

Headquarters U.S. Air Force

Integrity - Service - Excellence

Fighting in a CBRN Environment



**Brig Gen Dave Clary
Director of Homeland Security
HQ Air Force**

U.S. AIR FORCE



U.S. AIR FORCE

Overview

- **The Spectrum**
- **The Threat**
- **The Science**
- **New Response Actions**
- **Attack Walk-Through (for future ref)**



U.S. AIR FORCE

Counter-CBRN Operations ...the Spectrum

1. Deny enemy access to CBRN
2. Destroy before used
3. Intercept during delivery
4. Survive & operate forward
5. Survive & operate at home



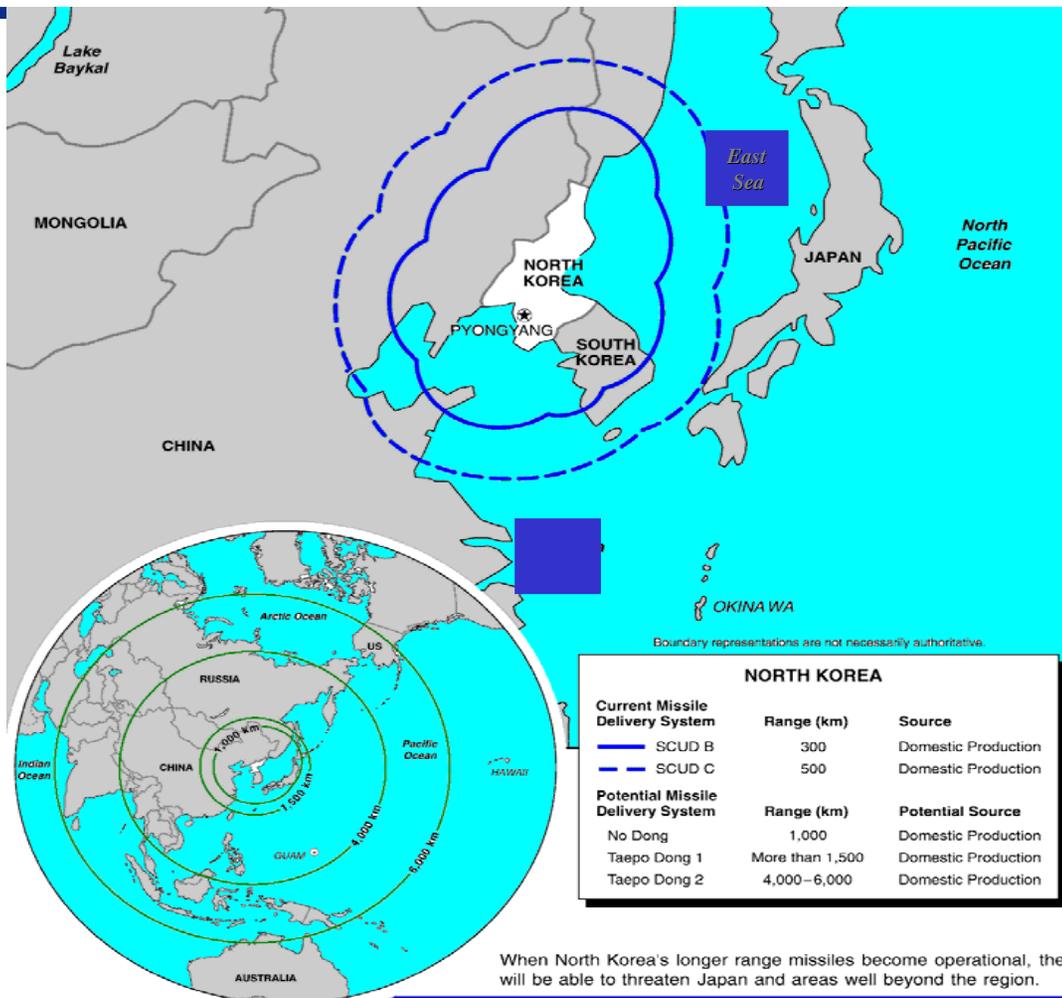
We must take a system-of-systems C-CBRN approach



nK TBM THREAT

U.S. AIR FORCE

- SCUD B and C
 - Produced domestically
 - SCUD B within range of Osan
- No Dong
 - Can range Japan
 - Not likely to be used against Osan AB





U.S. AIR FORCE

The New Science Behind the New CONOPS

- Air Force has conducted a technical review of hundreds of historical test documents which looked at surface interaction effects
- Air Force conducted detailed technical review of recent live-agent surface interaction tests
- Air Force has worked to review all data available on liquid breakup at supersonic delivery velocities





U.S. AIR FORCE

The New Science Behind the New CONOPS

- **Surface porosity a key factor in determining nature and duration of hazard**
- **Supersonic release environment is a limitation on SCUD CW delivery effectiveness**
- **SCUD delivery accuracy and payload constraints likely to result in less than full-base contamination**



U.S. AIR FORCE

The New Science Behind the New CONOPS

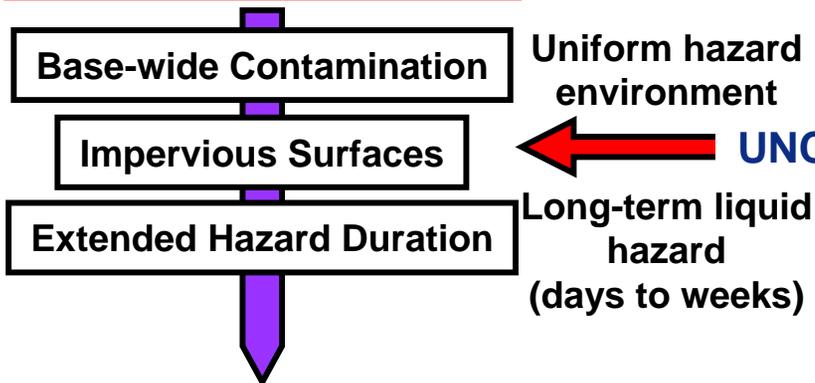
- Decontamination techniques cannot remove or appreciably reduce hazard once agent has sorbed into the surface, to include paints
- Vapor hazard after agent sorbed into surface significantly lower than same mass evaporating from impervious surface
- Currently fielded vapor detectors will not recognize hazard even though a hazard exists for VX from these surfaces



