

**Oklahoma Department of  
Agriculture Food and  
Forestry**

**Animal  
Industry  
Division**



Foreign Animal Disease  
(FAD)  
Emergency Response Guide

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## **FAD Operations Guide**

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**FIELD OPERATIONS HANDBOOK**

**CHAPTER 1 –  
SAFETY**

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## **RISK MANAGEMENT**

### **The Risk Management Process**

#### **Step 1 - Situation Awareness**

- Gather Information
  - ✓ Objective(s)
  - ✓ Communication
  - ✓ Weather Forecast
  - ✓ Who's in Charge
  - ✓ Local Factors
  
- Scout the Infected Premise (IP)

#### **Step 2 - Hazard Assessment**

- Eliminate potential hazards
  - Access control
  - Law Enforcement issues
  
- Identify Tactical Hazards.
  
- What other safety hazards exist?
  
- Consider severity vs. probability?

#### **Step 3 - Hazard Control**

- Review Agency checklist
  
- What other controls are necessary?

**Step 4 - Decision Point**

- Are controls in place for identified hazards?

NO ! Reassess situation

YES ! Next question

- Are selected tactics based on expected and predicted conditions?

NO ! Reassess situation

YES ! Next question

- Have instructions been given and understood?

NO ! Reassess situation

YES ! Initiate action

**Step 5 - Evaluate**

- Self: Low experience level with local factors?  
Distracted from primary tasks?  
Fatigue or stress reaction?  
Hazardous attitude?
- The Situation: What is changing?  
Are strategy and tactics working?

## **Tactical Watch-Outs**

### **Situation**

- Resources are fatigued or inadequate.
- Nighttime operations.
- Small population vs. Stockyard or heavy concentration nearby.
- Power supply.
- Access, narrow one-way roads
- Inadequate water supply
- Water table, soils structure.
- On-site potential for disposal or haul?
- Strong winds, 20 mph or more
- Quarantine limits on residents
- Propane tanks and other fuel storage
- Planning for emergency vehicle access and cleaning & disinfection (C&D).

**Overall Safety and Operational Success Considerations:**

**Intelligence Gathering (surveillance area)**

- Experienced/Competent/Trusted
- Enough sentry-types at good vantage points
- Knowledge of IP location
- Knowledge of overall plan
- Map/Watch/Incident Action Plan (IAP)

**Communications**

- Radio frequencies confirmed (cell phone)
- Backup and check-ins established
- Update on any situation change
- Sound alarm early, not late

**General Outdoor Safety considerations:**

**Thunderstorm Safety**

The mature stage of a storm may be indicated on the ground by a sudden reversal of wind direction, a noticeable rise in wind speed, and a sharp drop in temperature. Heavy rain, hail, and lightning occur only in the mature stage of a thunderstorm. During a storm:

- Stay out of dry streambeds; flash floods may be on the way.

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- Do not use plug-in electrical equipment or plumbing fixtures. Cell phones and radios with small antennas may be used. Do not use land line radios or radios with elevated antennas.
- Put down all tools. Keep feet together.
- Sit down on pack if available.
- Avoid grouping together. Keep a minimum of 15 feet between people when possible.
- Do not handle flammable materials in open containers.
- Stay in your vehicle. Take shelter in vehicles if possible.
- Turn off machinery, electric motors.
- When there is no shelter, avoid high objects such as lone trees. If only isolated trees are nearby, the best protection is to crouch in the open, keep a distance of twice the height of the tree away or sit on your pack with feet close together.
- Keep away from wire fences, telephone lines, and electrically conductive elevated objects.
- Avoid ridge tops, hilltops, wide-open spaces, ledges, rock outcroppings, exposed shelters, and water.
- Advise workers that if they feel an electrical charge – if their hair stands on end or their skin tingles – lightning may be about to strike. Drop to the ground immediately.

- Do not ever lie down.
- Strange smell (sulphur/rotten egg).
- Suspend activities for up to 20 minutes after last observed lightning, or as directed by supervisor.

### **Clothing and Personal Protective Equipment (PPE)**

1. Wear disposable Tyvek type coveralls, disposable (latex exam) gloves, disposable boots (double pair) or boots that can be disinfected (rubber barn boots or knee boots), and disposable head covering if suit is not hooded (Tyvek coveralls with hood is preferred).
2. Handi-wipes or other similar wipes will be used to wipe the face after premises visit (or hand sanitizer could be used).
3. Personal gear such as cell phones, test kit, and paperwork/pencil will be carried in zip lock bags to prevent exposure. If used, then they will be disinfected or resealed before placing in vehicle. Bags will be dipped in disinfectant before storing in vehicle (cell phones work while sealed in zip lock bag, do not take out of bag).
4. All disposable clothing, gloves, etc. taken off or removed after the farm visit will be dipped in disinfectant and sealed in a bag or left on the farm to be burned. The outside of all bags that are replaced in the vehicle will be sprayed with disinfectant before loading into the vehicle.
5. The vehicle will not be driven onto the farm and personnel would walk onto the farm

from the paved road. Vehicle tires will be sprayed with disinfectant before leaving the parking area.

**Equipment needed: List includes:**

- Disposable clothing (Tyvek type suit with hood or head gear, boots, gloves)
  - Rubber boots or barn boots
  - Waterproof outer wear such as rain suit
  - Hand pump sprayer, water, disinfectant
  - Bio-wipes and trash bags for disposal
  - Sample collection and submission
  - Paperwork/pencil
  - Ziploc type bags for gear
- 
- Use hearing protection when working with high noise-level such as dozers, aircraft, saws, pumps, hogs, etc.
  - When operating sprayers, etc., use proper safety equipment and eye and ear protection.
  - Recommend use of an approved dust/smoke mask when in heavy smoke and dusty environments. Use of a dust/smoke mask is not a PPE requirement for all agencies at this time.

**How to Properly Refuse Risk**

Every individual has the right and obligation to report safety problems and contribute ideas regarding their safety. Supervisors are expected to give these concerns and ideas serious consideration. When an individual feels an assignment is unsafe they also

have the obligation to identify, to the degree possible, safe alternatives for completing that assignment. Turning down an assignment is one possible outcome of managing risk.

A “turn down” is a situation where an individual has determined they cannot undertake an assignment as given **and** they are unable to negotiate an alternative solution. The turn down of an assignment must be based on an assessment of risks and the ability of the individual or organization to control those risks. Individuals may turn down an assignment as unsafe when:

1. There is a violation of safe work practices.
  2. Environmental conditions make the work unsafe.
  3. They lack the necessary qualifications or experience.
  4. Defective equipment is being used.
- Individual will directly inform their supervisor that they are turning down the assignment as given.
  - Supervisor will notify the Safety Officer **IMMEDIATELY** upon being informed of the turn down. If there is no Safety Officer, notification shall go to the appropriate Section Chief or to the Incident Commander. This provides accountability for decisions and initiates communication of safety concerns within the incident organization.
- ✓ If the supervisor asks another resource to perform the assignment, they are

responsible to inform the new resource that the assignment has been turned down and the reasons that it was turned down.

- ✓ If an unresolved safety hazard exists or an unsafe act was committed, the individual should also document the turn down in a timely manner.

These actions do not stop an operation from being carried out. This protocol is integral to the effective management of risk, as it provides timely identification of hazards to the chain of command, raises risk awareness for both leaders and subordinates, and promotes accountability.

### **After Action Review**

#### **What was planned?**

- Review the primary objectives and expected action plan.

#### **What actually happened?**

- Review the day's actions:
  - ✓ Identify and discuss effective and non-effective performance.
  - ✓ Identify barriers that were encountered and how they were handled.
  - ✓ Discuss all actions that were not standard operating procedure, or those that presented safety problems.

**Why did it happen?**

- Discuss the reasons for ineffective or unsafe performance. Concentrate on **WHAT**, not **WHO**, is right.

**What can we do next time?**

- Determine lessons learned and how to apply them in the future.

**FAD RESPONSE WORKER HEALTH**

**Fatigue – Work and Rest**

- Establish record-keeping systems that track work time.
- Plan and strive to provide one hour of sleep or rest for every two hours worked.
- When deviating from work/rest guidelines, the agency administrator or incident commander (IC) must approve in writing.
- Start each operational period with rested workers.
- Provide an adequate sleep environment.
- Breaks during operations should be from 10 to 30 minutes in length.
- Monitor individuals for sleep deprivation.

The pulse is a good way to gauge fatigue. The pulse should recover in one minute or less to 110 beats per minute, or, if not, a longer break is needed. A worker's wake-up pulse can signal potential problems. If it is 10% or more above normal, it can mean fatigue, dehydration, or even a pending illness.

### **Food and Nutrition**

Nutritious food can be a morale booster, but more importantly, it fuels muscles for work and internal organs for health and fitness. A worker may burn 5,000 to 6,000 calories a day. These calories must be replaced to avoid cramping, fatigue, and impaired judgment. Provided food must be low in fats and high in complex carbohydrates.

Drinks provided must replace essential fluids lost from the body during exercise. On a normal assignment, workers may replace 12 or more quarts of fluids a day. In some cases, workers may need to replace one to two quarts of fluids per hour. Water is an excellent way to replenish fluid loss. Natural juices and sport drinks contain energy-restoring glucose. Avoid caffeinated, carbonated, and "diet" drinks.

### **Rehabilitation**

Areas designed for resting, feeding, and sleeping should be located in a safe, shady area away from smoke, noise, rolling debris, moving vehicles and equipment, aircraft, and stock. Provide reasonable rest periods, especially at high elevations and on hot days.

## **Driving Limitations**

The Federal Motor Carriers Safety Regulations Part 393.3, and state laws, restrict those drivers whose assignment requires a commercial driver's license (CDL) (vehicles over 26,001 lbs. and all buses) to 10 hours driving time in a 15-hour duty period, with 8 hours off between shifts.

Drivers whose duty is not limited by this law or more restrictive agency policy may not exceed 10 hours driving time in a 16-hour duty period, and must have 8 hours off between shifts.

- Extended Driving – stop hourly or more often if needed.
- Make sure a “buddy” is alert, awake, and helping.
- If you're tired, STOP!

## **First Aid**

Prompt first aid must be given for all injuries. First aid facilities should be made available in proximity to the fireline and at incident base and camp(s). When activated, the Medical Unit is responsible for all medical emergencies involving assigned incident personnel. Each vehicle should carry a first aid kit and all supervisory personnel should be trained in basic emergency first aid.

## **First Aid Guidelines**

### Legality:

- Do only what you know how to do and keep records of actions.

### Blood borne Pathogens:

- Personal protective equipment (pocket mask, latex gloves and goggles) should be worn if contact with body fluids is possible.

### Treatment Principles:

- Think-prevent further injury; remove from danger. No liquids for the unconscious.
- Fast Exam—airway, breathing and circulation.
- Thorough Exam—head to toe and side to side (symmetry).
- Keep readable records and send a copy with the patient when transporting or evacuating.

### Specific Treatments:

- Bleeding: Direct pressure, elevate, and pressure point.
- Shock: Lay patient down, elevate feet, keep warm and replace fluids if conscious.
- Fractures: Splint joints above and below injury and monitor pulse past injury away from body.

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- Bee Sting (anaphylaxis): Life-threatening; see if the patient has a sting kit and transport immediately.
- Burns: Remove heat source, cool with water, dry wrap and replace fluids.
- Diarrhea: Drink fluids in large quantities.
- Eye Injuries: Wash out foreign material, don't open swollen eyes, leave impaled objects and pad and bandage both eyes.
- Heat Exhaustion: Skin is gray, cool and clammy. Rest in cool place and replace electrolytes.
- Heat Stroke: Skin is dry, red, and temperature hot. Cool and transport immediately.

### **CPR**

Determine responsiveness – Gently shake shoulder and shout: “Are you OK?” If no response, call EMS. If alone, call EMS before starting **ABCs**.

**Airway:** As a unit, Roll victim on back, supporting head and neck. Open airway by head-tilt/chin-lift maneuver. Look, listen and feel for breathing for 3 to 5 seconds. If no response, go to **B**.

**Breathing:** Pinch victim's nose shut. Put mouth over victim's making a tight seal. Give 2 slow breaths. If chest does not rise, reposition and try again. If breaths still do not go through, use abdominal thrusts to clear airway. If chest does rise, go to **C**.

**Circulation:** Check carotid pulse for 5 to 10 seconds. If there is a pulse but no breathing, give 1 breath every 5 seconds until victim is breathing or help arrives. If no pulse, begin chest compressions.

One/Two Rescuer CPR – Perform 15 external chest compressions at the rate of 80 to 100 times per minutes to a 1.5 to 2” depth. Reopen airway and give 2 full breaths. After 4 cycles of 15:2 (about 1 minute), check pulse. If no pulse, continue 15:2 cycle beginning with chest compression until advanced life support is available. If 2 rescuers are available, use 5:1 compressions to breaths ratio. Use a 5:1 ratio for children and infants with compressions at a rate of 100 times per minutes. Use a 1 to 1.5” depth for children and a .5” to 1” depth for infants.

### **Carbon Monoxide Poisoning**

Carbon monoxide (CO) is an odorless, tasteless, invisible gas by-product emitted from combustion of forest & range fuels, internal combustion engines, and a variety of other sources. Heavy concentrations of CO can co-exist with smoke. The body absorbs CO at a rapid rate for the first hour of exposure, after which the rate drops slightly for the next 4 to 8 hours. **IT TAKES ABOUT 8 HOURS IN AN UNCONTAMINATED ENVIRONMENT TO PURGE CO FROM THE BODY.**

To manage CO exposure:

- Monitor workers, particularly pump, generator, equipment or saw, for symptoms/behavior associated with CO exposure.

<b>BLOOD CO LEVEL</b>	<b>SYMPTOM</b>	<b>BEHAVIOR</b>
Moderate	Possible headache, nausea, and increasing fatigue.	Increasing impairment of alertness, vision discrimination, judgment of time, physical coordination. Becomes increasingly complacent.
High	Headache, fatigue, drowsiness, nausea, vomiting, dizziness, convulsions, cardiorespiratory difficulty.	Above behavior becomes more acute to extreme.

- Remove workers from work site to "CO free areas" when performance and safety are compromised by symptoms/behavior described above.
- When possible, select strategy and tactics that minimize worker exposure to smoke concentrations. Expect higher CO concentrations in the following:
  - ✓ Near an active flame front such as Air Curtain Incinerator.
  - ✓ Working around heavy equipment, especially in ground support.
  - ✓ Heavy smoke concentrations during inversions or areas downwind of the fire.
  - ✓ Topographic features that concentrate smoke; i.e., head of canyon, ravines, saddles or passes, depressions or basins.

- Periodically rotate workers from work sites with moderate-high smoke levels to areas of less smoke or smoke free areas.
- If necessary, order additional personnel to relieve workers assigned to high smoke level areas.
- Instruct personnel to take breaks in smoke-free or low-smoke areas, when possible.
- Locate incident base and camp(s) in areas free of smoke and air pollution to maximize recovery from CO exposure.
- Encourage smokers to terminate or reduce smoking during assignment. Smoking significantly increases blood CO levels.
- Restrict workers from driving a vehicle if they display the symptoms or behavior outlined above.
- Personnel who display the symptoms or behavior outlined above should be evaluated and determined fit for duty before next work assignment.

### **Hypothermia**

Results from a cooling of body's core temperature. Key indicators that hypothermia may be setting in are shivering, slurred speech, memory lapse, and cold hands and feet.

- ✓ Avoid hypothermia and overheating.

## Heat Stress

Heat stress disorders are divided into four categories. They are:

**Heat Cramps** - May be caused by lack of fitness or failure to replace salt lost in sweating.

- *Symptoms* are painful muscle cramps.
- *Treat* by resting and drinking lightly salted water or lemonade, tomato juice, or athletic drinks.

**Heat Exhaustion** - Caused by failure to replace water.

- *Symptoms* are weakness, unstable gait or extreme fatigue; wet, clammy skin; headache; nausea; collapse.
- *Treat* by drinking fluids and rest in a shaded area.

**Dehydration Exhaustion** - Caused by failure to replace water losses over several days.

- *Symptoms* are weight loss and excessive fatigue.
- *Treat* by increasing fluid intake and provide rest until body weight is restored.

**Heat Stroke** - Caused by total collapse of the body's temperature regulating mechanisms. REQUEST EMERGENCY MEDICAL ASSISTANCE AT ONCE AS **HEAT STROKE IS A LIFE THREATENING MEDICAL EMERGENCY**. BRAIN DAMAGE OR DEATH CAN RESULT IF TREATMENT IS DELAYED.

- *Symptoms* are hot, often dry skin; high body temperature (106° F or higher); mental confusion, delirium, loss of consciousness, convulsions.
- *Treat* by cooling the victim immediately, either by immersing in cold water or soaking clothing with cold water and fanning to promote cooling. Continue until temperature drops below 102° F.  
**TREAT FOR SHOCK ONCE TEMPERATURE IS LOWERED.**

### **Burn Injury Treatment**

Good on-scene emergency treatment can help prevent a burn injury from getting worse, minimize complications, and improve a person's chance of surviving a serious burn.

- Cover burned area with sterile dressing, moisten with normal saline solution and apply another dry dressing on top.
- If person is burned severely or over a large area:
  - ✓ Wrap in clean/sterile sheet followed by a plastic sheet.
  - ✓ Place inside sleeping bag or cover with insulated blanket.
  - ✓ Monitor ABC's and keep burn areas moist.
- Remove person from heat source, extinguish with water.

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- Provide basic first aid:
  - ✓ Maintain airway, breathing, and circulation (ABCs).
  - ✓ Treat for shock by keeping person warm and feet elevated.
  - ✓ Provide oxygen, if available and trained.
- Assess degree of burn and area affected:
  - T Burns are rated as 1st, 2nd, or 3rd degree.
    - 1st Degree    Affect skin's outer layer. Redness, mild swelling, tenderness, and mild to moderate pain.
    - 2nd Degree    Extends through entire outer layer and into inner layer of skin. Blister formation, swelling, weeping of fluids, and severe pain.
    - 3rd Degree    Extends through all skin layers and into underlying fat, muscle, and bone. Discoloration (charred, white, or cherry red), leathery, parchment like, dry appearance. Pain is absent.
- Treatment of Burn:
  - ✓ Cut away only burned clothing. DO NOT remove clothing stuck to burned skin.

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- ✓ Apply cool clean water over burned area to stop the burning process. **DO NOT** soak person or use cold water and ice packs, as this will encourage the onset of hypothermia.

**Burn Notification Procedures**

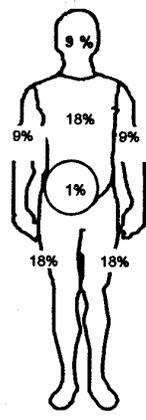
- Notify your immediate supervisor, providing the following information:
  - ✓ Number of injured. **DO NOT** give out names over radio.
  - ✓ Degree and severity of burn injury (e.g., 2nd and 3rd degree over 30% of upper body).
  - ✓ Location of injured.

**Rule of Nine**

"Rule of Nine" for determining area burned:

Percentage of Body Surface Area

Head	9%
Front of Torso	18%
Back of Torso	18%
Left Arm	9%
Right Arm	9%
Left Leg	18%
Right Leg	18%
Perineum (Scrotum in males, vulva in females)	1%



100%

## **Injury/Fatality Procedures**

### **Serious Injury**

- Give first aid - call for medical aid and transportation if needed.
- Do not release victim's name except to authorities.
- **NEVER BROADCAST VICTIM'S NAME ON AIR.**
- Do not allow unauthorized picture taking or release of pictures.
- Notify Incident Commander, who will:
  - ✓ Assign a person to supervise evacuation, if necessary, and stay with the victim until under medical care. In rough terrain, at least 15 workers will be required to carry a stretcher.
  - ✓ Assign person to get facts and witness statements and preserve evidence until investigation can be taken over by the Safety Officer or appointed investigating team.
  - ✓ Notify the Agency Administrator such as State Veterinarian or Area Veterinarian in Charge.

**Fatality**

- Do not move the body unless it is in a location where it could be burned or otherwise destroyed. Secure accident scene.
- Do not release victim's name except to authorities.
- **NEVER BROADCAST VICTIM'S NAME ON AIR.**
- Do not allow unauthorized picture taking or release of pictures.
- Notify Incident Commander, who will:
  - ✓ Assign person to start investigation until relieved by appointed investigating team.
  - ✓ Notify Agency Administrator (State Vet or AVIC) and report essential facts. The Agency Administrator will notify proper authorities and next of kin as prescribed by agency regulations.
  - ✓ If requested, assist authorities in transporting remains. Mark location of body on ground. Note location of tools, equipment, or personal gear.

## **ORGANIZATIONAL**

Observe the following basic safety principles on all FAD responses, regardless of size or staffing except where provided otherwise through local cooperative agreements.

### **General Responsibilities**

Personal actions describe safety more effectively than written plans or “rule books.” Actions tell what you consider important. Supervisors shall maintain accountability of assigned personnel as to exact location, personal safety, and general welfare at all times, especially when working in and around incident operations.

### **Qualifications**

Assign work assignments only to those people who are properly qualified and physically fit for the job.

### **Training**

- Inform workers about hazards and safe working practices before starting work.

Supervisors have responsibility to issue clear instructions and ensure instructions are understood. Those instructions must be followed at all times, but if you feel unsafe or unsure, those instructions should be questioned for clarification.

### **Supervision of Others**

- Supervision of other's behavior and enforcing safe practices and procedures.
- Evaluating worker physical and mental condition.
- Analyzing work situations to eliminate or avoid hazards. Discussing safety at the beginning of each shift or new work assignment.
- Becoming immediately involved whenever injury occurs by ensuring that medical treatment is provided in a timely manner and investigating the accident with persons involved.
- Monitoring work to be sure it is done safely and efficiently.
- Monitor and enforce work/rest guidelines.
- Providing leadership in applying corrective action aimed at eliminating causes of accidents and instilling a safe work attitude.
- Protecting employees from reprisal for reporting unsafe conditions.

### **Safety Officer**

A Safety Officer, a member of the Command Staff, should be assigned to more complex incidents to monitor and assess hazardous situations and develop measures for ensuring safety of personnel. Additional assistant safety officers should be assigned to sections of the operation that warrant

special safety considerations. If a safety officer is not assigned, the IC is responsible for these duties.

**REMEMBER: EACH INDIVIDUAL, AND ESPECIALLY SUPERVISORS, MUST RECOGNIZE THEIR SAFETY RESPONSIBILITIES.**

## **OPERATIONAL GUIDELINES**

### **Safety Briefing**

Incident Commanders and supervisors must ensure that safety factors are covered with incident personnel at all operational briefings and that safety briefings occur throughout the organization.

Safety factors should include the following:

- Define assignment.
- Apply the five-step Risk Management Process (see page 4).
  - ✓ Situation Awareness
  - ✓ Hazard Assessment
  - ✓ Hazard Control
  - ✓ Decision Point
  - ✓ Evaluate
- Address basic safety and health issues.

### **Night Operations**

Every effort shall be made to orient work crews scheduled for night operations during daylight hours and provide adequate lights and communication. A knowledgeable day operations representative should

remain on site to properly orient and brief night operations workers.

### **Personnel Transportation**

- Overhead should have a driver whenever possible.
- All passengers in vehicles shall be seated and seat-belted with arms and legs inside vehicle.
- Personnel and unsecured tools will not be transported together.
- Driver must be qualified for the vehicle and operating conditions. If not, remove them from driving duties.
- When traveling, observe all traffic signals, safe speed limits, and safety rules.
- Driver should walk around vehicle to make sure all is clear before departure.
- Driver is responsible for arrangements to ensure that if chock blocks are provided, they are in place before loading, unloading, or when parked.
- When transporting personnel, the driver shall not leave his/her seat until the vehicle is securely chocked. **NEVER** load or unload personnel from an **UNCHOCKED VEHICLE**.
- Driver shall conduct a daily mechanical check of vehicle before driving. Unsafe equipment should be removed from service and reported to the Ground Support Unit for repair.
- Driver should use spotter outside of vehicle when backing or turning around.

- Recommend that vehicles be operated with headlights on at all times.

### **Foot Travel**

- Carry tools & equipment safely
- Going to and from operational areas keep at least 10 feet apart and walk single-file.
- Walk, do not run.

### **Engine Operations for Cleaning and Disinfection**

- All vehicles should stop for traffic lights and stop signs, even when using emergency warning lights, siren, and air horns. Watch for oncoming traffic.
- Mark vehicles parked on highway by flags or warning lights in front and back to warn motorists of presence of equipment and personnel.
- An engine operator, a hose puller, and a nozzle operator are desirable for effective use of engines in performing operations.
- Park engines on the side of road to allow other vehicles to pass. **DO NOT BLOCK ROAD WITH YOUR ENGINE.**
- Engines should be attended at all times.
- Nozzle operators should wear eye protection.

## **Dozer/Track-hoe Operations**

- Load/unload equipment from the transport in a safe manner on a level, stable surface.
- Park transport in an area free of fuel. Clear an area if needed to protect parked equipment.
- Do not sit or bed down near equipment.
- Walk around equipment before starting or moving it.
- Lower the dozer blade to the ground when the equipment is idling or stopped.
- Do not get immediately in front or behind equipment in operation.
- When working with a dozer stay at least 100 feet in front or 50 feet behind.
- Allow no one but the operator to ride on the equipment.
- Never get on or off of moving equipment.
- Provide front and rear lights for equipment working at night or in heavy smoke.
- Provide lights and fluorescent vest to personnel working with dozer/tractor-plow units to ensure visual contact with the operator.
- Use hand signals for direction and safety. .
- Operators will wear required safety clothing.
- Watch out for wetlands, steep slopes, rocks, ditches, and other obstacles that might stop the equipment.

## **Safety Guidelines**

### **Power Line Hazards**

All personnel should be made aware that the smoke may become charged and conduct the electrical current.

Deactivated transmission and distribution lines may continue to pose a hazard due to conduction.

- Identify, map, and discuss at briefings all electrical lines on the incident.
- When around power lines:
  - ✓ If a power line falls on your vehicle, **DON'T** leave vehicle until the power company arrives. If the vehicle is on fire or fire is near, jump clear, **DON'T** hang on, and keep feet together and bunny hop away.
  - ✓ Minimize operation of heavy equipment under power lines.
  - ✓ **DON'T** drive under power lines with long antennas.
  - ✓ **DON'T** fuel vehicles under power lines.
  - ✓ **DON'T** stand near power lines during air tanker or helicopter drops.
  - ✓ **DON'T** go near or move downed power lines.
  - ✓ **DON'T** stand or work in dense smoke near power lines.

## **Suspected Hazardous Materials**

Hazardous materials are being encountered with increasing frequency in all situations. Hazardous materials may be industrial or agricultural chemicals, explosive substances, military ordnance, and drug labs, etc. Since many personnel are neither trained nor equipped to identify and deal with hazardous materials, your primary responsibility is to prevent yourself and others from being adversely affected or injured. Constantly watch for suspicious activities and people; report to supervisor.

If you encounter what you suspect may be hazardous materials, generally:

- Stay upwind, uphill, and avoid breathing smoke.
- Isolate the area - deny entry.
- Warn others in the immediate vicinity.
- Notify your supervisor of the potential problem so hazardous materials specialists can be brought in to evaluate and abate the problem.
- Unless properly trained, do not get involved. Remember, if you don't know, don't go, it may blow.

If safe, attempt to identify material, and pass information on.

## **Incident-Generated HAZMAT**

Workers do not consider many of these materials, used frequently on the job, hazardous.

Petroleum products, especially gasoline, are prohibited from public transportation vehicles because of the obvious danger. Workers should not transport petroleum products on aircraft or on buses. Gasoline should be purged from all gas cans, generators, chain saws, etc. before transport.

Other items such as ignition devices, fuses, explosives, and mineral spirits should not be placed on aircraft or other public transportation.

Supply & Ground Support Unit Leaders should be well trained in handling of hazardous materials (including those used for C & D) and should make provisions at the incident to cause petroleum containers to be purged and fuses to be left at the incident for safe return to the cache.

Supply & Ground Support Unit Leaders should be made aware of standard transportation rules regarding materials. For instance, oxidants, such as fertilizer, should not be transported with flammables. Be careful not to mix incompatible materials; i.e., ammonia should not be transported with chlorine. All packages and containers should be checked thoroughly for damage and leaks. Some spills can be more dangerous than expected.

Incident needs may require transportation of hazardous materials from base or camp to other locations on the incident. Basic knowledge of how to safely handle a variety of flammables, oxidants, cleaners, etc. should be taught to all personnel.

### **Helicopter Transportation**

- Follow instructions of helicopter personnel at all times when around helicopter.
- Helicopter personnel will provide detailed briefings on helicopter safety procedures to all personnel prior to loading.
- Stay at least 50 feet away from small helicopters and 100 feet away from large helicopters, unless authorized by the pilot or other helicopter personnel.
- Always approach or leave from front or from side near front, in full view of pilot.
- Never approach or leave helicopter up slope from helicopter when rotors are turning.
- Do not watch landings, takeoffs, or hovering helicopters unless equipped with eye protection.
- Minimum required personal protective equipment (PPE) for helicopter flights include: hardhat w/chin strap, Nomex flight suit or all cotton long-sleeved shirt and pants, leather boots, leather or Nomex gloves, and hearing protection.
- Keep safety harness fastened at all times, except when instructed to release it by pilot or helicopter crew member.

### *FAD Operations Guide*

- When leaving the helicopter, stoop-walk immediately away to front or side until at least 50 feet away from the rotors.
- Stay away from tail rotors at all times, and see that others do likewise.
- Carry all tools and equipment horizontally at your side when around helicopters.
- Do not smoke within 50 feet of helicopter, fuel storage, or fueling equipment.
- Never stand directly beneath hovering helicopter unless trained in and performing sling load hookup operations.
- Show wind direction for landing helicopter with flag, hand signal, or other visual indicator.
- Keep helicopter facilities clear of unauthorized personnel, equipment, and loose objects (paper products, etc.)

### **Managing Vehicle Traffic Under Severe Smoke Conditions**

Smoke has the potential to cause severe safety hazards to vehicle traffic in the vicinity of fires such as may be caused by disposal of carcasses, especially at night.

- When potential smoke-related problems are identified:
  - ✓ Advise the Agency Administrator (State Veterinarian or AVIC) that severe smoke conditions exist.

*FAD Operations Guide*

- ✓ Implement preplanned actions such as posting “smoke warning” signs.
- ✓ Ensure proper equipment is ready and appropriate personnel are briefed on contingency plans and are available to control traffic.
- ✓ Notify local law enforcement units of potential problem.
- Establish periodic patrols to monitor smoke impacted areas.
- When smoke-related traffic problems occur, first person on the scene must maintain traffic control until relieved. He or she should take immediate action to prevent injuries and damages by:
  - ✓ Establishing control points on both sides of the impacted area.
  - ✓ Slowing or stopping traffic entering the area and advising drivers of alternate routes.
  - ✓ Assigning a person to keep a log of what actions are taken.
  - ✓ Ensuring warning signs are in place and any other preplanned actions have been implemented.
  - ✓ Notifying personnel who have been identified and equipped to direct traffic and notify other local units having responsibilities for traffic control.

- ✓ Implementing radio and television traffic advisories for the impacted area.
- Smoke moving unexpectedly into an area may be an indication of changing burning conditions. All traffic should be excluded until this change can be evaluated.
- When smoke-related traffic accidents occur, personnel on the scene should:
  - ✓ Make all efforts to assist and protect people.
  - ✓ Notify, if necessary, appropriate medical units and request assistance.
  - ✓ Notify appropriate law enforcement units.
  - ✓ Provide additional personnel for traffic control, if necessary.
  - ✓ Notify Agency Administrator (State Veterinarian or AVIC) who may assign local safety and tort claims personnel to the scene.
  - ✓ Assign an individual (preferably a law enforcement official) to record facts about the accident, including names, addresses and statements of witnesses (if given willingly). At a minimum, record license plate identification on all vehicles in the vicinity of the accident. Coordinate efforts with local law enforcement personnel.
- Involved personnel should, immediately after being released from the accident scene, submit written reports of their actions and observations.

**FIELD OPERATIONS HANDBOOK**

**CHAPTER 2 – INITIAL RESPONSE  
(INVESTIGATION/REPORTING)**

**CONTENTS**

INCIDENT TYPES & CHARACTERISTICS .....  
DUTIES: INVESTIGATION PROCEDURES AND  
OPERATIONS: .....  
SAMPLE COLLECTION / PREPARTATION AND  
SHIPMENT: .....  
    ▪ PRIORITY 1  
    ▪ PRIORITY 2  
    ▪ PRIORITY 3  
REPORTING INVESTIGATION PROCEDURES...  
CASE CLOSURE.....  
EPIDEMIOLOGY/SURVEILLANCE/GIS.....  
CLEANING/DISINFECTION/BIOSECURITY...



	activated, usually no Division/Group Supervisors.
<b>Type 2</b> Regionally Significant	<ul style="list-style-type: none"> <li>• Regionally significant incident (&lt;15% of responses).</li> <li>• Highly complex incident or event.</li> <li>• Multiple operational periods; written action plan.</li> <li>• Many resources, combined as task forces/strike teams; as many as 200+ activated.</li> <li>• May activate IMT or Unified Command.</li> </ul>
<b>Type 1</b> Nationally Significant	<ul style="list-style-type: none"> <li>• Nationally significant incident (&lt;1% of responses).</li> <li>• The most complex incident or event.</li> <li>• Multiple operational periods; written action plans.</li> <li>• Hundreds, perhaps thousands of resources, extensive field operations.</li> </ul>
<b>Type 1 (cont.)</b>	<ul style="list-style-type: none"> <li>• Activate IMT's</li> </ul>

	<ul style="list-style-type: none"> <li>• Command and General Staff, and functional unit positions activated; May activate Area Command.</li> </ul>
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Initial response is the action taken by resources that are first to arrive at an incident. The kind and number of resources responding to initial response varies.

An example of an Initial Response organization may typically be just the Incident Commander, FADD, in response to the call.

Anticipate that an FAD incident could quickly (hours to a few days) move from a Type 4 to Type 1 incident.

