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**Operations**

**AIRCRAFT OPERATIONAL  
DECONTAMINATION**

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OPR: 51 MOS/MXOP (Lt Cherney)

Certified by: 51 MXG/CC  
(Col Joseph H. Hoffman III)

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This instruction implements AFD 10-2, Readiness, and it establish responsibilities, precautions and procedures for conducting sustained combat operations with aircraft in a chemically or biologically contaminated environment. This instruction applies to all subordinate, deployed, and associate units of the 51st Fighter Wing.

**SUMMARY OF REVISIONS**

This change reassigns the OPR and certifier to reflect Wing reorganization. It updates the references (paragraph **1.**); clarifies tasked units (paragraph **3.**); provides increased guidance (paragraphs **3.3.**, **5.2.**, **5.5.**, **6.1.** and **6.3.**); clarifies responsible units (paragraph **6.**); changes authority and adds reference (paragraph **6.4.**); adds additional units and tracking systems (paragraph **6.7.**); and clarifies tasked units (paragraph **3.**); provides increased guidance (paragraphs **3.3.**, **5.2.**, **5.5.**, **6.1.** and **6.3.**); responsible units (paragraph **6.**); additional units and tracking systems (paragraph **6.7.**), and adds reference (paragraph **6.8.**). A bar (|) indicates revision from the previous edition.

**1. References:** AFI 10-2501, Full Spectrum Threat Response (FSTR), Planning and Operations; AFMAN 10-2602, Nuclear, Biological, Chemical, and Conventional (NBCC) Defense Operations and Standards; and AFH 32-4014, Volume 1, USAF Operations in a Chemical and Biological (CB) Warfare Environment, Planning and Analysis.

**2. General.** Aircraft and ground support equipment (to include munitions/trailers, vehicles, and AGE) cannot be decontaminated to make them clean and hazard free in an operational environment with current technology. Furthermore, it is illogical to expend the enormous effort in time and manpower required to fully decontaminate aircraft and support equipment for unrestricted use with a continued threat of CB attack. AFH 32-4014 defines operational decontamination as actions to reduce or minimize the contact hazard associated with contamination located on mission essential equipment. Operational decontamina-

tion, along with immediate decontamination of personnel are the two levels of decontamination to be achieved at the unit level. Further levels of decontamination will occur in a post-contingency environment. When the threat of CB attack persists, the 51 FW goal is to continue launching tasked sorties in a CB environment with contaminated aircraft and support equipment.

**3. Protective Measures.** The Mission Director will task 51 FW units via battle staff directive, to implement the following measures when the threat of CB attack exists. At the start of hostilities, units will be prepared to implement these measures on order.

3.1. Shelter all aircraft not preparing for immediate launch. Keep aircraft canopies and shelter doors closed when not in use.

3.2. Disperse and park AGE equipment and fuel trucks under cover.

3.3. Place M8 paper on equipment. Double-wrap equipment and supplies that cannot be sheltered with tarps, plastic sheeting, or pallet bags. Place a separating device (wooden block, rock, etc) in between the two layers and place a piece of M8 paper on each layer.

3.4. During ground operations, pilots will be prepared to immediately launch for survival or shelter their aircraft during an attack.

3.5. Units will pre-position M295 or 291 kits or household bleach supplies (see paragraph 5.1.) in assigned aircraft shelters, revetments, flows, transient parking, and end of runway (EOR) check areas.

3.6. Units will develop specific procedures as required and train their maintenance personnel for operational decontamination of the unit's respective aircraft and support equipment. Units will identify, acquire, and stock decontamination supplies and materials.

**4. Avoidance.** Following a confirmed CB attack, the Mission Director will:

4.1. Identify alternate taxi routes to avoid known areas of contamination, if possible. However, fragged sorties must continue to launch, even if it means taxiing through contaminated areas. There is relatively little hazard associated with "tracking through" or "slinging-up" contamination that may be on taxiways or runways.

4.2. Consider moving operations to uncontaminated areas (for persistent chemicals), as large-scale area decontamination is generally not feasible when trying to sustain combat air operations. Options include using the flows, Bravo or Charlie Diamonds if follow-on forces have not yet arrived.

**5. Operational Decontamination Procedures.** CB contamination can migrate into any and all crevices and joints on aircraft and ground equipment, making complete decontamination impossible. Aircraft that test positive for contamination will only be decontaminated to prevent cross-contamination of the cockpit interior, or to combat-turn or repair the aircraft without undue hazard to personnel. Support equipment identified as contaminated will only be decontaminated as necessary to allow safe handling and usage.