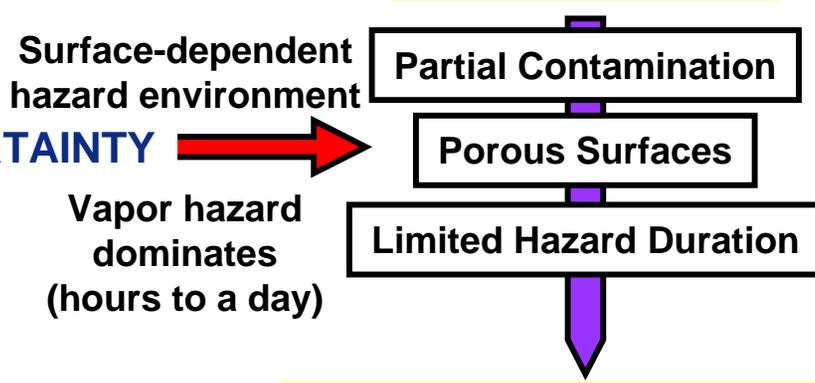
Understanding the Operational Hazard Environment

U.S. AIR FORCE

Traditional Assessment



New Assessment



← **UNCERTAINTY** →

Severe Sortie Degradation

- **Drives extended MOPP 4 ops**
Base-wide performance quickly degraded
- **Extensive decon only solution for other Services**
Technology does not exist for airbase surfaces
- **AF maintains capability to operate in**

Reduced Sortie Degradation

- **Opportunity to leverage prospect of less than worst case outcomes**
Take steps to quickly recognize and effectively respond to actual environment
Expect it, prepare for it, go look for it

Need to provide commanders tools for “less-than-worst” case attacks -- but requires more sophisticated procedures, guidance, and training



U.S. AIR FORCE

The New Counter-CW CONOPS

- **“New” Counter-Chem Warfare CONOPS in place at Osan AB and to varying degrees throughout USAF**
- **Initial “test bed” effort -- lessons learned by PACAF**
- **PACAF Commander approved and directed implementation of C-CW CONOPS and forwarded to Air Staff for consideration**
- **Air Staff used PACAF CONOPS as basis for developing a new Air Force C-CW CONOPS to support the overall Nuclear, Biological, Chemical, Conventional (NBCC) Defense program**
- **C-CW CONOPS fielded, C-Biological and C-Nuclear CONOPS updates will follow sequentially**



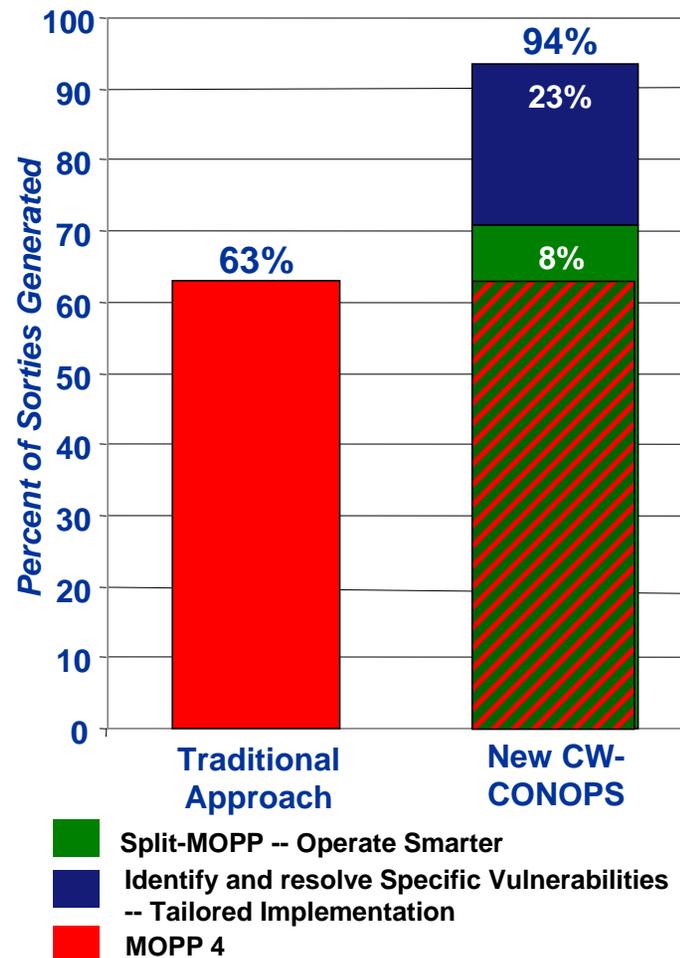
The New C-CW CONOPS

U.S. AIR FORCE

- New C-CW CONOPS can significantly reduce operational degradation
- Increase in throughput capability comes at a cost of increased complexity
- Requires a significant change in operational “mind-set”



Impact of Identifying and Resolving Specific Vulnerabilities





U.S. AIR FORCE

New Response Actions

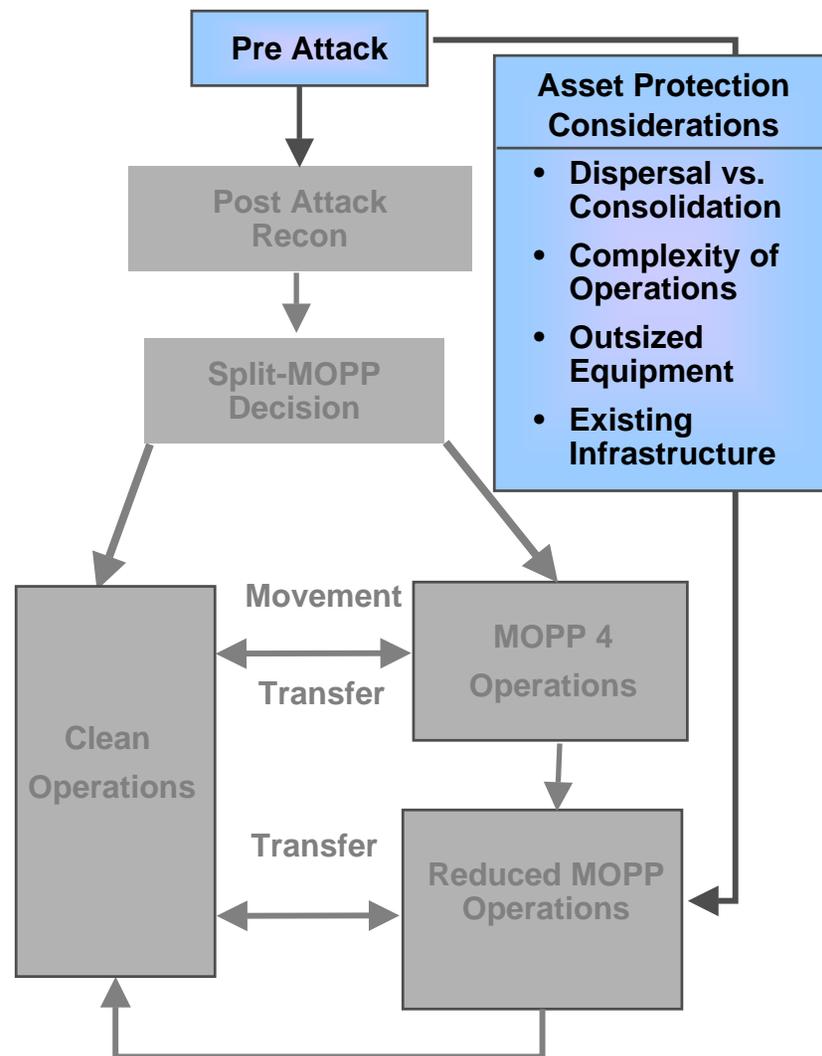




U.S. AIR FORCE

The New C-CW CONOPS Response

- ✦ Establish NBC sectors and method of marking status for the entire base
- ✦ Extensive use of prepositioned M8/M9 paper
- ✦ Assess Wing functional operations to minimize vulnerability of vehicles, equipment, MHE/AGE, and munitions to direct contamination