## **Procedures for Investigations**

### **I. General**

The Area Veterinarian in Charge (AVIC) will conduct, or have his or her representative conduct, a timely investigation of all reported cases of animals with suspicious lesions. The AVIC will ensure that all potential information sources of FAD suspects including the State Veterinarian know the procedure of reporting immediately. Whenever there is any suspicion that the disease may be an FAD, the AVIC will immediately assign the most readily available Foreign Animal Disease Diagnostician (FADD) to do a complete investigation.

### **II. Emergency Program Phone Numbers**

If there are questions or consultation is needed on priority, appropriate lab or other matters, Emergency Programs (EP) staff can be reached during regular business hours Monday-Friday (8:00 a.m. to 5:00 p.m. EST), Emergency Program's main number, 301-734-8073 or toll free at 800-940-6542. If unable to contact EP at the above number, or when calling after regular business hours, please refer to the numbers provided in Appendix C-1.

### **III. Procedures**

#### **A. AVIC Responsibilities**

- Immediately assign a FADD to conduct an investigation. If the AVIC is having difficulty locating

an FADD, the AVIC should contact a nearby State or the Regional Director (RD) for assistance in ensuring a prompt investigation.

- Follow established reporting procedures
- Ensure that an investigation is initiated **within 8-16 hours** of initial notification.
- Ensure notification of appropriate state officials (State Veterinarian).
- When progress and final laboratory results are returned to the area office, promptly forward results to FADD, for owner notification and close out of the Foreign Animal Disease/Emerging Disease Incident Report (FAD.EDI)

The AVIC should furnish to the FADD the following information:

- The Referral Control Number. (See Appendix C-2)
- Suspected disease condition.
- Date of initial report.
- Species breed, or type, and number of animals on premises.
- Number of animals affected and duration of illness.
- History of the disease situation.

- Name and telephone number of owner and/or manager.
- Premises address.
- Name and telephone number of person and/or private practitioner reporting the disease.
- For State/Military FADDs, provide web site address for access to the FAD database.

B. FADD Responsibilities

- Always have the FAD kit in a ready-to-go manner.
- Contact owner/manager to set up an appointment for an investigation.
- Prior to going on the investigation, review FAD information pertinent to the presenting complaint/clinical signs for appropriate sample collection.
- Make an assessment of the immediate animal disease situation. Include a physical exam, vaccination history, herd health practices etc.
- Verbal quarantine to restrict entry and exit of all personnel and animals.
- Formulate a differential disease diagnosis for the presenting signs and history.
- Conduct a thorough epidemiological investigation (who, what, when, where, duration, potential exposure, rectal temperatures from live animals that were sampled, vaccination

history, animal movement, and human health for possible zoonosis).

- Collect appropriate laboratory specimens to rule out or confirm a diagnosis. Contact Foreign Animal Disease Diagnostic Laboratory (FADDL), or National Veterinary Services Laboratories (NVSL-Ames) personnel if uncertain prior to doing the investigation.
- Recommend and/or execute disease control actions to owner/manager, if necessary.
- Consult with State officials if premises quarantine is necessary.
- Ship diagnostic specimens in good condition to the assigned laboratory using proper designated package (either FADDL, Plum Island, New York, or NVSL-Ames, Iowa.) See Appendix
- Contact the AVIC to report findings of the investigation immediately after the investigation is complete.
- Contact the appropriate lab **prior** to shipping samples – By e-mailing NVSL-Ames (phone if priority one) or **calling** FADDL with airway bill number and day of arrival.
- Send an initial FAD/EDI e-mail report to the FAD mailing group (appropriate lab, RD, AVIC or designee with preliminary information, including type of samples and airway bill number **before** samples arrive at the lab.)

- Complete the **FAD/EDI** with all investigation findings immediately after submitting lab samples. Provide new information, lab results, and final diagnosis on the follow-up page of the database.
- Follow-up with the producer/owner to monitor the disease situation and to provide lab results after they are known. Work with the producer, referring veterinarian, State counterparts, and NVSL-Ames/FADDL to provide a definitive diagnosis, if possible.
- Close investigations within a week of receiving final lab results after consulting with the AVIC.

See Appendix C-5 (Normal Values for Physical Exam)

### **Sample Collection, Preparation, Shipment**

### **FAD DIAGNOSTIC SPECIMEN SUBMISSION PROCEDURES**

When the FADD has completed the initial investigation, they must contact the AVIC to obtain a priority number for laboratory assignment. The AVIC will use the below definitions for assigning priorities 1, 2, or 3. EP staff is available for consultation and will assist in assigning the priority. Laboratory priority is determined based on the disease condition, differential diagnosis, species affected, morbidity, mortality, and epidemiologic findings. Additionally, EP staff may

have knowledge of similar occurrences that could affect the priority designation decision. **Mark** the priority number on the label affixed outside the shipping container and the VS 10-4 submission form.

**Priority 1 (Highly Suspicious):** This priority is used when known investigation information makes it **highly likely** that the observed condition is a FAD and prompt laboratory diagnostic information is required. Specimens will be unpacked, examined, and diagnostic studies begun immediately at FADDL or NVSL-Ames, including Saturdays, Sundays, and holidays. Counter-to-counter air must be used for Sunday, holiday, and certain Saturday Priority 1 shipments. In extreme cases, samples will be hand-carried to the appropriate lab. Overtime is used as necessary. Results are reported by telephone to the NVSL Director, Chief of EP Staff, and the AVIC immediately upon completion of initial laboratory results.

**Priority 2 (Suspect):** This priority is used when known investigation information cannot distinguish the observed condition between a FAD and an endemic disease/condition and rapid laboratory diagnostic information is necessary. Specimens are unpacked, examined, and diagnostic studies begun immediately if the shipment reaches the laboratory before the close of the workday. Overtime will be used to finish the examination. Specimens arriving after the close of the workday will be examined first thing the following day. Specimens received Saturday will be processed that day with prior notification/discussion with the lab. Results will be reported by telephone to EP

immediately upon completion of initial laboratory results.

**Priority (Not Likely) 3:** This priority is used when known investigation information cannot distinguish the observed condition between a FAD or an endemic disease/condition, but is most likely an endemic disease/condition due to other epidemiological factors (e.g. season, previously diagnosed endemic disease in the adjacent area, etc.) and laboratory diagnostic information is used to verify the condition FAD. Specimens will be processed according to accession order as received. Overtime will not be used for these investigations.

**See Table Appendix C-5**

**Specimen Submission Procedures**

- The FedEx air bill tracking number is used to trace the specimens from the field to the laboratory. Please make sure that the airway bill number is noted on the FAD/EDI report form as well as the VS 10-4 form.
- All diagnostic specimens for a suspected FAD are shipped in a properly labeled U.S. Department of Agriculture Biological Specimen Mailer (bumble-bee box) and sent to either NVSL-Ames or FADDL.

The chart below identifies to which laboratory samples are to be sent.

Specimens From:	FADDL	NVSL-Ames
Ruminants-(except cattle for BSE)		X

<i>FAD Operations Guide</i>		54
Cattle Suspected of BSE		PL
Heartwater*		PL
Avian		DVL
Any Species, but of an Entomo-logical Nature		PL
Equine- (Except African Horse Sickness)		DVL
Equine–African HorseSickness*		DVL
Swine	X	
Classical Swine Fever*	X	
African Swine Fever*		
Blue Eye paramyxovirus		DVL
Teshen-Talfan		
DVL		
NVSL departments-		
DVL- Virology		
DBL- Bacteriology		
PL- Pathology		

It is strongly recommended that when Classical Swine Fever and/or African Swine Fever is suspected, other non-exotic diseases should be included in the differential for diagnosis. Sample specimens should be **split** with one set sent to FADDL, another set to NVSL-Ames. The specimens submitted to NVSL are to be clearly marked “Hold till cleared for exotic disease by FADDL”. Notify NVSL-Ames of shipment.  
 \*Starting in 2001, NVSL-Ames will do all Heartwater testing from suspect FAD Cases originating in the United States & African Horse Sickness testing will also be done at NVSL-Ames.

- If more than one laboratory unit at NVSL-Ames is requested to perform diagnostic testing (e.g., virology, bacteriology,

Pathobiology, or toxicology), samples should be split by the FADD and labeled for each laboratory unit. If complete differential diagnosis is being considered; call EP staff for further guidance on splitting samples. This expedites obtaining results for different diagnostic testing.

- All specimens should be packaged according to biosecurity procedures, identified, chilled with freezer gel-packs, and properly boxed for transit to the laboratory.

**DO NOT USE DRY ICE OR FREEZE SAMPLES.**

- \*A completed and legible Specimen Submission Form (VS Form 10-4) must accompany all diagnostic specimens. Include a Specimen Submission Form in each Biological Specimen Mailer sent from NVSL. Attach the Continuation Sheet for the Specimen Submission Form (VS Form 10-4A) to fully describe findings or other relevant information. Please write legibly.

The VS 10-4 form should include the following information:

- Referral Control Number
- Name and address of owner
- premises (used for tracking)
- Suspected disease(s)
- Species involved

- Brief history
- Number of affected animals and number in a herd
- Name and phone of FADD (fax number, if available).

- The specimen submission form is to be placed on top of the Styrofoam lid under the cardboard top of the “bumble-bee” box, not inside the Styrofoam container with the samples.
- **Do not** write “formalin” or “formaldehyde” on the FedEx form or shipping container. (The concentrations used do not constitute hazardous materials.)
- To request extra media, contact the NVSL Shipping Department, telephone number (515) 663-7530.

If there are any questions regarding shipping FAD specimens via FedEx, contact EP or call FedEx at 1-800-463-3339.

**For specimens being sent to USDA Laboratories**

Packages must be shipped via FedEx to the following addresses:

**FADDL:**

**USDA/APHIS/FADDL  
Route 25  
Orient Point, NY 11957  
Phone: 631-323-3256**

**For packages being held for pickup:**

**FADDL, APHIS at Plum**

**Island**

**FedEx7 Distribution Center**

**450 Edwards Avenue  
Calverton, NY 11933  
Phone: 631-323-3256**

NOTE: For all deliveries, mark the “HOLD WEEKDAY” or “HOLD SATURDAY” box. It is important to call FADDL prior to shipping so that they can arrange for package pick up.

**NVSL- Ames**

**USDA, NVSL  
1800 Dayton Road  
Ames, Iowa 50010  
Phone: 515-663-7266**

- Use the Area Billing number for the sender’s FedEx account number obtained from the AVIC
- On the FedEx Form, Internal Billing Reference (Section 2) write the area accounting code obtained from the AVIC.
- Check the FedEx Priority Overnight Box (Section 4a).
- Saturday delivery should be marked for Priority 1 or 2 samples sent on Friday.
- Keep the sender’s copy of the Air Bill for your records.
- The FADD or AVIC must notify the appropriate lab (by phone-FADDL, e-mail/phone-NVSL-Ames) that samples are being sent.

**Notification Telephone Numbers**

**FADDL:** (FADDL personnel will pick up samples and transport them to the laboratory)

Weekdays 8:30 a.m. to 4:15 p.m. **(631)**  
**323-3256 or 3206**

After hours or weekends – Beeper **(888)**  
**228-1399 (leave message)**

Dr. Tom McKenna (301) 332-8661 (cell phone)  
(860) 388-3580 (HOME)

**NVSL:** Weekdays (8:00 a.m. – 4:30 p.m.)

Virology (515) 663-7551

Pathobiology (515) 663-7521

Bacteriology (515) 663-7563

After –hours (in this order)

General NADC.NVSL 515/663-7200

Dr. Schmitt (515) 382-3140 (HOME)

Dr. Swenson (515) 233-2015 “

Dr. Ostlund (515) 382-1481 “

Dr. Panigrahy (515) 292-2235 “

Mr. Senne (515) 296-2235 “

**See Table of Specimen Collection (Appendix C)**

## **Reporting Investigations Procedures**

### **A. General**

To present accurate data regarding FAD surveillance activities within the United States, a timely complete report is necessary whether or not diagnostic specimens are collected and submitted. These reports, especially negative ones, reflect disease surveillance within the United States. Overall surveillance is of interest to industry, trading partners, agency leaders, and others.

### **B. Notification Procedures**

The nature of this database allows EP staff to monitor investigations daily for possible trends and similar occurrences throughout the country. It is only necessary to notify EP staff by phone **IF** an electronic FAD/EDI report **CANNOT** be submitted or if the FADD or AVIC have questions. However, for all possible **Priority 1** cases EP staff should be phoned immediately.

#### **AVIC Responsibilities**

- The AVIC or designee\* will insure that a completed electronic **FAD/EDI** report is submitted to the FAD mailing group\*\* after the investigation findings are known and before samples arrive at the lab.
- Inform and consult with the State Veterinarian
- **FADD Responsibilities**
- The FADD must report to the AVIC or Designee\*, initial findings of the investigation as soon as the investigation is complete.
- The FADD should submit an electronic FAD/EDI report (use hard copy if electronic access is unavailable). With preliminary information directly to the FAD mailing group\*\* or to the AVIC **before** samples arrive at the designated lab or if there are not

any samples immediately after finishing the investigation.

\*Recommended Designee to be the Area Epidemiology Officer or Asst. AVIC

\*\* appropriate lab, RD, and AVIC or designee

- Notify appropriate lab- Submission to NVSL-Ames-Call prior to shipping and use e-mail notification on the FAD/EDI report.  
Submission to FADDL-The FADD must call prior to shipping to allow for pickup and use the e-mail notification on the FAD/EDI report.  
Issue quarantine.

FADD must provide the following information on VS-Form 10-4 so that the appropriate lab can be properly informed. Providing investigation findings with epidemiological questioning, good clinical work up and a complete history are essential in laboratory diagnosis. The Following information is needed:

- Referral Control Number assigned
- Federal Express tracking number (if samples were sent)
- City, County, State of premises under investigation.
- Name of owner
- Species, breed or type, and number of animals on premises.
- History on the disease situation (# of affected animals, clinical signs, duration of illness, Presumptive

Field Diagnosis with differentials.)

- Planned priority of the samples (if sent).
- Notify the necessary State or Tribal officials to follow up on quarantine, if appropriate.

If unable to email/fax report, contact the AVIC or EP to provide airway bill tracking number, obtain a priority number and assigned laboratory for sample submissions. As additional information is obtained, it must be added to the current electronic FAD/EDI report in a follow up report.

### **C. Laboratory Reporting**

NVSL-Ames and or FADDL will report progress and final negative laboratory results to AVIC and EP staff.

The AVIC is responsible for providing copies of the report to the FADD, State Veterinarian and the RD. After consultation with AVIC, the FADD is responsible for informing the private practitioner and owner of the laboratory results and entering those results on the follow-up form called “Close Out” in the database.

NVSL-Ames and/or FADDL will immediately report *positive or suspect* laboratory findings to the NVSL Director and Chief of EP Staff, even if it was *not* an FAD investigation. EP Staff will coordinate a conference call with the Deputy Administrator’s office, RD, AVIC, FADD, appropriate lab personnel, and the Emergency Management Leadership Team (EMLT) for future action planning. This conference call will take

place within two hours of EP staff's notification. After the conference call, the AVIC should notify his/her State Counterparts.

Classifying an FAD investigation as case-positive is the responsibility of the EP staff in consultation with the FADD, AVIC, State Veterinarian and Regional Director as appropriate. It will be based on clinical impression, laboratory results and/or epidemiological analysis of the disease situation. Once an investigation is classified as case-positive, the EP staff will take the lead in coordinating the initial response (i.e. appropriate officials are notified and appropriate actions are initiated.)

### **CASE CLOSURE**

Investigations for suspected the FAD's will be closed out in consultation with the AVIC and/or the State Veterinarian. If necessary the RD and the EP Staff can be consulted. Cases should not be closed until a follow-up visit or phone call has been done and the owner/manager is informed of the lab results. Electronic FAD/EDI follow up reports will be used to record all follow-up information, lab results, quarantine release dates, etc. When closing a case, a follow-up report indicating the reasons, lab results, and any other supporting information should be filled out. Also, change the "open" status to "closed" on the FAD/EDI report. Emerging disease investigations can be continued after an FAD is ruled out.

#### **Epidemiology: Surveillance/Geographic Information System (GIS)**

- A. **Introduction: Surveillance procedures for premises:** To aid in containment of an outbreak, areas

known as Bio-security Zones will be established. These areas or zones will serve as landmarks to conduct activities such as surveillance, movement restrictions, and implementation of policies such as vaccination and pre-emptive cull. Surveillance of premises located within these zones is critical to the success of outbreak eradication. A potential problem is the observation of premises in these zones while preventing exposure to infection from human traffic. With this in mind, strong efforts will be made to limit unnecessary risk of exposure to premises by surveillance procedures. This will be accomplished through the reduction of farm-to-farm traffic, and practice of good bio-security measures and cleaning and disinfection procedures.

- 1) **Surveillance Group(s):**  
Equipped with the labeled maps, producers' reports, and trace information, the Surveillance Group will be assigned the task of:
  - Locating owners of susceptible animals not in the database
  - Assessing the need for farm (premises) visits. It may be possible in some circumstances, if owners are knowledgeable about the disease, to lessen

farm-to-farm traffic by allowing the owner to report in, thus only requiring on farm visits by team members for specific or questionable situations and periodic checks instead of daily visits.

- Supplying information to planning section so that a surveillance plan that prevents premises from being overlooked, can be prepared and a schedule maintained for visits. FAD's have variable incubation periods, therefore, surveillance teams assigned to observe animals (and collect samples as indicated) will be scheduled to visit farms based on disease etiology, species involved, weather patterns, animal densities, and traffic patterns coupled with the disease pattern/history.
- The owner would be contacted by phone to schedule an inspection and possibly asked to corral/pen the animals and provide access to

the best of his/her ability for visual and hands-on inspection, when necessary.

- Surveillance team members will be able to travel within designated routes, within the zones, as long as they have not been contaminated by contact with infected premises. If contaminated, they will not be able to perform surveillance on Clean Farms (no observed infection) until they have had no contact with positive animals/premises for the appropriate period of time.
- **Surveillance personnel will follow strict biosecurity measures.**  
They will:

1. Wear disposable Tyvek type coveralls, disposable (latex exam) gloves, disposable boots (double pair) or boots that can be disinfected (rubber barn boots or knee boots), and disposable head covering if suit is not hooded (Tyvek coveralls with hood is preferred).
2. Handi-wipes or other similar wipes will be used to wipe the face after premises visit (or hand sanitizer could be used).

3. Personal gear such as cell phones, test kit, and paperwork/pencil will be carried in zip lock bags to prevent exposure. If used, then they will be disinfected or resealed before placing in vehicle. Bags will be dipped in disinfectant before storing in vehicle (cell phones work while sealed in zip lock bag, do not take out of bag).
4. All disposable clothing, gloves, etc. taken off or removed after the farm visit will be dipped in disinfectant and sealed in a bag or left on the farm to be burned. The outside of all bags that are replaced in the vehicle will be sprayed with disinfectant before loading into the vehicle.
5. The vehicle will not be driven onto the farm and personnel will walk onto the farm from the paved road. Vehicle tires will be sprayed with disinfectant before leaving the parking area.

**Equipment needed: List includes:**

- Disposable clothing (Tyvek type suit with hood or head gear, boots, gloves)
- Rubber boots or barn boots
- Waterproof outer wear such as rain suit
- Hand pump sprayer, water, disinfectant
- Bio-wipes and trash bags for disposal
- Sample collection and submission kits
- Paperwork/pencil
- Ziploc type bags for gear

**B. Introduction and procedures for surveillance of wildlife:**

The surveillance of susceptible wildlife populations presents one of the greatest challenges to a successful eradication plan against an FAD outbreak. Once wildlife (deer, feral hogs) becomes infected, the situation becomes decidedly more difficult, if not impossible. Considerations and contingency plans must be in place in the event that wildlife populations become infected.

**C. Identification of Zones, Traffic Control Points, Cleaning and Disinfection Sites**

1. Once the maps are developed, the following will be identified:
  - a) **Adjacent, Control and Surveillance Zones** with entry and exit points on the border of these zones identified.
  - b) Traffic Control Point locations and roadways designated for closure/re-routing (ODCEM will assist, with input from appropriate law enforcement agencies tasked by ODCEM in this effort).
  - c) Location of Cleaning and Disinfection Sites
  - d) Seasonal high water tables of areas involved

The maps will provide information to help direct the response once the

decision is made to initiate specific action. **It is critical to understand that the maps (complete with zones, traffic control point locations, location of cleaning and disinfection sites and seasonal high water tables identified) are to be developed while test results are pending to allow for pre-planning in case action is to be taken before test results are received (i.e. in Highly Suspicious cases with lesions and a case history that supports a FAD outbreak) or immediately after test results confirm infection (i.e. Level 2).**

Note: Major highways, railways, highly populated areas such as cities, and areas of high animal densities are all examples of factors that will complicate the placement of zones, etc.

**D. Factors affecting zone borders:**

There are a number of factors that will determine the location of the Zone borders including:

- 1) animal population densities
- 2) traffic patterns and human demographics
- 3) weather conditions which may affect transmission
- 4) history and characteristics of the outbreak
- 5) decision to implement a Pre-emptive Cull Policy
- 6) commercial and industry considerations

- 7) etiology of suspected disease

**E. Pre-emptive Cull Policy:** If an area is selected for institution of a **Pre-emptive Cull Policy, all premises that are targeted for euthanasia will be identified as Infected Premises, or Dangerous Contact Premises.** This means that several to many **Infected** or **Dangerous Contact Premises** could be located in a Pre-emptive Cull area. The borders of the **Adjacent, Control, and Surveillance Zones** would be extended such that these Zones would still surround the location of the **Infected Premises.** It is probable and highly likely that in some locations in Oklahoma (i.e. western Oklahoma feedlots.), large areas will become involved with pre-emptive culling and possibly vaccination efforts if the outbreak shows a propensity to escape eradication efforts. In such cases, the following may occur:

- 1) Extension of boundaries of the **Adjacent, Control and Surveillance Zones.**
- 2) Extension of the **Preemptive Cull Policy** to whatever degree epidemiological study indicates is necessary to prevent further outbreaks. Again, any areas designated for Pre-emptive culling will become **Infected Premises**

or **Dangerous Contact Premises.**

- 3) Institution of vaccination protocols in an attempt to lessen the shedding of etiologic agent from animals located near the outbreak areas. Note: Vaccine use may require USDA approval.
- 4) **Quarantine of susceptible populations:** In situations where the possibility of an FAD threatens the safety of susceptible animal populations, these animals may be quarantined in an attempt to protect them from exposure to an FAD. Notable situations would be collections such as zoos, research facilities, federal and state parks, and tourist attractions. Representatives of these entities would be asked to enforce measures to limit possible exposure from visitors (animal and human movements). Examples might include:
  - 1) Closing areas to visitors when an FAD threat is present.
  - 2) Restricting access to wildlife areas by hunters, hikers and trail rides (horses and riders, motorcycles), etc.

- 3) Restricting movements of animals in or out of collections.

**Protection, Cleaning and Disinfection, Biosecurity, and Safety: Introduction:**

Different procedures for biosecurity, cleaning and disinfection and safety have been established not only to prevent the spread of the FAD from infected premises, but also to address the possibility that the surrounding area may have been contaminated. To contain the spread, the disease must be prevented from reaching susceptible animals. Highly contagious diseases, such as FMD, present some very unique and difficult challenges. Since some disease agents are fairly stable and can be carried by people and equipment/vehicles, cleaning and disinfection will foremost concentrate on the movements of people and their vehicles (equipment). The restriction of movement of both animals and people is critical to containment and will be addressed by the quarantine and biosecurity restrictions. Traffic control points will also assist in controlling movements of animals and people.

**A. Quarantine and Case Designation:**

Premises on which an FAD investigation has begun will be **quarantined** and a strict biosecurity/cleaning and disinfection protocol instituted to allow for the exit of personnel. The premises will either be declared an **Infected Premises (Highly Suspicious)**,

**Dangerous Contact, Suspect Premises, or Not Likely.** The quarantine will remain in place until no infection is confirmed by initial investigation OR until after the infected animals have been euthanized and disposed of, and cleaning and disinfection has been performed and sentinel animals replaced. Until a premise is declared free of infection, strict biosecurity measures will remain in place. The goals of the quarantine and strict biosecurity are the prevention of the spread of disease, which may be present until an infection is confirmed. The protocol is instituted prior to diagnosis because it is apparent that infection may be present and its spread could occur before positive confirmation is received. It is well known that confirmation of the diagnosis may take up to 36 hours. Given this length of time, measures will be taken to ensure that the surrounding area is protected from exposure to contamination from animal, equipment, or personnel movements.

**B. Cleaning and disinfection /Biosecurity Procedures for Premises:**

- 1) **Biosecurity Procedures:** Once an investigation has begun on a premise, the premise will be quarantined and the FADD will oversee the quarantine protocol to restrict personnel, animal, and

vehicle exit from the premise. The quarantine and its restrictions will remain in place until the investigation reveals that there is no presence of a threat. During the investigation, all personnel and vehicles will remain on premise until the FADD declares the investigation complete with no threat of an FAD. Quarantine may be released or cleaning and disinfection procedures will be employed in the case that the investigation continues. In such a case, personnel would be allowed to exit after following appropriate cleaning and disinfection procedures.

**Infected Premises Biosecurity**

**Procedures:** No unnecessary personnel will be admitted entry to the premises. No susceptible animals will be allowed entry or exit except as part of the euthanasia/disposal/cleaning and disinfection procedures. No feed trucks, milk tankers, or other "farm traffic" will be permitted. Law enforcement personnel will be requested through ODCEM to ensure compliance.

**Exit from the Infected**

**Premises** will require cleaning and disinfection of the person, clothing, and vehicle. The owner may remove pets or other animals not affected by the

infectious agent after cleaning and disinfection, IF permitted in writing by the OK Vet IMT. These animals may be subject to quarantine at the site of destination. In certain FAD situations, these animals may be quarantined to the site due to the infectious agent's tendency towards resistance to cleaning and disinfection efforts. (i.e. as in the case of FMD virus' ability to reside in the animal's respiratory passages).

2) **Cleaning and Disinfection**  
**Procedures for premises under investigation:**

a) **Not Likely or Suspect or Dangerous Contact**

**Premises:** Procedures are continued until case is discontinued (negative test results) or premise is declared **Infected Premise**.

Procedures include:

- Use of disposable clothing to be left on the premises or laundry of clothing on farm before contact with other animals. In some situations, it may be easier to dip the clothing in a disinfectant solution, wring out, and then place in plastic bags until laundry is possible. Such clothing

could be removed from the premises.

- Use of portable hand pumps to disinfect equipment or tires of vehicles that must leave the premises.
- Prevent entry or exit of personnel and vehicles until status of farm is known.

**b) Highly Suspicious (Infected Premises)**

- **Equipment:** All equipment will be thoroughly cleaned of organic material by power washer or manual means before disinfection with an approved disinfectant. If the situation is such that equipment can be re-exposed during removal a secondary demobilization/cleaning and disinfection site will be set up and a final cleaning and disinfection performed before final departure.
- **Personnel:** All personnel may be required to limit exposure by wearing disposable clothing. Disposable clothing will include Tyvek type suits

with hood, rubber boots or disposable plastic boots, head covering if no hood on Tyvek coveralls and disposable gloves. An alternate method that may become standard would be to allow the use of whatever clothing was appropriate to the season as long as the clothing, including footwear, stayed on the premises until final disinfection. This method would require personnel to shower and change into clean clothing as they left the premises. A “locker type” set-up could be established to allow personnel, working in shifts, to wear the same clothing while on the premises whether they are coveralls or other. A clean set of clothing (in plastic bags) should be carried by all personnel entering the premises, for use upon exit of the premise. All gear (i.e., communication equipment, paper work etc.,) unable to be disinfected should be

carried in doubled Ziploc bags. Short sleeved shirts should be worn underneath the Tyvek suits to prevent exposure of long sleeves. Before exiting the premises, each person will undergo cleaning and disinfection by showering with soap and shampooing with the provided shampoo. Clothing will be laundered on site if possible or dipped in disinfectant and bagged in plastic bags and laundered elsewhere. Personnel without a change of clothes will wear clean Tyvek coveralls off the affected premises.

- **Vehicles:** All vehicles will receive a power wash and then will be disinfected with an approved disinfectant upon exiting the premises. If necessary, final disinfection may be required at a secondary demobilization area. The inside of the vehicle will be treated with the

approved disinfectant.

**Non-susceptible animals** that leave the premises must have signed approval by the FADD or OK Vet IMT. Animals that leave will undergo cleaning and disinfection procedures as specified by the FADD &/or OK Vet IMT and will include, but not be restricted to a bath with soap/shampoo and application of a disinfectant to the animal's hair coat (i.e. a citric acid wipe). Exiting animals may be quarantined and restricted from contact with susceptible animals at the approved relocation site. Any animals held at the **Infected Premises** (refused exit) will need to be confined away from the operations area for safety reasons.

- **Set-up:** To allow demobilization and removal of equipment, vehicles and personnel from the **Infected Premises**, a secondary cleaning and disinfection site

adjacent to or within the **Infected Premises** may be identified. This secondary cleaning and disinfection site will be the location of temporary showers if used and also the location where the final application of disinfectant is applied to vehicles and equipment leaving the **Infected Premise**. The primary cleaning and disinfection site on the **Infected Premise** will be the location of the power wash station. No equipment will be removed from the **Infected Premise** or the secondary demobilization/ cleaning and disinfection site until OK Vet IMT can ensure that there is no threat of contaminating new locations. No equipment will be moved to the secondary demobilization/ cleaning and disinfection site (secondary cleaning and disinfection site) without a power wash to ensure that all organic material is removed

before final disinfection.

**After Demobilization:**

A thorough cleaning and disinfection of the area will be performed. Rodent control may also be performed. See recommendations for disinfection of **Infected Premises**. Once depopulated, cleaned and disinfected premises will remain under quarantine for the amount of time appropriate for the FAD. The disinfection of the premises will include:

1. Removal of all debris and organic material from surfaces with a power-washer or by physical means before application of disinfection.
2. Pits or other holding areas for manure must be flushed and disinfectant applied.
3. Lagoons must be brought to a pH level that will assure the inactivation of the disease agent.

4. Milk, feed, bedding, and other such materials must be disinfected by application of disinfectant, or disposed of by burning, or burial. (See USDA recommendations).
5. Equipment must be thoroughly disinfected before removal. Milk machines should be cleaned and then disinfected by flushing with appropriate disinfectant.
6. Spraying of premises grounds (areas around buildings and facilities) should be sprayed with appropriate disinfectant.

After the premises have been cleaned and disinfected, the sentinel animals will be placed on the premises and quarantines will be removed if no evidence of infection is detected. The area will be carefully evaluated to ensure that there is no risk of re-infection from neighboring infected premises or otherwise, prior to

replacing sentinel animals and lifting the quarantine. The health of the susceptible wildlife populations in the surrounding areas will also be assessed.

### **3. Cleaning and Disinfection and Biosecurity Procedures in the Biosecurity Zones Introduction:**

Cleaning and disinfection in the **Adjacent, Control and Surveillance Zones** deals primarily with personnel and their vehicles as they travel to and from affected and non-affected areas. It is understood that most of the contamination will be located on the **Infected Premises** and areas surrounding these **Infected Premises** will need protection from contamination through cleaning and disinfection and biosecurity measures.

A. **Biosecurity Procedures for Zones:**  
Biosecurity within the **Adjacent and Control Zones** consists of common sense restrictions such as limiting personnel and vehicle movements to those that have a "need to travel" designation within those areas. These include residents that work outside the zones, health care, essential services (food, medical etc), and law enforcement. See Traffic Control Procedures.

#### **1) Biosecurity Procedures for those Premises Located in the Adjacent Control and Surveillance Zones:**

These premises will implement the following measures:

Conduct Surveillance: Overseen by OK Vet IMT

- a) Restrict all access to the premises except those personnel and vehicles absolutely necessary for premises activities. Vehicles such as feed and milk trucks will be restricted to the **Adjacent Zone** unless permitted otherwise.
- b) Set up and operate an on-premises cleaning and disinfection station at the entrance. All vehicle traffic and personnel would receive cleaning and disinfection before entering the premises. A shuttle type arrangement should be considered to lessen traffic into premises area from outside vehicles.
- c) Control all free roaming animals and consider risk from wildlife spread, etc.,
- d) Ask employees to provide a clean set of clothes contained in plastic bags as a means of biosecurity if the premises breaks and employees have to leave.
- e) Develop and implement alternate plan of dead animal disposal other than rendering pickup.
- f) Recommend that employees stay on farm with food and necessary supplies shuttled to the premise until the critical task of depopulation of nearby infected premises is completed thereby

lowering the risk of spreading the disease.

**B. Cleaning and Disinfection Procedures for Adjacent, Control and Surveillance Zones**

- 1) **Adjacent Zones:** Cleaning and disinfection set up will include a spray device for vehicles at all exit points. Locations of cleaning and disinfection spray devices at the checkpoints will be forwarded to Incident Command Post (ICP) upon placement.
  - **Vehicles** will have disinfectant applied to the outer surfaces via the spray device.
  - **All passengers'** shoes (hand pump spray) and the car's pedals and floor boards (where there are passengers) will be disinfected. Handi-Wipes will also be given to all passengers to disinfect their hands.
  - Owners of **pets (dogs, cats, etc.)** will be asked to apply disinfectant to the animal by wiping down the animal's coat with a wipe dipped in disinfectant solution. Special attention should be paid to the animal's feet (This will not harm the animal or owner).

Owners need to be warned to keep the disinfectant out of the animal's eyes.

2) **Control and Surveillance**

**Zones:** Cleaning and disinfection set up will include a drive through spray device for vehicle at all exit and entrance points.

- Vehicles will have disinfectant applied to the outer surfaces.
- Passengers' shoes or hands will not have to be disinfected at the control zone exits

**FIELD OPERATIONS HANDBOOK**

**CHAPTER 3 - EXTENDED  
OPERATIONS**

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**DEFINITION:**

Extended Operations is the phase of the incident when Initial Response capabilities have been exceeded. This has a high potential for more serious accidents and injuries. All planned actions must consider worker and public safety as the number one priority.

