY98 - FY02.
  - Mandatory requirement as of FY03.
  - Installations manage and execute <u>annually</u> except when external assessment is scheduled.
  - Installations develop, implement, and manage ICAP.
  - ARNG monitors ICAP progress.

# Implement and Monitor Corrective Actions

- **Installation Corrective Action Plan (ICAP)**

  – Incorporates deficiencies from both <u>external</u> and <u>internal</u> compliance and eMS assessments.

  – ICAP is reviewed and validated through intensive multi-level QA/QC process.

  – ARNG provides policy, guidance, and resources to facilitate Installation regulatory compliance and to correct deficiencies.

  – ICAP is an interactive real-time tool to facilitate corrective action progress.
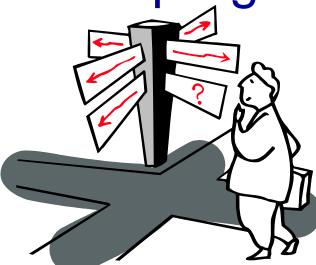
ICAP is a "living document"

ARNG Geographical Imprint & Logistical Challenges

LEGEND

TEAM A	(purple)
TEAM B	(yellow)
TEAM C	(red)
TEAM D	(green)
TEAM E	(blue)
TEAM F	(black)
TEAM G	(orange)

Typical assessment of California

Total = 98 facilities (30% of inventory)

59 physical locations

2 weeks of assessment
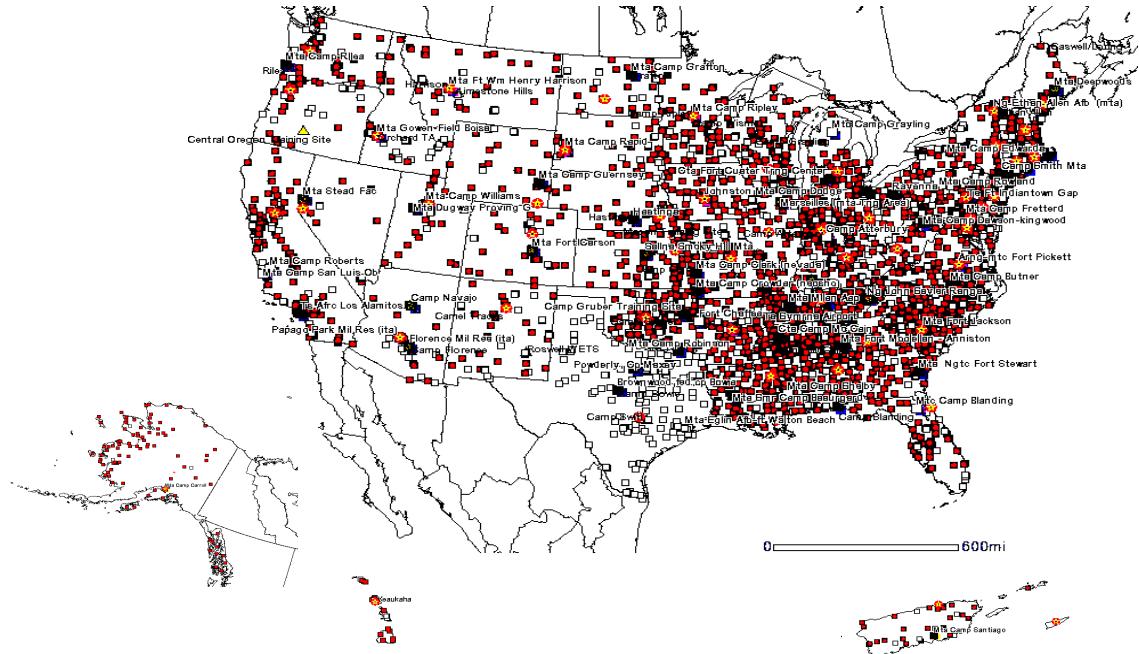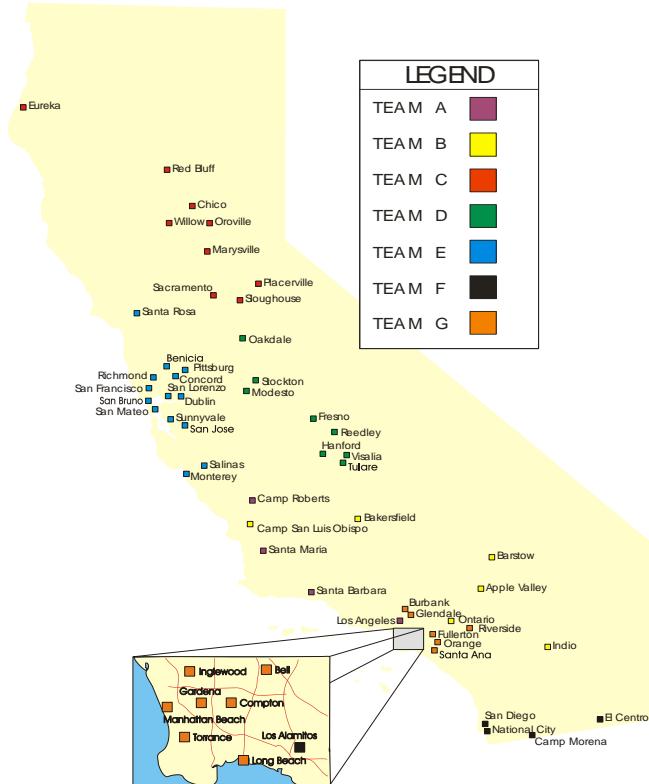
TOTAL ARNG FACILITIES = 27,000
BUILDING SQUARE FEET = 167.1 *MILLION*