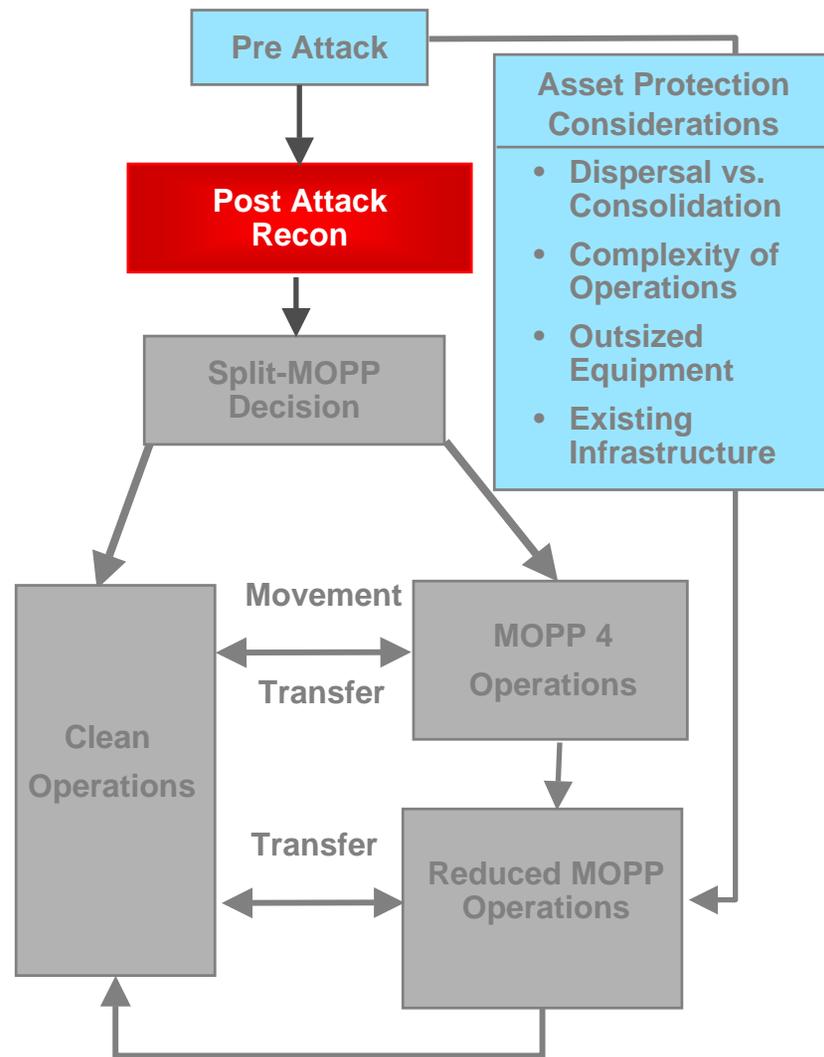
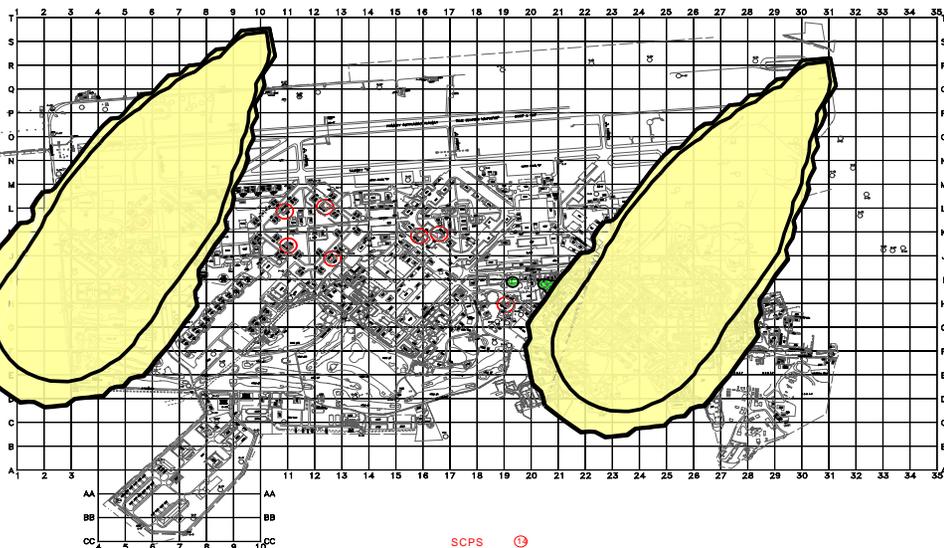




U.S. AIR FORCE

The New C-CW CONOPS Response

- ✦ Base populace remains under cover during high-risk droplet fall period (10-20 min)
- ✦ Facility survey released on Wing CC direction
- ✦ Results are plotted on map in WOC
- ✦ Extent of contamination determined