When complexity levels exceed Initial Response capabilities, the appropriate ICS positions should be added to the command staff, commensurate with the complexity of the incident. Complexity is usually Type 3, however, could be typed at any complexity level. (Complexity Levels for all 4 Types of incidents are listed in Chapter 2 Initial Response)

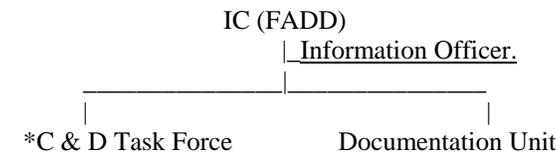
**CHARACTERISTICS OF AN EXTENDED OPERATIONS INCIDENT**

An Extended Operations Incident is normally characterized by:

- ❖ Larger incident: more animals potentially affected; (approximately 15% of responses)
- ❖ Incident crosses or likely will cross a “unit” (county, state etc.) jurisdictional boundary
- ❖ Incident will likely require multiple operations periods – if so, a written Incident Action Plan (IAP) may be required. Generally, a written Incident Action Plan would not be needed or prepared.

- ❖ Some Command and General Staff positions may be activated.
- ❖ Resources vary from several single resources to one or several Task Forces such as C&D Units or Quarantine Operations (traffic control etc.)
- ❖ The incident may be divided into divisions, (geographic areas, e.g. adjacent area, control area, surveillance area) but would not meet the Division/Group Supervisor complexity.
- ❖ As with most FAD incidents, this incident is not expected to be “contained” within the first operational period.
- ❖ Some of the Command and General Staff functions such as Operations, Planning, Logistics, Safety, Information and Liaison may be staffed.
- ❖ Staging areas may be utilized and in some instances a small incident base established.

**EXAMPLE OF AN EXTENDED ATTACK ORGANIZATION (SAMPLE ONLY)**



(\*Cleaning & Disinfection Task Force)

(General staff positions filled as needed.)

### **CHANGE FROM AN INITIAL RESPONSE INCIDENT TO AN EXTENDED OPERATIONS INCIDENT**

Early recognition by the Initial Response IC that the resources are not adequate is important. As soon as the Initial Response IC recognizes that additional resources are needed or knows additional forces are enroute, IC may need to withdraw somewhat and prepare for Extended Operations. The following items should be addressed by the Initial Response IC when changing to an Extended Operations incident:

### **DUTIES OF EXTENDED OPERATIONS INCIDENT COMMANDER (IF ALL POSITIONS NOT FILLED)**

- Establish an Incident Command Post (ICP) and check-in location(s) to receive, brief and assign incoming resources.
- Utilize complexity analysis to validate organizational needs.
- Follow the risk management process in Chapter 1. Review and update regularly during the incident.
- Employ strategy and tactics that will:
  - ✓ Follow the Agency Guidelines as outlined in the Appendices:
  - ✓ Ensure work/rest requirements are met.

- Determine and document incident objectives. Included in the objectives will be triggers or decision points, e.g.: Outline surveillance area on map, potential quarantine problem areas, main stock hauling routes etc.
- Complete and document incident complexity.
  - ✓ Type III or greater complexity incidents should require an incident commander without collateral duties such as logistics, planning or duty officer.

Use an Incident Briefing Form (ICS 201) to:

- ✓ Sketch a map of the incident and identify resource assignments.
- ✓ Document the organization.
- ✓ Keep track of all resources that are on scene, enroute, and ordered.
- ✓ Document strategy, tactics, and current actions.
- Review Extended Operations Safety Checklist.
- Keep State Veterinarian and/or AVIC, or other higher level officer, informed of:
  - ✓ Status
  - ✓ Progress of the effort
  - ✓ Additional resources needed
  - ✓ Special situations such as #persons/animals affected, quarantined,

potential pre-emptive cull concerns, indemnity recommendations, etc.

- As additional resources arrive:
  - ✓ Divide the Infected Premise (IP)(if necessary) and Surveillance/Control Area into areas of responsibility, such as Division A and Division B.
  - ✓ Assign individuals responsibility for these areas. At first these will usually be Single Resource Bosses such as Animal Health technicians or Livestock Inspectors. But as multiple single resources arrive consideration should be given to aggregating them into Task Forces with a Task Force Leader to reduce span-of-control (recommended no more than 1:5) and increase efficiency.
- As the incident continues to escalate, there may be a need to staff functional areas. These may be staffed by personnel at the unit leader level or by individuals that can complete the duties. Should the complexity require a fully qualified section chief, then the transition to a Type 2 organization should begin.
- Designate a person to begin assessing logistical needs such as feeding, fuel, sleeping arrangements, special equipment, etc.
- Designate a person to address incident planning needs:
  - ✓ Establish formal check-in and resource status.

- ✓ Gather, record, and provide on-site information to personnel and EOC/ State Emergency Management.
- ✓ Start written Incident Action Plan, if required by IC.
- ✓ Prepare maps.
- ✓ A Liaison Officer is especially important in multiple agency/jurisdiction incidents.
- ✓ A Safety Officer.

## **CONTROL OR TRANSFER TO TYPE 2 INCIDENT**

At some point the incident may be “contained/controlled” or a decision made to transition to a larger, more complex organization.

Key indicators as to when to make this transition are:

- Incident objectives will not be met.
- Political sensitivities and informational needs are such that a simple Extended Operations organization will not be sufficient.
- The Liaison, along with other agencies and law enforcement etc., require a larger (such as an Incident Management Team) organization.
- Legal issues and financial matters cannot easily be addressed

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- The incident will not be controlled in the first 48-72 hours or next two-three operational periods.
- A written Incident Action Plan will be needed for the next operational period.
- Logistical support is needed, such as an Incident Base or camps to feed, sleep, and supply personnel on the incident.
- There is a need to fill most or all of the Command and General Staff positions.
- Complexity exceeds capability of extended operations organization.

If the Extended Operations IC follows the above-identified procedures, the efficiency of the actions will be optimized and the incident will either be controlled or the stage will be set for a smooth transfer of Command. Type 2 organization.

The primary objective of all IC's is to provide for worker and public safety. Discharge of this objective applies the appropriate response. This objective may require transfer of command. A measurable performance element with safety implications is the execution of this transfer of command. Adequate staffing, ordering of needed resources, good planning, good documentation and quality briefings are all important elements of transfer of command.

**EXTENDED OPERATIONS  
SAFETY CHECKLIST**

After your initial size-up of the incident and/or transition from an Initial Response (IC), answer the following questions (repeat this analysis whenever there is a change in conditions on the incident).

YES   NO

\_\_\_   \_\_\_   Can you control the incident with the resources available (on the incident or soon to be on the incident) under expected conditions?

\_\_\_   \_\_\_   Have you developed a plan. Have you communicated this to all personnel assigned to the incident, including new arrivals?

\_\_\_   \_\_\_   Can you communicate with everyone on the incident and with EOC and State Veterinarian?

\_\_\_   \_\_\_   Safety standards are being followed?

\_\_\_   \_\_\_   Public Safety, quarantine, traffic control is not being compromised?

\_\_\_   \_\_\_   Have you reported the status of the incident to the EOC and State Veterinarian?

YES   NO

- Do you have a complete list of what resources have been ordered?
- Cost-share issues present?
- Legal issues present?
- Have all personnel on the incident been informed of the transition to an extended operations incident and any change of plans?
- Incident complexity has exceeded management capability of extended operations organization.
- Has this transition of command been documented in writing and through EOC and State Verterinarian?

**If the answer is “no” to any of the above questions, you must take corrective action immediately.**

Notes:

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**CHAPTER 4 – COMPLEX  
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## **AREA COMMAND COMPLEX INCIDENT MANAGEMENT TEAMS**

### **Type 2 Organization**

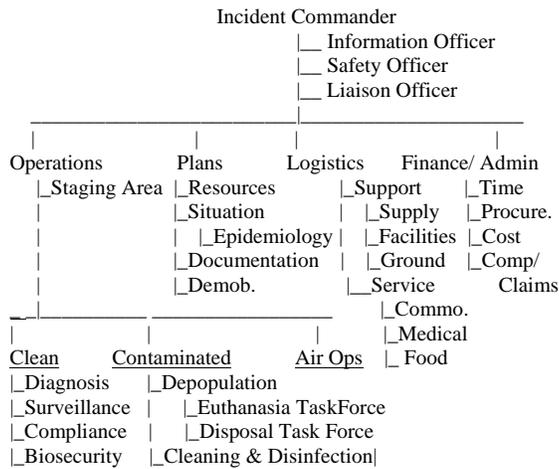
A Type 2 Organization is the first level at which most or all of the Command and General Staff positions are activated and are filled by a Type 2 Incident Management Team. The IC and Command/General Staff must function as a team handling many aspects such as:

- Supervising a large organization.
- Multiple operational periods.
- Gathering Information to develop a written Incident Action Plan.
- Providing logistical support including the establishment and operation of a base and possibly camps.

### **Type 1 Organization**

The primary difference between a Type 1 and Type 2 Organization is a matter of size and complexity. (See Table in Chapter 1 to complexity Types guidance) The factors that affect the decision to go to a Type 1 Operation are variable and depend to a large extent upon the needs and policies of the agency or agencies involved. The Type 1 Organization has all the characteristics of a Type 2 Organization plus:

- All Command and General Staff positions are filled with Type 1 qualified people.
- The number of divisions/groups may require that Branches be activated to address span-of-control needs.
- Operations personnel often exceed 300 per operational period and total personnel on the incident usually exceed 800.
- Aviation operations often involve several types and numbers of aircraft.
- **(SAMPLE IMT ORGANIZATION)**



## **UNIFIED COMMAND**

A representative from each of the involved agencies with jurisdiction authority shares command, and at times, other functions. Collectively, they direct the management of the incident to accomplish common objectives. Unified Command may be at the Incident Management Team or Area Command Level.

## **MULTIPLE INCIDENT MANAGEMENT/COMPLEX**

Most of the time, an Incident Commander and/or Incident Management Team will be in command of only one incident at a time; however, there are situations when conditions are such that it is more efficient or necessary for an Incident Commander to have command of multiple incidents or multiple infected premises. There are some operational differences in managing a single large incident versus a number of smaller incidents, but the management principles are the same. As long as the “Components of ICS” (common terminology, modular organization, integrated communications, Unified Command structure, consolidated action plans, manageable span-of-control, predestinated incident facilities, and comprehensive resource management) are followed, the results should be similar.

A multiple incident management situation is organized and supported much like a single incident situation with a single IC (or multiple, if a Unified Command is utilized) and a single

Command and General Staff. Multiple incidents managed by a single Incident Management Team are commonly referred to as a “complex.” How individual incidents are handled operationally can vary depending on the conditions, situation, and personal preferences.

### **AREA COMMAND (STATE-WIDE COMMAND AND/OR MULTI-STATE COMMAND)**

Area of Command is an expansion of the incident command function. It is designed to manage a very large incident that has multiple incident management teams assigned. These teams may be established any time the incidents are close enough that oversight direction is required. This is to ensure that conflicts do not arise among the incident management teams.

The functions of Area Command are to coordinate:

1. Objectives that conflict between incidents.
2. Strategies that conflict between incidents.
3. Priorities for the use of critical resources allocated to the incident or incidents assigned to the Area Command.

The organization is normally small with personnel assigned to Command, Planning, Aviation, and Logistics.

In a typical FAD incident, Area Command (or State-wide Command) is initially always done by the State Veterinarian and AVIC.

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**CHAPTER 5 –  
TRANSFER OF COMMAND**

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## **TRANSFER OF COMMAND**

A continuous command presence must be maintained on all incidents until all resources are released. Command of incidents, and some or all personnel in the incident management organization, may change one or more times as the incident changes in size or complexity, is of long duration, or changes jurisdiction(s). A briefing that captures all essential information for continuing effective command of the incident and provides for worker and public safety must occur prior to transfer of command. This information should be recorded and displayed for easy retrieval and subsequent briefings.

The transfer of command authorities for an incident must be as efficient and orderly as possible. The incident commander and his/her organization in place remains in charge of the incident until the incoming commander and his/her personnel are briefed by their counterparts, and where one is required, a delegation of authority has been signed.

**MANY SAFETY PROBLEMS EMERGE AS AN INCIDENT BECOMES LARGER AND/OR MORE COMPLEX. INCIDENT TRANSFER OF COMMAND HISTORICALLY HAS BEEN ONE OF THE MOST DIFFICULT PHASES OF INCIDENT MANAGEMENT. INCIDENTS SHOULD TRANSFER COMMAND AT A SPECIFIC TIME, PREFERABLY AT THE END OR START OF A NEW OPERATIONAL PERIOD.**

**THE OPERATIONAL EFFORT SHOULD CONTINUE DURING THE TRANSFER PERIOD WITH COMMAND AND CONTROL OF THE INCIDENT FIRMLY IN PLACE, AND WITH CLEAR, ACHIEVABLE AND SOUND STRATEGY AND TACTICS COMMUNICATED TO AND IMPLEMENTED BY ALL RESOURCES.**

### **INCIDENT COMMANDER BRIEFING**

The outgoing Incident Commander must brief the incoming incident commander upon his/her arrival. The incoming Incident Commander should not assume command until thoroughly briefed and an exact time of command transfer is determined. If the incoming Incident Commander is arriving with a team, his/her team members may also attend the briefing. Likewise, if the outgoing Incident Commander has a team in place, those team members may also attend the briefing. After the briefing, incoming team members will start phasing into their areas of responsibility, but will not assume control until the predetermined time as agreed upon by the incoming and outgoing Incident Commanders. Notification of transfer of command must be immediately communicated to **ALL RESOURCES**, affected dispatch office(s), and agency administrator(s) through radio communication and/or verbal briefing.

**Incident Commander's Checklist**

The incoming Incident Commander, at all levels of complexity, should address the following items before he/she assumes command of an incident:

- Name and location of the incident.
- Jurisdiction(s) responsible for the incident.
- Name/location/radio contact of current Incident Commander(s).
- Agency Administrator(s) objectives for the incident.
- Current status of the incident:
  - ✓ Size.
  - ✓ Legal location.
  - ✓ Current status.
  - ✓ Animals involved and status of diagnosis and reporting, quarantine, etc.
  - ✓ Resources assigned to the incident, their status and location.

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- ✓ Resources ordered for the incident and their estimated time of arrival.
- ✓ Operations being undertaken and their level of success.
- ✓ Operations planned for next operational period.
- ✓ Location of existing incident facilities, (ICP, base, camps, helibases, helispots, staging areas, etc.) if any.
- ✓ Values to be protected.
- Current map(s) of incident.
- Location of Infected Premise (s), Adjacent Premise (s), Control and Surveillance Areas.
- Current/predicted weather conditions
- History of the incident area
- Worker and public safety concerns.
- Other agencies on incident and their representatives.
- Transportation routes to/from the incident.

- Date/time for transfer of command.
- Primary contact for coordination and support.
- Radio frequencies assigned to incident.
- Necessary releases of any assigned resources.
- Reporting requirements (situation updates to dispatch, agency administrator(s) State Veterinarian and AVIC, ICS-209, etc.).
- Resource ordering protocols.
- Other (use of trainees, public information).

**AGENCY ADMINISTRATOR'S (STATE VETERINARIAN AND STATE AVIC) RESPONSIBILITY FOR THE TRANSFER OF COMMAND AND RELEASE OF INCIDENT MANAGEMENT TEAMS**

The following guidelines are for the orderly transfer of command of management authorities to incoming Incident Commanders and their teams as well as their release. Agency administrator(s) (State Veterinarian and State AVIC) always maintain responsibility for the incident. Some information will need to be in writing and some may be verbal.

**ASSUMPTION OF AUTHORITY**

- The incident commander in place is in charge until officially released. Release should not occur until incoming incident commander and his/her team members are briefed by their

counterparts and ready to take full command of the incident.

- The operational effort should continue during transfer period with command and control of the incident firmly in place, and with clear, achievable and sound strategy and tactics communicated to and implemented by all resources. As a general rule, command transfer should occur at the end of an operational period.
- The requesting unit should specify the expected time of arrival and expected time of transfer of command to the incoming team.
- The current Incident Commander should contact the local Agency Administrator in advance for location and time for Agency Administration briefing.
- The requesting agency should accomplish the following prior to the arrival of the incoming team:
  - ✓ Make contact with incoming Incident Commander prior to his or her arrival. Give IC an update on progress and inquire if there are any special needs for the team.
  - ✓ Determine ICP/Base location.
  - ✓ Order support equipment, supplies, and initial basic support organization for the incident.
  - ✓ Secure an ample supply of appropriate maps and soil information.

- ✓ Determine transportation needs of the team and obtain needed vehicles.
  - ✓ Schedule agency administrator briefing time and location.
  - ✓ Obtain necessary information for the agency administrator briefing.
  - ✓ Obtain necessary communications equipment and support for the incident.
- The existing Incident Commander at the ICP should brief the incoming Incident Commander and his/her team. The time of transfer of command will depend upon incident complexity, expertise of the existing team, and/or other problems.
  - Complete a written Delegation of Authority, per agency policy, for the incoming Incident Commander to review.

### **AGENCY ADMINISTRATOR BRIEFING**

This briefing should take place as soon as the incoming team is completely assembled.

### **RELEASE OF AN INCIDENT MANAGEMENT TEAM**

The Agency Administrator must approve the date and time for the release of an Incident Management Team. The outgoing Incident Commander should start phasing in the incoming team members prior to demobilization of outgoing team members.

- The outgoing team should not be released from the incident until activity and workload is at a level that the incoming team can reasonably assume. Some considerations to assist in this determination are:
  - ✓ A transfer of command plan should be prepared for the incoming Incident Management Team by the team being released.
  - ✓ Unneeded resources have been released.
  - ✓ Base/Camp shut down, reduced, or being shut down.
  - ✓ Planning Section Chief has prepared a rough copy of the case report and narrative.
  - ✓ Finance/Administration Section Chief should have known finance problems resolved. Contact should be made with agency fiscal personnel and USDA to determine staffing needs.
  - ✓ Resource rehabilitation work is completed or to a point where the agency is satisfied with assuming remaining work.
  - ✓ Overhead performance ratings are completed.
- The departing team should have an internal debriefing session prior to meeting with the Agency Administrator.
- The Agency Administrator should debrief the departing team and prepare a written

evaluation as soon as possible after release, per agency policy.

**FIELD OPERATIONS HANDBOOK**

**CHAPTER 6 –  
COMMON RESPONSIBILITIES**

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**INITIAL OUT OF UNIT ASSIGNMENT  
INFORMATION (OBTAIN BEFORE  
LEAVING HOME UNIT)**

Personnel will be notified of an out-of-unit assignment by their respective agency. The following minimum information should be obtained before departing:

**Incident name and number**

- Work/job assignment
- Reporting location
- Specific location of the incident
- Location of the check-in point
- Reporting time
- Any special communications instructions
- Resource Order number and request number (if applicable)
- Travel instructions/chief of party
- Unit designator (if applicable)

## **Mobilization**

- Obtain the Resource Order and request number from the dispatching office. If possible, obtain a copy of the Resource Order.
- Ensure manifest is complete and accurate with personnel and baggage weights entered separately.
- Check in. Each individual should ensure that all information needed to complete the Check-In list (ICS Form 211) is provided. Resource order and request numbers manifest information, home base, departure point, method of travel, and other qualification blocks are especially important.

## **CHECK-IN PROCEDURES AT INCIDENT**

There may be several locations for incident check-in. Check-in officially logs you in at the incident and provides important release and demobilization information. You only check in once. **CHECK-IN RECORDERS MAY BE FOUND AT THE FOLLOWING LOCATIONS:**

- Incident Command Post
- Base or Camp
- Staging Area
- Helibase
- If you are instructed to report directly to a line assignment, you should check-in with the Division/Group Supervisor.

### **OBTAIN BRIEFING AND BRIEF SUBORDINATES**

After check-in, locate your incident supervisor and obtain your initial briefing. The items you receive in your briefing, in addition to functional objectives, will also be needed by your subordinates in their briefing. The items include:

- Identification of specific job responsibilities expected of you for satisfactory performance.
- Identification of co-workers within your job function.
- Definition of functional work area.
- Identification of eating and sleeping arrangements.
- Procedural instructions for obtaining additional supplies, services and personnel.
- Identification of operational period work shifts.

- Clarification of any important points pertaining to assignments that may be questionable.
- Provisions for specific debriefing at the end of an operational period.
- A copy of the current Incident Action plan.
- Use available "waiting time" to refresh training, improve organization and communications, check equipment.

### **COMMUNICATIONS DISCIPLINE**

It is extremely important that all incident personnel observe strict radio/telephone procedures and discipline in the use of all communication equipment. Radio codes should not be used in transmissions when more than one agency is involved. Use Clear Text.

### **FORMS AND RECORD KEEPING**

Most incidents managed under ICS rely heavily on the use of ICS forms to manage information and resources. Detailed information concerning forms will be found in Incident Command System Forms Manual (ICS 230-2). Some general instructions with regard to initiation and completion of forms are listed below:

- It is important to have legible forms. Print or type all entries on the form.
- When entering dates, use a month/day/year format, e.g., March 15, 19-- or 3/15/--.

- Use military 24-hour clock time when entering times.
- In most cases, times must be associated with dates to avoid any possible confusion. Enter date and time on all forms and notes.
- Fill in all blanks on the form. If information is not available or not applicable, enter N/A to let the recipient know that the information was not overlooked.

### **UNIT LOG (ICS FORM 214)**

All Command Staff, Section Chiefs, Branch Directors, Division/Group Supervisors, Unit Leaders, and Strike Team/Task Force Leaders are required to complete a Unit Log for each operational period on large fires under ICS management. A copy of this log must be filed with the Documentation Unit at the end of each operational period. The Unit Log contains facts relative to your activities on the incident. It is a good idea for supervisors to review their employee's unit log each day.

### **DEMOBILIZATION ACTIVITIES**

Preparation for demobilization begins with mobilization. Each individual or Chief of Party mobilized to an incident has responsibilities in the demobilization process. The following checklist identifies some of the key responsibilities:

## **Demobilization**

- Verify demobilization schedule with supervisor.
- Ensure that your base/camp sleeping area is clean.
- Clean and ready gear for another assignment and travel.
- File required forms and reports with the Documentation Unit and/or Finance/Administration Section.
- Return incident issued communications equipment to the Communications Unit.
- Return incident-issued work materials to the Supply Unit
- Follow approved checkout procedures (ICS Form 221).
- Report to departure points ahead of schedule.
- Stay with your group until you arrive at your final destination.
- Evaluate performance of subordinates prior to release from the incident.
- Get feedback on overhead performance suggestions for improvement.

- Demobilization is an important function of each Command and General Staff position.

Demobilization must be given adequate attention such as:

- Actively participate in the planning, development and implementation of the demobilization plan and schedule.
- Provide for a minimum advanced notice of 24 hours when identifying resources that will be available for demobilization.
- Ensure that there is no room for interpretation in identifying actual versus tentative demobilization information.

## **RECOMMENDED ASSIGNMENT PERSONAL EQUIPMENT CHECKLIST**

### **Personal Seven-Day Survival Kit**

Personnel may find themselves in an area with few amenities requiring them to “survive” under less than ideal conditions. Your personal survival kit should be limited to what you can carry yourself and packed into a single carry-on size bag, a backpack or a duffel bag.

When compiling your kit, remember two things: 1) you will be working around large animals (cows, pigs, goats, sheep, etc.) so things could get messy; and 2) everything you take will have to be disinfected (sprayed with disinfection solution) and/or washed in hot, soapy water before leaving the site.

The following list is provided to individuals for their consideration when packing for deployment:

- < Work pants (2 pair) and shirts (2 long sleeve) appropriate for the season and weather
  - < Underclothes (4 sets)
  - < Socks (6 pair)
  - < Comfortable, sturdy lace-up shoes or boots (not tennis shoes)
  - < Waterproof hat and jacket or coat
  - < Toiletries (toothbrush, toothpaste, Chapstick, deodorant, etc.)
  - < Prescription medicine
  - < Medications for colds, headaches, upset stomach, etc.
  - < Antiseptic ointment
  - < Vitamins
  - < Sunscreen
  - < Extra pair of glasses or contacts
  - < Insect repellent
  - < Antibacterial hand-wipes
  - < Credit card and cash
  - < “Mental Health” items (playing cards, paperback books, etc.)
  - < Toilet paper (not every place has what you need when you need it!)
- Tags or markings are recommended for identifying personal gear.
  - External frame packs shall not be used.

Individuals should be prepared to function for at least seven days with the personal equipment on hand. Incidental purchases while en route, on approved Rest and Recuperation (R&R), and on return, will require cash or credit card. Always carry a photo identification card. Commercial airlines require photo ID to get boarding pass.

**ALSO, BE AWARE OF AND COMPLY WITH AIRPORT SECURITY POLICIES.**

## **INAPPROPRIATE BEHAVIOR**

It is extremely important that inappropriate behavior be recognized and dealt with promptly. Inappropriate behavior is all forms of harassment including sexual and racial harassment and shall not be tolerated. When you observe or hear of inappropriate behavior you should:

- Inform and educate subordinates of their rights and responsibilities.
- Provide support to the victim.
- Develop appropriate corrective measures.
- Report the incident to your supervisor or other appropriate authority, if the behavior continues. Disciplinary action may be necessary.
- Document inappropriate behavior and report it to the employee's home agency.
- While working in and around private property, must be recognized and respected.

## **DRUGS AND ALCOHOL**

- Non-prescription unlawful drugs and alcohol are not permitted at the incident. Possession or use of these substances will result in disciplinary action.
- During off-incident Rest & Recuperation periods, personnel are responsible for proper conduct and maintenance of fitness for duty. Drug or alcohol abuse resulting in unfitness for duty will normally result in disciplinary action.
- Be a positive role model. Do not be involved with drug or alcohol abuse.
- Report any observed drug or alcohol abuse to your supervisor.

## **UNIT LEADER RESPONSIBILITIES**

In ICS, a number of the Unit Leader's responsibilities are common to all units in all parts of the organization. Common responsibilities of Unit Leaders are listed below.

- Participate in planning meetings, as required.
- Determine and monitor current status of unit activities.
- Confirm dispatch and estimated time of arrival of staff, equipment, and supplies.
- Assign specific duties to staff and supervise their performance.

- Develop and implement accountability, safety, and security measures for personnel and resources.
- Supervise demobilization of unit personnel, equipment, and supplies.
- Provide Supply Unit Leader with a list of supplies to be replenished.
- Maintain unit records, including Unit Log (ICS Form 214).

### **Leadership**

Leadership is the process of influencing personnel to accomplish their mission by providing them with purpose, direction, and motivation.

- Purpose: The incident leader must establish priorities, explain the importance of the mission, and focus the personnel on the task so they will function safely and efficiently.
- Direction: The incident leader must give clear instructions on the tasks to be accomplished.
- Motivation: The incident leader must give workers the drive and desire to do everything they are capable of doing to accomplish the mission.

### **Common responsibilities of Leadership**

*FAD Operations Guide*

- Know yourself and seek improvement.
- Seek responsibility and take responsibility for your actions.
- Make sound and timely decisions.
- Set a good example.
- Know your personnel and take care of them.
- Develop a sense of responsibility in your subordinates.
- Ensure the task is understood, supervised, and accomplished.
- Build your workers into a team.
- Keep your workers informed.
- Use your workers in accordance with their level of training and experience.

NOTES:

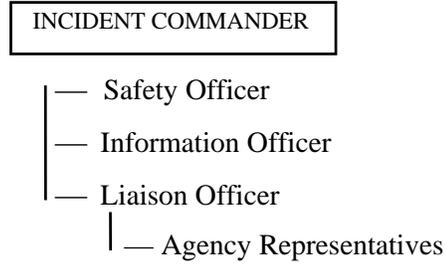
**FIELD OPERATIONS HANDBOOK**

**CHAPTER 7 - COMMAND**

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## ORGANIZATION CHART



## POSITION CHECKLISTS

### Incident Commander

The Incident Commander is responsible for all incident activities.

Critical Safety Responsibilities:

- Ensure that safety receives priority consideration in the analysis of strategic alternatives, the development of the Incident Action Plan, and in all incident activities.
- Assess incident situation, both immediate and potential.
- Conduct risk assessment for all strategic alternatives.
- Maintain command and control of the incident management organization.
- Ensure safety and welfare of all incident personnel and the public is maintained.

- Insure transfer of command is announced to host unit dispatch and to all incident personnel.

**Other Duties:**

- Review Common Responsibilities.
- Obtain briefings from Agency Administrator and/or prior Incident Commander.
- Obtain Delegation of Authority from Agency Administrator.
- Set incident objectives.
- Brief Command and General Staff.
- Approve the Incident Action Plan.
- Determine information needs.
- Approve requests for additional resources and requests for release of resources.
- Approve the use of trainees on the incident.
- Authorize release of information to news media, if delegated by Agency Administrator.
- Ensure Incident Status Summary (ICS Form 209) is completed and forwarded to agency dispatch center(s) on schedule.
- Approve Demobilization Plan.

- Conduct strategy meetings, reviewing/validating/revising as necessary, incident objectives, strategies and tactics.
- Determine effects of control actions on environmental and ecological processes.
- Insure that strategic/tactical options consider all resource values.
- Foster an atmosphere free of discrimination, sexual harassment and other forms of inappropriate behavior.
- Supervise staff activities; ensure functional performance is maintained; take corrective action.
- Participate in external incident affairs as required.
- Ensure incident financial accountability and expenditures are maintained to agency standards.
- Ensure incident documentation package is complete.
- Debrief with Agency Administrator.

## Safety Officer

The Safety Officer, a member of the Command Staff, is responsible for monitoring and assessing hazardous and unsafe situations and developing measures for assuring personnel safety. The Safety Officer will correct unsafe acts or conditions through the regular line of authority, although they (Safety Officer) may exercise emergency authority, to stop or prevent unsafe acts when immediate action is required.

Only one Safety Officer will be assigned for each incident. The Safety Officer may have assistant Safety Officers as necessary, and the assistant Safety Officer may represent assisting agencies or jurisdictions. Assistant Safety Officers may have specific responsibilities such as air operations, hazardous materials, etc.

### Critical Safety Responsibilities

- Analyze proposed and selected strategic alternatives from a safety perspective, insuring that risk management is a priority consideration in the selection process.
- **DIRECT INTERVENTION WILL BE USED TO IMMEDIATELY CORRECT A DANGEROUS SITUATION.**
- Prepare the safety message included in the Incident Action Plan.
- Develop the Incident Safety Analysis (ICS Form 215A) planning matrix with the Operations Section Chief.

- Present safety briefing to overhead. Safety briefing should emphasize hazards and risks involved in action plan components.

**Other Duties:**

- Review Common Responsibilities
- Obtain briefing and operating procedures from the Incident Commander.
- Participate in planning meetings.
- Establish systems to monitor activities for hazards and risks. Take appropriate preventive action.
- Priority of recommendations will start with risks having the highest potential for death or serious injury and follow through to those of lesser degree.
- Establish operating procedures for assistant Safety Officers.
- Evaluate operating procedures. Update or modify procedures to meet the safety needs on the fire.
- Review and approve Medical Plan (ICS Form 206).
- Review Incident Action Plans to insure that safety issues have been identified and mitigated.
- Analyze observations from staff and other personnel.

- Ensure accidents are investigated.
- Prepare accident report upon request of the Incident Commander.
- Monitor operational period lengths of incident personnel to ensure work/rest guidelines are followed; recommend corrective action to Incident Commander.
- Monitor food, potable water and sanitation service inspections. Request assistance from health departments as needed.
- Monitor incident personal protective equipment (PPE) needs.
- Inspect incident facilities, handtools, power equipment, vehicles and mechanical equipment.
- Monitor driver/operator qualifications and operational periods.
- Monitor all air operations; review aircraft incidents/accident reports.
- Ensure appropriate accident/incident reports and other safety reports are completed and submitted.
- Prepare final Safety Report upon request of the Incident Commander.
- Maintain Unit Log (ICS Form 214).

## **Information Officer**

The Information Officer, a member of the Command Staff, is responsible for the formulation and release of information about the Incident to the news media, local communities, incident personnel, other appropriate agencies and organizations, and for the management of all information officers assigned to the incident.

- Obtain briefing from Incident Commander.
- Contact the jurisdictional agency to coordinate public information activities.
- Obtain copies of current Incident Status Summaries (ICS Form 209).
- Develop policy with Incident Commander, Agency Administrator (State Veterinarian and State AVIC), agency Public Affairs Officer, incident management team members, and/or incident investigators regarding information gathering and sharing. Observe constraints on release of information.
- Develop and receive Incident Commander's approval of a comprehensive, proactive communications strategy that reflects both immediate and long-term goals.
- Prepare initial information summary as soon as possible after arrival.
- Obtain approval for release of information from Incident Commander.
- Attend meetings to update information releases.

- Arrange for meetings between media and incident personnel.
- Provide escort service to the media and VIPs; provide PPE as necessary.
- Respond to special requests for information.
- Organize and supervise an adequate staff, equipment, and facilities.
- Keep informed of incident developments and control progress through planning meetings and regular contacts with other incident staff, host unit, and cooperating agencies.
- Keep the Incident Commander informed of any potential issues involving the general public, news media, or other sources.
- Maintain Unit Log (ICS Form 214).
- Review Common Responsibilities

### **Liaison Officer**

The Liaison Officer, a member of the Command Staff, is the point of contact for the assisting and cooperating Agency Representatives. This includes Agency Representatives from other agencies, Red Cross, law enforcement, public works, etc.

- Obtain briefing from Incident Commander.
- Provide a point of contact for assisting/cooperating Agency Representatives.

- Identify each Agency Representative including communications link and location.
- Maintain a current list of cooperating and assisting agencies assigned. Confirm resource list with Resource Unit Leader.
- Respond to requests from incident personnel for inter-organizational contacts.
- Monitor incident operations to identify current or potential inter-organizational problems.
- Provide specific information on the incident relative to:
  - ✓ Type of assignments.
  - ✓ Anticipated duration on assignment or incident.
  - ✓ Operational period change information if workers are to be replaced.
  - ✓ Expected demobilization schedule.
- Remain visible on the incident to incoming cooperators and assisting agencies.
- Respond to requests for information and resolve problems.
- Participate in planning meetings providing current resource status, limitations, and capability of other agency resources.
- Keep cooperating and assisting agencies informed of planning actions.