LAND ACRES = 2.0 MILLION
STATE OWNED = 1.4 MILLION
DOD OWNED = 0.6 MILLION

OTHER BUILDINGS/FACILITIES
TRAINING FACILITIES = 12,151 = 42.5M SF
GROUND VEHICLE MAINT BUILDINGS = 786 = 11.7M SF
AVIATION SUPPORT BUILDINGS = 286 = 8.6M SF
USPFO BUILDINGS = 384 = 3.9M SF

TOTAL READINESS CENTERS = 2,645

ARNG Logistical Challenges

- **External Assessment Activities**
    - Include compliance and eMS assessment
    - One to two week assessment period.
    - Findings must be written and electronically sent to HQ Team daily.
    - Findings must be validated and briefed daily.
    - HQ Team and four to seven 2-person assessment teams (contractors).
    - Assessment teams must spread out across the entire state during assessment period.

- **Internal Assessment Activities**
    - Must also include compliance and eMS.
    - Performed during dedicated period or year-round.
    - Conducted by in-house personnel including M-day soldiers (1 weekend/mo; 2 training weeks/yr).
    - No contractors.

Transformation of ARNG EPAS Program

- **External Cycle I (FY92 - 95)**
  - Established <u>baseline</u>.
  - Assessed 100%.
- **External Cycle II (FY96 - 99)**
  - Introduced "Root Cause" methodology (2 versions) to address previous findings.
  - Developed corrective strategies to incorporate <u>immediate</u>, <u>intermediate</u> (Root Cause fixes), and <u>long-range</u> (Pollution Prevention fixes) actions to resolve the finding.
  - Promoted voluntary internal self-assessment by ARNG Installations.
- **External Assessment (FY00 - 05)- Risk-based**
  - Introduced a <u>risk-based</u> model to select Installations and a <u>statistical sampling</u> model to randomly select facilities to be assessed.
  - Risk model focuses on regulatory inspection, Notice of Violations, Installation programmatic performance, etc.
  - Introduced eMS-based "Root Cause" methodology (3rd version) to address previous findings.
  - Mandated Installation internal self-assessment in FY03.
- **External Assessment (FY06 - 10)- eMS focused**
  - Shift from negative to positive audit culture (document both conformance and nonconformance).
  - Shift from compliance to conformance. Use of internal assessment findings/ICAP maintenance to document conformance without compliance.
  - Assess eMS conformance with DASA Self Declaration Protocol started 1 Jan 2006. Assess against the six DA Metrics plus implemented ISO 14001 components.
  - Assessment of eMS <u>conformance</u> with ISO 14001 begins 1 Oct 2009.
  - Developed "eMS weakness codes" (4th Root Cause methodology) applicable only for compliance deficiencies.
- **External Assessment (FY11 - Present)- Hybrid concept**
  - Full assessment (compliance and eMS) for high risk Installations.
  - Hybrid assessment (eMS only) for low risk Installations. Installations must conduct internal compliance audit.