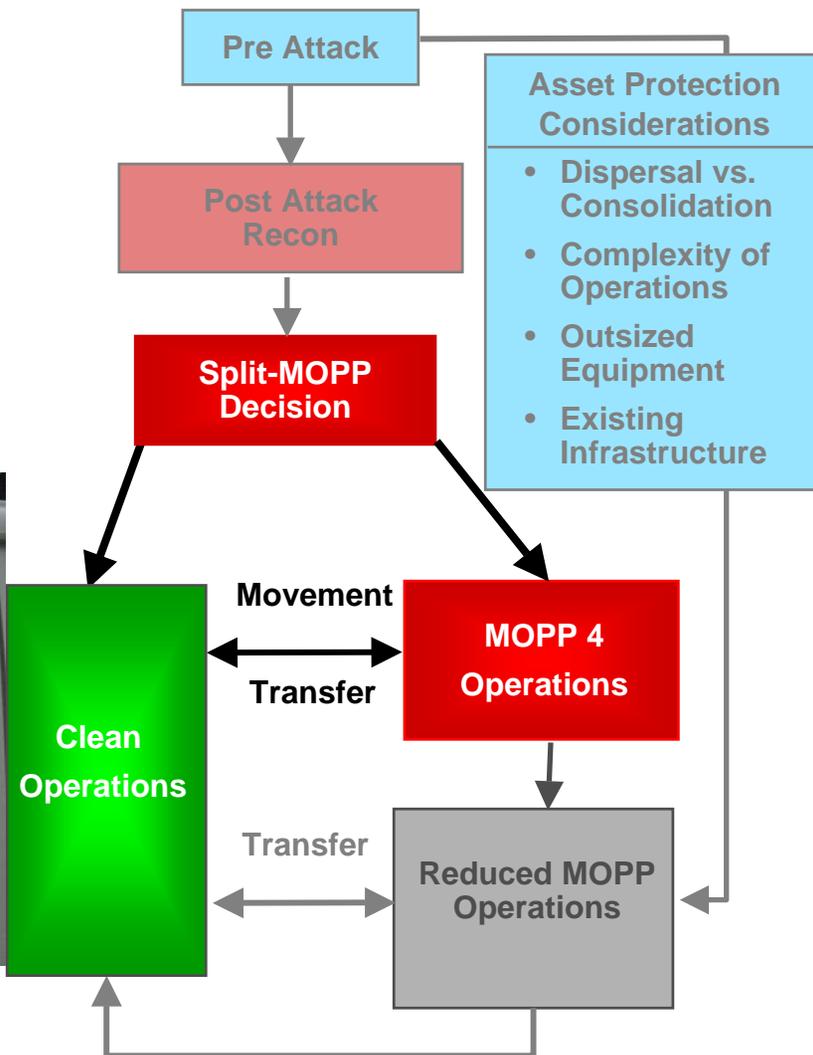




U.S. AIR FORCE

The New C-CW CONOPS Response

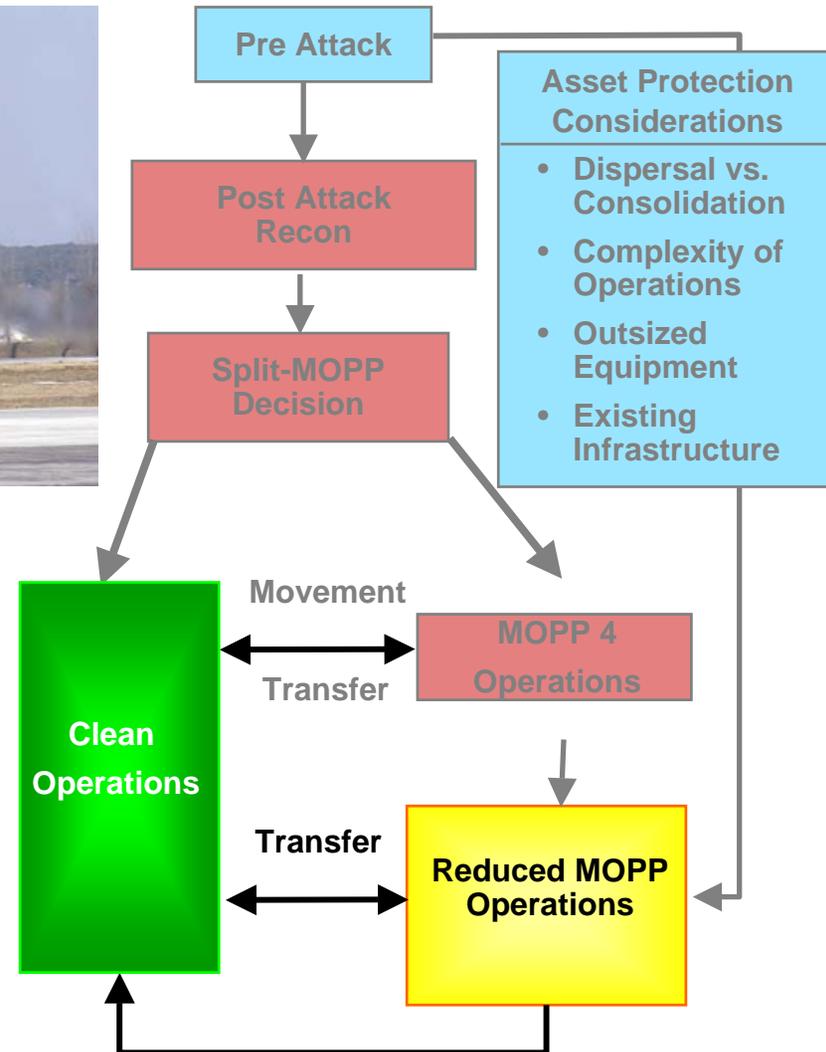
- Wing CC directs uncontaminated sectors to reduce to MOPP 2
- Establish procedures for operations between sectors
- Conduct immediate operational decontamination of contaminated surfaces