- Maintain Unit Log (ICS 214).
- Review Common Responsibilities

### **Agency Representative**

An Agency Representative is an individual assigned to an incident from a cooperating or assisting agency or agencies. This individual may represent more than one agency.

- Obtain briefing from Liaison Officer or Incident Commander.
- Establish a working location. Advise agency resources that a representative is assigned to the incident.
- Attend planning meetings as required.
- Provide input on the use of and constraints agency resources.
- Cooperate fully with Incident Commander, Command and General Staff.
- Oversee the well-being and safety of agency personnel assigned to incident.
- Advise Liaison Officer of any special agency needs or requirements for resources assigned to the incident.
- Determine if any special reports or documents are needed and assure the completion of those needs.

- Report to agency dispatch or headquarters on a regular and prearranged basis.
- Ensure contact with any agency personnel that may have been hospitalized or otherwise separated from their assignment or unit.
- Ensure that all agency personnel and/or equipment are properly accounted for prior to your departure.
- Ensure that all required agency forms, reports and documents are completed prior to your departure from the incident.
- Have debriefing session with supervisor prior to departure.
- Review Common Responsibilities section.

### **COMMAND AND GENERAL STAFF PLANNING CYCLE**

*Additional Command and General staff meetings should be scheduled to address issues and resolve problems.*

**(Sample 24-hour time clock of IMT interactions)**

**Incident Management Team Timetable**  
(sample: adjust as needed)

<b>Time</b>	<b>Job</b>	<b>Input</b>	<b>Output</b>	<b>Time</b>
<b>0300</b>	<b>Situation Unit Safety Officer</b>	<b>Current Weather, forecast, or forecast, and safety message for day action plan</b>		<b>0300</b>
<b>0400</b>	<b>Logistics</b>	<b>Wake up day operational overhead and have kitchen ready to feed</b>		
<b>0400</b>	<b>Night Ops Chief &amp; Logistics</b>	<b>Contact plans of any night crew pick-up changes</b>		
<b>0430</b>	<b>Day Ops Chief &amp; Logistics</b>	<b>Briefing session for operational period</b>	<b>Wake up crews assigned to Day operational period</b>	<b>0500</b>
<b>0600</b>		<b>Crews on line</b>		
<b>0700</b>	<b>Night Ops, Situation UL</b>	<b>Debrief line overhead and appropriate managers</b>		<b>0800</b>
<b>0700</b>	<b>Resource Unit</b>	<b>Police plans area</b>		
<b>0700</b>	<b>Sit. Unit</b>	<b>Update maps</b>		<b>0900</b>
<b>0700</b>	<b>Sit. Unit</b>	<b>Calculation of Probabilities</b>		<b>0900</b>
<b>0700</b>	<b>Documentation</b>	<b>Complete</b>	<b>Narrative</b>	<b>1000</b>

	<b>Sit Unit Leader</b>	<b>Night operation situation summary</b>	<b>update</b>	
<b>0900</b>	<b>Night Ops Chief</b>	<b>Obtain input from Night Ops to prepare preliminary tactical plan for the night operation planning period.</b>	<b>Strategy for Night Ops. Preliminary night IAP and instructions. Develop transportation plan.</b>	
<b>1200</b>	<b>Planning Section Chief, Sit UL</b>	<b>Review day intelligence.</b>		<b>1300</b>
<b>1300</b>	<b>Ops Section Chief, Sit. UL,)</b>	<b>Sit. UL and Operations get together to review expected progress on day action plan assignments. Review night action plan and revise as necessary</b>		<b>1400</b>

<b>Time</b>	<b>Input</b>		<b>Job Output</b>	<b>Time</b>
1430	Sit. UL, Documentation UL, Safety Officer, LSC, Sit UL, PSC and IC	Sit UL leads report to plans any changes Ops Chief sees in preliminary night action plan. PSC reviews before duplicating plan. Advise LSC of any transportation changes. Doc. UL post list of crews and overhead & equipment for night operational period on camp bulletin board.	Night action Plan	1600
1430	Sit UL	Update location of perimeter & progress map		1500
1430	Sit UL	Calculate probabilities		1500
1500	Day Ops Chief	Contact plan of any day crew pick-up changes		
1600	Logistics	Wake up night shift overhead and have kitchen ready to feed		
1600	Documentation UL	Prepare status of Incident for Information Officer	General Situation	1630
1630	Night Ops Chief	Briefing session for operational period		1700

1800		Night Crews on station		1800
1800	Day Ops Chief, Sit UL	Debrief line overhead and appropriate supervisors		2000
1830	Sit UL	Update location of fire perimeter & progress map		2000
1830	Sit UL	Calculation of Probabilities		2000
1830	IC, Chiefs et al	Review Objectives for applicability and document for the record		2000
2000	Day Ops Chief	Obtain input from Ops Chief to prepare preliminary tactical plan for day shift	Strategy Meeting: Preliminary action plan and instructions. Develop transportation & air ops & commo plan.	2100 (2200)
2100	Finance, Resource UL	Prepare day operational period situation summary (costs) & ICS 209	Narrative update, Case report update	2200



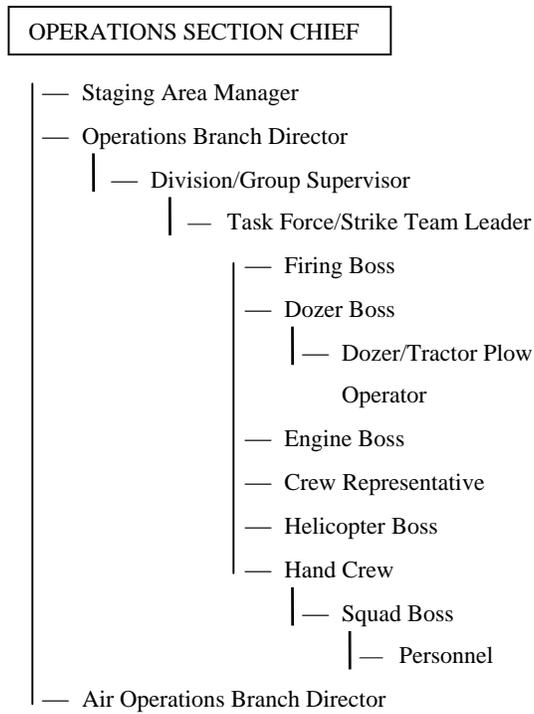
**FIELD OPERATIONS HANDBOOK**

**CHAPTER 8 – OPERATIONS**

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## ORGANIZATION CHART



## POSITION CHECKLISTS

### Operations Section Chief

The Operations Section Chief, a member of the General Staff, is responsible for the management of all operations directly applicable to the primary mission.

Critical Safety Responsibilities:

- Obtain briefing from the Incident Commander.
- Supervise operations.
- Determine needs and request additional resources.
- Develop Incident Safety Analysis (215-A) with Safety Officer.

Other Duties:

- Review Common Responsibilities
- Develop operations portion (ICS Form 215) of the Incident Action Plan with the Planning Section Chief.
- Brief and assign operations personnel in accordance with the Incident Action Plan.
- Review suggested list of resources to be released and initiate recommendations for resource release.
- Assemble and disassemble strike teams and task forces assigned to operations.
- Report information about special activities, events and occurrences.
- Maintain Unit Log (ICS Form 214).

## **Operations Branch Director**

The Operations Branch Director, when activated, is responsible for implementation of the portion of the Incident Action Plan applicable to the assigned Branch. **(FAD examples: Functional Branches for “Clean” and “Contaminated” Operations; Sample chart in Chapter 4)**

Critical Safety Responsibilities:

- Obtain briefing from the Operations Section Chief.
- Supervise Branch Operations.
- Develop alternatives for Branch operations.
- Resolve logistic problems reported by subordinates.

Other Duties:

- Review Common Responsibilities
- Attend planning meetings at the request of the Operations Chief.
- Review Division/Group Assignment Lists within the Branch.
- Assign specific work tasks to Division/Group Supervisors.
- Approve accident and medical reports.
- Maintain Unit Log (ICS Form 214).

**Division/Group Supervisor**

The Division/Group Supervisor is responsible for the implementation of the assigned portion of the Incident Action Plan.

**Critical Safety Responsibilities:**

- Obtain briefing from Supervisor.
- Coordinate activities with adjacent Divisions.
- Keep supervisor informed of situation and resources status.
- Resolve logistics problems within the Division/Group.
- Keep supervisor informed of hazardous situations and significant events.

**Other Duties:**

- Review Common Responsibilities.
- Review the assignments with subordinates.
- Inform Incident Communications and/or Resource Unit of all status changes of resources assigned to the Division/Group.
- Ensure that assigned personnel and equipment get on and off line in a timely and orderly manner.
- Maintain Unit Log (ICS Form 214).

- Approve and turn in time for all resources in division/group to the time unit.
- Evaluate performance of Task Force/Strike Team Leader.

### **Task Force/Strike Team Leader**

The Task Force/Strike Team Leader reports to a Division/Group supervisor and is responsible for performing tactical missions as assigned on a division or segment of a division. The Leader reports work progress, resource status, and other important information to his/her supervisor and maintains work records on assigned personnel.

#### Critical Safety Responsibilities:

- Obtain briefing from Supervisor.
- Monitor and inspect progress and make changes as necessary.
- Coordinate activities with adjacent strike team/task forces and single resources.

#### Other Duties:

- Review Common Responsibilities
- Review assignments with subordinates and assign tasks.
- Travel to and from work site with assigned resources.
- Keep supervisor advised of situation and resource status.

- Retain control of assigned resources while off shift (i.e., feeding, timekeeping, sleeping area assignment, etc.).
- Maintain Unit Log (ICS Form 214).
- Turn in time for resources to Division/Group Supervisor.
- Evaluate performance of subordinates.

### **Crew Representative**

A Crew Representative may be provided by sending agencies for each work crew sent to an incident. The Crew Representative is responsible for the welfare of the crew and provides a contact between the crew and the appropriate Incident Command Organization.

#### Critical Safety Responsibilities:

- Maintain communications between the crew and the appropriate supervisors regarding the crew's safety and welfare.

#### Other Duties:

- Review Common Responsibilities.
- Look after the crew's welfare at all times.
- Report crew status to plans.
- As needed, maintain contact with crew's home base.

- Report the crew's performance and problems to sending agency's headquarters upon completion of the assignment.
- Coordinate with the Interagency Resource Representative if one is assigned.

### **Single Resource Boss**

A Single Resource Boss is responsible for supervising and directing a module such as a hand crew, engine, helicopter, dozer, tractor, etc.

Critical Safety Responsibilities:

- Obtain briefing from the Task Force/Strike Team Leader.
- Review assignments with subordinates and assign work tasks.
- Review current and predicted weather conditions and brief subordinates.
- Ensure adequate communications with supervisor and subordinates.
- Set up a backup chain of command to function when boss is absent.
- Keep supervisor informed of progress and any changes.
- Inform supervisor of problems with assigned resources.
- Brief subordinates.

- Other Duties:
- Review Common Responsibilities
- Obtain necessary equipment and supplies.
- Provide for their welfare.
- Monitor work progress.
- Brief relief personnel at end of shift. Advise them of any in conditions that could affect personnel safety.
- Return equipment and supplies to appropriate unit.
- Complete and turn in all time and use records on personnel and equipment.
- Maintain Unit Log (ICS Form 214).
- Turns time into Task Force/Strike Team Leader.

## **Squad Boss**

A Squad Boss is a working leader of a small group (usually not more than seven members), and is responsible for keeping assigned personnel fully employed on assigned jobs, and is normally supervised by a Crew Boss.

### Critical Safety Responsibilities:

- Understand exactly what the supervisor wants done.
- Ensure that personnel have proper safety equipment and tools and know how to care for and use them.
- Look after the safety of assigned personnel.

### Other Duties:

- Review Common Responsibilities
- Ensure that personnel have water and lunches.
- Keep time when requested by supervisor.
- Report problems with personnel to supervisor.

## **Staging Area Manager**

A Staging Area Manager is responsible for managing all activities within a Staging Area.

Critical Safety Responsibilities:

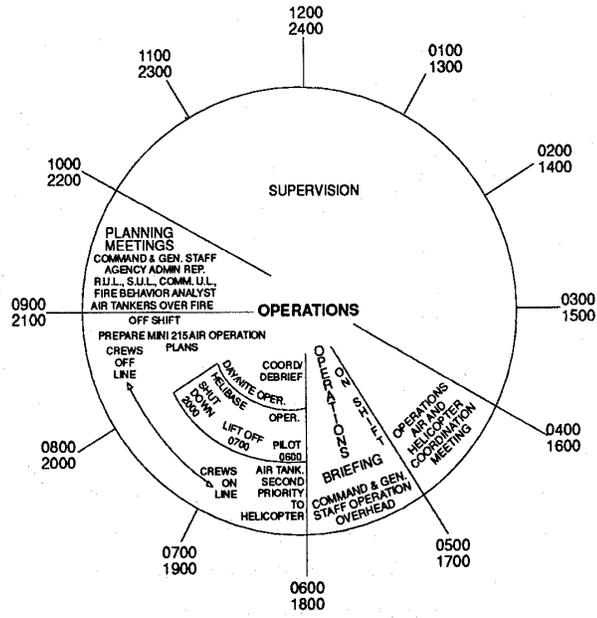
- Respond to requests for resource assignments.

Other Duties:

- Review Common Responsibilities
- Obtain briefing from Operations Section Chief or appropriate Operations Branch Director.
- Establish staging area layout.
- Determine and order support needed.
- Establish check-in function as needed.
- Post traffic plan for the Staging Area.
- Report resource status changes as required.
- Maintain staging area in orderly condition.
- Maintain a Unit Log (ICS Form 214).

# OPERATIONS PLANNING CYCLE

(SAMPLE)



**FIELD OPERATIONS HANDBOOK**

**CHAPTER 9 - AIR OPERATIONS**

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## ORGANIZATION CHART

AIR OPERATIONS BRANCH DIRECTOR
--------------------------------

- Air Support Group Supervisor
  - Helibase Manager
    - Helicopter Manager(s)/Helicopter Boss(s)
    - Helispot Manager(s)
    - Take-Off and Landing Coordinator
    - Aircraft Base Radio Operator
    - Aircraft Timekeeper
    - Deck Coordinator
      - Loadmaster
      - Parking Tender
  - Fixed-Wing Base Manager for Temp. Base
    - Mixmaster
- Air Tactical Group Supervisor
  - Fixed Wing Coordinator
  - Helicopter Coordinator

## POSITION CHECKLISTS

### Air Operations Branch Director

The Air Operations Director reports to the Operations Section Chief and is primarily responsible for preparing the air operations portion of the Incident Action Plan, for implementing its strategic aspects, and for providing logistical support to aircraft operating on the incident.

Critical Safety Responsibilities:

- Obtain briefing from Operations Section Chief.
- Request declaration (or cancellation) of temporary flight restriction.
- Coordinate airspace with other incidents and local or regional airspace coordinators.
- Apply risk management practices to all aviation operations.
- Ensure that agency aviation policies are established and followed.
- Establish procedures for emergency reassignment of aircraft on the incident.
- Inform the Air Tactical Supervisor of the air traffic situation external to the incident.

Other:

- Participate in preparation of the Incident Action Plan.
- Provide Incident Action Plan and Air Operations Summary Worksheet (ICS Form 220) to the Air Support Group and Fixed Wing Bases.
- Determine coordination procedures and coordinate with appropriate Operation Section personnel (e.g., Branch, Division, etc.).

*FAD Operations Guide*

- Coordinate with appropriate Operations Section personnel.
- Orders and releases incident aircraft as needed.
- Supervise all Air Operations activities associated with the incident.
- Schedule approved flights of non-incident aircraft in the restricted airspace area.
- Coordinate the use of incident aircraft for non-tactical assignments.
- Resolve conflicts concerning non-incident aircraft.
- Coordinate with Federal Aviation Administration.
- Update air operations plans.
- Report incidents or accidents and arrange for reinspection of the aircraft as necessary.
- Maintain Unit Log (ICS Form 214).

**Air Support Group Supervisor**

The Air Support Group Supervisor reports to the Air Operations Director and is responsible for supporting and managing helibase and helispot operations and for maintaining liaison with fixed-wing air bases.

Critical Safety Responsibilities:

- Obtain briefing from Air Operations Branch Director.
- Obtain assigned ground to air frequency for helibase operations from Communications Unit Leader or Communications Plan (ICS Form 205).
- Obtain appropriate crash-rescue service for helibases and helispots.

Other:

- Obtain copy of the Incident Action Plan.
- Participate in Air Operations planning activities.
- Request special air support items from appropriate sources through Logistics Section.
- Identify helibase and helispot locations.
- Coordinate requests for air logistical support.
- Maintain coordination with airbases supporting the incident.
- Inform Air Operations Branch Director of special aircraft and/or pilot restrictions.
- Ensure compliance with each agency's operations checklist for day and night operations.

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- Provide helicopter fueling, maintenance and repair services.
- Maintain Unit Log (ICS Form 214).

**Helibase Manager**

Critical Safety Responsibilities:

- Obtain briefing from Air Support Supervisor.
- Conduct briefings for helibase/helispot personnel and pilots.
- Ensure helibase is posted and cordoned.
- Ensure air traffic control operations are in effect.
- Manage appropriate crash-rescue services for the helibase and helispots.

Other:

- Obtain Incident Action Plan.
- Participate in Air Support Group planning activities.
- Report staffing and equipment needs to supervisor.
- Manage resources and supplies dispatched to helibase.
- Manage retardant mixing and loading.

- Display organization and work schedule at each helibase, including helispot organization and assigned radio frequencies.
- Supervise manifesting and loading of personnel and cargo.
- Ensure dust abatement techniques are provided and used.
- Consider security at each helibase and helispot as appropriate.
- Request special air support items from the Air Support Supervisor.
- Receive and respond to requests for air logistical support.
- Maintain agency records and reports of helicopter activities.

**Helicopter Manager (CWN) / Helicopter Boss**

Critical Safety Responsibilities:

- Obtain briefing from helibase manager.
- Ensure fundamental helicopter safety rules are used.
- Administer contracts and verify helicopter and pilot qualifications.
- Ensure adherence to communications procedures.

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- Ensure that load calculations are accurate and meet operational needs.
- Conduct and supervise loading and unloading of personnel and cargo.

Other:

- Supervise and provide leadership for all aspects of helicopter operations.
- Coordinates activities of helicopter module personnel (if assigned).
- Conduct appropriate briefings.

**Helispot Manager**

The Helispot Manager reports to the Helibase Manager and is primarily responsible for managing all activities at the assigned helispot.

Critical Safety Responsibilities:

- Obtain briefing from Helibase Manager.
- Ensure helispot air traffic control operations are in effect.
- Perform manifesting and loading of personnel and cargo.

Other:

- Inform Helibase Manager of helispot activities.
- Manage resources and supplies dispatched to helispot.

- Coordinate requests from Helibase Manager for air support.
- Ensure adequate dust abatement.
- Supervise or perform retardant loading at helispot.
- Maintain agency records and reports of helicopter activities.

### **Takeoff and Landing Coordinator**

The Takeoff and Landing Coordinator reports to the Helibase Manager and is responsible for providing coordination of arriving and departing helicopters and movement around the helibase.

Critical Safety Responsibilities:

- Obtain briefing from Helibase Manager.
- Check radio system before commencing operation.
- Coordinate with radio operator on helicopter flight routes and patterns.
- Maintain communications with all incoming and outgoing helicopters.

Other:

- Coordinate with Deck Coordinator and Parking Tender.

## **Aircraft Base Radio Operator**

The Aircraft Base Radio Operator reports to the Helibase or Fixed-Wing Base Manager and is responsible for establishing communication between incident assigned aircraft and airbases, Air Tactical Supervisor, Air Operations Director, and the Takeoff and Landing Controller.

### Critical Safety Responsibilities:

- Obtain briefing from Base Manager.
- Maintain a log of all aircraft takeoffs and landings, ETA's, ETD's, and flight route check-ins.
- Establish and enforce proper radio procedures.
- Immediately notify supervisor of any overdue or missing aircraft.
- Understand crash/rescue procedures.
- Receive clearance from Air Tactical Supervisor before launching aircraft.

### Other:

- Obtain Air Operation Summary Worksheet (ICS Form 220).
- Notify Takeoff/Landing Coordinator of incoming aircraft.
- Verify daily radio frequencies with Base Manager.

**Aircraft Timekeeper**

The Aircraft Timekeeper reports to the Helibase or Fixed-Wing Base Manager and is responsible for keeping time on all aircraft assigned.

- Obtain briefing from Base Manager.
- Record operation time of aircraft.
- Fill out necessary agency time reports.
- Obtain necessary timekeeping forms.

**Deck Coordinator**

The Deck Coordinator reports to the Helibase or Fixed-Wing Base Manager and is responsible for providing coordination at an aircraft landing area for personnel and cargo movement.

Critical Safety Responsibilities:

- Obtain briefing from supervisor.
- Establish emergency landing areas.
- Ensure deck personnel understand crash/rescue procedures.
- Establish and mark landing areas.
- Ensure sufficient personnel are available to safely load and unload personnel and cargo.
- Ensure deck area is properly posted.

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- Ensure proper manifesting and load calculations are done.

Other:

- Supervise deck management personnel.
- Apply dust abatement when necessary.
- Ensure Air Traffic Control operation is coordinated with the Takeoff and Landing Coordinator.
- Maintain agency records.

**Loadmaster (Personnel/Cargo)**

The Loadmaster reports to the Deck Coordinator and is responsible for the safe operation of loading and unloading of cargo and personnel.

Critical Safety Responsibilities:

- Obtain briefing from Deck Coordinator.
- Ensure proper posting of loading and unloading areas.
- Perform manifesting and loading of personnel and cargo.
- Ensure sling load equipment is safe.
- Know crash/rescue procedures.
- Supervise loading and unloading personnel.

- Coordinate with Takeoff and Landing Coordinator.
- Ensure that appropriate hazardous materials regulations are enforced.

### **Parking Tender**

The Parking Tender reports to the Deck Coordinator and is responsible for parking aircraft.

Critical Safety Responsibilities:

- Obtain briefing from the Deck Coordinator.
- Know and understand the crash/rescue procedures.
- Check personnel seat belts, cargo restraints and aircraft doors.

Other:

- Supervise activities at the landing area.
- Ensure landing area is properly maintained.

### **Fixed-Wing Base Manager (For Temporary Bases)**

The Fixed-Wing Base Manager reports to the Air Support Group Supervisor and is responsible for all ground service operations at assigned base.

Critical Safety Responsibilities:

- Obtain the following information on each aircraft assigned to operating base:
  - ✓ Type of aircraft.
  - ✓ Owner and pilot.
  - ✓ Estimated time of arrival.
  - ✓ Any limitations on use.
- Request necessary communications and operators through the Air Support Group Supervisor.
- Coordinate all flights with the Air Tactical Group Supervisor.
- Regulate movement of assigned aircraft, motor vehicles, and personnel on the airfield.
- Be thoroughly familiar with and enforce all safety requirements of the operation.

Other:

- Secure a priority list of air missions and schedule all flights.
- Secure and provide all necessary ground facilities, supplies, and services required at operating base.
- Maintain necessary records on aircraft, equipment, and personnel assigned to operating base.
- Serve as liaison with airport management.

- Receive overhead, crews, and supplies and verify arrangements for transportation to assigned destinations.

### **Air Tactical Group Supervisor**

The Air Tactical Group Supervisor reports to the Air Operations Branch Director and is responsible for the coordination of fixed and/or rotary-wing aircraft operations over an incident.

#### Critical Safety Responsibilities:

- Obtain briefing from Air Operations Branch Director.
- Determine what aircraft are operating within area of assignment.
- Ensure that a good flight following plan is in place for all aircraft.
- Determine that adequate and appropriate FM and VHF radio frequencies are used.
- Identify aviation safety issues and mitigate any hazards.
- Establish and maintain communications with Air Operations Branch Director, Air Tanker and Helicopter Coordinators, Incident Helibase, and Fixed-Wing Support bases.
- Receive and act on reports of non-incident aircraft violating temporary flight restriction (TFR).

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- Manage air attack activities based upon Incident Action Plan.
- Coordinate approved flights of non-incident aircraft or non-tactical flights in temporary flight restriction (TFR).
- Make tactical recommendations to appropriate operation section personnel.
- Inform Air Operations Branch Director of tactical recommendations affecting the air operations portion of the Incident Action Plan.

Other:

- Report on incidents or accidents.
- Maintain Unit Log (ICS Form 214).

**Fixed Wing Coordinator**

The Fixed Wing Coordinator reports to the Air Tactical Group Supervisor and is responsible for coordinating assigned fixed wing operations at the incident. The coordinator is always airborne.

## Critical Safety Responsibilities:

- Obtain briefing from the Air Tactical Group Supervisor.
- Determine all aircraft and helicopters operating within incident area of assignment.
- Survey incident area to determine situation, aircraft hazards and other potential problems.
- Coordinate the use of assigned ground-to-air and air-to-air communications frequencies.
- Ensure aircraft know appropriate operating frequencies.
- Determine incident aircraft capabilities and limitations for specific assignments.
- Coordinate with Air Tactical Group Supervisor and assign geographical areas for aircraft operations.
- Implement air safety procedures. Immediately corrects unsafe practices or conditions.

Other:

- Receive assignments, assign missions, schedule flights and supervise aircraft activities.
- Provide information to ground resources.
- Inform Air Tactical Group Supervisor of overall incident conditions including aircraft malfunction or maintenance difficulties.
- Inform Air Tactical Group Supervisor when mission is completed and reassign aircraft as directed.
- Report incidents or accidents.
- Maintain records of activities.

**Helicopter Coordinator**

The Helicopter Coordinator reports to the Air Tactical Group Supervisor and is responsible for coordinating tactical or logistical helicopter mission(s) at the incident.

Critical Safety Responsibilities:

- Obtain briefing from the Air Tactical Group Supervisor.
- Survey assigned incident area to determine situation, aircraft hazards, and other potential problems.
- Coordinate with Air Tactical Group Supervisor in establishing locations and takeoff and landing patterns for helibase(s) and helispot(s).

- Coordinate the use of assigned ground-to-air and air-to-air communications frequencies with the Air Tactical Group Supervisor.
- Ensure that all assigned helicopters know appropriate operating frequencies.
- Coordinate geographical areas for helicopter operations with Air Tactical Group Supervisor and make assignments.
- Implement air safety procedures. Immediately corrects unsafe practices or conditions.

Other:

- Ensure that approved night flying procedures are in operation.
- Coordinate activities with Air Tactical Group Supervisor, Air Tanker Coordinator, Air Support Group, and ground personnel.
- Inform Air Tactical Group Supervisor when mission is completed and reassign helicopter as directed.
- Report incidents or accidents.
- Maintain records of activities.

## **OPERATIONS**

Pre-plan aviation operations in advance to meet aircraft support needs. The following points should be considered when aircraft are used in fire operations:

### **Communications**

Aircraft should not be used until communications (both ground-to-air and air-to-air) with contact and control personnel have been established and understood.

### **Pilot Briefing Checklist**

- Overall plan for next day's strategy and tactics.
- Visibility/Smoke conditions
- Visibility limits at the fire and airports/fly with aircraft landing/taxi lights on.
- Conduct high-level recon before low-level flight.
- Established flight routes, helispot locations, marking, etc.
- Flight path obstructions/wires, towers, etc.
- Topographic problems
- Working altitude (MSL)
- Local wind turbulence

- High wind predictions
- Known downdraft areas
- Other aircraft operations over the incident
- Receive briefing on all Temporary Flight Restrictions (TFR) in the area when transitioning from one incident/fire to another or being released to another location.
- Work schedules
- Flight and duty limitations
- Communications frequencies
- Parking areas
- Taxi ways
- Fueling procedures

### **Airport Facilities and Procedures**

Facilities. Check out what facilities are available.

- FAA towers, flight service stations (FSS), emergency tower operational needs.
- Airport areas for assigned loading, unloading, and parking for aircraft, helicopters, cargo, and transport aircraft.
- Location for office space, phone communication facilities, ramp personnel for loading and unloading, eating and sleeping accommodations.

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- Other items such as crash trucks, major or minor repairs for aircraft, forklifts, APU's and passenger stairs available for use.

Procedures. Meet with airport manager and Federal Aviation Administration (FAA), tower, or flight service station personnel who can assist operations and provide valuable information.

- Check out landing, take-off, taxiing procedures, and radio frequencies used at airport.
- Know lengths, altitudes, surface of runways, normal take-off and landing patterns, if lights available after dark, gross take-off and landing weights for single, tandem and dual tandem wheeled aircraft.
- As needed develop memorandum of understanding or other agreement including any financial arrangements.

### **Air Traffic Operations**

Following are factors to be **considered** in air traffic operations:

En route to the Incident Area. Request a Temporary Flight Restriction (TFR) designation.

- Set up flight routes for all air traffic to and from the incident considering the following:
  - ✓ Best route with least hazards for types of aircraft and missions to be accomplished.
  - ✓ Flying around special use airspace.

- Aircraft arriving 5 to 10 minutes away from incident area should contact appropriate Air Traffic Operations over the incident.

Over the Incident. Operations Section Chief sets priorities of aircraft use on the area working in conjunction with Air Tactical Group Supervisor.

### **Air Tactical Group Supervisor Guidelines**

- Brief all pilots before arrival at the incident, if possible.
- Ensure that military training routes have been amended or adjusted for the incident area.
- Set mean sea level altitudes and orbit patterns for different type aircraft.
- Set checkpoint areas on reporting into Temporary Flight Restriction (TFR).
- Maintain primary and secondary radio frequencies for all aircraft that are enroute or remain in fire area.
- Cancel or abort missions when safety of aircraft or pilots is in jeopardy.
- All aircraft shall fly with their landing/taxi lights on.

## **Records**

It is important to keep the following records:

Use appropriate ICS Forms..

Use appropriate ICS Forms for Interagency Fixed-Wing Base Operations.

Maintain a flight log to provide for flight following:

- Flight manifests for personnel and cargo incoming or outgoing from airports, helibases, and helispots.
- Receipts for fuel, oil, and other equipment used.

A log for:

- Flight hour limitation.
- Flight times.
- Property accountability forms for property issued to pilots.

Time Recording: Time for aircraft and personnel will be recorded and completed daily. **Report All Accidents Per Agency Policy and Procedures.**

## **Flight/Duty Hour Limitations**

Check contract or furnishing agency for limitations. Most restrictive limitations will prevail.

**FIELD OPERATIONS HANDBOOK**

**CHAPTER 10 – PLANNING**

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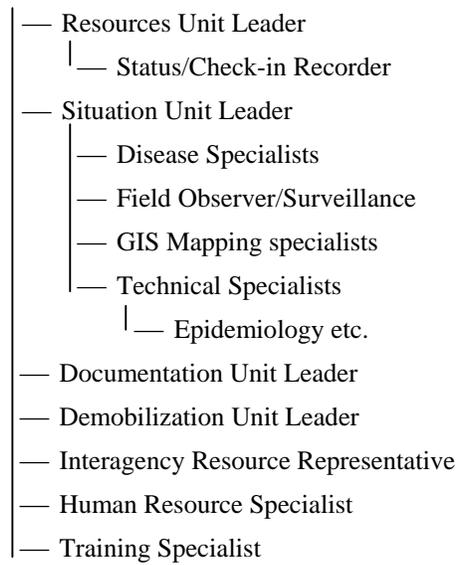
- Planning Section Chief .....
- Resources Unit Leader.....
- Status/Check-in Recorder .....
- Situation Unit Leader.....
- Field Observer .....
- Infrared Interpreter .....
- Display Processor .....
- Incident Meteorologist .....
- Documentation Unit Leader .....
- Demobilization Unit Leader .....
- Interagency Resource Representative.....
- Human Resource Specialist .....
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## ORGANIZATION CHART



PLANNING SECTION CHIEF

## POSITION CHECKLISTS

### Planning Section Chief

The Planning Section Chief, a member of the General Staff, is responsible for the collection, evaluation, dissemination, and use of information about the development of the incident, status of resources, and demobilization of the incident. Information is needed to understand the current situation, predict probable course of incident events, prepare alternative strategies and control operations for the incident, and provide for an orderly and economic demobilization of the incident.

- Review Common Responsibilities
- Obtain briefing from Incident Commander.
- Establish information requirements and reporting schedules for all ICS organizational elements for use in preparing the Incident Action Plan.
- Conduct planning meetings and operational briefings.
- Supervise preparation of Incident Action Plan (see Planning Process) and ensure sufficient copies are available for distribution through Unit Leader level.
- Assemble information on alternative strategies.
- Perform operational planning for Planning Section.
- Advise General Staff of any significant changes in incident status.
- Prepare and distribute Incident Commander's orders.
- Ensure that normal agency information collection and reporting requirements are met.
- Prepare recommendations for release of resources (for approval by the Incident Commander).

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- Ensure that information concerning special environmental protection needed is included in the Incident Action Plan.
- Ensure demobilization plan and schedule are developed and coordinated with Command, General Staff and Agency Dispatchers/EOC.
- Establish a communications link between the agency demobilization organization and the incident demobilization unit.
- Maintain Unit Log (ICS Form 214).
- Instruct planning section units in distribution of information.

**Resources Unit Leader**

The Resources Unit Leader is responsible for establishing all incident check-in activities; the preparation and processing of resource status information; the preparation and maintenance of displays, charts, and lists which reflect the current status and location of suppression resources, transportation, and support vehicles; and maintaining a master check-in list of resources assigned to the incident.

- Review Common Responsibilities
- Obtain briefing from Planning Section Chief.
- Establish check-in function at incident locations.
- Verify that all resources are checked in.

