



91st Operations Group 741 MS Code Change Incident

***Colonel Robert D. Critchlow
Commander***

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Overview

- ***Code Change Overview***
- ***Sequence of Events / Impact of Incident***
- ***Root Cause Analysis***
- ***Investigation Findings***
- ***Actions / Recommendations / Accountability***

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Code Change Overview

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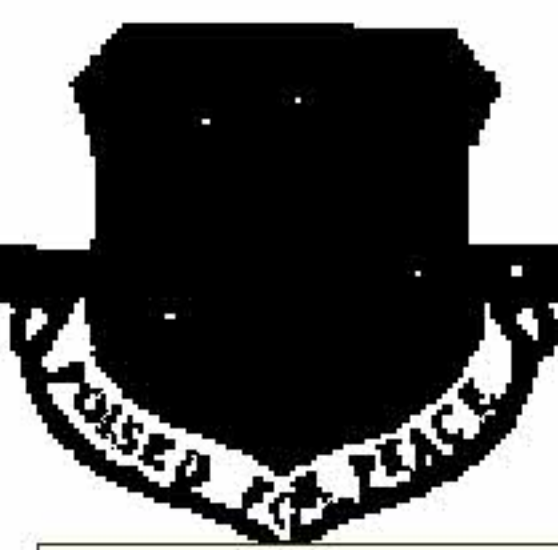


Sequence of Events

- **25 Jun 08: Code change training for** **and**
- Received classroom and MEP/CT (partial simulator) training from weapon system and Codes Instructors

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Sequence of Events

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Sequence of Events

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[] crew left I01 for base
Crew arrived at Codes, transferred components
 [] notified [] (Asst Flt/CC)
 [] notified [] (Flt/CC)
 [] notified [] (741 MS/DO)
 [] questioned the four crewmembers
 notified []
 [] received brief from [] spoke
 with crews, []
 [] notified [] (91 OG/CD)
 []

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Sequence of Events

- All 91 OG personnel briefed by 91 MW and OG leadership, then Codes trained entire group on basic code controls and handling, including field storage and transport requirements; entire group took codes test

- declassified event,

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Impact of Incident

- Possible Compromise of
 - determined no compromise
 - Components in question were all superseded codes
- Possible Compromise of
 - determined no compromise
- Uncovered deficiencies in 91 OG code change knowledge, processes and training
 - Requires us to improve operations

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Root Cause Analysis

- Training
- Evaluation
- Processes / Procedures
- Personnel
- Leadership

Approach: Evaluate each area critically and determine root cause

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Training

- **Monthly Recurring Codes Training**
 - Experienced code controllers taught using slides and class interaction
 - Covers all Vol 16 requirements,
- **Code Change Training**
 - OSO and Codes instructors taught using slides, MEP/CT, interaction
 - Weapon system instructors all had code change field experience
 - No hands-on simulator portion
 - Timeline training stopped on day five; component return discussed in "isolation"
- **Code Change Refresher Training (dispatch day afternoon)**
 - Experienced weapon system and controllers taught code change crews
 - Used shortened version of above training; slides and many questions
 - More of a review than actual training; did cover code control/transport
- **OG/CC assessment:**

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Evaluation

- **Crews take an open book test after monthly recurring codes training**
 - Tests are currently open book IAW AFSPCI 91-1005
 - MSET Codes testing is also open book per 20 AFI 90-1
 - Questions based on JPRs covered in class, plus 30% of questions every month are PCC and code handling
 - Tests ask general knowledge and scenario-based questions
 - The May 08 test asked a field storage question very similar to the PCC event; none of the four crewmembers missed it
- **Crews did not test after code change training**
 - Possibly impacted crew attentiveness and retention
- **Crews did not receive specialized code change MPT ride**
 - MEP/CT was not used as a hands-on training tool

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Evaluation

- **MAR 08 OGV script contained E10H – Crew had requirement to declare a PCTT**
 - [redacted] saw this script, no errors
- **JUN 08 OGV script contained E10B – Crew had requirement to declare PV. E10H – Crew had requirement to declare PCTT**
 - [redacted] saw this script, no errors
- **OG/CC assessment: Test questions meet basic requirements, but increased difficulty/closed book will improve retention; add test and MPT ride to code change training; include field storage event in MPT and eval**



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Personnel-

Codes Cert	20 Mar 06
DMCCC	3 Apr 06
ACP/SCP DMCC	6 Dec 06
DMCC Instructor	22 Feb 07
L2 DMCCC	9 Nov 07
MCCC	12 Mar 06
Asst Flt Cdr	1 May 06
Disciplinary Actions	<input type="text"/>

Evaluation History:

Codes Test History:

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Personnel-

Codes Cert	22 Nov 06
DMCCC	22 Nov 06
ACP/SCP DMCCC	29 Mar 07
DMCCC Evaluator	25 Jun 07
MCCC	14 May 08
Disciplinary Actions	<input type="text"/>

Evaluation History:

Codes Test History:

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Personnel-

Codes Cert	19 Apr 06
DMCCC	26 Apr 06
ACP/SCP DMCCC	23 Feb 07
L2 DMCCC	14 May 07
L3 MCCC	3 Jul 07
Disciplinary Actions	<input type="text"/>

Evaluation History:

Codes Test History:

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Personnel-

Codes Cert	24 Aug 07
DMCCC	27 Aug 07
ACP/SCP DMCCC	27 Feb 08
Disciplinary Actions	<input type="text"/>