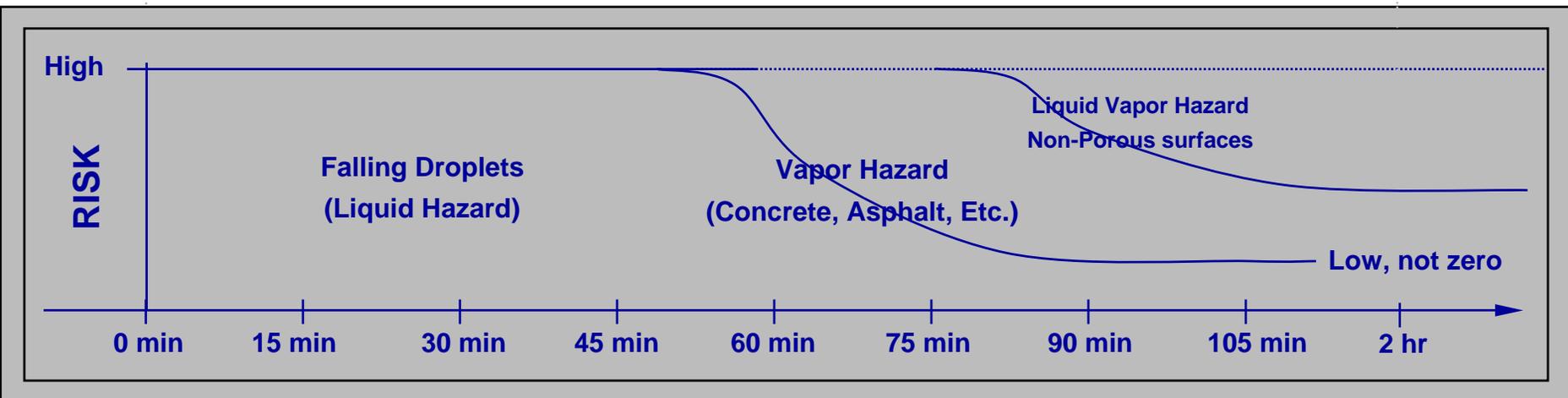
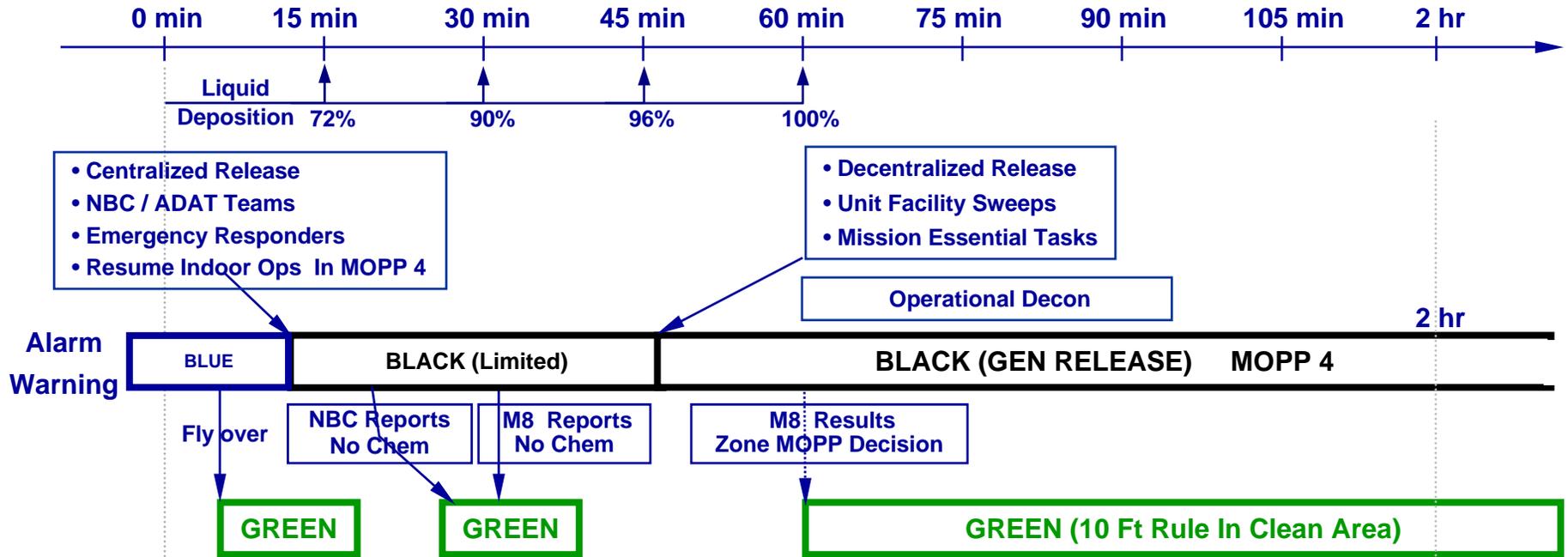


U.S. AIR FORCE

The New C-CW CONOPS Response



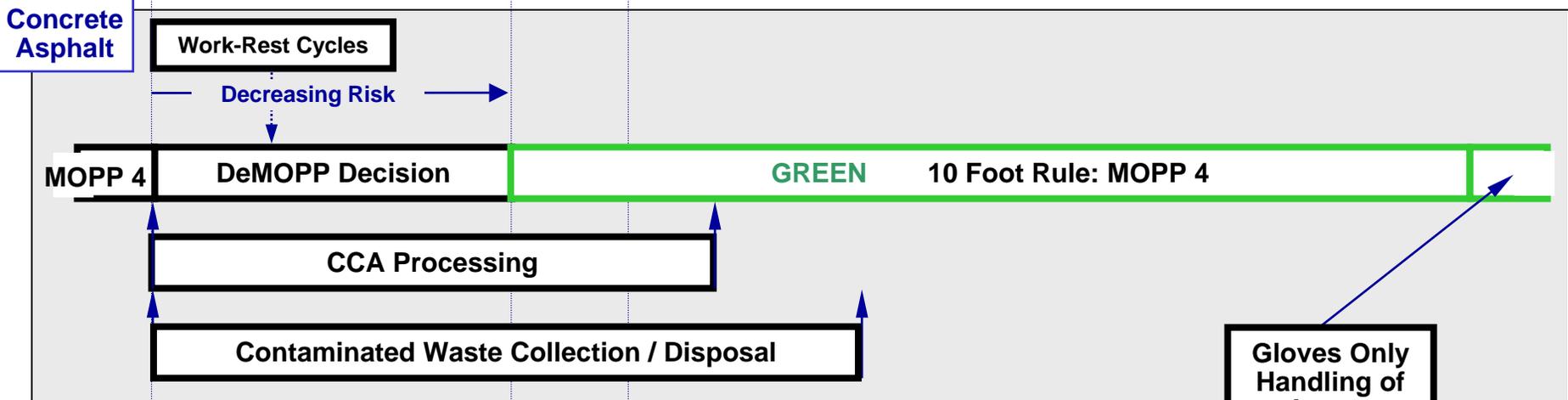
General Response to Attack (VX)



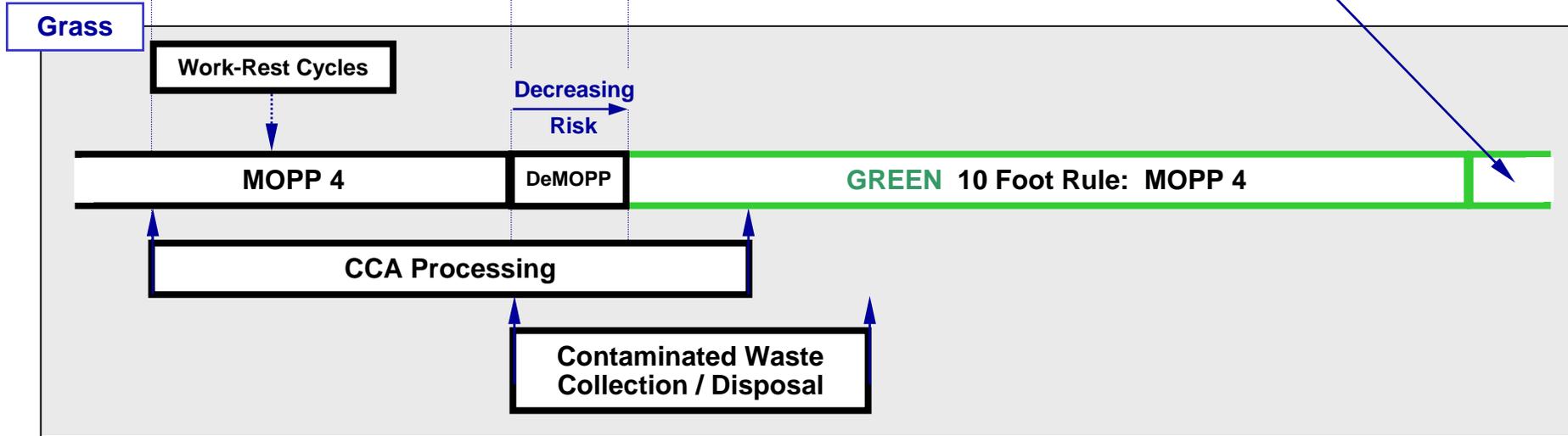
General Response to Attack (VX)