- Using the Incident Briefing (ICS Form 201), prepare and maintain the Command Post display (organization chart and resource allocation and deployment sections of display).
- Establish contacts with incident facilities and maintain resource status information.
- Participate in planning meetings as required by the Planning Section Chief.
- Gather, post, and maintain current incident resource status including transportation, support vehicles, and personnel.
- Maintain master list of all resources checked in at the incident.
- Prepare Organization Assignment List (ICS Form 203) and Incident Organization Chart (ICS Form 207).
- Assemble and disassemble task force or strike teams as requested by Operations.
- Prepare Division Assignment Lists (ICS Form 204) after Planning Meeting.
- Provide resource summary information to Situation Unit as requested.
- Continually identify resources surplus to the incident needs.
- Maintain Unit Log (ICS Form 214).

## **Status/Check-in Recorder**

Status/Check-in Recorders are used at each check-in location to ensure that all resources assigned to an incident are accounted for. (Where practical, employ Demobilization Unit Leader as a Status/Check-in Recorder to ensure complete information is obtained at check-in).

- Review Common Responsibilities
- Obtain briefing from Resources Unit Leader.
- Obtain work materials.
- Establish communications with the communication center.
- Post signs so arriving resources can easily find the check-in locations.
- Transmit check-in information to Resources Unit on regular, prearranged schedule.
- Forward completed Check-in Lists (ICS Form 211) to the Resources Unit.
- Prepare, post, and maintain Resource Status Cards (ICS Form 210).

**Situation Unit Leader**

The Situation Unit Leader is responsible for the collection and organization of incident status and information and the evaluation, analysis, and display of that information for use by ICS personnel and agency dispatchers.

- Review Common Responsibilities
- Obtain briefing from Planning Section Chief.
- Collect and analyze situation data.
- Obtain available soils information, mobilization plans, maps, and photographs.
- Prepare predictions at periodic intervals or upon request of the Planning Section Chief.
- Post data on unit work displays and Command Post displays at scheduled intervals.
- Participate in planning meetings as required by the Planning Section Chief.
- Prepare the Incident Status Summary (ICS Form 209).
- Provide information on transportation system to Ground Support Unit Leader for the Transportation Plan.
- Provide photographic services and maps.
- Maintain Situation Unit records.
- Maintain Unit Log (ICS Form 214).

- Maintain incident history on maps and narrative from initial response to final demobilization.

### **Field Observer**

The Field Observer is responsible for collecting incident status information from personal observations at the incident, and providing this information to the Situation Unit Leader.

- Review Common Responsibilities
- Obtain briefing from Situation Unit Leader.
- Determine: location of assignment, types of information required, priorities, time limits for completion, methods of communication, method of transportation.
- Obtain Incident Action Plan for the operational period.
- Obtain necessary equipment and supplies.
- Perform such duties as:
  - ✓ Map perimeter of IP, Adjacent Premise, Surveillance Area etc., water sources, etc.

- ✓ Observe, weather conditions, improvements, potential disposal site etc.
- Let appropriate Operations Section Chief know you are in the area.
- Attend end-of-shift debriefings of operations personnel, and at other times as appropriate, to obtain situation information.
- Identify possible facilities locations: access routes, road conditions and possible control line locations.
- Make weather observations as requested.
- Immediately report any condition that may cause danger or be a safety hazard to personnel.
- Assist in preparation of maps for use in Situation Unit, Command Post, and Incident Action Plan to ensure accuracy.

### **Display Processor**

The display processor is responsible for the display of incident status information obtained from field observers, aerial and ortho photographs etc.

- Review Common Responsibilities
- Obtain briefing from Situation Unit Leader.
- Determine:
  - ✓ Location of work assignments.

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- ✓ Numbers, types and locations of displays required.
  - ✓ Priorities.
  - ✓ Map requirements for incident action plans.
  - ✓ Time limits for completion.
  - ✓ Field observer assignments and communications means.
- Obtain necessary equipment and supplies.
  - Obtain copy of incident action plan for each operational period.
  - Assist situation unit leader in analyzing and evaluating field reports.
  - Develop required displays in accordance with time limits for completion.
  - Support special requirements for development of incident maps.
  - Demobilize incident displays in accordance with incident demobilization plan.

**Incident Meteorologist**

Furnishes detailed microclimatic weather information, both actual and predicted, for the incident to assure safe and effective operations.

- Review Common Responsibilities.
- Obtain briefing from Situation Unit Leader.
- Obtain current and predicted weather.
- Identify local weather patterns and trends.
- Provide weather forecasts and briefings, as required, to meet the operational needs of the incident.
- Work with Situation Unit Leader in interpreting forecasts and relating them to local incident concerns.
- Provide site-specific forecasts for special operations.
- Provide meteorological data and consultation necessary to support the incident operations.
- Identify need for portable weather stations.
- Collect all weather observations and forecasts for inclusion in the final package.

**Documentation Unit Leader**

The Documentation Unit Leader is responsible for maintaining accurate and complete incident files,

providing duplication services to incident personnel, and packing and storing incident files.

- Review Common Responsibilities
- Obtain briefing from Planning Section Chief.
- Establish and organize incident files.
- Establish duplication service and respond to requests.
- Retain and file duplicate copies of official forms and reports, including those generated by computers.
- Check on accuracy and completeness of records.
- Provide duplicates of forms and reports.
- Prepare incident documentation when requested.
- Maintain, retain and store incident files.
- Maintain Unit Log (ICS Form 214).

## **Demobilization Unit Leader**

The Demobilization Unit Leader is responsible for the preparation of the Demobilization Plan and schedule. The Demobilization Unit Leader assists the Command and General Staff in ensuring an orderly, safe, and efficient movement of personnel and equipment from the incident.

- Review Common Responsibilities
- Obtain briefing from Planning Section Chief.
- Review and continually monitor incident resource records (ICS Briefing Form 201, Check-In-List Form 211, Resource Status cards Form 219, and Incident Action Plans) to determine probable size of demobilization effort.
- Obtain Incident Commander's demobilization objectives and priorities.
- Meet with Agency Representatives to determine:
  - ✓ Personnel rest, hygiene, and safety needs.
  - ✓ Coordination procedures with agencies.
  - ✓ Local and national demobilization priorities.
- Be aware of ongoing Operations Section resource needs.
- Obtain identification and description of surplus resources and probable release times.

- Determine finance, supply, and other incident checkout stops.
- Establish and post checkout procedures.
- Determine incident logistics and transportation capabilities needed to support the demobilization effort.
- Establish communications with appropriate off-incident facilities.
- Get approval of Demobilization Plan (ICS, PSC, Agency, etc.).
- Distribute plan and any amendments.
- Monitor and supervise implementation of Demobilization Plan.
- Maintain Unit Log (ICS Form 214).

### **Interagency Resource Representative**

The Interagency Resource Representative may be assigned to an incident to serve, as the sending area's representative for crews, overhead, and equipment assigned to an incident. The Interagency Resource Representative is responsible to the home unit to coordinate, through the incident management team, the well being of all resources assigned from the home unit. This position will normally check-in with the Planning Section, but is not an incident resource.

- Review Common Responsibilities

- Secure and maintain a complete list of names, home agencies and units, Social Security numbers, etc. of all personnel assigned to the incident from the sending area. Verify and update list(s) as needed at the incident.
- Establish contact with the Incident Management Team to provide information and assistance to the team during resource check-in and initial assignment.
- Coordinates activities with appropriate Agency Representatives.
- Establish a work location. Advise the team and assigned resources about that location.
- Whenever feasible, maintain daily contact with a representative of each appropriate resource.
- Provide assistance to appropriate personnel on time keeping, commissary, travel, accidents, injuries, personnel problems or emergencies, and other administrative needs.
- Maintain daily contact with the sending area to exchange information about the status of resources.
- Assist in resolving disciplinary cases as requested by the team or the sending area.
- Provide input as to the use of assigned resources.
- Assist the team in providing for the well-being and safety of assigned resources.

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- Assist the team in determining the need for and preparation of special reports or documents.
- Assist the team in investigating accidents involving assigned personnel.
- Maintain contact with assigned personnel that have been hospitalized or otherwise separated from their unit.
- Assist the team in the completion of all required forms, reports, and documentation prior to the departure of assigned resources from the incident.
- Assist the team in the demobilization of assigned resources.
- Provide the sending unit with pertinent paperwork and evaluations relating to the resources for which responsible.

### **Human Resource Specialist**

The Human Resource Specialist is responsible for monitoring civil rights and related human resource activities to assure that appropriate practices are followed. Work is normally conducted in a base camp environment but may involve tours of the incident work areas, other camps, and rest and recuperation (R&R) facilities.

- Review Common Responsibilities
- Establish contact with the Planning Section Chief to determine placement within the organization.

- Obtain briefing from the assigned supervisor.
- Arrange for necessary workspace, materials, and staffing.
- Provide a point of contact for incident personnel to discuss civil rights and human resource concerns.
- Participate in daily briefings and planning meetings to provide appropriate civil rights and human resource information.
- Prepare civil rights messages for inclusion in Incident Action plan(s).
- Post civil rights or other human resource information on bulletin boards and other appropriate message centers.
- Monitor whether a positive working environment, supportive of cultural diversity, is maintained and enhanced for all personnel.
- Conduct awareness sessions as needed. Use civil rights or human resource videotapes when appropriate.
- Establish and maintain effective work relationships with agency representatives, liaisons, and other personnel in the Incident Command.
- Refer concerns about pay, food, sleeping areas, transportation, and shift changes to the appropriate incident staff, taking into account civil rights and human resource factors.

- Receive and verify reports of inappropriate behavior that occur on the incident.
- Take steps to correct inappropriate acts or conditions through appropriate lines of authority.
- Give high priority to informally resolving issues before the individuals leave the incident.
- Provide referral information if a complaint cannot be resolved during the incident.
- Conduct follow-up, as needed, depending upon the seriousness of the infraction.
- Prepare and submit reports and related documents.
- Participate in the final team debriefing.
- Maintain Unit Log (ICS Form 214).

## **Training Specialist**

A Training Specialist may help achieve and oversee training opportunities on an incident. Training activities, to be effective, must be coordinated at all levels.

- Review Common Responsibilities
- Obtain briefing from Planning Section Chief.
- Identify training opportunities on the incident.
- Review trainee assignments and modify, if appropriate.
- Inform Resources Unit of trainee assignments.
- Brief trainees and trainers on training assignments and objectives.
- Make follow-up contacts on the job to provide assistance and advice for trainees to meet training objectives.
- Ensure trainees receive performance evaluation and completion of task book as assigned.
- Prepare formal report for trainees' home unit.
- Maintain Unit Log (ICS 214).

## **PLANNING PROCESS**

The checklist below provides basic steps appropriate for use in almost any incident situation. Not all incidents require written plans. The need for written plans and attachments is based on incident requirements and the decision of the Incident Commander.

The Planning Checklist is to be used with the Operational Planning Worksheet (ICS Form 215). For more detailed instructions, see Planning Section Chief Position Manual (ICS 221-1). The Operations Section Chief should have a draft Operational Planning Worksheet (ICS Form 215) completed prior to the Planning meeting. In addition, an Incident Safety Analysis (LCES) (ICS Form 215A) must be completed for each planning meeting. The form should be completed as a draft prior to the meeting and discussed as part of the planning process.

Incident objectives and strategy should be established before the planning meeting. For this purpose, it may be necessary to hold a strategy meeting prior to the planning meeting.

The planning process works best when the incident perimeter and proposed control lines are divided into logical geographical units. The tactics and resources are then determined for each of the planning units. Finally, the planning units are combined into segments or divisions, utilizing span-of-control guidelines.

## PLANNING PROCESS CHECKLIST

<u>Planning step</u>	<u>Primary Responsibility</u>
1. Briefing on situation and resource status.	Planning Section Chief
2. Set/review incident objectives.	Incident Commander
3. Plot control lines, establish branch and division boundaries, and identify group assignments.	Operations Section Chief
4. Specify tactics for each division/group.	Operations Section Chief
5. Specify safety mitigation measures for identified hazards in divisions/groups.	Safety Officer
6. Specify resources needed by division and group.	Operations Section Chief Planning Section Chief
7. Specify Operations facilities and reporting locations. Plot on map.	Operations Section Chief Planning Section Chief Logistics Section Chief
8. Develop resource and personnel order.	Logistics Section Chief
9. Consider Communications, Medical and Traffic Plan requirements.	Logistics Section Chief Planning Section Chief
10. Finalize, approve, and implement Incident Action Plan.	Planning Section Chief Incident Commander Operations Section Chief

## **DEMOBILIZATION**

The Incident Commander is responsible to the host agency for demobilization. Demobilization is an important part of total incident management and requires the attention of the Incident Commander and the Command and General Staff.

The Planning Section Chief must establish an adequate demobilization organization, in a timely fashion, to provide for an orderly and economic demobilization of the incident. Utilizing the Demobilization Unit Leader as a Status/Check-in Recorder early in the incident, where possible, facilitates the collection of resource information necessary to develop a demobilization plan. The complexity of the incident, kinds and types of resources, and the level of resources involved (local, regional or national) dictate the size and expertise needed by the demobilization organization. Resources must be released, returned to their home units, rested, and rehabilitated as soon as possible so they will be ready for their next assignment.

The Demobilization Unit Leader must obtain input from a number of others to develop a complete plan. The IC and General Staff need to provide input and totally support the plan. The Agency Dispatcher must provide input from all coordination levels. If Area Command has been established, they should provide their input directly to the incident.

**Refer to IMT PLANNING CYCLE GUIDE  
(Also listed in Chapter 7)**

### **Incident Management Team Timetable**

(sample: adjust as needed)

<b>Time</b>	<b>Job</b>	<b>Input</b>	<b>Output</b>	<b>Time</b>
<b>0300</b>	<b>Situation Unit Safety Officer</b>	<b>Current Weather, forecast, or forecast, and safety message for day action plan</b>		<b>0300</b>
<b>0400</b>	<b>Logistics</b>	<b>Wake up day operational overhead and have kitchen ready to feed</b>		
<b>0400</b>	<b>Night Ops Chief &amp; Logistics</b>	<b>Contact plans of any night crew pick-up changes</b>		
<b>0430</b>	<b>Day Ops Chief &amp; Logistics</b>	<b>Briefing session for operational period</b>	<b>Wake up crews assigned to Day operational period</b>	<b>0500</b>
<b>0600</b>		<b>Crews on line</b>		
<b>0700</b>	<b>Night Ops, Situation UL</b>	<b>Debrief line overhead and appropriate managers</b>		<b>0800</b>
<b>0700</b>	<b>Resource Unit</b>	<b>Police plans</b>		

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		area		
0700	Sit. Unit	Update maps		0900
0700	Sit. Unit	Calculation of Probabilities		0900
0700	Documentation Sit Unit Leader	Complete night operation situation summary	Narrative update	1000
0900	Night Ops Chief	Obtain input from Night Ops to prepare preliminary tactical plan for the night operation planning period.	Strategy for Night Ops. Preliminary night IAP and instructions. Develop transportation plan.	
1200	Planning Section Chief, Sit UL	Review day intelligence.		1300
1300	Ops Section Chief, Sit. UL,)	Sit. UL and Operations get together to review expected progress on day action plan assignments. Review night action		1400

		<b>plan and revise as necessary</b>		
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<b>Time</b>	<b>Input</b>	<b>Job</b>	<b>Output</b>	<b>Time</b>
1430	Sit. UL, Documentation UL, Safety Officer, LSC, Sit UL, PSC and IC	Sit UL leads report to plans any changes Ops Chief sees in preliminary night action plan. PSC reviews before duplicating plan. Advise LSC of any transportation changes. Doc. UL post list of crews and overhead & equipment for night operational period bulletin board.	Night action Plan	1600
1430	Sit UL	Update location of perimeter & progress map		1500
1430	Sit UL	Calculate probabilities		1500
1500	Day Ops Chief	Contact plan of any day crew pick-up changes		
1600	Logistics	Wake up night shift overhead and have kitchen ready to feed		
1600	Documentation UL	Prepare status of Incident for Information Officer	General Situation	1630
1630	Night Ops Chief	Briefing session for operational period		1700
1800		Night Crews on station		1800
1800	Day Ops Chief, Sit UL	Debrief line overhead and appropriate supervisors		2000
1830	Sit UL	Update location		2000

		<b>of fire perimeter &amp; progress map</b>		
<b>1830</b>	<b>Sit UL</b>	<b>Calculation of Probabilities</b>		<b>2000</b>
<b>1830</b>	<b>IC, Chiefs et. al</b>	<b>Review Objectives for applicability and document for the record</b>		<b>2000</b>
<b>2000</b>	<b>Day Ops Chief</b>	<b>Obtain input from Ops Chief to prepare preliminary tactical plan for day shift</b>	<b>Strategy Meeting: Preliminary action plan and instructions. Develop transportation &amp; air ops &amp; common plan.</b>	<b>2100 (2200)</b>
<b>2100</b>	<b>Finance, Resource UL</b>	<b>Prepare day operational period situation summary (costs) &amp; ICS 209</b>	<b>Narrative update, Case report update</b>	<b>2200</b>

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<b>Time</b>	<b>Input</b>	<b>Job</b>	<b>Output</b>
<b>2400</b>	<b>Resource UL</b>	<b>Police Plans area</b>	
<b>2400</b>	<b>Sit UL</b>	<b>Review Intel. Incorporate into day action plan and overhead briefing.</b>	<b>0300</b>
<b>0100</b>	<b>Ops Chief (night) Sit UL, Doc UL</b>	<b>Review night intelligence. Report expected progress on night action plan assignments. Review day action plan and revise as needed</b>	<b>0200</b>
<b>0300</b>	<b>Doc UL, Sit UL, Safety Officer, LSC, PSC, IC</b>	<b>Sit UL reports to plans any changes Ops chief sees in preliminary day action plan. Advise LSC of any changes in transportation. Copy final plan. Doc UL will post list of crews, overhead, and equipment for day operational period on camp bulletin board</b>	<b>Day Action Plan</b> <b>0330</b>

**FIELD OPERATIONS HANDBOOK**

**CHAPTER 11 - LOGISTICS**

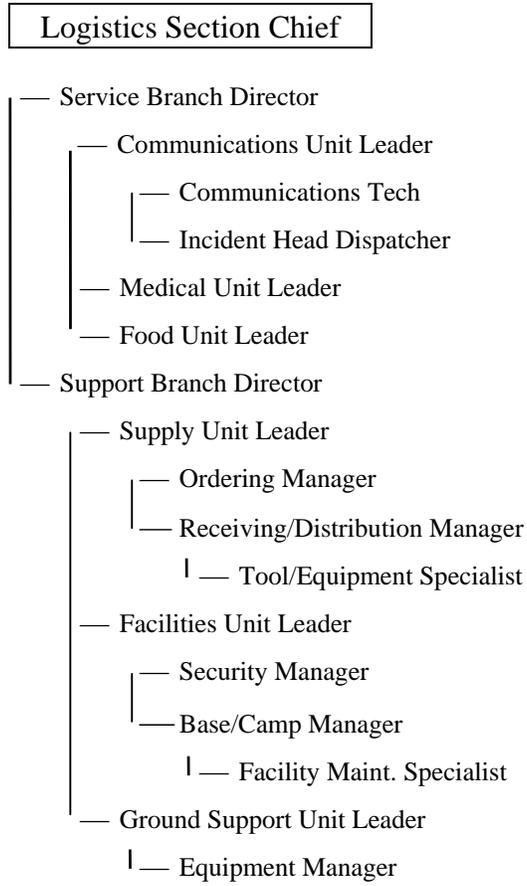
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**ORGANIZATION CHART**



## **POSITION CHECKLISTS**

### **Logistics Section Chief**

The Logistics Section Chief, a member of the General Staff, is responsible for providing facilities, services, and material in support of the incident. The Logistics Section Chief participates in development and implementation of the Incident Action Plan and activates and supervises the Branches and Units within the Logistics Section.

#### Critical Safety Responsibilities:

- Obtain briefing from agency administrator/ outgoing incident commander and gather intelligence.
- Collect information from outgoing Logistics personnel responsible for incident prior to your arrival.
- Obtain briefing from Incident Commander.
- Provide for the safety and welfare of assigned personnel.
- Gather information necessary to assess incident assignment and determine immediate needs and actions.
- Identify service and support requirements for planned and expected operations.
- Supervise Logistics Section personnel.
- Participate in preparation of Incident Action Plan.

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- Conduct logistics section meeting and/or briefing.
- Ensure Communication Plan, Medical Plan, and Transportation Plan are updated and provided to Planning Section.

Other Duties:

- Obtain and assemble information and materials needed for logistics kit.
- Establish and maintain positive interpersonal and interagency working relationships.
- Review Common Responsibilities.
- Advise on current service and support capabilities.
- Plan organization of Logistics Section.
- Assign work locations and preliminary work tasks to Section Leaders.
- Participate in the operational period briefing.
- Interact and coordinate with all command and general staff to ensure role as a Team player.
- Update incident commander on accomplishments and/or problems.
- Maintain Unit Log (ICS Form 214).

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- Ensure all personnel and equipment time is completed at the end of each operational period.
- Consider demobilization prior to the actual need to release excess section resources.
- Ensure that performance ratings are completed.
- Assist in the development, approval and Implementation of Demobilization Plan.

**Service Branch Director**

The Service Branch Director is responsible for the management of all service activities at the incident. The Service Branch Director supervises the operations of the communications, Medical, and Food Unit Leaders.

Critical Safety Responsibilities:

- Obtain briefing from Logistic Section Chief.
- Provide for the safety and welfare of assigned personnel.
- Gather information necessary to assess incident assignment and determine immediate needs and actions.
- Supervise Service Branch Leaders.
- Ensure Communications Plan and Medical Plan are updated and provided to Plans.

Other Duties:

- Review Common Responsibilities
- Establish and maintain positive interpersonal and interagency working relationships.
- Advise on current service capabilities.
- Identify service requirements for planned and expected operations.
- Plan organization of Service Branch.
- Coordinate activities of Branch Units.
- Assign work locations and preliminary work tasks to Service Branch Leaders.
- Inform Logistics Chief of Branch activities.
- Resolve Service Branch problems.
- Participate in Logistics Section planning.
- Update Logistics Section Chief on accomplishments and/or problems.
- Maintain Unit Log (ICS Form 214).
- Ensure all personnel and equipment time is completed at the end of each operational period.
- Consider demobilization prior to the actual need to release excess branch resources.
- Ensure that performance ratings are completed.

- Assist in the development and Implementation of Demobilization Plan.

### **Communications Unit Leader**

The Communications Unit Leader, under the direction of the Service Branch Director or Logistics Section Chief, is responsible for developing plans for the effective use of incident communications equipment, and facilities; installing and testing of communications equipment; supervision of the Incident Communications Center; distribution of communications equipment to incident personnel; and the maintenance and repair of communications equipment.

#### Critical Safety Responsibilities:

- Prepare and implement the Incident Communications Plan (ICS Form 205).
- Establish adequate communications over the incident.
- Advise on communications capabilities and limitations.
- Provide technical information, as required, on limitations and adequacy of communications systems in use, equipment capabilities, equipment available, and potential problems.

Other Duties:

- Review Common Responsibilities
- Establish the Communications and Message Centers.
- Set up telephone and public address systems.
- Establish appropriate communications distribution and maintenance centers within base/camp(s).
- Establish an equipment accountability system.
- Maintain records on communications equipment.
- Recover equipment from relieved or released units.
- Maintain Unit Log (ICS Form 214).

**Incident Communications Center Manager (INCM)**

The Incident Communications Manager is responsible to receive and transmit radio and telephone messages among and between personnel and to provide dispatch services at the incident.

Critical Safety Responsibilities:

- Establish communications procedures.
- Determine frequencies in use.
- Determine nets established or to be established.
- Determine location of repeaters.

Other Duties:

- Review Common Responsibilities
- Establish message center procedures.
- Obtain and review Incident Action Plan.
- Set up Communications Center.
- Check out equipment.
- Receive and transmit messages internally and externally.
- Maintain files of Status Change Slips (ICS Form 210) and General Messages (ICS Form 213).
- Maintain a record of unusual incident occurrences.
- Maintain Unit Log (ICS Form 214).

## **Medical Unit Leader**

The Medical Unit Leader is primarily responsible for the development of the Medical Emergency Plan, obtaining medical aid and transportation for injured or ill incident personnel, and preparation of reports and records. The Medical Unit may also assist Operations in supplying medical care and assistance to civilian casualties at the incident.

### Critical Safety Responsibilities:

- Determine level of emergency medical activities performed prior to activation of Medical Unit.
- Prepare the Medical Emergency Plan (ICS Form 206).
- Prepare procedures for major medical emergency.
- Declare major medical emergency as appropriate.
- Provide medical aid, supplies, and transportation.
- Audit use of "over-the-counter" drugs being dispensed by the Medical Unit to discourage improper use or abuse.

### Other Duties:

- Review Common Responsibilities
- Participate in Logistics Section/Service Branch planning.
- Prepare medical reports.

- Contact Compensation-for-Injury Specialist to establish coordination procedures.
- Provide space for Compensation-for-Injury Specialist as needed.
- Maintain Unit Log (ICS Form 214).

### **Food Unit Leader**

The Food Unit Leader is responsible for determining feeding requirements at all incident facilities; menu planning; determining cooking facilities required; food preparation; serving; providing potable water, and general maintenance of the food service areas.

#### Critical Safety Responsibilities:

- Review Common Responsibilities
- Determine method of feeding to best fit each incident.
- Obtain necessary equipment and supplies to operate food service facilities at Base and Camps.
- Prepare menus to ensure well-balanced meals.
- Provide sufficient potable water to meet food service needs.
- Ensure appropriate health and safety measures are taken.
- Keep inventory of food on hand, check in food orders.

- Maintain Unit Log (ICS Form 214).

### **Support Branch Director**

The Support Branch Director is responsible for development and implementation of logistics plans in support of the Incident Action Plan. The Support Branch Director supervises the operations of the Supply, Facilities, and Ground Support Units.

#### Critical Safety Responsibilities:

- Review Common Responsibilities
- Determine level of service needed to support operations.
- Participate in Logistics Section planning.
- Organize and prepare assignments for Support Branch personnel.
- Coordinate activities of Branch Units.
- Inform Logistics Section Chief of Branch activities.
- Resolve Support Branch problems.
- Maintain Unit Log (ICS Form 214).

## **Supply Unit Leader**

The Supply Unit Leader is responsible for ordering personnel, equipment, and supplies; receiving and storing all supplies for the incident; maintaining an inventory of supplies; and servicing non-expendable supplies and equipment.

### Critical Safety Responsibilities:

- Develop and implement safety and security requirements.

### Other Duties:

- Review Common Responsibilities
- Participate in Logistics Section/Support Branch planning.
- Determine the type and amount of supplies needed to support incident.
- Arrange for receiving ordered supplies.
- Order, receive, store, and distribute supplies and equipment.
- Order personnel, supplies and equipment as requested.
- Maintain inventory and accountability of supplies and equipment.
- Service reusable equipment.
- Maintain Unit Log (ICS Form 214).
- Responsible for proper disposal of expendable supplies and hazardous wastes.

## **Ordering Manager**

The Ordering Manager is responsible for placing all orders for supplies and equipment for the incident.

- Review Common Responsibilities
- Obtain necessary agency(s) order forms.
- Establish ordering procedures.
- Obtain name and telephone numbers of agency(s) personnel receiving orders.
- Identify incident personnel who have ordering authority.
- Check on what has already been ordered.
- Ensure order forms are filled out correctly.
- Place orders in a timely manner.
- Consolidate orders when possible.
- Identify times and locations for delivery of supplies and equipment.
- Keep Receiving and Distribution Manager informed of orders placed.
- Resolve ordering problems as they occur.

## **Receiving and Distribution Manager**

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The Receiving and Distribution Manager is responsible for receiving and distributing all supplies and equipment (other than primary resources) and the service and repair of tools and equipment.

Critical Safety Responsibilities:

- Develop security needs for supply area.

Other Duties:

- Review Common Responsibilities
- Organize physical layout of supply area.
- Establish procedures for operating supply area.
- Set up appropriate record system.
- Maintain inventory of supplies and equipment.
- Ensure reusable tools and equipment are returned to the supply area.
- Submit necessary reports to Supply Unit Leader.
- Notify Ordering Manager and Finance Section of supplies and equipment received.

## **Tool and Equipment Specialist**

The Tool and Equipment Specialist is responsible for sharpening, servicing, and repair of all hand tools.

### Critical Safety Responsibilities:

- Ensure safety practices are followed in tool conditioning area.

### Other Duties:

- Review Common Responsibilities
- Determine number and kinds of tools ordered or on hand.
- Obtain necessary equipment and supplies.
- Set up tool storage and conditioning area.
- Establish tool inventory and accountability system.
- Maintain all tools in proper condition.
- Assemble tools in accordance with the Incident Action Plan.
- Expeditiously receive and recondition tools.

## **Facilities Unit Leader**

The Facilities Unit Leader is responsible for the layout and operation of incident facilities (Base, Camp(s), and Incident Command Post). The Unit manages base and camp(s) operations. Each base/camp may be assigned a manager.

### Critical Safety Responsibilities:

- Provide security services.
- Provide facility maintenance services: sanitation, lighting, clean up, and potable water.

### Other Duties:

- Review Common Responsibilities
- Participate in Logistics Section/Support Branch planning.
- Determine requirements for each established facility.
- Prepare layouts of incident facilities.
- Provide Base and Camp Managers.
- Provide sleeping facilities.
- Maintain Unit Log (ICS Form 214).

## **Security Manager**

The Security Manager is responsible for providing safeguards needed to protect personnel and facilities from loss or damage.

### Critical Safety Responsibilities:

- Establish contacts with local law enforcement agencies. Contact the Liaison Officer or Agency Representatives to discuss any special custodial requirements, which may affect operations.
- Ensure personnel are qualified to manage security problems.
- Develop Security Plan for incident facilities.
- Coordinate security activities with appropriate personnel.
- Provide assistance in personnel problems or emergency situations through coordination with Agency Representatives.
- Provide security for all agency and personal property.

### Other Duties:

- Review Common Responsibilities
- Document all complaints and suspicious occurrences.

## **Base/Camp Manager**

The Base/Camp Manager is responsible for appropriate sanitation, and facility management services in the assigned Base/Camp. The Base/Camp Manager's duties include:

### Critical Safety Responsibilities:

- Ensure compliance with all applicable safety regulations.
- Determine or establish special requirements or restrictions on facilities or operations.
- Ensure that all facilities and equipment are set up and functioning properly.
- Supervise the set-up of sleeping, shower, and sanitation facilities.

### Other Duties:

- Review Common Responsibilities
- Obtain necessary equipment and supplies.
- Provide all necessary facility maintenance services.

### **Facility Maintenance Specialist**

The Facility Maintenance Specialist is responsible to ensure that proper sleeping and sanitation facilities are maintained; to provide shower facilities; to provide and maintain lights and other electrical equipment; and to maintain the Base, Camp and Incident Command Post facilities in a clean and orderly manner.

Critical Safety Responsibilities:

- Ensure that all facilities are maintained in a safe condition.

Other Duties:

- Review Common Responsibilities
- Obtain supplies, tools, and equipment.
- Supervise and perform assigned work.
- Disassemble temporary facilities when no longer required.
- Restore area to pre-incident condition.

### **Ground Support Unit Leader**

The Ground Support Unit Leader is responsible for (1) transportation of personnel, supplies, food and equipment; (2) fueling, service, maintenance, and repair of vehicles and other ground support equipment; (3) support of out-of-service resources; and (4) developing and implementing Incident Transportation Plan.

Critical Safety Responsibilities:

- Prepare a transportation plan for approval by the Logistics Section Chief (obtain traffic data from the Planning Section).
- Mark and correct road system safety hazards and maintain incident roads.
- Assure driver familiarity with conditions. Coordinate with Safety Officer and Agency Representatives.
- Conduct incident road system survey to determine traffic management and maintenance requirements.
- Determine acceptable vehicle type and size class based on road standards and conditions.
- Notify Resources Unit of all status changes on support and transportation vehicles.
- Arrange for, activate and document fueling, maintenance, and repair of ground resources.

Other Duties:

- Review Common Responsibilities
- Participate in Support Branch/Logistics Section planning activities.
- Maintain inventory of support and transportation vehicles (ICS Form 218).
- Collect use information (shift tickets) on all equipment, if equipment time recorder position not activated.

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- Order maintenance and repair supplies (e.g., fuel, spare parts).
- Submit reports to Support Branch Director as directed.
- Sign drop points, water sources, road junctions, etc.
- Maintain Unit Log (ICS Form 214).

### **Equipment Manager**

The Equipment Manager provides service, repair, and fuel for all apparatus and equipment; provides transportation and support vehicle services; and maintains records of equipment use and service provided.

#### Critical Safety Responsibilities:

- Ensure all appropriate safety measures are followed.
- Inspect equipment condition and ensure coverage by equipment agreement.
- Obtain Incident Action Plan to determine locations for assigned resources, Staging Area locations, fueling, and service requirements.
- Coordinate with Agency Representatives on service and repair as required.
- Determine supplies (e.g., gasoline, diesel, oil and parts) needed to maintain equipment in efficient operating condition).

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- Provide maintenance and fueling according to schedule.

Other Duties:

- Review Common Responsibilities
- Prepare schedules to maximize use of equipment.
- Provide transportation and support vehicles.
- Maintain Support Vehicle Inventory (ICS Form 218).
- Maintain equipment rental records.
- Maintain equipment service and use records.
- Ensure all equipment time reports are accurate and turned in daily to the Equipment Time Recorder.

**LOGISTICS GUIDELINES**

**General**

- Keep incident facilities at a manageable size. Make maximum use of camps to avoid long walking or travel distances.
- Enforce rules of conduct at incident facilities.
- Provide bulletin boards throughout camp(s).
- Provide bathing and sanitation facilities.

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- Release deficient and excess equipment and operators without delay.
- Maintain property accountability at all times.
- Prepare tools, water, and lunches in advance of operational period.
- Locate sleeping areas out of danger from vehicles, aircraft, and other equipment.
  - ✓ Keep them free of insects, animals, pests, and safety hazards.
  - ✓ Rope them off and sign.
  - ✓ Keep sleeping areas for inmate crews separate from other crews.
- Participate in the development of demobilization plan.
- Control dust.
- Give high priority to environmental protection when locating incident facilities.
- Coordinate locations with the Agency Administrator.
- Keep First Aid facilities easily accessible and clearly marked.
- Develop and post an evacuation plan.
- Inspect facilities for safety and fire hazards on a regular basis and take corrective action where needed.