Transformation of ARNG Automated Tools

- **1st Generation- ARNG Compliance Assessment Software (ARNGCAS)- DOS based, 1993- 1995**

- **2nd Generation- ARNG Compliance Assessment Software (ARNG TEAMCAS)- DOS based, 1995- 1997**

- **3rd Generation- ARNG Windows-Compliance and Sustainment Software (WINCASS I)- Windows 95, 1997- 1998**

- **4th Generation- ARNG WINCASS II- Windows 95/2000/ME/NT, 1998- 2001**

- **5th Generation- ARNG WINCASS III- Windows 2000/ME/NT/XP/VISTA/7, 2001- 2011**
  – Similar version is being used by NOAA, NASA, Army Reserve, CDC, USMC.
  − Modified in 2005 for eMS and exclusively for external assessment.

- **6th Generation- ARNG WINCASS- Windows XP/VISTA/7, 2012- Present**
  – Incorporates ICAP, CSI, WASTE, STEP, PRIDE-Web, and CERL data into one project package. A stand-alone mobile data collection tool that works on any platform.
  – Same look and feel on desktops, laptops, tablets, smart devices.

Transformation of ARNG Automated Tools

- ## ARNG Web-Compliance Assessment and Sustainment Systems (WEBCASS)

    - First fully <u>interactive</u> web-based compliance assessment application in the DoD/Federal.
    - Real-time tracking, monitoring, and management of corrective actions (ICAP).
    - Key Performance Indicators and Dashboards for informed executive decisions.
    - Contains all historical EPAS data since 1992.
    - Interfaces with multiple ARNG/non-ARNG applications.
    - Training Registration & Management
    - Online CBT
    - Electronic Document Management
    - Similar lighter COTS version is being used by NOAA, CDC, USMC and is under consideration by other agencies.

- ## ARNG WEBCASS Suites

    - CSI: Compliance Site Inventory of real property (interfaces with all other apps within the suites).
    - Compliance & eMS deficiencies with ICAP (interfaces with STEP)
    - STEP: Budget validation (Status Tool for Environmental Program)
    - WASTE: Hazardous Waste Tracking/Disposal Records (interfaces "<u>externally</u>" with DRMS)
    - Checklist Sever: On-line checklist customization tool
    - Mobile Checklist: For Checklist tool on mobile devices
    - Mobile ICAP: For ICAP management on mobile devices
    - CRMT: Tool for NEPA, ECOP, Cultural/Natural Resources Management Process.
    - WINCASS: off line audit tool (interfaces with CSI, WASTE, STEP)