Time After Attack (Hours)

02 04 06 08 10 12 14 16 18 20 22 24



Gloves Only Handling of Assets



7th AF ALARM SIGNALS

STANDARDIZED ALARM SIGNALS FOR OSAN AB AREA IS SUBJECT TO NBC ATTACK

ALARM CONDITION	IF YOU:	THE MEANING IS:	YOUR REQUIRED ACTION IS:
RECALL	HEAR: 3 TO 5 MINUTE STEADY SIREN	RECALL	<ul style="list-style-type: none"> • REPORT TO DUTY • WEAR BDU OR FLIGHT SUIT
BUGLE CALL	HEAR: BUGLE CALL AND ANNOUNCEMENT OF GROUND ATTACK IN THE AFFECTED SECTOR	GROUND ATTACK	<ul style="list-style-type: none"> • IF IN AFFECTED SECTOR, CLEAR STREETS AND TAKE COVER • IF IN AFFECTED SECTOR, PERFORM "SELARM" DUTIES
GREEN	HEAR: ALARM GREEN SEE: GREEN FLAGS	NO IMMEDIATE THREAT OF ENEMY ATTACK	<ul style="list-style-type: none"> • ASSUME DIRECTED MOPP • DON HELMET AND FLAK VEST • CONTINUE NORMAL WARTIME/RECOVERY DUTIES
YELLOW	HEAR: ALARM YELLOW SEE: YELLOW FLAGS	ATTACK IS PROBABLE	<ul style="list-style-type: none"> • DON HELMET AND FLAK VEST • ASSUME DIRECTED MOPP • CONTINUE MISSION CRITICAL DUTIES
BLUE	HEAR: 1 MINUTE OF WAVERING TONE ON SIRENS AND ANNOUNCEMENT OF "ALARM BLUE" SEE: BLUE FLAGS	ATTACK IS IMMINENT OR IN-PROGRESS	<ul style="list-style-type: none"> • TAKE COVER • ASSUME DIRECTED MOPP • DON HELMET AND FLAK VEST
BLACK	HEAR: 1 MINUTE OF SHORT BLASTS ON SIRENS AND ANNOUNCEMENT OF "ALARM BLACK". HEAR "GAS-GAS-GAS" OR CONTINUOUS BEATING OF METAL ON METAL SEE: BLACK FLAGS	POST ATTACK ASSESSMENT AND/OR NBC CONTAMINATION IS SUSPECTED OR PRESENT	<ul style="list-style-type: none"> • ASSUME DIRECTED MOPP • STAY IN SHELTER UNLESS OTHERWISE DIRECTED • ONLY MISSION CRITICAL MOVEMENT
OTHER INFORMATION: THE INSTALLATION COMMANDER DIRECTS ALARM CONDITIONS AND MOPP LEVELS. WEAR FLAK VEST AND HELMET OUTSIDE OF HARDENED FACILITIES.			

Supersedes: 51 WGVA 355-1, 1 Feb 93
Distribution: F

51 FWVA 32-4011
31 May 96

Alarm Signals inform you on the current attack threat to the base. It is separate from MOPP levels.



ALARM vs. MOPP

Alarm = Movement



MOPP 2 or 4

MOPP 2

MOPP 4

MOPP 2 or 4

MOPP Levels equate to the amount and type of personal protective gear that you need to wear.

Don't be confused by these Alarms/MOPPs
These are valid.

MOPP 2

MOPP 4

MOPP 4

MOPP 2





U.S. AIR FORCE

Scud Missile Attack Scenario



Integrity - Service - Excellence

CONDITION GREEN***MOPP 2***

CONTAMINATION AVOIDANCE

- **PERSONNEL**
 - **SEEK OVERHEAD COVER**
 - **AVOID NON MISSION ESSENTIAL OUTDOOR MOVEMENT**
 - **AVOID LOW-LYING AREAS**
 - **USE OF M-291 PERSONNEL DECON KIT**
- **VEHICLE**
 - **IF POSSIBLE PARK VEHICLE UNDER PROTECTIVE COVERING**
 - **ENSURE WINDOWS ARE ROLLED UP AND DOORS LOCKED**

POC: ABO

CONDITION GREEN***MOPP 2***

CONTAMINATION AVOIDANCE CONT'D

- **VEHICLE CONT'D**
 - OPERATIONAL DECON (DOOR HANDLE, STEERING WHEEL, SEAT & DOOR PANEL, ETC)
 - USE UNCONTAMINATED VEHICLE IF POSSIBLE
- **BLDG**
 - ESTABLISH ONE ENTRY/EXIT TO EACH FACILITY
 - USE SHUFFLE BOX FILLED W/ WATER AND 5% BLEACH SOLUTION
 - TAPE AND SEAL WINDOWS, VENTS, ETC

POC: ABO

CONDITION GREEN***MOPP 2***

CONTAMINATION AVOIDANCE CONT'D

- **EQUIPMENT**
 - **PLACE EQUIPMENT INDOORS IF POSSIBLE**
 - **COVER WITH COTTON TARP OR TWO-LAYERS OF PLASTIC SHEETING**
- **REFER TO AIR FORCE ATSO GUIDE FOR MORE INFO**
 - **PAGES 75-81**

POC: ABO

***CONDITION YELLOW SCUD
MOPP 4***

MISSILE ATTACK IS PROBABLE

- **SCUD MISSILE ATTACK IS PROBABLE**
- **ASSUME DIRECTED MOPP**
- **PREPARE ASSETS FOR ATTACK**
 - **MOVE EQUIPMENT AND VEHICLES UNDER OVERHEAD COVER AND/OR COVER WITH PLASTIC OR TARPS**
 - **CLOSE ALL DOORS, WINDOWS, CANOPIES AND TURN OFF AIR CONDITIONING**
- **CONTINUE MISSION CRITICAL DUTIES ONLY**
- **DRINK WATER AND FILL CANTEENS**