- Consider need for computer support for resource ordering, and inventory; manage if provided for best efficiency/effectiveness.

### **Food Service**

Compliance with Health and Sanitation requirements (OSHA, State, and local) is required in all situations.

- Proper supervision is important to meet food service sanitation requirements.
- All food service employees shall be neat and clean. They will wear clean caps and aprons at all times, and plastic gloves when serving meals (unnecessary when using tongs or long handled utensils).
- All employees cooking or handling food shall be free of communicable diseases.
- Disposable eating utensils should be used if possible.
- Food containers, cooking and eating utensils should be regularly washed in detergent soap solution and rinsed by immersion for at least two minutes in clean, hot water (at least 170 degrees F).
- Never use galvanized containers for storage of moist or acidic foods.
- Lunches should be prepared, dated, and used daily. Never issue lunches held over from the day before unless properly refrigerated.

- Perishable foods, especially meat, poultry, fish, dressings, and salads containing meat or egg products should be carefully handled. Any foods allowed to stand at ordinary temperatures, even though precooked, are susceptible to formation of bacterial toxin, which can cause food poisoning. Re-heating will not destroy this toxin. **THESE FOODS SHOULD BE STORED UNDER REFRIGERATION (40 degrees F or lower) UNTIL SERVED.**
- Keep hot foods, particularly meat or meat products hot (150 degrees F) until served. (Keep hot foods hot and cold foods cold.)
- Never hold food in hot food containers from one feeding period to the next. Remove extra food immediately after each meal is served. Do not allow personnel to eat leftover or warmed over food.
- Do not store first aid materials or allow first aid treatment in the kitchen or serving area.
- Furnish Food Unit in advance with a daily schedule of mealtime and numbers of personnel to be fed each meal.
- Vary menu daily. Provide plenty of fresh fruit, juices, and milk with all meals.
- First meal should be one that can be prepared quickly.

### **Water Supply**

Select a known, safe water supply or haul it. Usually it is best to haul in water from a domestic water supply. Otherwise, ensure that it is:

- Adequate, tested, and safe.
- Protected from contamination.

### **Sanitation Guide**

- Provide for trash and garbage collection points and plan for at least daily removal to prevent accumulations. Do not locate upwind of eating and sleeping areas.
- Local environmental regulations must be met.
- Suggested standards are one standard size (32 gallon) garbage can for every 20 persons in an eating area and one can for every 40 persons in other areas.
- Provide adequate toilet facilities and establish a regular inspection and maintenance schedule to keep them clean.
- Locate toilets properly and treat to eliminate flies and insects.
- Suggested standards are one toilet per 15-20 persons with daily or more frequently scheduled maintenance.

## **Transportation**

- Use direction signs on roads to facilities and drop points.
- Sign drop points.
- Carefully plan for transportation of both personnel and tools to and from the work area.
- Provide adequate rest for drivers.
- Isolate and sign fuel storage areas.
- Develop a vehicle control plan and strictly enforce it.

## **Communications**

Preparation of a communications plan is the first step towards providing a workable communications system.

Set up Incident Communications in the following priority to meet safety and tactical resource management needs:

- Communications on worksite (IP) - tactical and command nets.
- Communications between worksite (IP) and incident base.
- Air operations - ground to air, air to air.
- Communications between incident communications center and the nearest available service center.

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- In base/camp communications - Logistics net.
- Specialty systems, i.e., RTI (radio telephone interconnect) voice, Satellite (voice and data), landline telephone (voice and/or data), ADP capability, data transmission by radio.

Communications Plan. A Communications Plan should be prepared for each operational period and should include:

- Radio communications (ICS Form 205)
- Telephone facilities
- Number of lines
- Location of telephone

Key Points to Remember:

- Installation takes time. Estimate and allow ample time when planning a system.
- Special equipment, such as a helicopter, may be needed.
- Special knowledge and skills are always needed.
- A Communications Technician has the skills to identify sites, make physical installations, and put the equipment in operation.
- It is desirable to have the input of local personnel with communications knowledge regarding alternate sites for repeater installation and what equipment has worked successfully in the past.

Operation of an incident communications system:

- Provide the simplest system that will meet requirements.
- Provide clear written and illustrated channel assignments and procedures. It is important to write instructions.
- Use competent, qualified Incident Dispatchers.
- Use clear text in all radio communications.

Frequency coordination:

It is very important to maintain system isolation and integrity within the incident. Coordination at regional and national level is often important to maintain flexibility of all systems within National Incident Radio Support Caches. Frequencies are a limited resource and only those required to provide the incident with effective communications should be utilized.

**Procurement**

- Coordinate with Procurement Unit Leader in the Finance/Administration Section.
- Ensure that quality and quantity of purchases are as specified.
- See that orders do not exceed planned needs.
- See that all orders are recorded properly and consecutively on standard Incident Resource forms or appropriate ADP/computer system form.

## **Security**

- Provide security against theft.
- Provide security for personal gear. Tags should be furnished and each item labeled with owner's name and agency location.

## **FACTORS TO CONSIDER WHEN LOCATING AND LAYING OUT AN INCIDENT BASE OR CAMP**

The Logistics Section Chief should ensure that the following factors are included in the assessment of sites and the subsequent selection.

- Environmental constraints - temporary and permanent affects
- Ownership of land; written agreement to use site
- Accessible from existing roads with right-of-way
- Communication services available
- Safety and sanitation, including freedom from smoke
- Adequate space for facilities, equipment, and people
- Proximity to incident - safety; travel time
- Shelter from wind, sun, etc.
- Security for government and personal property

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- Public interference - proximity to and access by public
- Water supply - how much, how far, etc.
- Existing facilities - usable, cost, protection needed, etc.
- Potential or planned use of additional camps

*Physical limitations and capabilities:*

- Size and shape, terrain, prevailing winds
- Existing roads
- Present facilities.

*Activities that can be grouped together:*

- Command, Planning, Communications (out of main camp activity).
- Toilets and wash areas

*Areas that need to be isolated:*

- Sleeping areas
- Heliport and helispot
- Fuel/Fueling

*Areas needing ready access to transportation and facilities:*

- Supply
- Tool and equipment area

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- Kitchen
- First aid station
- Fuel storage

*Kitchen Area:*

- Level with good drainage
- Dust abatement, water supply, shade, and lighting
- Rope off area
- Establish flow pattern

*Wash and Showering Facilities:*

- Well drained
- Away from kitchen and well lighted
- Provide water, benches, basin, soap, towels, and garbage cans
- Establish separate facilities or time schedules for men and women.
- Adequate gray water disposal

*Toilets:*

- Provide adequate numbers throughout Base/Camp.
- Arrange for at least daily service.

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*Garbage disposal:*

- Garbage cans or containers should be located throughout camp.
- Haul daily

*Equipment Depot and Tool Storage Areas:*

- Adequate space near transportation
- Segregate tools in bins or stalls.
- Tool reconditioning
- Parking and lighting

*Sleeping areas:*

- Quiet, shaded, flat, and dry ground
- Marked and roped off
- Designate and supervise warming fires
- Free of snags or other hazards

*Check-in and Timekeeping Areas:*

- Place near entrance
- Tables, chairs, shelter, and lighting
- Signed

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*First Aid Station:*

- Quiet, shade, and dust free
- EMT may be provided.
- Sign First Aid area

*Incident Commander and Staff Area:*

- Located away from main camp activity.
- Provide tables, chairs, light, and shelter.
- Locate convenient to communications.

**FIELD OPERATIONS HANDBOOK**

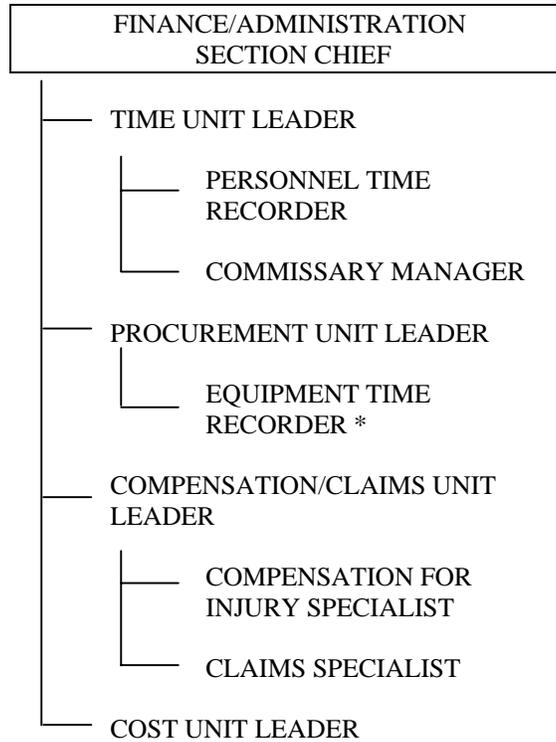
**CHAPTER 12 -  
FINANCE/ADMINISTRATION**

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**ORGANIZATION CHART**

\* On some incidents the Equipment Time Recorder is assigned to and reports to the Procurement Leader; however, this is a skill position and can be assigned anywhere in the Incident Command organization. Some managers prefer to keep all time keeping under the Time Unit and assign the Equipment Time Recorder the Time Unit Leader.

## **POSITION CHECKLISTS**

### **Finance/Administration Section Chief (FSC1 & FSC2)**

The Finance/Administration Section Chief is responsible for all financial, administrative, and cost analysis aspects of the incident and for supervising members of the Finance/Administration Section.

- Review Common Responsibilities
- Obtain briefing from Incident Commander.
- Gather pertinent information from briefings with responsible agencies.
- Participate in planning meetings, IAP Preparation and Review.
- Develop an operating plan for the Finance/Administration Section; fill supply and support needs.
- Review contacts, memoranda of understanding and cooperative agreements for Incident impact and application.
- Determine need for commissary operation.
- Meet with assisting and cooperating agency representatives as required.
- Provide input on financial and cost analysis matters.

- Maintain daily contact with agency(s) administrative headquarters on financial matters, including any needed ADO payoff.
- Ensure that personnel time records are transmitted to home agencies according to policy.
- Participate in demobilization planning.
- Ensure that obligation documents initiated at the incident are properly prepared and completed.
- Brief agency administrative personnel on incident related business management issues needing attention and follow-up prior to leaving incident.
- Maintain Unit Activity Log (ICS Form 214).

### **Time Unit Leader (TIME)**

The Time Unit Leader is responsible for personnel time recording and for managing the commissary operation.

- Review Common Responsibilities
- Obtain briefing from Finance/Administration Section Chief.
- Determine requirements for time recording function.
- Ensure that personnel time recording documents are prepared daily and comply with Agency(s) policy.

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- Establish commissary operation as required.
- Submit cost estimate data forms to Cost Unit as required.
- Provide for records security.
- Ensure that all records are current or complete prior to demobilization.
- Release time reports from assisting agency personnel to the respective Agency Representatives prior to demobilization.
- Brief Finance/Administration Section Chief on current problems and recommendations, outstanding issues, and follow-up requirements.

**Personnel Time Recorder (PTRC)**

Under supervision of the Time Unit Leader, Personnel Time Recorder is responsible for overseeing the recording of time for all personnel assigned to an incident.

- Review Common Responsibilities
- Obtain briefing from Time Unit Leader.
- Establish and maintain a file for employee time reports within the first operational period.
- Initiate, gather, or update a time report for all personnel assigned to the incident for each operational period.
- Ensure that all employee identification information is verified on the time report.

- Post personnel travel and work hours, transfers, promotions, specific pay provisions, and terminations to personnel time documents.
- Post all commissary issues to personnel time documents.
- Ensure that time reports are signed.
- Close out time documents prior to personnel leaving the incident.
- Distribute all time documents according to agency policy.
- Maintain a daily log of excessive hours worked and give to Time Unit Leader.

### **Commissary Manager (CMSY)**

Under the supervision of the Time Unit Leader, Commissary Manager is responsible for commissary operations and security.

- Review Common Responsibilities
- Obtain briefing from Time Unit Leader.
- Set up and provide commissary operation to meet incident needs.
- Establish and maintain adequate commissary security.
- Request commissary stock through Supply Unit Leader (must have Finance/ Administration Section Chief approval).

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- Maintain complete record of commissary stock including invoices for material received, issuance records, transfer records, and closing inventories.
- Maintain commissary issue record by crews submit records to time recorder during or at the end of each operational period.
- Use proper agency forms for record keeping. Complete forms according to agency specification.
- Ensure that all records are closed out and commissary stock is inventoried and returned to Supply Unit prior to demobilization.

**Procurement Unit Leader (PROC)**

The Procurement Unit Leader is responsible for administering all financial matters pertaining to vendor contracts, leases, and fiscal agreements.

- Review Common Responsibilities
- Review incident needs and any special procedures with Unit Leaders, as needed.
- Coordinate with local jurisdiction on plans and supply sources.
- Develop incident procurement procedures for local purchase.
- Prepare and sign contracts and agreements as needed.
- Draft memoranda of understanding.

- Establish contracts and agreements with local supply vendors as required.
- Ensure that a system is in place that meets agency property management requirements and accounting for all new property purchases.
- Interpret contracts/agreements and resolve claims or disputes within delegated authority.
- Provide for coordination between the Ordering Manager, agency dispatch, and all other procurement organizations supporting the incident.
- Coordinate with Compensation/Claims Unit on procedures for handling claims.
- Complete final processing of contracts and agreements, process documents for payment.
- Coordinate cost data, in contracts, with Cost Unit Leader.
- Brief Finance/Administration Section Chief on current problems and recommendations, outstanding issues, and follow-up requirements.
- Maintain Unit Log (ICS Form 214).

## **Equipment Time Recorder (EQTR)**

Under supervision of the Procurement Unit Leader, Equipment Time Recorder is responsible for overseeing the recording of time for all equipment assigned to an incident.

- Review Common Responsibilities
- Obtain briefing from supervisor.
- Set up Equipment Time Recorder function in location designated by Supervisor.
- Assist resources, ground support, and facilities units in establishing a system for collecting equipment time reports.
- Post equipment time after each operational period.
- Prepare a payment document for equipment as required.
- Submit data to supervisor for cost effectiveness analysis as required.
- Maintain current posting on all charges or credits for fuel, parts, services, and commissary.
- Verify all time data and deductions with owner or operator of equipment.
- Complete all forms according to agency specifications.

- Close out forms prior to demobilization; distribute copies per agency and incident policy.

### **Compensation/Claims Unit Leader (COMP)**

The Compensation/Claims Unit Leader is responsible for the overall management and direction of all administrative matters pertaining to compensation for injury and claims-related activities kept for an incident.

- Review Common Responsibilities
- Obtain briefing from Finance/Administration Section Chief.
- Establish contact with Safety Officer, Liaison Officer, and Agency Representatives.
- Coordinate with Interagency Resource Representative, if any are assigned.
- Establish a Compensation for Injury work area within or as close as possible to the Medical Unit.
- Determine the need for Compensation for Injury and Claims Specialists and order personnel as needed.
- Review Incident Medical Plan.
- Coordinate with Procurement Unit on procedures for handling claims.

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- Periodically review logs and forms produced by Compensation/Claims Specialists to ensure compliance with agency requirements and policies.
- Obtain Demobilization Plan and ensure that Compensation-for-Injury and Claims Specialists are adequately briefed on Demobilization Plan.
- Ensure that all Compensation for Injury and Claims logs and forms are complete and routed to the appropriate agency for post-incident processing prior to demobilization.
- Maintain Unit Log (ICS Form 214).

**Compensation For Injury Specialist (INJR)**

Under the supervision of the Compensation/Claim Unit Leader, the Compensation For Injury Specialist is responsible for administering financial matters resulting from serious injuries and fatalities occurring on an incident. Close coordination is required with the Medical Unit.

- Review Common Responsibilities
- Obtain briefing from Compensation/Claims Unit Leader.
- Co-locate Compensation-for-Injury operations with those of the Medical Unit when possible.

- Establish procedure with Medical Unit Leader for prompt notification of injuries or fatalities.
- Establish contact with Safety Officer and Agency Representatives.
- Obtain copy of Incident Medical Plan (ICS Form 206).
- Provide written authority for persons requiring medical treatment according to agency policy.
- Ensure that correct agency forms are used.
- Provide correct billing forms for transmittal to doctor and hospital.
- Keep informed and report on status of hospitalized personnel.
- Obtain all witness statements from Safety Officer and Medical Unit and review for completeness.
- Coordinate the analysis of injuries with the Safety Officer.
- Maintain log of all injuries occurring on incident.
- Coordinate with appropriate agency(s) to look after injured personnel in local hospitals after demobilization.

### **Claims Specialist (CLMS)**

Under the supervision of the Compensation/Claims Unit Leader the Claims Specialist is responsible for managing all claims-related activities (other than injury) for an incident.

- Review Common Responsibilities
- Obtain briefing from Compensation/Claims Unit Leader.
- Develop and maintain a log of potential claims.
- Mitigate or resolve potential claims whenever possible.
- Initiate claim investigations.
- Request skilled investigation from appropriate agency, when needed.
- Ensure site and property in investigation are protected.
- Coordinate with investigation team as necessary.
- Obtain witness statements pertaining to claims.
- Review investigations for completeness and follow-up action needed by local agency.
- Keep the Compensation/Claims Unit leader advised on existing and potential claims.

- Ensure use of correct agency forms.
- Document any incomplete investigations.

### **Cost Unit Leader (COST)**

The Cost Unit Leader is responsible for collecting all cost data, performing cost effectiveness analyses, providing cost estimates, and cost saving recommendations.

- Review Common Responsibilities
- Obtain briefing from Finance/Administration Section Chief.
- Coordinate with agency on cost reporting procedures.
- Collect and record all cost data.
- Prepare incident cost summaries.
- Prepare resource-use cost estimates for Planning Section.
- Recommend cost savings to Finance/Administration Section Chief.
- Maintain cumulative incident cost records.
- Complete all records prior to demobilization.
- Provide reports to Finance/Administration Section Chief.
- Maintain Unit Log (ICS Form 214).

**NOTES:**

**Definitions;  
Abbreviations  
Glossary**

**Definitions and Abbreviations:**

**Activation Levels:** Activation Levels are numeric (1-4) designations.

**Level 1** refers to a state of readiness and prevention.

**Level 2** indicates that an FAD has been identified in the U.S. or that an investigation of an FAD in Oklahoma has been deemed, “Highly Suspicious.”

**Level 3** occurs upon confirmation of infection with an FAD in Oklahoma.

**Level 4** occurs when there are multiple infected Oklahoma premises and the response is full scale. (See Oklahoma Emergency Operations Plan (EOP))

**Biosecurity:**

This entails protective measures to prevent animals from exposure to infectious agents. These measures include: disposable clothing, showering after exiting infected premises, cleaning and disinfection of equipment and vehicles, as well as procedures to limit access to areas of confirmed infection

**Biosecurity Zone:**

Generally, this is an area of limited access surrounding an **Infected Premises**. It includes the **Adjacent, Control and Surveillance Zones**, which are areas bound by a radius that extends a specified distance from

the property line of the Infected Premise. The State Veterinarian and AVIC will determine the radius and dimensions of the zones based on the particular disease involved. The **Adjacent Zone** includes the area immediately surrounding an **Infected Premise**. The **Control Zone** includes the area immediately surrounding the **Adjacent Zone** and the **Surveillance Zone** includes the area immediately surrounding the **Control Zone**. (For example, for FMD, it is anticipated that the **Adjacent Zone** will be circular with a radius extending one mile from the **Infected Premise** and that all susceptible animals in this area will be depopulated. The **Control Zone** radius will extend 3 miles from, and the **Surveillance Zone** will extend 8 miles from the **Infected Premise**.)

**FADD-Foreign Animal Disease**

**Diagnostician:** A veterinarian who has received specific training, from the Plum Island Facility, related to the diagnosis and classification of Foreign Animal Diseases.

**Foreign Animal Disease (FAD):** These include diseases that are not normally found in the United States, such as Foot and Mouth Disease.

**Premise Designations:** A category for premises, which infers that infection with an FAD agent, may have occurred. The premises are not limited to farms, but include any number of facilities that could contain animals, such as stockyards and slaughter facilities. The premises designation can include any of the following:

- **Infected Premise (IP)-** laboratory findings confirm infection
- **Highly Suspicious Premise -** clinical signs indicative of infection
- **Trace in/out Premise-** epidemiology indicates movement of infected and/or exposed animals into or out of infected premises
- **Pre-emptive Cull Premise-** premises that have adjacent fences to **IP** or other premises that have a high likelihood of exposure
- **Dangerous Contact Premise-** some other form of contact with an infected premises

All **Infected Premises** are quarantined and surrounded by biosecurity zones (**Adjacent, Control and Surveillance Zones**). Traffic control and cleaning and disinfection site procedures operate according to the placement of the **Adjacent, Control and Surveillance Zones**. Euthanasia and Disposal procedures will be instituted on all

**Infected Premises** (a **Highly Suspicious Premises** *may* be considered for exemption or delay of Euthanasia and Disposal requirements). Individual **Infected Premises** will be identified by the word or abbreviation, Infected Premises (or **IP**) followed by an assigned number, i.e. "*Infected Premises (IP) #\_\_\_\_\_*"

**Adjacent Zone:** Includes the area immediately surrounding an **Infected Premise**.

**Control Zone:** Includes the area immediately surrounding the **Adjacent Zone**.

**Surveillance Zone:** The zone immediately surrounding the **Control Zone**.

*Dimensions of each of the zones will be determined based upon the particular disease(s) involved.*

**Pre-emptive Cull Policy:** Once an outbreak has occurred (i.e. infection is confirmed on at least one premises), a pre-emptive cull policy will be considered. The goal is to prevent further spread of virus by preventing additional animals from becoming infected. The **Pre-emptive Cull Policy** identifies premises where the risk of contamination is so great (such as **Dangerous Contact** or **Trace in/out premises**) that the susceptible

animals would be euthanized before the animals became contagious (possibly prior to laboratory confirmation of disease).

Factors that determine when a **Pre-emptive Cull Policy** will be initiated include:

- Etiology of suspected disease
- Species of animals on premises
- Weather factors (ex. wind direction)
- History and details of outbreak (i.e. rate of spread)
- Type of exposure to infected animals
- Movement of people and/or animals in or out
- Animal densities in the area
- Indemnity policy

**Vaccination Policy:** A policy identifying which animals, if any, are to be vaccinated and the disposition of vaccinated animals. Vaccination of susceptible animals does not always prevent infection or formation of a carrier state (i.e. infectious organism may live indefinitely in the vaccinated animal and be passed to other animals). It **MAY** help reduce the amount of infectious organism shed by an animal and the severity of illness. Vaccinated animals can "hide" the fact that they are infected and so hinder eradication efforts. The presence of vaccinated animals can limit the ability of a country to export animals and animal products.

**Glossary**

**Agency**—A division of Government with a specific function or a nongovernmental organization (e.g., private contractor or business) that offers a particular kind of assistance. In ICS, agencies are defined as jurisdictional (having statutory responsibility for incident mitigation) or assisting and/or cooperating (providing resources and/or assistance).

**Area Command**—An organization established to (a) oversee the management of multiple incidents that each are being handled by an Incident Command System organization or (b) oversee the management of a very large incident to which multiple Incident Management Teams have been assigned. Area Command has the responsibility to set overall strategy and priorities, allocate critical resources based on priorities, ensure that incidents are properly managed, and see that objectives are met and strategies followed.

**Chain of Command**—A series of management positions in order of authority.

**Command**—The act of directing and/or controlling resources by virtue of explicit legal, agency, or delegated authority. Also may refer to the Incident Commander.

**Coordination**—The process of analyzing a situation systematically, developing relevant information, and informing the appropriate command authority of viable alternatives for selection of the most effective combination of

available resources to meet specific objectives. The coordination process (which can be either intra- or inter-agency) does not involve dispatch actions. However, personnel responsible for coordination may perform command or dispatch functions within the limits established by specific agency delegations, procedures, legal authority, etc.

**Delegation of Authority**—A statement provided to the Incident Commander by the Agency Executive delegating authority and assigning responsibility. The Delegation of Authority can include objectives, priorities, expectations, constraints, and other considerations or guidelines as needed. For larger incidents, many agencies require that a written Delegation of Authority be given to Incident Commanders prior to their assuming command.

**Demobilization**—(COPY TO COME.)

**Event**—A planned, nonemergency activity. ICS can be used as the management system for a wide range of events (e.g., parades, concerts, or sporting events).

**Incident**—An occurrence, caused either by humans or by natural phenomena that requires action by emergency service personnel to prevent or minimize loss of life or damage to property and/or natural resources.

**Incident Commander**—The individual responsible for the management of all incident operations at an incident site.

**Incident Command Post**—The location at which the primary command functions are executed.

**Jurisdiction**—Range or sphere of authority. Public agencies have jurisdiction at an incident as related to their legal responsibilities and authority for incident mitigation. Jurisdictional authority at an incident can be political/geographical (e.g., city, county, State, or Federal boundary lines) or functional (e.g., a police department or health department).

**Liaison Officer**—A member of the Command Staff responsible for coordinating with representatives of cooperating and assisting agencies.

**Mobilization**—The process and procedures used by all organizations—Federal, State, and local—for activating, assembling, and transporting all resources requested to provide response or support for an incident.

**Multi-Agency Coordination**—A general term that describes the functions and activities of representatives of involved agencies and/or jurisdictions who come together to make decisions regarding the prioritizing of incidents and the sharing and use of critical resources. The MAC Group is not a part of the on-scene Incident Command System and is not involved in developing incident strategy or tactics.

**Resources**—Personnel and equipment available or potentially available for assignment to incidents. Resources are described by kind and type (e.g.,

ground, water, or air) and may be used in tactical support or overhead capacities in an incident.

**Technical Specialists**—Personnel with special skills that can be used anywhere within the Incident Command System organization.

**Unified Area Command**—A type of command established in cases in which incidents under an Area Command are multi-jurisdictional. (See Area Command and Unified Command.)

**Unified Command**—In ICS, Unified Command is a unified team effort that allows all agencies with responsibility for an incident—either geographical or functional—to manage it by establishing a common set of incident objectives and strategies. This is accomplished without losing or abdicating agency authority, responsibility, or accountability.

**FIELD OPERATIONS HANDBOOK**

**APPENDIX A – GENERAL  
OPERATIONAL GUIDES**

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## **Helispot Location and Construction**

A helispot is a natural or improved take-off and landing area intended for temporary or occasional helicopter use. It may or may not have road access.

Points to consider in locating and constructing helispots are:

- Locate on exposed knobs and ridges, allowing takeoff and landing from all directions.
- Choose a spot where a drop-off exists for helicopter takeoffs. The higher the elevation, the more important the drop-off. A helicopter making a vertical takeoff uses more power, must be downloaded, and may not have an adequate margin of safety if power loss or other problems occur during takeoff.
- Locate helispot so takeoffs and landings can be made into the prevailing wind. This becomes more important with higher elevations and little to no drop-off.
- Remove all brush and trees around the landing pad for the minimum distances shown below by helicopter type to accommodate overall length, rotor blade diameter, and safety allowance. Observe local policy regarding environmental impact of cutting trees and vegetation.
  - ✓ Type 3 & 4 - 75 foot diameter.
  - ✓ Type 2 - 90 foot diameter.
  - ✓ Type 1 - 110 foot diameter.

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- ✓ Clear brush and trees below the landing area level.
- Construct a level touchdown pad to the dimensions and firmness shown below by helicopter type.
  - ✓ Type 3 & 4 - 15'x15' to support 6,000 pounds.
  - ✓ Type 2 - 20'x20' to support 12,500 pounds.
  - ✓ Type 1 - 30'x30' to support 12,500 pounds.

#### Level or Bottom-Land Locations:

- A vertical takeoff should not be considered safe at any elevation. A helicopter must be at least 300 feet above the ground to auto-rotate or glide back to the ground in the event of power failure.
- Takeoff should be into the prevailing wind.
- A safe takeoff path should be 300 feet long and slightly downhill with room to maneuver when forward flight is gained at end of takeoff path.

#### Lakes and wide streams:

- Areas adjacent to lakes or streams make a good base of operations for helicopters, but there is still a need for at least 300 feet of clear area over which to gain flying speed and a safe landing pad.

#### Canyon Bottoms:

- Beware of "dead air" holes.

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- Be sure canyon does not have a down draft from a neighboring ridge.
- In deep canyons, a long forward run is needed to climb out of canyon or enough width in the canyon to allow the helicopter to circle safely.

Meadows:

- Beware of meadows with high grass, which tends to dissipate the helicopter ground cushion and hide logs, rocks, or swampy areas. Dry grass can also be a fire hazard.

Roads or Truck Trails:

- Choose turnouts or parking areas that have some drop-off. If no drop-off areas are available, be certain road is long and wide enough for takeoff. When using roads or turnouts ensure adequate traffic control.

**Atmospheric/Barometric Pressure Factors**

Atmospheric Pressure at Sea Level = 14.7 lbs./square inch  
(Use 15.0)

Atmospheric Pressure Variation  
Per 1000 Feet of Elevation = 0.5 lbs./square inch

Barometric Pressure at Sea Level = 29.92 inches of Hg  
(Hg is mercury)

One (1) inch of Hg = 13.5 inches of water  
= 1.12 feet of water  
= 0.491 PSI (use 0.5)

One (1) pound of pressure (PSI) = 2.302 ft. of Water Head  
(use 2.0 ft.)  
= 2.04 inches of Hg

One (1) foot of Water Head  
(Column of Water) = 0.434 PSI (use 0.5)

**Weight/Volume of Water**

One (1) cubic foot of water = 7.481 gallons  
= 62.4 pounds

One (1) U.S. gallon = 8.34 pounds  
= 0.83 Imperial gallons  
= 3.79 Liters  
= 231 cubic inches

One (1) Imperial gallon = 1.2 U.S. gallons

## **Hazmat Materials Checklist for Incident Base Management**

- Be able to identify what materials may be classed as hazardous.
- Be familiar with transportation and storage of HazMat.
- HazMat storage areas need to be selected and posted clearly in camp settings.
- Know local HazMat contacts and waste disposal sites, etc.
- The Supply Unit Leader needs to know that this position has the responsibility of HazMat while in a camp setting as well as items being demobed.
- It's critical that Supply Unit Leaders are in communication with Cache personnel when ordering and returning hazardous materials. Cache Demob Specialists can be resource ordered or contacted for the proper handling and returning of any hazardous materials.
- The Demob Plan needs to include specific instructions by the Supply Unit Leader for returning all hazardous materials to:
  - Cache(s)
  - Local host agency(s)
  - Local HazMat contractors
  - Hazardous waste disposal site

**Resource Typing**  
**NWCG Standards for Wildfire Suppression**  
**(if assisted by Federal Agencies this will likely be the terminology they will use)**

**Hand Crews**

Minimum Standards	Type 1	Type 2 with IA Capability	Type 2	Type 3
Fireline Capability	Initial attack/ can be broken up into squads, fireline construction, complex firing operations (backfire)	Initial attack/ can be broken up into squads, fireline construction, firing to include burnout	Initial attack, fireline construction, firing to include burnout	Fireline construction, fireline improvement, mob-up and rehab.
Crew Size	18-20	18-20	18-20	18-20
Leadership Qualifications	Permanent Supervision Supt: TFLD, IC4 Asst. Supt: STCR, ICT4 3 Squad Bosses: CRWB (T), ICT5	CRWB and 3 ICT5	CRWB and 3 FFT1	CRWB & 3 FFT 1
Experience	80% one season or more	60% one season or more	40% one season or more	20% one season or more
Full Time Organized Crew	Yes	No	No	No
Communications	5 programmable radios	4 programmable radios	4 programmable radios	3 programmable radios

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<b>Minimum Standards</b>	<b>Type 1</b>	<b>Type 2 with IA Capability</b>	<b>Type 2</b>	<b>Type 3</b>
Sawyers	3 agency qualified	3 agency qualified	0	0
Fitness	Arduous	Arduous	Arduous	Arduous
Logistics	Self-sufficient	Not self-sufficient	Not self-sufficient	Not self-sufficient
Maximum Weight	5,100 lbs	5,100 lbs	5,100 lbs	5,100 lbs
Training	80 hours annual training	Basic firefighter training and/or annual firefighter safety refresher	Basic firefighter training and/or annual firefighter safety refresher	Basic firefighter training and/or annual firefighter safety refresher
Dispatch Availability	1 hour	Variable	Variable	Variable
Production Factor	1.0	0.8	0.8	N/A
Transportation	Own transportation	Transportation needed	Transportation needed	Transportation needed
Tools & Equipment	Fully equipped	Not equipped	Not equipped	Not equipped
Personal Gear	Arrives with: crew first aid kit, personal first aid kit, headlamp, 1 qt canteen, web gear, sleeping bag	Arrives with: crew first aid kit, personal first aid kit, headlamp, 1 qt canteen, web gear, sleeping bag	Arrives with: crew first aid kit, personal first aid kit, headlamp, 1 qt canteen, web gear, sleeping bag	Arrives with: crew first aid kit, personal first aid kit, headlamp, 1 qt canteen, web gear, sleeping bag

Minimum Standards	Type 1	Type 2 with IA Capability	Type 2	Type 3
PPE	Arrives with: hard hat, fire resistant shirt/ pants, 8" leather boots, leather gloves, fire shelter, hearing/eye protection	Arrives with: hard hat, fire resistant shirt/ pants, 8" leather boots, leather gloves, fire shelter, hearing/eye protection	Arrives with: hard hat, fire resistant shirt/ pants, 8" leather boots, leather gloves, fire shelter, hearing/eye protection	Arrives with: hard hat, fire resistant shirt/pants, 8" leather boots, leather gloves, fire shelter, hearing/eye protection

Notes: Interagency Hotshot Crews (IHC) are Type 1 crews that exceed the Type 1 standards as required by the National IHC Operations Guide (2001) in the following categories:

- Permanent supervision with seven career appointments (Supervisor, Assistant Superintendent, three Squad Bosses).
- IHCs work and train as a unit 40 hours per week.
- IHCs are a national resource.