WEBCASS Enterprise Diagram

1. EPAS Real Property information sync up
2. WEBCASS Project ICAP submissions to STEP & STEP Project status update to WEBCASS
3. Download/Upload checklist from/to Checklist Server – Mobile Checklist
4. Download/Upload finding Corrective Actions from / to WEBCASS ICAP –Mobile ICAP
5. Upload/Submit Findings to Writing Findings Online (WFO)
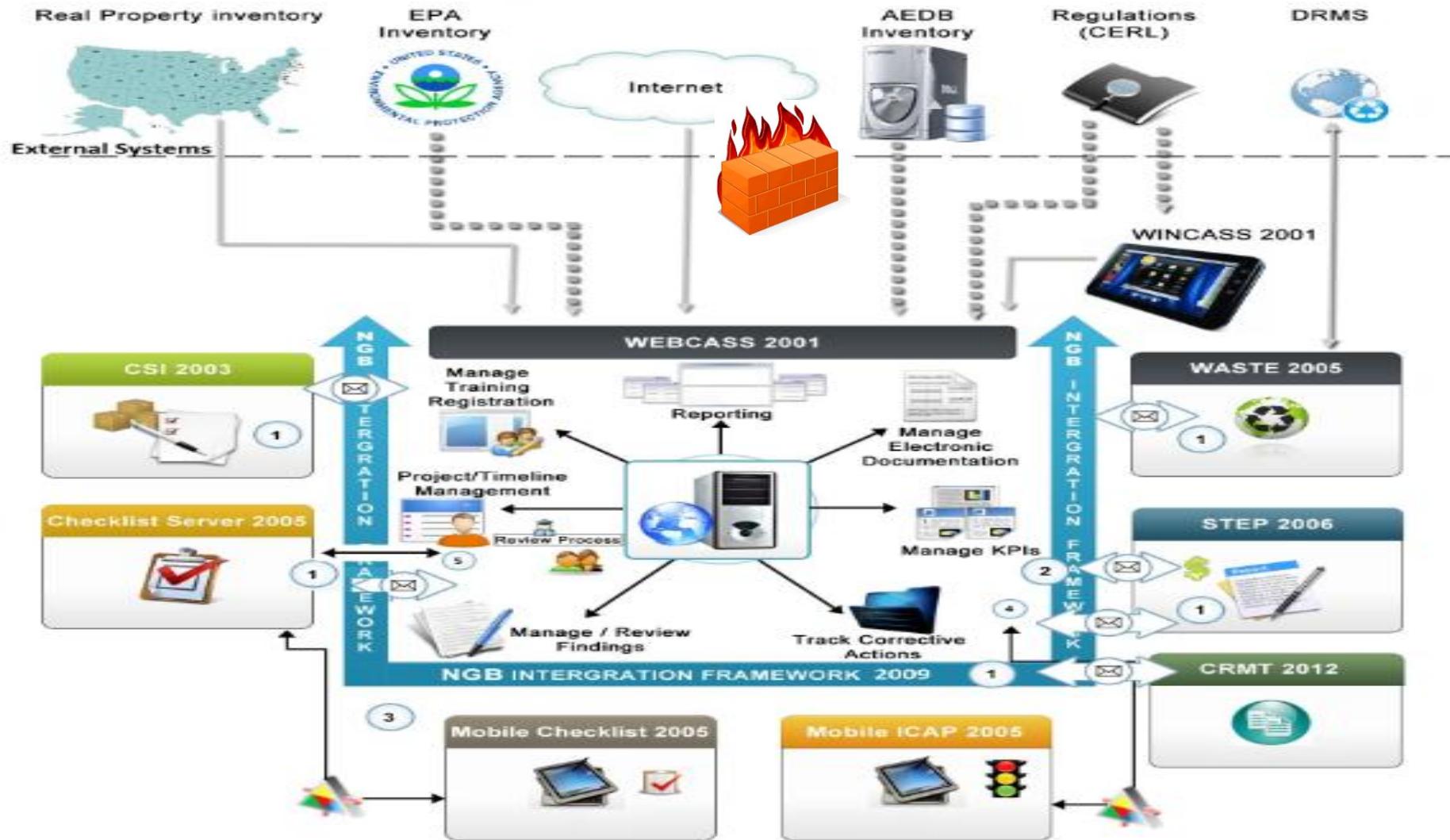
# Business Enterprise Architecture (BEA) of ARNG EPAS