POC: SRC/DIR

CONDITION BLUE SCUD

MOPP 4

MISSILE ATTACK IS IMMINENT OR IN PROGRESS

OUTDOORS

- **SEEK OVERHEAD COVER IMMEDIATELY**
- **IF TRAVELING IN A VEHICLE, DRIVE UNDER COVER BUT REMAIN INSIDE YOUR VEHICLE**
 - **ROLL WINDOWS UP AND TURN OFF AIR CONDITIONING**

INDOORS

- **MOVE AWAY FROM WINDOWS AND OR DOORS--SEEK COVER INSIDE HALLWAYS OR ENCLOSED ROOMS.**

COMMAND AND CONTROL PERSONNEL

- **CONTINUE DUTIES AS APPROPRIATE**

POC: SRC/DIR

EXERCISE

EXERCISE

EXERCISE

CONDITION BLACK

LIMITED RELEASE

MOPP 4

POST SCUD ATTACK

STAY IN SHELTER UNTIL DIRECTED

- **ATTACK IS OVER**
- **NBC FALLOUT MAY BE OCCURRING**
- **REMAIN INDOORS OR UNDER COVER**
- **ALL PERSONNEL INSIDE MAY RESUME DUTIES**
- **NO MOVEMENT UNTIL DIRECTED**
- **WEAR ALL PROTECTIVE GEAR**

POC: SRC/DIR

EXERCISE

EXERCISE

EXERCISE 1

EXERCISE

EXERCISE

EXERCISE

CONDITION BLACK

GENERAL RELEASE

MOPP 4

BEGIN POST ATTACK ASSESSMENT

- ATTACK IS OVER**
- BEGIN POST ATTACK SWEEPS**
- REPORT UXO's, BATTLE DAMAGE, CONTAMINATION AND CASUALTIES**
- MARK CONTAMINATED ITEMS**
- WEAR ALL PROTECTIVE GEAR**