**Type 3 crews are normally not dispatched outside of their geographic areas until Preparedness Levels 4 & 5.**

**Engines – Minimum Requirements**

Components	Structure Engines		Wildland Engines				
	1	2	3	4	5	6	7
Pump Rating							
min. flow (GPM)	1000+	250+	150	50	50	30	10
at rated pressure (psi)	150	150	250	100	100	100	100
Tank Capacity Range (Gallons)	400+	400+	500+	750+	400-750	150-400	50-200
Hose, 2½" (feet)	1200	1000	--	--	--	--	--
Hose, 1½" (feet)	400	500	500	300	300	300	--
Hose, 1" (feet)	--	--	500	300	300	300	200
Ladders	48'	48'	--	--	--	--	--
Master Stream (GPM)	500	--	--	--	--	--	--
Personnel (Minimum)	4	3	2	2	2	2	2

**Common Additional Needs - Request as Needed.**

- All-Wheel Drive
- Pump & Roll
- High Pressure Pump  
(Minimum 40 gpm @ 250 psi)
- Class A Foam Proportioner
- Compressed Air Foam System (CAFS)  
with Minimum 40 cfm Compressor
- Additional Personnel

**Water Tenders**

Components	Water Tender Types		
	1	2	3
Tank Capacity (Gallons)	5000+	2500+	1000+
Pump Capacity (GPM)*	300+	200+	200+
Off Load Capacity (GPM)	300+	200+	200+
Max. Refill Time (Minutes)	30	20	15

\*Portable pump acceptable.

**Other Resources**

Resource	Components	Minimum Standards for Type			
		1	2	3	4
Helicopters	Seats, including pilot (minimum)	16	10	5	3
	Card Weight Capacity (lbs)	5000	2500	1200	600
	Tank, gallons of Retardant (min)	700	300	100	75
	Examples:	Bell 214	Bell 204, 205, 212	Bell 206	Bell 47
Air Tankers	Minimum Capacity (gallons)	3000	1800	600	100
	Examples:	C-130	DC-7	S-2	Thrush
		P-3 DC-7	SP2H P2U		
Helitanker	- Fixed Tank - Air Tanker Board Certified - 1,100 Min. Gal. Capacity				

**Clear Text Guide**

WORDS AND PHRASES	APPLICATION - EXAMPLES
<b>STANDARD REPLIES:</b>	
• Affirmative	Yes
• Can Handle	Used with the amount of equipment needed to handle the incident. EX: "Waverly 3 can handle with units now at scene."
• Copy, Copies	Used to acknowledge message received. EX: "Engine 3 copies."
• Disregard	Self-explanatory
• Proceed	Indicates another unit may transmit. EX: "Go ahead Essex 50."
• How do you copy?	Request for report on transmission quality.
• Loud and Clear	Self-explanatory
• Negative	No
• Repeat	Self-explanatory
• Standby	Self-explanatory
• Unreadable	Signal received is not clear.

<b>WORDS AND PHRASES EXAMPLES</b>	<b>APPLICATION -</b>
<b>STATUS REPORTING:</b>	
• At scene	Used when units arrive at the scene of an incident.
• Available (location)	Ready to respond to calls. Location is optional.
• Available at residence	Used to indicate personnel are available and on-call at home.
• Available at scene	No longer needed at scene and are available to respond to other calls.
• En route (location)	Used to designate a non-emergency destination. Enroute is not substitute for responding.
• In-quarters (location)	Used to indicate that a resource is at station. EX: "Engine 7 in quarters, Charlottesville."
• In-service	Unit is operating, but not in response to a dispatch.
• Off duty (location)	Used to sign off when going off duty and are unavailable for calls.
• Out-of-Contact (location)	Indicates unit is still on duty, but out of radio contact at the location specified.
• Out-of-Service (location is optional)	Indicates unit is not available due to mechanical problems.
• Respond, responding	Used in dispatch - proceed to or proceeding to an incident. EX: "Salem 4, responding to....." or "Salem 4, respond to....."
• Return to, returning to	Used to direct units that are available to a station or other location.

<b>INFORMATIONAL:</b>	
• Burning Operation (specify if illegal)	Indicates a legal fire unless specified otherwise.
• Call _____ by phone.	Self-explanatory
• Contact _____ message.	Relay message to person named.
• Emergency Traffic	Used to gain control of the radio frequency to report an emergency in progress or a new incident. Used by base.
• False Alarm	Self-explanatory
• Fire	Fire emergency requiring a response. Specify structure, field, forest, etc.
• Fire Under Control	Self-explanatory
• Is _____ available for a phone call?	Self-explanatory
• Let me talk to _____.	Self-explanatory
• No smoke or fire	Response to Report of Conditions, if appropriate.
• Report on Conditions	Specify location if needed. EX: "Wise 3 to Lee 2, Report on conditions, Jonesville Fire."
• Resume normal traffic	Self-explanatory. Used by base.
• Signing on, signing off	Self-explanatory. Used by base.
• Smoke	Suspected or unconfirmed fire.
• Weather	Specify report or forecast.
• What is your location?	Self explanatory

### **International Phonetic Alphabet**

A - Alpha	J - Julliett (Jooleeyet)	S - Sierra
B - Bravo	K - Kilo (Keelo)	T - Tango
C - Charlie	L - Lima	U - Uniform
D - Delta	M - Mike	V - Victor
E - Echo	N - November	W - Whiskey
F - Foxtrot	O - Oscar	X - X-ray
G - Golf	P - Papa	Y - Yankee
H - Hotel	Q - Quebec	Z - Zulu
I - India	R - Romeo	

**ICS Map Display Symbols**

**Conversion Factors for Map Scale**

Representative Fraction	Inches/Mile	Inches/Chain	Feet/Inch
1:253,440	1/4	0.00312	21,120
1:126,720	1/2	0.00625	10,560
1: 63,680	1	0.0125	5,280
1: 31,680	2	0.025	2,640
1: 24,000	2 5/8 or	0.0328	2,000
1: 21,120	2.64	0.375	1,760
1: 15,840	3	0.05	1,320
1: 7,920	4	0.10	660
	8		

**Calculating the Area and Circumference of a Circle**

Circle, Area =  $3.1416 \times \frac{\text{diameter squared}}{4}$   
 or  
 =  $3.1416 \times \text{radius squared}$

Circle, Circumference =  $3.1416 \times \text{diameter}$

**Acreage Determination Factors**

**Perimeter Chart**

Acres	<b>Perimeter in Minimum</b>	Chains Usual	Max.	Acres	Perimeter in Minimum	Chains Usual	Max
1	11	17	22	700	300	450	600
2	16	24	32	800	320	475	625
3	19	29	39	900	340	500	675
4	22	34	45	1,000	350	525	700
5	25	38	50	1,200	400	600	775
7	30	45	59	1,400	425	625	850
10	36	53	71	1,600	450	675	900
15	45	65	85	1,800	475	725	950
20	50	75	100	2,000	500	750	1,000
25	55	85	110	2,400	550	825	1,100
30	60	90	125	2,800	600	875	1,175
40	70	105	140	3,200	625	950	1,275
50	80	120	160	3,600	675	1,000	1,350
75	100	150	190	4,000	700	1,075	1,425
100	110	170	220	5,000	800	1,200	1,600
150	140	200	280	6,000	850	1,300	1,700
200	160	240	320	7,000	950	1,400	1,900
300	200	300	400	8,000	1,000	1,500	2,000
400	225	350	450	9,000	1,050	1,600	2,100
500	250	375	500	10,000	1,100	1,700	2,250
600	275	425	550	12,000	1,250	2,000	2,500

**Instructions For The Use of This Table**

- Use this table as a guide to estimate areas and perimeters. Remember that results are approximate values only and have been rounded off.
- Areas that are roughly circular in shape will have perimeters that approach Minimum values.
- Areas that are very long and narrow will have perimeters that approach or possibly exceed Maximum values.
- Values in the Usual column will represent areas that are oval or wedge shaped.

**Acreage Chart**

**Area in Acres**

Perimeter in Chains	1	2	3	4	5	6
1	.01	.01	.01	.01	.01	.01
2	.03	.02	.02	.02	.01	.01
3	.06	.05	.04	.04	.03	.02
4	.11	.10	.08	.06	.05	.03
5	.17	.15	.12	.10	.07	.05
6	.25	.22	.18	.14	.11	.07
7	.34	.29	.24	.20	.15	.10
8	.45	.38	.32	.26	.19	.13
9	.57	.49	.40	.32	.24	.16
10	.7	.6	.5	.4	.3	.2
12	1.0	.8	.7	.6	.4	.3
14	1.4	1.2	1.0	.8	.6	.4
16	1.8	1.5	1.3	1.0	.8	.5
18	2.3	1.9	1.6	1.3	1.0	.6
20	2.8	2.4	2.0	1.6	1.2	.8
22	3.4	2.9	2.4	1.9	1.4	1.0
24	4.0	3.5	2.9	2.3	1.7	1.2
26	4.7	4.1	3.4	2.7	2.0	1.3
28	5.5	4.7	3.9	3.1	2.3	1.6
30	6.3	5.4	4.5	3.6	2.7	1.8
32	7.2	6.1	5.1	4.1	3.1	2.1
34	8.1	6.9	5.8	4.6	3.5	2.3
36	9.1	7.8	6.5	5.2	3.9	2.6
38	10.1	8.7	7.2	5.8	4.3	2.9
40	11.2	9.6	8.	6.4	4.8	3.2
42	12	11	9	7	5	3.5
44	14	12	10	8	6	4
46	15	13	11	8.5	6	4
48	16	14	11.5	9	7	4.5
50	17	15	12	10	7	5
60	25	21	18	14	11	7
70	34	30	25	20	15	10
80	45	38	32	26	19	13
90	57	49	40	32	24	16
100	70	60	50	40	30	20

*FAD Operations Guide*

This table is to help you estimate the area of your incident. To use it, pace the distance around the fire in chains (1 chain = 66 feet) and determine the general shape of the fire. Select the column (1-6) that best fits the fire's shape and read the acreage for the paced perimeter shown in the left column.

1. Acreage Chart (con't).
2. Explanation of columns representing shapes of fires.
3. Area is in the general shape of a circle.
4. Area is in the shape of either a square or a rectangle that is not more than twice as long as it is wide with a moderately irregular perimeter.
5. Area is in the shape of a rectangle about three times longer than it is wide. The column also gives the area of a triangle with a moderately irregular perimeter.
6. Area in the shape of a rectangle about four times longer than it is wide and having a fairly irregular perimeter.
7. Area that is long and narrow with an irregular perimeter.
8. Area with two or three long fingers or a very irregular perimeter.

### Conversion Factors

Linear Measure			
— Chain	=	66 feet	
	=	100 links	
	=	20.1168 meters	
— Foot	=	12 inches	
	=	0.3048 meters	
— Inch	=	2.54 centimeters	
— Kilometer	=	0.62317 statute miles	
	=	1,093.6 yards	
	=	3,280.8 feet	
— Link	=	0.66 feet	
	=	7.92 inches	
	=	0.2012 meters	
— Meter	=	3.2808 feet	
	=	39.37 inches	
— Mile, statute	=	5,280 feet	
	=	1,760 yards	
	=	80 chains	
	=	1.60934 kilometers	
	=	0.8684 nautical miles	
— Mile, nautical	=	6,080 feet	
	=	2,026.7 yards	
	=	92.12 chains	
	=	1.8532 kilometers	
	=	1.1515 statute miles	
— Yard	=	3 feet	
	=	36 inches	
	=	0.9144 meters	

**Conversion Factors (cont.)**

<b>Square (Area) Measure</b>			
— Acre	=	43,560 square feet	
	=	4,840 square yards	
	=	10 square chains	
	=	208.7 x 208.7 feet	
	=	0.405 hectares	
— Hectare	=	1000 square meters	
	=	2,471 acres	
	=	328.1 x 328.1 feet	
— Square foot	=	144 square inches	
— Square mile	=	640 acres	
— Township	=	36 square miles	
	=	6 x 6 miles	
— Square Yard	=	9 square feet	
	=	1296 square inches	
<b>Cubic (Volume) Measure</b>			
— Cubic foot	=	7,4805 U. S. Gallons	
	=	6.2360 Imperial gallons	
	=	1728 cubic inches	
	=	28.316 liters	
— Cubic yard	=	27 cubic feet	
	=	200.3 U.S. gallons	
	=	168.37 Imperial gallons	
	=	764.53 liters	

**Conversion Factors (cont.)**

Liquid Measure		
— Cup	=	8 ounces
— Gallon, Imperial	=	10 pounds
	=	1.2009 U.S. gallons
	=	0.160546 cubic feet
	=	4.8036 quarts
	=	4.5459 liters
— Gallon, U. S.	=	8.33717 pounds
	=	0.83267 Imperial gallons
	=	0.133680 cubic feet
	=	4 quarts
	=	128 ounces
	=	3.7853 liters
— Liter	=	0.264179 U.S. gallons
	=	0.21998 Imperial gallons
	=	1.567 quarts
	=	1.568 33.8144 ounces
— Pint	=	2 cups
	=	16 ounces
	=	0.47315 liters
— Quart	=	2 pints
	=	32 ounces
	=	0.9463 liters

## **Incident Command System Forms**

Forms that are routinely used in the incident Command System are listed below. Those marked with an (\*) are commonly used in written Incident Action Plans.

<b>CS Form Number</b>	<b>Form Title</b>
201	Incident Briefing
202 (*)	Incident Objectives
203 (*)	Organizational Assignment List
204 (*)	Division Assignment List
205 (*)	Incident Radio Comm. Plan
206 (*)	Medical Plan
207	Organizational Chart
209	Incident Status Summary
210	Status Change Card
211	Check-in List
212	Vehicle Demob Inspection
213	General Message Form
214	Unit Log
215	Operational Planning Worksheet
216	Radio Requirements Worksheet
217	Radio Frequency Assignment
218	Support Vehicle Inventory
219	Resource Status Card
220 (*)	Air Ops Summary Worksheet
221	Demobilization Checkout
224	Crew Performance Rating
225	Incident Personnel Rating

**Resource Status Card (Colors and Uses)**

<b>Card Color Number</b>	<b>Kind of Resource</b>	<b>Form</b>
Gray	Headers	219-1
Green	Hand Crews	219-2
Rose	Engines	219-3
Blue	Helicopters	219-4
White	Personnel	219-5
Orange	Aircraft, Fixed Wing	219-6
Yellow	Dozers, Tractor-Plows	219-7
Tan	Misc. Equipment and Task Forces	219-8

**Distances and Formulas for Estimating Area Size**

**Distances**

1. 1 Pace = 2 Normal Steps
2. 11-13 Level Paces = 1 Chain
3. 66 Feet = 1 Chain
4. 80 Chains = 1 Mile
5. 10 Square Chains = 1 Acre
6. 1 Acre = Approx. 220 x 220 Feet
7. 1 Acre = 42,560 Square Feet
8. 640 Acres = 1 Square Mile

**Formulas**

1. Area of squares and rectangles = L x W

2. Area of triangles = ½ (L x W)

3. Area of circles =  $\pi R^2$   
( $\pi = 3.14$ , R= Radius of circle)

4. Compute acres =

Average chains wide x average chains long  
----- =  
Acres  
10 Square Chains

**Area in Acres**

	Perimeter in Chains					
	1	2	3	4	5	6
						
1	.01	.01	.01	.01	.01	.01
2	.03	.02	.02	.02	.01	.01
3	.06	.05	.04	.04	.03	.02
4	.11	.10	.08	.06	.05	.03
5	.17	.15	.12	.10	.07	.05
6	.25	.22	.18	.14	.11	.07
7	.34	.29	.24	.20	.15	.10
8	.45	.38	.32	.26	.19	.13
9	.57	.49	.40	.32	.24	.16
10	.7	.6	.5	.4	.3	.2
12	1.0	.8	.7	.6	.4	.3
14	1.4	1.2	1.0	.8	.6	.4
16	1.8	1.5	1.3	1.0	.8	.5
18	2.3	1.9	1.6	1.3	1.0	.6
20	2.8	2.4	2.0	1.6	1.2	.8
22	3.4	2.9	2.4	1.9	1.4	1.0
24	4.0	3.5	2.9	2.3	1.7	1.2
26	4.7	4.1	3.4	2.7	2.0	1.3
28	5.5	4.7	3.9	3.1	2.3	1.6
30	6.3	5.4	4.5	3.6	2.7	1.8
32	7.2	6.1	5.1	4.1	3.1	2.1
34	8.1	6.9	5.8	4.6	3.5	2.3
36	9.1	7.8	6.5	5.2	3.9	2.6
38	10.1	8.7	7.2	5.8	4.3	2.9
40	11.2	9.6	8.0	6.4	4.8	3.2
42	12.	11.	9.	7.	5.	3.5
44	14.	12.	10.	8.	6.	4.
46	15.	13.	11.	8.5	6.	4.
48	16.	14.	11.5	9.	7.	4.5
50	17.	15.	12.	10.	7.	5.
60	25.	21.	18.	14.	11.	7.
70	34.	30.	25.	20.	15.	10.
80	45.	38.	32.	26.	19.	13.
90	57.	49.	40.	32.	24.	26.
100	70.	60.	50.	40.	30.	20.

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This table is to help you estimate the area of a fire. To use it, pace the distance around the fire in chains (1 chain equals 66 feet), and determine the general shape of the fire. Then select the one column (1-6) that best fits the fire's shape. Read under the column the acreage listed opposite the number of chains that you paced.

Explanation of columns representing shapes of fires:

1. Fire in the general shape of a circle.
2. Fire in the shape of either a square or rectangle that is not more than twice as long as it is wide with a moderately irregular perimeter.
3. Fire in the shape of a rectangle, about three times longer than it is wide. This column also gives the area of a triangle with a moderately irregular perimeter.

## **SAMPLE Incident Management Team Guidance**

The decision to use an Incident Management Team, will be made by the Division Director or his/her acting. The following items will be covered prior to assigning the team to the incident:

The responsible Veterinary Medical Officer or his/her representative will make an analysis of the potential complexity of the incident.

### **When mobilizing an Interagency Incident Management Team :**

1. The Division Director (State Veterinarian) will prepare a short statement of the objectives and alternatives, complete with a map showing the alternatives and the preferred alternative.

**Generally, the preferred alternative will be one that provides the safest method for incident workers and the public, while minimizing the spread of the outbreak.**

2. The Division Director (State Veterinarian) or his/her acting prepares a Delegation of Authority for the Incident Commander. (sample attached)
3. The Division Director (State Veterinarian) or designated will complete the briefing package and work with ODEM (Oklahoma Department of Emergency Management) to assemble copies of resource orders and other relevant materials for a briefing.
4. The briefing time and location will be relayed to ODEM. \*\*ODEM should plan to send a representative.
5. The Division Director (State Veterinarian) or representative will conduct the Incident Management Team briefing using attached briefing package as a guide. During the briefing the IC will be given copies of the statement of objectives, Delegation of Authority, briefing package, and any other relevant materials. A technical advisor and/or representative will be assigned by the Division Director (State Veterinarian). A critique will be conducted at the conclusion of the Incident and the Division Director (State

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Veterinarian) will prepare a performance evaluation for the IC. (Utilize input for ODEM etc.)

**STATE VETERINARIAN (DIVISION DIRECTOR)**  
**BRIEFING TO THE INCIDENT MANAGEMENT TEAM**

1. General

a. Name of Incident \_\_\_\_\_  
\_\_\_\_\_

b. Initial information: cause \_\_\_\_\_  
\_\_\_\_\_

date \_\_\_\_\_

time \_\_\_\_\_

c. Approximate size: \_\_\_\_\_  
\_\_\_\_\_

d. Name of local Incident Commander \_\_\_\_\_  
\_\_\_\_\_

e. General weather conditions/forecast \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

f. Conditions on-site \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

g. Conditions; around incident \_\_\_\_\_  
\_\_\_\_\_

h. Are aircraft needed? \_\_\_\_\_  
\_\_\_\_\_

i. Are helicopters needed? \_\_\_\_\_  
\_\_\_\_\_

j. Are engines (spray/washdown) needed? \_\_\_\_\_  
\_\_\_\_\_

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k. Immediate threats? \_\_\_\_\_  
\_\_\_\_\_

l. ICP location \_\_\_\_\_  
\_\_\_\_\_

m. Incident Base location \_\_\_\_\_  
\_\_\_\_\_

n. Access from briefing location to incident base \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

o. Access from incident base to incident \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

p. Security considerations \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

q. Communications system(s) in use \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

r. Other outbreaks/ in Area/ State or cooperators \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

s. Delegation of Authority; State Veterinarian / Representative  
\_\_\_\_\_  
\_\_\_\_\_

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t. Recommended local participation in incident organization and training priorities \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

u. State Command organization (if needed or contemplated)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

v. Technical Advisor(s) assigned to incident \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

w. Fisheries/Wildlife biologist assigned \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

x. Archaeologist assigned \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

y. FEMA Advisor \_\_\_\_\_

\_\_\_\_\_

z. Environmental Constraints \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_

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aa. Priorities, Statement of Objectives/Alternatives approved

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bb. State policy & direction \_\_\_\_\_

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cc. Resource values \_\_\_\_\_

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dd. Local unusual history in area of incident \_\_\_\_\_

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ee. Fiscal Considerations \_\_\_\_\_

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ff. FEMA Declaration \_\_\_\_\_

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gg. Business Assistant (comptroller) assigned \_\_\_\_\_

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*FAD Operations Guide*

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hh. Cost sharing (on multijurisdictional incidents) \_\_\_\_\_

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gg. Legal Considerations (investigations in progress)

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hh. News media relations \_\_\_\_\_

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ii. Incident Information Organization report to  
Incident Commander \_\_\_\_\_

State Veterinarian \_\_\_\_\_

Department of Ag. Rep. \_\_\_\_\_

jj. ICS off-incident reporting requirements (APHIS/ USDA)

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kk. Known political considerations \_\_\_\_\_

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*FAD Operations Guide*

ll. Local social/economic considerations \_\_\_\_\_

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mm. Contracting Officer assigned \_\_\_\_\_

\_\_\_\_\_

nn. Training Specialist(s) assigned or ordered \_\_\_\_\_

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oo. Other agencies on the incident \_\_\_\_\_

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pp. Air Operations:

a. Aircraft assigned \_\_\_\_\_

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\_\_\_\_\_  
\_\_\_\_\_

b. Air Tactical Group Supervisor \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

c. Airport \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
Telephone #:  
\_\_\_\_\_

*FAD Operations Guide*

d. Helicopters assigned (**mention NG and Cooperator A/C**) \_\_\_\_\_

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\_\_\_\_\_

Helibase Location \_\_\_\_\_

\_\_\_\_\_

e. **FAR 91.137 assigned (describe) ? NEEDED?**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

f. Flight hazard map available/known hazards in area

g. Crash/rescue \_\_\_\_\_

\_\_\_\_\_

h. Medivac locations \_\_\_\_\_

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\_\_\_\_\_  
\_\_\_\_\_  
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i. Aviation Officer assigned (needed?)

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qq. Personnel and resources on the incident (describe existing organization) \_\_\_\_\_

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*FAD Operations Guide*

rr. Equipment on the incident \_\_\_\_\_  
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Is all equipment inspected and signed up? \_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

VFDs use, assistance? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ss. Supply system to be used (ordering procedures) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

tt. Buying Team in place or ordered \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

uu. Catering services/meals provided \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*FAD Operations Guide*

vv. Land Status/ Trust holdings scattered throughout? \_\_

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ww. Area assigned to Incident Management Team for  
“new” outbreaks? \_\_\_\_\_

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Procedure to interface new outbreaks with  
Area/State/FEMA Requests? \_\_\_\_\_

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xx. Resources or overhead to be released upon transition

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yy. Rehabilitation policies \_\_\_\_\_

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*FAD Operations Guide*

zz. Other IMT considerations \_\_\_\_\_  
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\* Estimated time when team will assume command:  
  
date \_\_\_\_\_  
time \_\_\_\_\_

\* Medical facilities \_\_\_\_\_  
\_\_\_\_\_  
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\* Medivac procedure \_\_\_\_\_  
\_\_\_\_\_  
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\_\_\_\_\_  
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\* Demobilization Procedures **NEGOTIATE  
CONTAIN/CONTROL DATES/ TIMES AND  
PERCENTAGES WITH STATE PRIOR TO  
ANY CONTAINMENT NOTIFICATION TO  
THE PUBLIC**  
\_\_\_\_\_  
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**SAMPLE DELEGATION OF AUTHORITY**

**LETTER** Delegation of Authority

To: \_\_\_\_\_ : Incident Commander

This is the delegation of authority for you from State Veterinarian \_\_\_\_\_, @ \_\_\_\_\_ on \_\_\_\_\_ or his/ her designated "Acting" will be the designated Division Director's representative during my absence.

You are given full authority and responsibility for management of the \_\_\_\_\_ presently on State of Oklahoma land; in the \_\_\_\_\_ County(s) this delegation includes responsibility for coordination of containment, restriction of movement of persons and animals necessary to contain the outbreak to the smallest possible area.

You and your IMT are encouraged to coordinate use of resources, camps etc. with the local VMO(s) as needed. The specific coordination of all cooperator resources will be critical.

The general objectives for this incident are:

1. Containment and control activities do not compromise incident worker and public safety.
2. Coordination of all activities with the local unit (county officials) should be encouraged and they should play an active role in meetings.
3. Coordination with \_\_\_(USDA/FEMA)
4. Development and execution of an information plan which address' information flow to local communities and visitors. This plan must also provide for a link to the State Office in Oklahoma City, Oklahoma.
5. Protection of. private property.
- 6.. Protect environmental sensitive areas especially
7. Protection of threatened and endangered habitat and fisheries.
8. Ensure prompt remedial action is taken on all Human Resource, Drug, Alcohol, and behavioral incidents.
9. Ensure cost effectiveness, documentation of costs is a consideration for all incident management activities.  
This delegation is effective at \_\_\_\_\_, \_\_\_\_\_.

State Veterinarian

Date: \_\_\_\_\_ Time: \_\_\_\_\_



**FIELD OPERATIONS HANDBOOK**

**APPENDIX B – INCIDENT  
MANAGEMENT TEAM  
OPERATIONS  
CONTENTS**

**Sample** IMT Guidance for FAD incidents.....  
    Sample IMT Briefing Package for FAD  
incidents .....  
    Sample Delegation of Authority for FAD  
incident.....

## **SAMPLE Incident Management Team Guidance**

The decision to use an Incident Management Team, will be made by the Division Director or his/her acting. The following items will be covered prior to assigning the team to the incident:

The responsible Veteraniary Medical Officer his/her representative will make an analysis of the potential complexity of the incident.

### **When mobilizing an Interagency Incident Management Team :**

1. The Division Director (State Veterinarian) will prepare a short statement of the objectives and alternatives, complete with a map showing the alternatives and the preferred alternative.

**Generally, the preferred alternative will be one that provides the safest method for incident workers and the public, while minimizing the spread of the outbreak.**

2. The Division Director (State Veterinarian) or his/her acting prepares a Delegation of Authority for the Incident Commander. (sample attached)
3. The Division Director (State Veterinarian) or designated will complete the briefing package and work with ODEM (Oklahoma Department of Emergency Management) to assemble copies of resource orders and other relevant materials for a briefing.
4. The briefing time and location will be relayed to ODEM. \*\*ODEM should plan to send a representative.
5. The Division Director (State Veterinarian) or representative will conduct the Incident Management Team briefing using attached briefing package as a guide. During the briefing the IC will be given copies of the statement of objectives, Delegation of Authority, briefing package, and any other relevant materials. A technical advisor and/or representative will be assigned by the Division Director

*FAD Operations Guide*

(State Veterinarian). A critique will be conducted at the conclusion of the Incident and the Division Director (State Veterinarian) will prepare a performance evaluation for the IC. (Utilize input for ODEM etc.)

**STATE VETERINARIAN (DIVISION DIRECTOR)**  
**BRIEFING TO THE INCIDENT MANAGEMENT TEAM**

1. General

a. Name of Incident \_\_\_\_\_  
\_\_\_\_\_

b. Initial information: cause \_\_\_\_\_  
\_\_\_\_\_

date \_\_\_\_\_

time \_\_\_\_\_

c. Approximate size: \_\_\_\_\_  
\_\_\_\_\_

d. Name of local Incident Commander \_\_\_\_\_  
\_\_\_\_\_

e. General weather conditions/forecast \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

f. Conditions on-site \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

g. Conditions; around incident \_\_\_\_\_  
\_\_\_\_\_

h. Are aircraft needed? \_\_\_\_\_  
\_\_\_\_\_

i. Are helicopters needed? \_\_\_\_\_  
\_\_\_\_\_

j. Are engines (spray/washdown) needed? \_\_\_\_\_  
\_\_\_\_\_

*FAD Operations Guide*

k. Immediate threats? \_\_\_\_\_  
\_\_\_\_\_

l. ICP location \_\_\_\_\_  
\_\_\_\_\_

m. Incident Base location \_\_\_\_\_  
\_\_\_\_\_

n. Access from briefing location to incident base \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

o. Access from incident base to incident \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
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\_\_\_\_\_

p. Security considerations \_\_\_\_\_  
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q. Communications system(s) in use \_\_\_\_\_  
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r. Other outbreaks/ in Area/ State or cooperators \_\_\_\_\_  
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s. Delegation of Authority; State Veterinarian / Representative  
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t. Recommended local participation in incident organization and training priorities \_\_\_\_\_

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u. State Command organization (if needed or contemplated)

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v. Technical Advisor(s) assigned to incident \_\_\_\_\_

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w. Fisheries/wildlife biologist assigned \_\_\_\_\_

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x. Archaeologist assigned \_\_\_\_\_

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y. FEMA Advisor \_\_\_\_\_

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z. Environmental Constraints \_\_\_\_\_

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*FAD Operations Guide*

aa. Priorities, Statement of Objectives/Alternatives approved

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bb. State policy & direction \_\_\_\_\_

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cc. Resource values \_\_\_\_\_

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dd. Local unusual history in area of incident \_\_\_\_\_

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ee. Fiscal Considerations \_\_\_\_\_

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ff. FEMA Declaration \_\_\_\_\_

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gg. Business Assistant (comptroller) assigned \_\_\_\_\_

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*FAD Operations Guide*

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hh. Cost sharing (on multijurisdictional incidents) \_\_\_\_\_

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gg. Legal Considerations (investigations in progress)

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hh. News media relations \_\_\_\_\_

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ii. Incident Information Organization report to  
Incident Commander \_\_\_\_\_

State Veterinarian \_\_\_\_\_

Department of Ag. Rep. \_\_\_\_\_

jj. ICS off-incident reporting requirements (APHIS/ USDA)

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kk. Known political considerations \_\_\_\_\_

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ll. Local social/economic considerations \_\_\_\_\_

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mm. Contracting Officer assigned \_\_\_\_\_

\_\_\_\_\_

nn. Training Specialist(s) assigned or ordered \_\_\_\_\_

\_\_\_\_\_

oo. Other agencies on the incident \_\_\_\_\_

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pp. Air Operations:

a. Aircraft assigned \_\_\_\_\_

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b. Air Tactical Group Supervisor \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

c. Airport \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
Telephone #:  
\_\_\_\_\_

*FAD Operations Guide*

d. Helicopters assigned (**mention NG and Cooperator A/C**) \_\_\_\_\_

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\_\_\_\_\_

Helibase Location \_\_\_\_\_

\_\_\_\_\_

e. **FAR 91.137 assigned (describe) ? NEEDED?**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

f. Flight hazard map available/known hazards in area

g. Crash/rescue \_\_\_\_\_

\_\_\_\_\_

h. Medivac locations \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

i. Aviation Officer assigned (needed?)

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qq. Personnel and resources on the incident (describe existing organization) \_\_\_\_\_

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*FAD Operations Guide*

rr. Equipment on the incident \_\_\_\_\_  
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Is all equipment inspected and signed up? \_\_\_  
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VFDs use, assistance? \_\_\_\_\_  
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ss. Supply system to be used (ordering procedures) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

tt. Buying Team in place or ordered \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

uu. Catering services/meals provided \_\_\_\_\_  
\_\_\_\_\_  
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*FAD Operations Guide*

vv. Land Status/ Trust holdings scattered throughout? \_\_

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ww. Area assigned to Incident Management Team for  
“new” outbreaks? \_\_\_\_\_

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Procedure to interface new outbreaks with  
Area/State/FEMA Requests? \_\_\_\_\_

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xx. Resources or overhead to be released upon transition

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yy. Rehabilitation policies \_\_\_\_\_

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zz. Other IMT considerations \_\_\_\_\_  
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\* Estimated time when team will assume command:  
  
date \_\_\_\_\_  
time \_\_\_\_\_

\* Medical facilities \_\_\_\_\_  
\_\_\_\_\_  
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\* Medivac procedure \_\_\_\_\_  
\_\_\_\_\_  
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\* Demobilization Procedures **NEGOTIATE  
CONTAIN/CONTROL DATES/ TIMES AND  
PERCENTAGES WITH STATE PRIOR TO  
ANY CONTAINMENT NOTIFICATION TO  
THE PUBLIC**  
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*FAD Operations Guide*

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\* Expanded Dispatch Organization (ODEM)\_\_\_\_  
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**SAMPLE DELEGATION OF AUTHORITY LETTER** Delegation of Authority

To: Incident Commander

This is the delegation of authority for you from State Veterinarian \_\_\_\_\_, @ \_\_\_\_\_ on \_\_\_\_\_ or his/ her designated "Acting" will be the designated Division Director's representative during my absence. You are given full authority and responsibility for management of the \_\_\_\_\_ presently on State of Oklahoma land; in the \_\_\_\_\_ County(s) this delegation includes responsibility for coordination of containment, restriction of movement of persons and animals necessary to contain the outbreak to the smallest possible area. You and your IMT are encouraged to coordinate use of resources, camps etc. with the local VMO(s) as needed. The specific coordination of all cooperator resources will be critical.