OV-1

OV-2
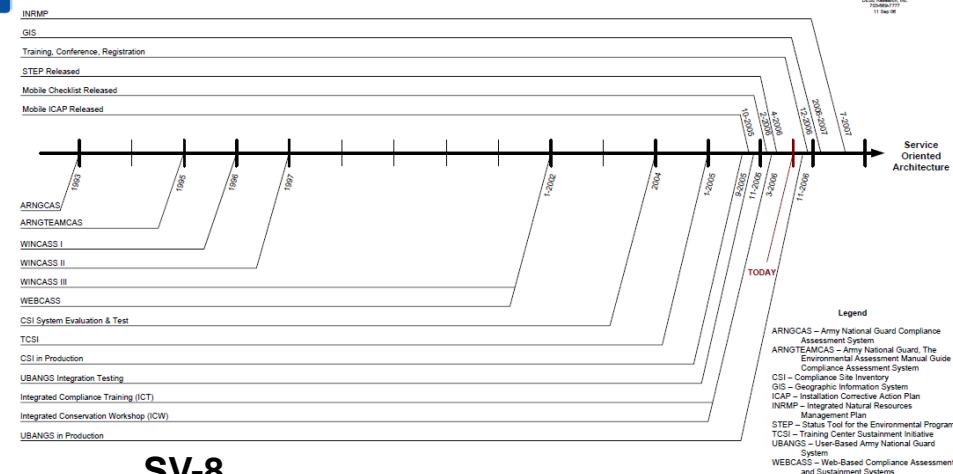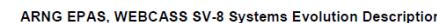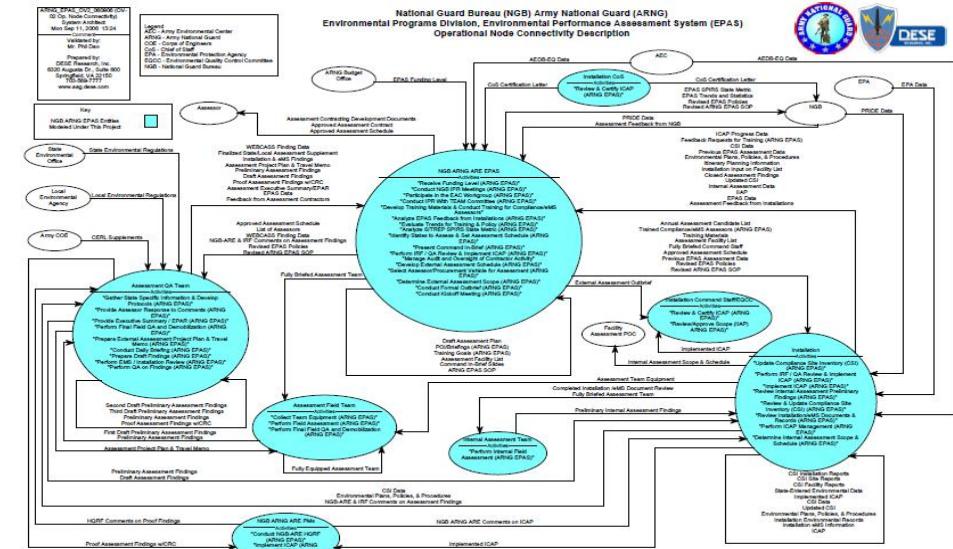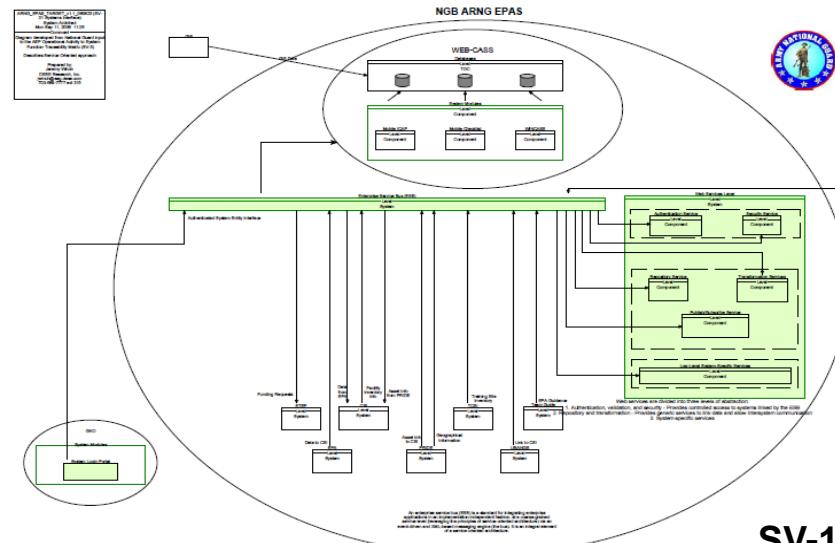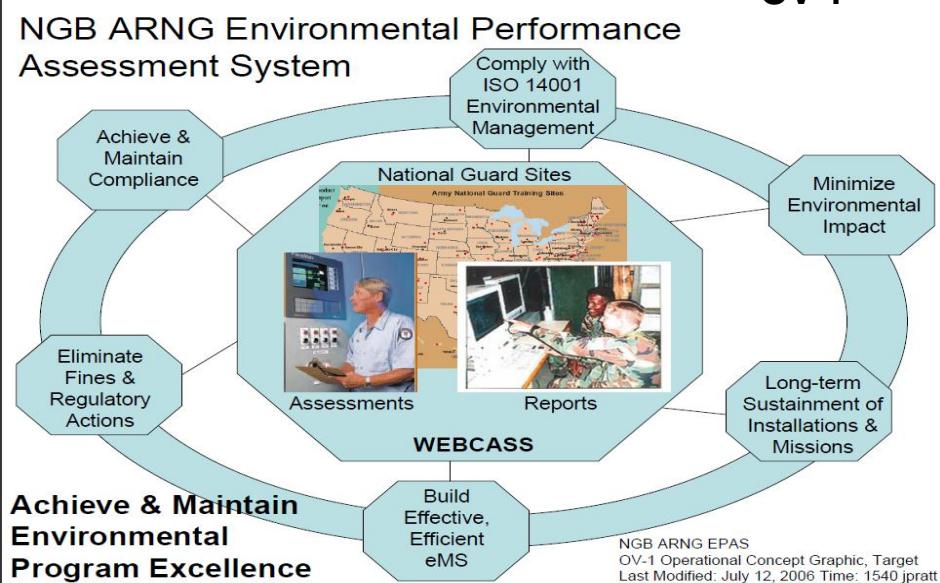
SV-1