POC: SRC/DIR

EXERCISE

EXERCISE

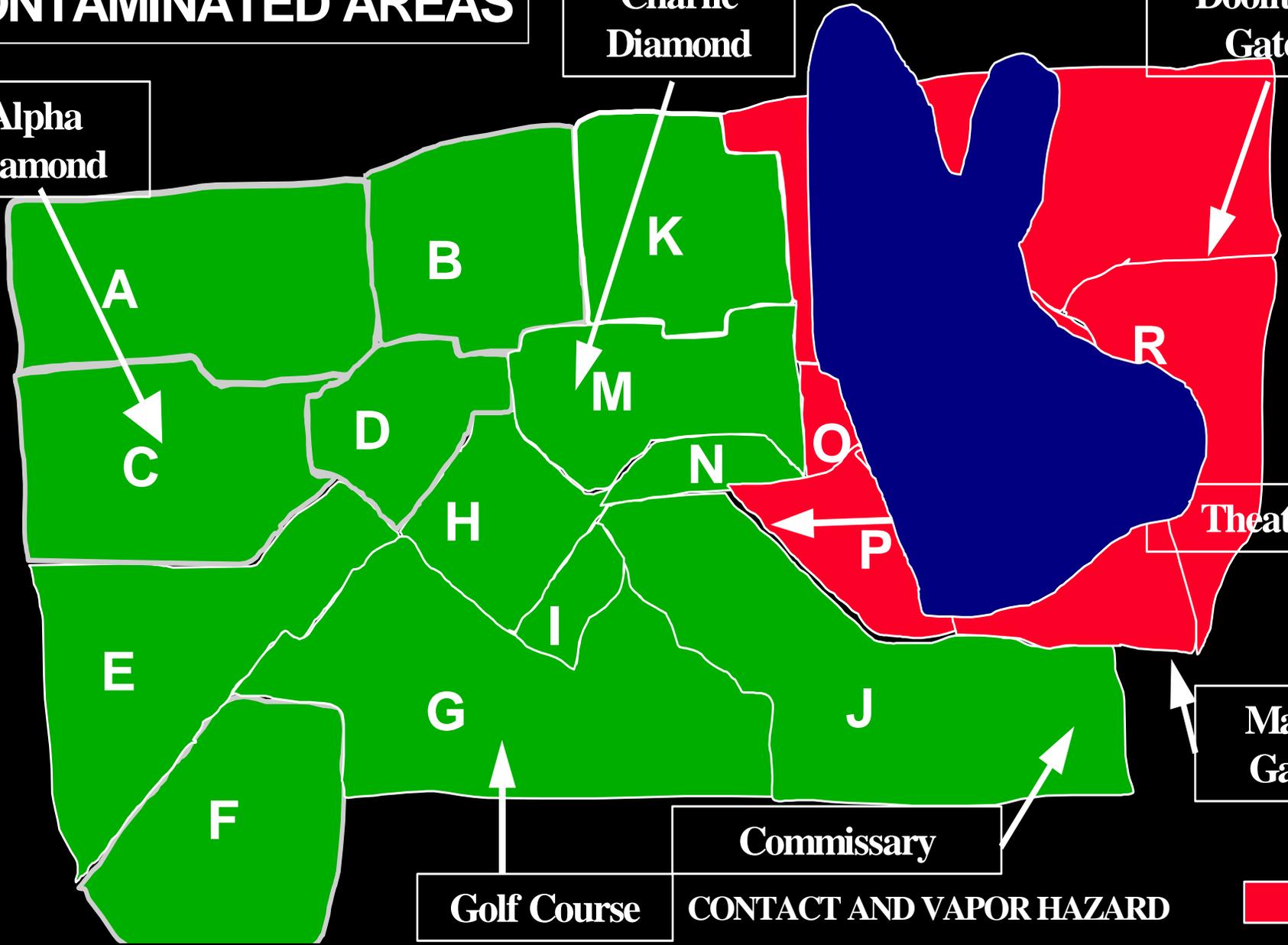
EXERCISE 1

CONTAMINATED AREAS

Alpha
Diamond

Charlie
Diamond

Doolittle
Gate



Theater

Main
Gate

Commissary

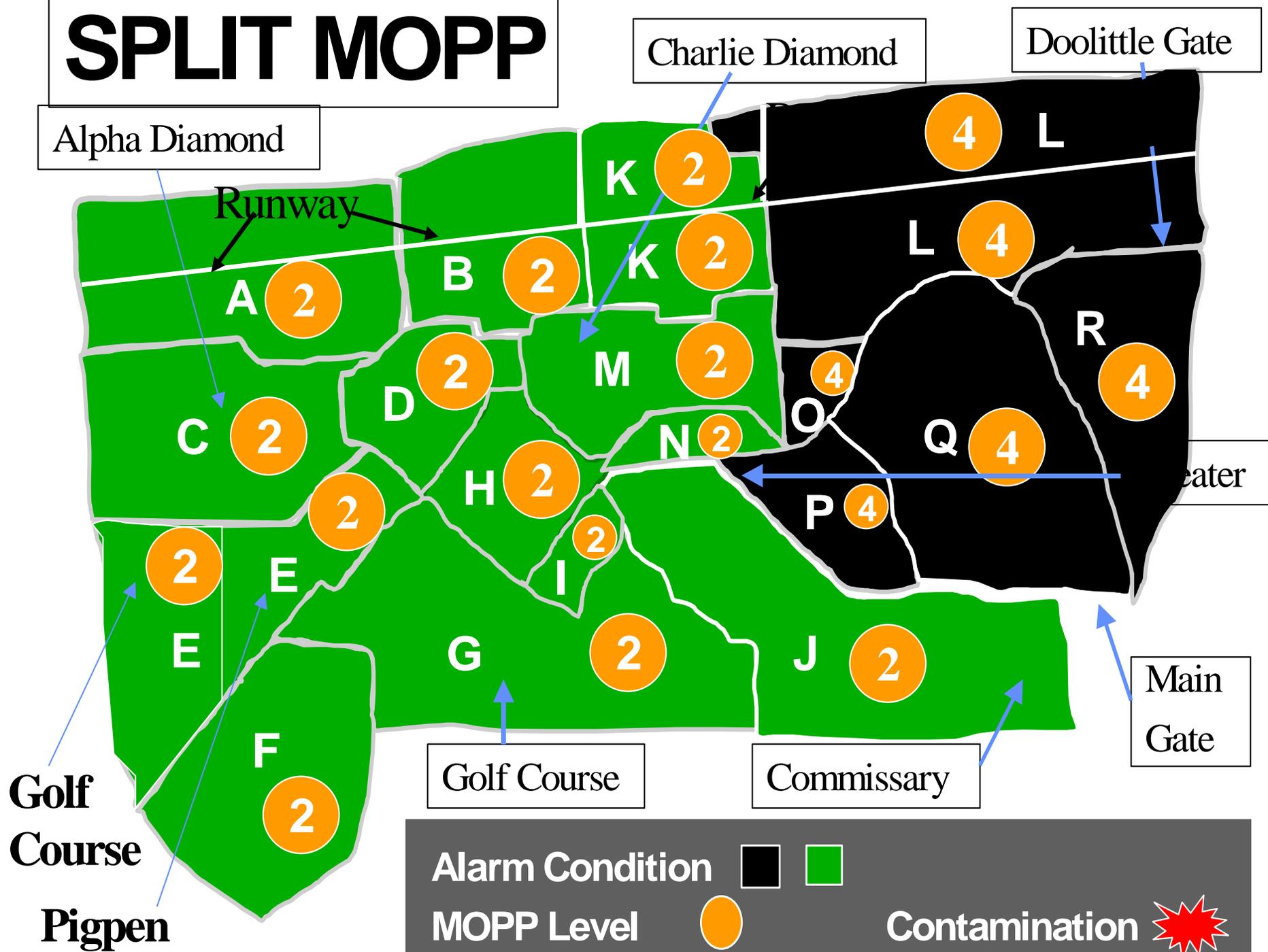
Golf Course

Known Biological Contamination
Known Chemical Contamination

CONTACT AND VAPOR HAZARD
CONTACT HAZARD ONLY
CONTAMINATION/MOPP 4



SPLIT MOPP



EXERCISE

EXERCISE

EXERCISE

CONDITION BLACK

MOPP 4

CHEM ZONES: L, R, Q, P, O

CONDITION GREEN

MOPP 2

CHEM ZONES: ALL OTHERS

CONDITION GREEN***MOPP 2***

MARKING CONTAMINATED ASSETS

- **USE THE FOLLOWING TECHNIQUES**
 - **THREE “XXXs” USING TAPE, CHALK, OR GREASE PENCILS**
 - **APPLY “GAS” PRE-MADE STICKERS OR 8 X 11 SHEETS OF PAPER MARKED WITH CHEMICALLY CONTAMINATED**
- **MUST BE OBSERVABLE FROM ALL DIRECTIONS**
- **INCLUDE DATE AND TIME**

POC: ABO



CONTAMINATION MARKING

U.S. AIR FORCE

Post-Attack

**MARK PERSONNEL
WITH XXX ANY WAY
POSSIBLE TO BRING
ATTENTION THAT
YOU HAD
CONTAMINATION**



**REMEMBER TO ANNOTATE
THE DATE AND TIME OF
ATTACK**

**PLACE NEW M-9
ON THESE VEHICLES**

ice - Exc

CONDITION GREEN***MOPP 2***

MINIMIZING SPREAD OF CONTAMINATION

- AVOID AREAS KNOWN TO BE CONTAMINATED
- DO NOT LEAN AGAINST OR KNEEL ON ANY OBJECT OR SURFACE WHICH MAY BE CONTAMINATED
- USE THE BOOT AND GLOVE BATH OR SHUFFLE BOX AT FACILITY ENTRANCES
- MONITOR FOR LIQUID CONTAMINATION AT THE ENTRANCE-- USE BUDDY SYSTEM OR ASSIGNED SHELTER TEAM MEMBERS USING M-8/M-9 PAPER
- PERFORM EQUIPMENT DECONTAMINATION USING M295
- PERFORM PERSONAL DECONTAMINATION USING M291

POC: ABO

CONDITION GREEN***MOPP 2***

Contaminated Waste Procedures

Non-CPS Facilities: double bag all contaminated waste in plastic bags, mark bags as “contaminated waste” and transport to Golf Course Hole #14, Grid 6.2, G.6

CPS Facilities: double bag all contaminated waste in plastic bags, mark bags as “contaminated waste” and place in your “contaminated waste holding area.” NBC recon teams will transport your waste for you.

POC: ABO

CONDITION GREEN***MOPP 2***

CONTAMINATED WASTE DISPOSAL AREAS

- **DOUBLE BAG CONTAMINATED WASTE**
- **SEGREGATE CONTAMINATED ITEMS INTO CLEARLY MARKED OUTSIDE AREAS**
 - **UNITS MUST DESIGNATE THESE COLLECTION POINTS AROUND WORK AREAS AND PROPERLY MARK. CONSIDER DOUBLE LINING LARGE TRASH CANS**
 - **ASSUME MOPP-4 WITHIN 10 FEET OF THIS AREA**
- **TRANSPORT CONTAMINATED WASTE TO COORDINATES M.8/30.9 (NEAR DOOLITTLE GATE)**

FOC.



U.S. AIR FORCE

Summary

- **The Spectrum**
- **The Threat**
- **The Science**
- **New Response Actions**
- **Attack Walk-Through (for future ref)**