5.1. Use M295/M291 kits or household bleach for decontamination.

5.2. When using the bleach method, apply it with a mop or rag and let the bleach soak on the treated area for 30 minutes to maximize decon, time permitting. The bleach should be a 5% solution (Clorox for example). After 30 minutes rinse the bleached area with clear water if available.

5.3. Decontaminate the aircraft boarding ladder and access side of canopy, routine servicing access hatches and weapons suspension equipment for reloading as required. When aircraft require heavy maintenance, decontaminate the entire area to be worked on. Use M295/291 kits or bleach to decontaminate gloves and tools.

5.4. Aircraft tires and tires on support equipment absorb CB agents, but the agent does not transfer to any great degree back to the pavement during taxi or takeoff or equipment movement. Tires cannot be decontaminated; therefore mark and use them until they need to be replaced. Then quarantine them for disposal following the contingency.

5.5. Flying a contaminated aircraft accelerates the weathering process, which is the most efficient way to decontaminate an aircraft. Squadrons will fly contaminated aircraft as soon as possible, and as much as practical using low altitude subsonic profiles. Flights should be for at least 60 minutes.

Hot summer conditions accelerate the weathering process. Cold weather and the presence of VX nerve or blister agents make this method less effective.

**6. Precautions with Contaminated or Suspected Contaminated Aircraft.** All aircraft and equipment that are exposed during an airfield attack with CB should be suspected of being contaminated. The commanders support staff (CSS) conducts base-wide post-attack damage assessment and notifies unit control centers (UCC) of contaminated areas as soon as possible.

6.1. If contamination is suspected, personnel will only approach the aircraft or equipment in MOPP Level 4 protective gear. For recovering aircraft, ground handling should continue until the aircraft is "safed" and parked. Beyond this, pilots and ground crew will ensure the aircraft or equipment is checked with M8 paper or M9 tape prior to ingress/egress. In addition, anyone working on an aircraft or anyone using equipment when contamination is suspected will ensure it is checked with M8 paper prior to approaching the aircraft or equipment without personal protective gear.

6.2. If a positive M8/M9 indication occurs, request a chemical reconnaissance team to conduct a Chemical Agent Monitor check to verify agent presence, time permitting. Some petroleum products can cause a false positive M8/M9 indication. Request chemical reconnaissance teams from the CSS. When in doubt, decontaminate.

6.3. Aircraft that are confirmed contaminated will be quarantined after operational decontamination. If widespread airfield contamination has not occurred, the MXG/CC will identify separate quarantine areas to park or combat-turn these aircraft. Quarantine areas and aircraft will be clearly marked using ropes, cones, or signs IAW AFMAN 10-2602, paragraph A6.6.2 to alert other personnel and to prevent inadvertent exposure.

6.4. The wing commander will determine if a reduced MOPP level is appropriate in quarantine areas after the nature of the agent and extent of contamination is determined. Unit commanders and CE Readiness experts will provide recommendations to tailor the MOPP in quarantine areas, or with quarantined aircraft. Regardless of reduced MOPP level, MOPP Level 4 protective gear must be used prior to follow-on maintenance or de-paneling during Phase 1 of the 10 ft rule (protecting from vapor hazard). During Phase 2 of 10 ft rule (protecting from contact hazard) individuals handling contaminated assets only have to wear protective gloves.

6.5. Pilots will avoid touching the aircraft during preflight and postflight checks.

6.6. Ground crew will decontaminate gloves, tools and equipment after servicing a contaminated aircraft. Mark and quarantine all contaminated aircraft parts or unexpended ordnance after removal.

6.7. Units will track contaminated aircraft by annotation in the aircraft's AFTO Forms 781 as directed in TO 00-25-5. CSS, UCC, Flying Squadron Operations, maintenance control centers, flightline supervisors and MOC will highlight and annotate in the remarks section any contaminated aircraft on all scheduling/tracking boards, TBMCS UL and TASAMS.

6.8. Munitions, AGE, and other support equipment that have been operationally decontaminated must be clearly marked IAW AFMAN 10-2602, paragraph A6.2.2 to prevent inadvertent CB exposure.

**7. Long Term Considerations.** Post-contingency, continue to quarantine contaminated aircraft, equipment and parts until an effective process is developed to render them toxic-free.

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Commander