SV-8

Training for Transformation

•   Promotes and encourages involvement from all levels: all full/part time employees, contractor employees, and traditional Guard soldiers (weekend employees).

• Promotes States' mutual assistance for external and especially for internal assessments.

• Provides <u>continual</u> training opportunities for all employees on annual basis.
  – business process
  – internal ISO14001 eMS audit
  – new enhancements
  – shadow program

Keys to ARNG Success

- **ARNG philosophy and lessons learned**

  - Elimination of stovepipes.

  - Simplicity and user-friendly.

  - Cost-effective development and implementation.

  - Use of in-house resources.

  - Involvement of stakeholders and end-users in the development

  of processes, training programs, applications/testing, etc.

  - Continual improvement.

  - DIACAP (Information Security/Assurance & ATO) is a big pain!!!

ARNG Success

- **ARNG EPAS program is recognized as the leader in the Army**

  – ARNG Root Cause Methodology (3rd version) was adopted for Army-wide.

  – USA CERL March 2001 Report: "ARNG has superior quality assurance program in the Army."

  – WINCASS and WEBCASS suites set the standards for new Army software applications (HQAES).

- **ARNG Partnership with USMC**

  – USMC conducted Business Case Analysis in 2007 to evaluate avail existing systems.

  – USMC adopted WINCASS, WEBCASS, STEP in FY10. Currently evaluating WASTE.

  – ARNG hosts USMC applications and assists with training.

 – Considering ARNG-USMC joint assessments and training in FY13.
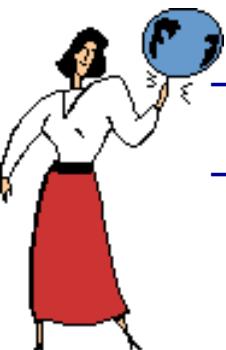
ARNG Success

- **ARNG EPAS program is recognized as the leader in the Army**

  – ARNG EPAS program is the only proponent to not only implemented the mandatory internal assessment since FY03- Present, but also to successfully achieve 95 -100% completion.

  – "Best Practices" & "Model Program" per Army Environmental and Environmental Health Assessment Analysis Study for Deputy Assistance Secretary of the Army, Environmental, Safety & Occupational Health (DASA-ESOH), Jan 05.

  – ARNG WEBCASS has high "very satisfied" rating (72%) with low spending cost per Army OACSIM's environmental software inventory and user satisfaction survey, Mar 05.