Evaluation History:

Codes Test History:

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Leadership-Flight Commanders

4th Flight -
Appointment Date: 1 Jun 08
Experience: 8 yrs Prior Enlisted Aviator Op
 16 mos DMCCC (8 mos Eval)
 12 mos MCCC

5th Flight -
Appointment Date: 1 May 08
Experience: 13 mos DMCCC
 9 mos Deployment Afghanistan
 24 mos MCCC

6th Flight -
Appointment Date: 1 Apr 08
Experience: 15 mos DMCCC
 15 mos MCCC

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Leadership-741 MS/CC & DO

741 MS/DO – Lt Col Robert Payne

Appointment Date:

Jun 07

Experience:

36 mos MMIII ICBM Crew

36 mos ICBM Staff

12 mos Nuclear Tech Fellow

11 mos Chief OGV

741 MS/CC – Lt Col Debra Rosa

Appointment Date:

Jun 08

Experience:

45 mos MMIII ICBM Crew

48 mos AFSPC (Space)

10 mos ICBM Staff

24 mos DO (Space)

24 mos USSTRAT (Space)

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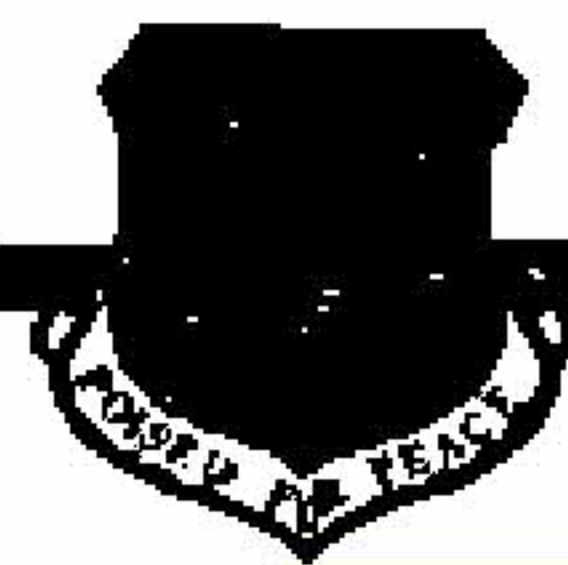
Leadership

- **MS/CC & DO attended unit Code Change Pre-Brief and Code Change Readiness Brief to MW/CC**
- **MS/CC & DO attended unit and OG pre-departure briefs for [] posting crews, monitored code handler brief**
- **MS/CC & DO attended unit and OG pre-departure briefs for code change crews, monitored code handler brief and code change refresher brief**
- **MS/CC & DO oversight of [] swap via telephone**
- **Periodic MS/CC & DO visits to WOC during code change to track status**



Leadership

- MS/CC & DO tripped to field on [] DO monitors [] capsule ops via telephone
- MS/CC & DO monitor [] and [] via phone
- MS/CC & DO conduct unit and OG pre-departure brief for [] relief crews, brief all relief crews; Monitoring returning crew status via OSB, safety briefed & met returning crews
- WOC presence: OSS manning Mon, Wed, Fri; [] (741 MS Flt/CC) in WOC Tue, Thu; Presence from 0700L until last sortie for day on new codes; otherwise on telephone standby; on leave starting 1100 Sat
- [] (741 MS Flt/CC) posted to J01 for code change, was "done" after return from alert



Leadership

- [] (741 MS Flt/CC) [] during code change week; Provided support from squadron area; met returning crews

[]

- OG/CC Assessment: []

[]



Investigation Findings

- **Causal Factors**

- Crew decided not to comply with directives
- Team attitude that code change ends when last LCC swaps to new codes, vice when all components returned to Coda
- Training was satisfactory, but can be more rigorous with higher intensity
- Did not stress timing or review code controls when crew removed components from field storage
- Culture not focused on communication and mutual support; multiple opportunities to stop the event

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Actions

- **Training**

- Sq CC/DO attending code change training with crews
- Code change trng will include crews with code change experience
- MXG instructors will teach crews LF code change activities
- Dispatch day training will be the full lesson plan, including code component controls/field storage; Sq CC/DO will attend
- Crews dispatching with code components but not doing code change will now attend code change training
- Increasing depth of monthly training ("why" behind the "how"); crews now turn-in study pkg to show they are prepared for class
- Syllabus restructured to teach component return as part of code change timeline

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Actions

- **Evaluations**

- Will increase difficulty of monthly recurring tests, tests will be closed book format with scenarios
- Building code change training test to evaluate training & retention
- Building MPT script to challenge crews, supplement class training

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Actions

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Actions

- **Leadership**
 - Wg/Gp/Sq leadership provided face-to-face brief to OG personnel on perfection as standard for nuclear operations
 - 24hr weapon system advisor or flight commander in WOC until all components returned to MSB
 - Reinforce leadership presence in field
 - OG/CC briefed crews on Nuclear Surety & weapons effects
 - OG/CC briefed Flt CCs, Section Chiefs, Senior Crews and NCOICs on responsibilities



Recommendations

- **Review changes with 20 AF and 90 OG SAV (In progress)**
- **Share data with other 20 AF wings to help them improve**
- **Emphasize code change is critical from start to finish**
 - Stress this is our most complex peacetime operation
- **Monitor next code change closely for lessons learned**
 - Determine if actions successful

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QUESTIONS?

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