- **ARNG EPAS program is recognized by the Office of Federal Environmental Executive (OFEE)**

  – "Best in Class" per Mr. Ed Pinero, the Federal Environmental Executive, Keynote speaker at ARNG Integrated Compliance Workshop, Philadelphia, PA, May 04.

Army OACSIM's environmental software inventory and user satisfaction survey, Mar 05. Only partial list is shown.

UBANGS=~ WASTE
WEBCASS= CSI+WASTE+TCSI

In general, how satisfied or dissatisfied are you with the [software title] as a tool for environmental program management?

Software	Very Satisfied/Satisfied	Sometimes Satisfied, Sometimes Dissatisfied	Dissatisfied/Very Dissatisfied
EPAS (n=207)	46%	41%	14%
ARID (n=16)	81%	13%	6%
RPTS (n=64)	75%	19%	6%
U-BANGS (n=33)	73%	27%	
WEBCAS (n=50)	72%	20%	8%
EPRWeb (n=332)	63%	30%	7%
TRI (n=55)	62%	29%	9%
ERISR (n=5)	60%	40%	
CSI (n=12)	58%	33%	8%
SWARWeb (n=109)	58%	30%	12%
HSMS (n=140)	55%	34%	11%
AEDB (n=78)	53%	35%	13%

■ Very Satisfied/Satisfied   □ Sometimes Satisfied, Sometimes Dissatisfied   ■ Dissatisfied/Very Dissatisfied

Most Common HQ Software

Software	Percent of Users
EPRWeb (n=332)	33%
EQR (n=297)	29%
EPAS (n=207)	20%
ISR-II (n=207)	20%
HSMS (n=140)	14%
AEDB-R (n=127)	13%
SWARWeb (n=109)	11%
EPR-R (n=81)	8%
AEDB (n=78)	8%
RPTS (n=64)	6%

Satisfaction Score Key
■ 70% or above
□ 50-60%
■ 0-49%

HQ FY06-11 Spending

Software	Spending
HSMS	$30,687,113
EPAS	$30,419,894
AEDB	$10,051,643
ISR-II	$9,500,000
EPRWeb	$4,337,682
ERIS-R	$3,917,128
TCSI, WEBCASS	$3,780,000
AEDB-R	$3,357,538
ERIS	$2,797,948
EQR	$2,327,889
UBANGS	$1,620,000
IPMIS	$310,202
SWARWeb	$186,121

Satisfaction Score Key
■ 70% or above
□ 50-60%
■ 0-49%

WINCASS Mobile

Mobility Best Practice Implementation and lessons learnt

Common Challenges & Issues

Organizational Issues

- Business process to technology mapping or transformation is not clear
- Constant and Cyclical change in regulations, mandates, and administrative policies creates a fluid set of requirements
- A more flexible and agile approach to requirements is a must
- Realignment and reduced budgets require stakeholders to do more with less
- Already existing massive investments in technology and systems needs to be leveraged
- Business process changes and training costs

Technology Challenges

- A wide range of technology solutions are used but are often not interoperable
- Mission critical legacy applications (many of which are stovepipes) don't talk to each other
- Increasing concerns related to security (for both legacy and new deployments)
- Internal (PC, Tablet, WEB Servers) *vs.* External (SAAS, App. Vendor and CLOUD) data collection & storage
- Back-up and recovery issues (Internal Vs External).

Mobility – Advantages and Lessons Learned

Advantages – Issues and Challenges Addressed

- Mobile applications strongly tied to backend enterprise system is key
- Leverages already existing investments in technologies and backend infrastructure
- Always available and ubiquitously used channel for information consumption
- Small foot print requires relatively lesser investments
- Ability to consume data and present in one universal façade
- Improves response time and productivity – Improves ROI

Mobility Lessons Learned

- Paradigm Shift: Difficult to separate the noise from information
- Rapidly evolving field creates Vendor, Standard, and Device uncertainty
- Strategy: The use of tablets must improve performance and reduce cost
- Execution: Worst culprit that inherits all the root cause problems
- Security should be at same level as your enterprise system

Questions?

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