The general objectives for this incident are:

1. Containment and control activities do not compromise incident worker and public safety.
2. Coordination of all activities with the local unit (county officials) should be encouraged and they should play an active role in meetings.
3. Coordination with \_\_\_(USDA/FEMA)
4. Development and execution of an information plan which address' information flow to local communities and visitors. This plan must also provide for a link to the State Office in Oklahoma City, Oklahoma.
5. Protection of. private property.
6. Protect environmental sensitive areas especially
7. Protection of threatened and endangered habitat and fisheries.
8. Ensure prompt remedial action is taken on all Human Resource, Drug, Alcohol, and behavioral incidents.
9. Ensure cost effectiveness, documentation of costs is a consideration for all incident management activities.  
This delegation is effective at \_\_\_\_\_, \_\_\_\_\_.

State Veterinarian

Date: \_\_\_\_\_ Time: \_\_\_\_\_



FAD Technical Guide      Appendix C

**APPENDIX C  
(SERIES OF INDIVIDUAL SECTIONS)**

<b>SECTION I</b>	<b>EMERGENCY PHONE NUMBERS</b>
<b>SECTION II</b>	<b>FAD REPORTING FORM INSTRUCTIONS</b>
<b>SECTION III</b>	<b>DISPOSAL</b>
<b>SECTION IV</b>	<b>TABLE OF SPECIMEN COLLECTION</b>
<b>SECTION V</b>	<b>SAMPLE PRIORITY CHECKLIST</b>
<b>SECTION VI</b>	<b>NECROPSY PROCEDURES</b>
<b>SECTION VII</b>	<b>DISEASE CHARACTERISTICS</b>
<b>SECTION VII</b>	<b>DISEASES CAUSING VESICULAR LESIONS</b>
<b>SECTION IX</b>	<b>FOREIGN ANIMAL ZOOZOSES</b>
<b>SECTION X</b>	<b>FOREIGN ARTHROPOD PESTS IN LIVESTOCK</b>
<b>SECTION XI</b>	<b>PPE REQUIREMENTS BY SUSPECTED DISEASE</b>
<b>SECTION XII</b>	<b>APPROVED DISINFECTANTS</b>
<b>SECTION XIII</b>	<b>CLEANING/DISINFECTION RESOURCE APPENDIX</b>

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SECTION I

EMERGENCY PROGRAM'S PHONE NUMBERS

BUSINESS HOURS:

MAIN OFFICE NUMBER 301-734-8073

Cell Numbers for EP Staff

Dr. Joe Anelli	240-508-9747
Dr. Aida Boghossian	240-580-9748
Dr. Randall Crom	240-508-9753
Dr. Sherrie Wainwright	301-526-3062

AFTER BUSINESS HOURS, HOLIDAYS, OR WEEKENDS\*:

Dr. Aida Boghossian	301-776-3266 (HOME) or 240-508-9748 (cell)
Dr. Randall Crom	(202) 659-0321 (home) or (240) 508-9753 (cell)
Dr. Sherrilyn Wainwright	(240) 526-3062 (Cell)
Dr. Joe Anelli	410-750-9743 (HOME) or 240-508-9747 (cell)

**Note:** If after a reasonable amount of time and a response to a phone message is not received, please call another person because technical barriers to successful nationwide cell calling may occur. Airborne travel or subway travel could prevent a cell call from being received.

(\*Use cell phone numbers if cannot be reached at home.)

SECTION II

**FOREIGN ANIMAL DISEASE/EMERGING DISEASE INCIDENT  
REPORTING FORM INSTRUCTIONS**

**INTRODUCTION**

Field epidemiological disease system (FEDS) has been replaced with a Lotus Notes database called FAD/EDI report. This database allows for capturing and tracking information about Foreign Animal Disease (FAD) or Emerging Disease Incidents (EDI). The system has many advantages including being user friendly and having internet access for State FADDs. It can also be used for performing descriptive statistics about the investigations that will enable States to tailor their educational outreach. Using the database will also aid in finding trends and similar occurrences in surrounding States that could lead to identifying emerging diseases. However, all entries should be considered **confidential**.

The reporting process should run smoothly if these actions are followed:

**REPLICATION**-Local replicas should be created to allow the FADD to use the system when NOT connected to a server/network. This does NOT apply to those AREA Offices that are networked on a server. It is important that the FADD replicate the database so that the database remains most current before they open the database.

**INITIAL CALL**- The AVIC or designee\* will initiate the investigation. He/she will create a new document and input the referral control number, the assigned FADD, the reviewers, and other preliminary data.

**DATA ENTRY**-Once the FADD has completed the investigation; the findings should be entered as soon as possible, with attention given to all applicable sections.

**NOTIFICATION**- FAD investigation reports should be e-mailed to the FAD mailing group (appropriate lab, AVIC and RD). EP staff will do daily monitoring; therefore it is unnecessary to call for notification. However, for potential Priority 1 cases, **phone** EP staff immediately.

**REVIEW PROCESS**- The document originator (AVIC/designee\*/FADD can set up this feature, which allows other people to edit/add/delete information pertaining to the investigation. Usually, it should be someone in the Area office and/or the FADD.

**FOLLOW-UP FORMS**-This feature allows for the accurate chronology of the investigation. These forms are used to input additional information, re-examination of animals or to close out the investigation. FADD **must** do a follow-up form when closing the investigation; it should include final lab results, final diagnosis and further actions taken. (i.e. Quarantine release, etc.).

**DATABASE MAINTENANCE**- AVIC or their designee\* must maintain the FAD investigations for their state. This includes reviewing investigation reports to ensure all pertinent information is recorded and validated, closing cases promptly, and ensuring that follow-up forms are done when lab results are received.

EP will only accept information in the form of electronic FAD/EDI report. If the FADD does not have this database, they must supply a report to the AVIC and the AVIC will ensure that it is entered into the electronic FAD/EDI report database maintained in their office. The AVIC or designee\* reviews, validates and forwards electronic FAD/EDI reports to the Region.

#### **REFERRAL CONTROL NUMBER**

The AVIC is to assign the 8-digit REFERRAL CONTROL NUMBER for each suspect FAD investigation. CONTROL NUMBERS are to be assigned as follows:

- First 2 digits represent the fiscal year (e.g., 00)
- Next 2 digits represent the State (e.g., California = CA)
- Next 4 digits specifies the next investigation number for the fiscal year (e.g., 0005)

In this example "00CA0005" would represent the fifth investigation conducted in the State of California, for fiscal year 2000. The additional suffix region and date are no longer necessary.

\*Recommended Designee should be the Area Epidemiology Officer or Asst. AVIC.

**SECTION III**

**DISPOSAL**

**The Oklahoma Department of Agriculture (ODA) should be notified before beginning carcass disposal.**

**Methods of Disposal**

Landfill, incineration, field composting, and rendering are all acceptable methods of disposal. Not every method will work on every farm. Contact your local NRCS or conservation district office to assist in finding out which methods could be used on your farm.

**BURIAL**

Burial of dead animals requires a backhoe or other trenching machine for construction of a pit in preparation of receiving carcasses.

General consideration for using burial pits:

- Do not locate the burial pit closer than 1 foot vertically above the flood plain or bottom of the burial pit within 2 feet of a water table or bedrock.
- Do not locate the burial pit within 300 feet of wells, springs, streams, neighboring residences, or public areas.
- Burial pit bottoms shall be relatively level. Length of burial pits may be limited by soil suitability and slope. If more than one pit is required, they shall be separated by a minimum of 3 feet of undisturbed or compacted clay soil.
- Do not locate the burial pit where surface water could enter the pit.

Interpreting NRCS Soil Interpretations;

Each local NRCS office maintains a listing of suitability for burial by soil series. Each soil that is mapped in the county will fall into one of the following categories:

- **Suited** – Soils are adequate for burial. These are the preferred areas for locating burial pits.
- **Suited with Limitations** – Soils may be used for burial, as long as the limiting considerations are addressed.
- **Moderately Suited with Limitations**- Soils may be used for burial, as long as the limiting considerations are addressed.
- **Poorly Suited with Limitations** – Soils are not suited for burial pits without overcoming major limitations. These locations are not recommended for burial.

- **Very Poorly Suited with Limitations** – Soils are not adequate for burial. No burial pits may be constructed in these soils. Alternative methods of disposal will be required if these are the only available soils on the farm.

**NRCS personnel must complete site suitability for pits in the field.**

**PROCEDUREES FOR USING BURIAL PITS**

1. Dig a trench at least four feet wide to a minimum depth of 3 feet. Maximum vertical trench wall is 4 feet. For trenches deeper than 4 feet vertical, the earthen wall shall be sloped back at 2 feet horizontal and 1 foot vertical.
2. Begin placing animals in one end of the pit. One layer of carcasses will be followed with a minimum of 1 foot of soil between layers; and covered with a minimum of two feet of soil above the last layer. For poultry, multiple layers of carcasses can be used, not to exceed two feet in thickness.
3. As the animals begin to decay, it may be necessary to place additional soil material in areas that subside.
4. Vegetate the fill areas or allow revegetating naturally.

**OVERCOMING LIMITAITONS**

Not all soils located on a farm may be suited for burial without adequately addressing the limitation that prevents dead animals from being disposed by burial in an environmentally sound manner. The following limitations may be identified for your soils.

**Slope** – Overhead water must be diverted around the burial location by the use of short diversions.

**Depth to Rock** – The bottom of the pit must be kept shallow and adequate volume created by “mounding” of sidewalls above original ground elevation. Cover over carcasses must consist of a minimum of two feet of soil.

**Flooding** – Dikes must be installed to keep floodwaters out of burial area.

**Fragments or Stones** – There are not specific construction requirements to meet, but difficulty will be encountered during mechanical excavation of pit.

**Apparent Water Table** – Mounding, as listed in Depth to Rock.

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**Perched Water Table** – There are various methods available for addressing perched water tables.

These include:

- Mounding, as listed in Depth to Rock.
- Providing drainage with perforated drainage pipe to open drainage ditches.
- Sealing off perched zones with compacted backfill.
- Using a 30 ml geosynthetic containment liner, overlapping at the top.

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SECTION IV

Table of Specimen Collection

Species	Tissues for Microbiological and Histological Examination	Blood Samples	Other
Bovine	Skin and nasal swabs, prescapular lymph node (LN), body cavity fluids, joint fluids, liver, kidney, mesenteric LN, lung, heart, tracheal swab, 3" of section of small intestine and ileum (affected area if present), ½ brain, any specific lesion Brucella: supramammary LN, udder, reproductive tract (all frozen)	Serum, 10 ml Whole blood, 20 ml (heparinized) 6 Blood smears – air dry, fix in methanol	External Parasites (alcohol)
Porcine	Skin swab, fluid from any affected joint, body cavity fluids, spleen, liver, kidney, gastrohepatic and mesenteric LN, lung, tonsil, 3" tied-off loop of small intestine and colon, ½ brain, any specific lesion Brucella: Mandibular LN,	Serum, 10 ml Whole blood, 20 ml (heparinized) 6 Blood smears- air dry, fix in methanol	External parasites (alcohol)

	Reproductive tract (all frozen)		
<b>Species</b>	<b>Tissues for Microbiological and Histological Examination</b>	<b>Blood Samples</b>	<b>Other</b>
Equine	Prescapular LN, mandibular LN, body cavity fluids, spleen, liver, kidney, mesenteric LN, ½ brain, any specific lesion. If contagious equine metritis is suspected, swab clitoral sinuses, clitoral fossa and vaginal discharge of mare; and prepuce, urethral sinus, and fossa glandis of stallion; send refrigerated in Amies transport medium and charcoal overnight.	Serum, 10 ml Whole blood, 20 ml (heparinized) 6 Blood smears-air dry, fix in methanol	External parasites (alcohol)
Ovine or Caprine	Skin and nasal swab, prescapular LN, mammary tissue, body cavity fluids, spleen, liver kidney, mesenteric LN, lung, mediastinal	Serum, 10 ml Whole blood, 10 ml (heparinized) 6 Blood smears-air dry, fix in methanol	External parasites (alcohol)

	LN, tracheal and bronchial swabs, ½ brain, any specific lesion		
<b>Species</b>	<b>Tissues for Microbiological and Histological Examination</b>	<b>Blood Samples</b>	<b>Other</b>
Avian	Tracheal and nasal swabs, liver, spleen, kidney, lung, trachea, bone marrow, heart, ovary, brain, terminal intestine, bursa of Fabricius, any specific lesion	Serum, 2 ml	External Parasites (alcohol)

<b>Species</b>	<b>Tissues for Microbiological and Histological Examination</b>	<b>Blood Samples</b>	<b>Other</b>
Vesicular diseases for all species	Vesicular fluid (all that is obtainable), vesicular lesion epithelium, flaps of epithelial tissue, esophageal-pharyngeal fluid (10 ml before dilution with Tris Buffered Tryptose Broth). In addition, if dead- prescapular LN, adrenal, kidney, thyroid, hear, tonsil, mandibular LN	Serum, 10 ml	

**SECTION V**  
**Sample Priority Checklist**

<b>Priority 1</b>	<b>Priority 2</b>	<b>Priority 3</b>
“Highly Suspicious” of an FAD	“Suspect” Can’t distinguish between FAD and endemic Disease	“Not Likely” Considered most likely an endemic condition
Prompt lab information needed ASAP	Rapid testing is needed	Specimen will be tested according to order received
Samples will be hand carried or counter-to-counter	Samples will arrive next business day via FedEx	Samples will arrive next business day via FedEx

**Normal Values for Physical Exam**

<b>Species</b>	<b>Rectal Temperature</b>	
	<b>Degree F+/- 1 degree</b>	<b>Degree C+/- 0.5 deg.</b>
<b>Cattle</b>		
Beef Cow	<b>101</b>	<b>38.3</b>
Dairy Cow	<b>101.5</b>	<b>38.6</b>
<b>Goat</b>	<b>102.3</b>	<b>39.1</b>
<b>Horse</b>		
Mare	<b>100</b>	<b>37.8</b>
Stallion	<b>99.7</b>	<b>37.6</b>
<b>Pig</b>	<b>102.5</b>	<b>39.2</b>
<b>Sheep</b>	<b>102.3</b>	<b>39.1</b>

<b>Species</b>	<b>Heart Rates</b>
	<b>Beats/Min (range)</b>
<b>Chick</b>	<b>350-450</b>
<b>Chicken (adult)</b>	<b>250-300</b>
<b>Dairy Cow</b>	<b>48-84</b>
<b>Goat</b>	<b>70-80</b>
<b>Horse</b>	<b>28-40</b>
<b>Pig</b>	<b>70-120</b>
<b>Sheep</b>	<b>70-80</b>

**SECTION VI**

**Necropsy Procedures**

- A. If the animal is presented for euthanasia, collect blood samples before performing euthanasia.
- B. If the animal is presented dead, collect the blood samples from the heart. Make blood smears, air dry, and fix in methanol.
- C. Cattle, sheep, goats, and pigs are best positioned on their **left side**. Horses should be positioned on their **right side**.
- D. Make an external examination and collect ectoparasites, if indicated
- E. Collect nasal swabs and skin lesions or swabs, if indicated.
- F. To prevent contamination, disinfect the skin or use clean instruments to open body cavities. Open the abdominal and thoracic cavities carefully so as to prevent contamination from the outside for from a cut organ.
- G. Observe, but do not disturb, organ placement.
- H. Tie off and remove a 3-inch section of ileum just anterior to the ileocecal valve.
- I. Double ligate to prevent spillage of intestinal contents into the abdominal cavity. Do not tie off intestinal segments to be placed in formalin. The fixative should infiltrate lumen of the organ.
- J. Complete the examination of the abdominal cavity. The entire digestive tract should be opened.
- K. Decapitate the animal, remove the brain, and collect specimens.

**Post Necropsy**

- A. Decontaminate instruments before cleaning them.
- B. Clean and disinfect all work surfaces.

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- C. Decontaminate self, e.g., disinfect and remove boots and gloves and remove coveralls.
- D. Record the necropsy findings.

### SECTION VII

#### Disease Characteristics and Summaries

##### 1. Multiple Species

#### Viral Diseases

Disease	Etiologic Agent	Clinical Signs
<p><b>Foot-and-Mouth Disease</b> *cloven-hoofed animals</p>	<p>Family Picornaviridae, genus Aphthovirus,</p> <p>7 immunologically distinct serotypes: A, O, C, SAT1, SAT2, SAT3, Asia 1</p>	<p><b>Cattle:</b> Initial signs are fever (103-105 F), dullness, anorexia, fall in milk production; followed by excessive salivation, drooling, serous nasal discharge, shaking, kicking of the feet or lameness and vesicle formation. Sites of predilection for vesicles are the tongue, dental pad, gums, soft palate, nostrils, muzzle, interdigital space, coronary band and teats. Pregnant cows may abort, and young calves may die without developing any vesicles. Course of infection is 2-3 weeks.</p> <p><b>Swine:</b> Initial signs are fever (104-105 F), anorexia, reluctance to move and squeal when forced to move; followed by vesicles on the coronary band, on the heels, in the interdigital space and on the snout. Sows may abort. High mortality in piglets.</p> <p><b>Sheep &amp; Goats:</b> Signs are mild.</p>
<p><b>Pseudorabies</b> *all mammals except the tailless apes (horses rare)</p>	<p>Family <i>Herpesviridae</i> Genus <i>Alphaherpesvirus</i>, <i>Porcine herpesvirus 1</i> (PHV1)</p>	<p>Intense local pruritus, excitement, bellowing, convulsions, paralysis, death 2-3 days</p>
<p><b>Vesicular Stomatitis</b> *pig, horse,</p>	<p>Family <i>Rhabdoviridae</i> Genus</p>	<p>All animals develop a fever (104-106F). Horses: vesicles in the mouth causing chomping of the animal's</p>

cattle, sheep	<i>vesiculovirus</i> 2 antigenically distinct types, New Jersey, Indiana	jaws, drooling, and rubbing its mouth on objects. Lesions on the coronary band can cause lameness. Cattle & Pigs: Same signs as FMD Humans: Influenza like illness
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**Bacterial Diseases**

Disease	Etiologic Agent	Clinical Signs
Anthrax *all mammals	<i>Bacillus anthracis</i>	Peracute, acute, subacute, and chronic forms of the disease are reported. Ante-mortem clinical signs may be virtually absent in peracute and acute forms of the disease. Subacute disease may be accompanied by a febrile response, depression, inappetence, weakness, prostration and death. Chronic disease may show localized swelling, fever, enlarged lymph glands and possible death if the airway becomes obstructed.

**Rickettsial Diseases**

Disease	Etiologic Agent	Clinical Signs
Heartwater *ruminants	<i>Cowdria ruminantium</i> , transmitted by <i>Amblyomma spp.</i> ticks	Characterized by a sudden high fever, often an acute gastroenteritis and hydropericardium, respiratory disorders, and in acute and peracute forms, by nervous symptoms and death. Subacute heartwater also occurs, and has a higher recovery rate.

**Parasitic Diseases**

Disease	Etiologic Agent	Clinical Signs
Screwworm myiasis *all mammals	<i>Cochliomyia hominivorax</i>	Young larvae invade the surrounding tissues vigorously and burrow deeply; a profuse brownish exudates pours from the wound; apparent objectionable odor attracting multiple infestations of a single wound; animal shows irritation early after infection and by day 3 shows pyrexia.

**2. Cattle****Viral Diseases**

<b>Disease</b>	<b>Etiologic Agent</b>	<b>Clinical Signs</b>
Akabane	Arboviruses of the Simbu group of the family Bunyaviridae	Seasonally sporadic epizootic of abortions, stillbirths, premature births, and deformed feti. The pregnant dam has no clinical manifestations. Calves infected late in pregnancy may be born alive but unable to stand, or may be incoordinated and on necropsy show a disseminated encephalomyelitis. Infected 2 <sup>nd</sup> trimester: rigid fixation of limbs (arthrogryposis) and sometimes torticollis, kyphosis and scoliosis with associated neurogenic muscle atrophy. Infected late in the 1 <sup>st</sup> trimester: born alive but walk poorly, depressed, blind, have varying degrees of cavitation of cerebral hemispheres.
Bovine Epemeral Fever	Rhabdovirus	Biphasic or polyphasic fever, shivering, inappetence, lacrimation, serous nasal discharge, drooling, dyspnea, atony of forestomachs, depression, stiffness and lameness, and a sudden decrease in milk yield.
Bovine Spongiform Encephalopathy	Prions (unconventional viruses)	Changes in temperament, apprehension, nervousness or aggression, incoordination, (especially hindlimb ataxia), tremor difficulty in rising, hyperaesthesia to sound and touch; decreased milk production, loss of body condition.
Lumpy Skin Disease	Family <i>Poxviridae</i> , Genus <i>Capripoxvirus</i>	Fever (104-106.7 F); nodules affecting the whole skin, subcutaneous tissue and sometimes musculature of 1-5 cm in diameter and larger; depression; anorexia; emaciation; painful nodules, esp. in the skin of the muzzle, nares, back, legs, scrotum, perineum, eyelids,

		lower ear, nasal mucosa, oral mucosa, end tail ( sitfast); lameness; enlarged superficial LNs draining areas of skin.
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Malignant Catarrhal Fever *cattle, buffalo, and deer	Family <i>Hepesviridae</i> , Subfamily <i>Gammaherpesvirinae</i>	Peracute form: fever, severe inflammation of the oral and nasal mucosae, hemorrhagic gastroenteritis with a course of 1-3 days. Intestinal form: fever, diarrhea, and hyperemia of oral and nasal mucosae with accompanying discharges, lymphadenopathy with a course of 4-9 days. Head & Eye Form: typical syndrome with fever, nasal, and ocular discharges progressing from serous to mucopurulent and purulent. Encrustation of the muzzle and nares, dyspnea, open-mouth breathing, drooling, intense hyperemia and multifocal/ diffuse necrosis of the oral mucosa. Ocular signs include lacrimation, photophobia, hyperemia and edema of the palpebral conjunctiva, injection of scleral vessels, corneal opacity, and hypopyon. Possible nervous signs including trembling, uncoordinated gait and terminal nystagmus.
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**Viral Diseases (cont.)**

Disease	Etiological Agent	Clinical Signs
Rinderpest	Family <i>Paramyxoviridae</i> , genus <i>Morbillivirus</i>	Classic form: four stages-incubation period; febrile period, rumination, increase of respiratory and cardiac rate, mucous membrane congestion (oral, nasal, ocular and genital tract mucosae), intense mucopurulent lacrimation and abundant salivation,

		<p>anorexia, necrosis and erosion of the oral mucosa (phase lasts 2-3 days). Gastrointestinal signs appear when the fever drops and includes profuse hemorrhagic diarrhea containing mucus and necrotic debris, severe tenesmus, dehydration, abdominal pain, abdominal respiration, weakness, recumbency and death within 8-12 days. Rare cases, clinical signs regress by day 10 and recovery occurs by day 20-25; peracute form-no prodromal signs, high fever (&gt;104 F), sometimes-congested mucous membranes, and death. Occurs in highly susceptible young and newborn animals; subacute form-signs limited to one or more of the classic signs. Low mortality rate. Atypical form-irregular pyrexia and mild or no diarrhea.</p>
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Cattle (cont.)

**Bacterial Diseases**

Disease	Etiological Agent	Clinical Signs
Contagious Bovine Pleuropneumonia	<i>Mycoplasma mycoides subsp. mycoides SC</i> (bovine biotype)	Adults: moderate fever with respiratory, pulmonary and pleuritic symptoms; polypnea, characteristic attitude (elbows turned out, arched back, head extended), cough (at first dry, slight, and not fitful, becoming moist), labored breathing after exercise, at percussion, dull sounds can be noticed in the low areas of the thorax Calves: arthritis with swelling of the joints
Hemorrhagic Septicemia *cattle &	Serotypes of <i>Pasteurella mutocida</i>	Dullness, reluctance to move, and elevated temperature are the first signs. Following are salivation and

buffalo		nasal discharge, edematous swelling in the pharyngeal region then spreading to the ventral cervical region and brisket, congested mucous membranes, respiratory distress, collapse and death
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## Cattle (cont.)

## Parasitic Diseases

Disease	Etiological Agent	Clinical Signs
Bovine Babesiosis	Protozoan parasites <i>Babesia bovis</i> , <i>B. bigemina</i> , <i>B. divergens</i> ; Principal vectors: <i>Boophilus</i> spp. For <i>B. bovis</i> and <i>B. bigemina</i> ; <i>Ixodes ricinus</i> for <i>B. divergens</i> . Other vectors, <i>Haemaphysalis</i> and <i>Rhipicephalus</i> spp.	High fever, anorexia and ruminal atony; isolation from the herd, animal becomes uneasy, seeks shade and may lie down; cattle stand with an arched back, have a roughened hair coat, show evidence of dyspnea and tachycardia; injected mucous membranes initially then changing to the pallor of anemia; severe hemoglobinemia and hemoglobinuria; after the onset of fever, the crisis will usually pass within a week and if the animal survives, there is usually severe weight loss, drop in milk production, possible abortion and a protracted

		recovery
East Coast Fever	<i>Theileria annulata</i> and <i>T. parva</i> (tick transmitted, <i>Rhipicephalus appendiculatus</i> is the main vector	First clinical signs appear 7 to 15 days after attachment of infected ticks-includes swelling of the draining LN (usually parotid, with the ear being the preferred feeding site); followed by a generalized lymphadenopathy, fever, anorexia, loss of condition, lacrimation, corneal opacity nasal discharge, terminal dyspnea, diarrhea. Before death-recumbency, fall in temperature, frothy nasal discharge, severe dyspnea. Death usually occurs 18 to 30 days after infestation.

**3. Sheep & Goats**

**Viral Diseases**

Disease	Etiological Agent	Clinical Signs
Bluetongue Cattle, goats, wild ruminants (generally inapparent infection)	Family <i>Reoviridae</i> , Genus <i>Orbivirus</i>  24 serotypes have been identified	Acute form (sheep and some species of deer)- Pyrexia up to 107.6 F, depression, inflammation, ulceration, erosion, and necrosis of the mucosa of the mouth, swollen and sometimes cyanotic tongue, lameness due to coronitis or do dermatitis and moieties, abortion, complications of pneumonia, emaciation, either death within 8-10 days or long recovery with alopecia, sterility and growth delay
Louping Ill (ovine encephalomyelitis) *sheep	Family <i>Flaviviridae</i> Genus <i>Flavivirus</i>	Incubation period, 6-18 days; sudden onset of high fever (up to 107 F) followed by a return to normal and then a second febrile phase starting about the 5 <sup>th</sup> day

		during which nervous signs appear; affected animals stand apart from the herd often with the head held high; marked tremor of muscle groups and rigidity of the musculature-jerky stiff movements and a bounding gait (incoordination most marked in the hindlimbs); hypersensitivity; paralysis and recumbency; fatal cases-animal dies in 7-10 days, young animal, 1-4 days with no nervous signs
Nairobi Sheep Disease	Nairovirus of the family <i>Bunyaviidae</i>	Disease should be suspected when a mortality rate ranging between 40 & 90% occurs in a sheep or goat population, especially when this follows movement from free areas into enzootic areas. The disease is characterized by pyrexia (106.7 F), collapse, and diarrhea. Abortion is also a feature. Infestation with ticks, notably <i>Rhipicephalus appendiculatus</i> , substantiates any suspicion as to the agent involved. There is a low total white cell count in the early febrile stages.

**Viral Diseases (cont.)**

Disease	Etiological Agent	Clinical Signs
Peste des Pestis Ruminants	Morbillivirus	Disease resembles rinderpest in cattle, usually appears as an acute form, incubation period of 4-5 days followed by a sudden rise in body temperature to 104-106 F; characterized by serous ocular and nasal discharges, severe pyrexia (which can last for 3-5 days), erosive lesions (which occur in the mouth), diarrhea and pneumonia
Sheep & Goat Pox	Family <i>Poxviridae</i> Genus <i>Capripoxvirus</i>	Subclinical cases. Clinical cases vary from mild to severe-fever, depression, polypnea, conjunctivitis, lacrimation, rhinitis, edema of eyelids, photophobia, cutaneous eruption beginning with erythematous areas especially

		<p>noticeable in hair or wool-free parts of the body, such as the perineum, inguinal area, scrotum, udder, muzzle, eyelids and axillae, lesions evolve into papules.</p> <p>Papulo-vesicular form: papules become a white-gray color, desiccate and form crusts that are easy to remove. Rarely, papules may transform into vesicles. After rupture of vesicles, a thick crust covers the lesions.</p> <p>Nodular form ('stone pos'): papules give rise to nodules involving all the layers of the skin and the subcutaneous tissue; necrosis and sloughing of the nodules leaves a hairless scar. In both forms, nodules develop in the lungs causing bronchopneumonia with cough, abundant nasal discharge, depression, anorexia and emaciation. Animals may recover within 20-30 days. Death is frequent when complications occur (abortion (rare), secondary infections, fly strike, septicemia, digestive localization)</p>
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**Bacterial Diseases**

<b>Disease</b>	<b>Etiological Agent</b>	<b>Clinical Signs</b>
<b>Contagious Agalactia of Sheep &amp; Goats</b>	<i>Mycoplasma agalaciae</i>	<p>Acute onset of mastitis, ophthalmitis and arthritis with painful swelling of affected joints; high mortality rate and the udder is permanently damaged; abortion; kids are more seriously affected than adults; period of illness ranges from one to several months</p> <p>*other mycoplasmas, <i>M. capricolum subsp. capricolum</i>, <i>M. mycoides subsp. mycoides LC(MmmLC)</i> and <i>M. putrefaciens</i>, that have been shown to cause similar diseases, and at times accompanied by pneumonia</p>
<b>Contagious Caprine Pleuropneumonia</b>	<i>Mycoplasma Capricolum subsp. capripneumoniae</i>	<p>Incubation period, 6-10 days; cough; dyspnea; lagging; lying down frequently; fever (104.5-106</p>

	(Mccp)	F); terminal stages-mouth breathing, tongue protrusion, frothy salivation with death in 2 or more days *Respiratory disease in goats may also involve <i>Pasteurella haemolytica</i> , <i>P. multocida</i> , <i>M. ovipneumoniae</i> and <i>M. agalactiae</i> .
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4. Equine

Viral Diseases

Disease	Etiological Agent	Clinical Signs
<b>African Horse Sickness</b>	Viscerotropic virus, family <i>Reoviridae</i> , genus <i>Orbivirus</i>	Subclinical form: fever (104-104.9 F) and general malaise for 1-2 days. Subacute or cardiac form: fever (102.2-105.8 F), swelling of the supraorbital foros, eyelids, facial tissues, neck, thorax, brisket and shoulders. Death usually within 1 week. Acute respiratory form: fever (104-105.8 F), dyspnea, spasmodic coughing, dilated nostrils and frothy fluid oozing out, redness of conjunctivae, death from anoxia within 1 week. A mixed form (cardiac and pulmonary) occurs frequently: pulmonary signs of a mild nature that do not progress, edematous swellings and effusions, death from cardiac failure, usually within 1 week. In the majority of cases, the subclinical cardiac form is suddenly followed by marked

		dyspnea and other signs typical of the pulmonary form. A nervous form may occur, though it is rare
<b>Hendra Disease</b>	Family <i>Paramyxoviridae</i> Hendra virus (HeV)	Acute respiratory distress then death; there could be a high temperature, depression, then copious nasal discharges that may be bloody; severe damage to the lungs with the accumulation of massive amounts of fluid
<b>Japanese Encephalitis</b>	Mosquito-borne Flavivirus	Initial signs-fever, impaired locomotion, stupor and grinding of teeth. Blindness, coma and death follow in more severe cases. Subclinical infections are far more common than recognizable encephalitis. The infection also results in births of litters of pigs with a high percentage of stillbirths of pigs affected with encephalitis.

**Equine (cont.)**

**Viral Disease (cont.)**

<b>Disease</b>	<b>Etiological Agent</b>	<b>Clinical Signs</b>
<b>Venezuelan Equine Encephalomyelitis</b>	Genus Alphavirus of the family Togaviridae	Subclinical infection; Moderate-anorexia, high fever, depression; Severe, but nonfatal-anorexia, high fever, stupor, weakness, staggering, blindness, and occasionally permanent neurologic sequelae; Fatal- same clinical signs 2 general forms: a. fulminating form-generalized, acute febrile disease signs. b. encephalitic form: CNS signs predominate

**Bacterial Diseases**

<b>Disease</b>	<b>Etiological Agent</b>	<b>Clinical Signs</b>
<b>Contagious Equine Metritis</b>	<i>Taylorella equigenitalis</i>	In the mare, the chief clinical sign is a copious to slight mucopurulent vaginal discharge occurring 10-14 days postbreeding to an infected stallion. The effects are limited to the reproductive tract.

<b>Glanders</b>	<i>Burkholderia mallei</i> Formally known as <i>Pseudomonas mallei</i>	Nasal form: unilateral or bilateral yellowish-green nasal discharge, nodules and ulcers on the nasal mucosa Cutaneous form: multiple nodules on the skin of the legs or other parts of the body (the ulcers may rupture leaving ulcers that discharge a yellow exudates to the skin surface and heal slowly); cutaneous lymphatic vessels become distended and firm, filled with tenacious purulent discharge (“farcy pipes”) Pulmonary form: range from inapparent infection to mild dyspnea, or severe coughing with lower respiratory tract involvement.
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Equine (Cont.)

**Parasitic Diseases**

Disease	Etiological Agent	Clinical Signs
<b>Equine Babesiosis</b>	<i>Babesia caballi, B. equi</i>	Same as bovine babesiosis
<b>Dourine</b>	<i>Trypanosoma equiperdum</i>	Fever, local edema of the genitalia and mammary glands, cutaneous eruptions, incoordination, facial paralysis, ocular lesions, anemia, and emaciation may all be observed. Edematous cutaneous plaques, 5-8 cm in diameter and 1 cm thick, are pathognomonic. The clinical signs are marked by periodic exacerbation and relapse, ending in death or possibly, recovery

**Fungal Diseases**

Disease	Etiological Agent	Clinical signs
<b>Epizootic Lymphangitis</b>	<i>Histoplasma farciminosum</i>	Acute-high fever, cough and nasal discharge with rapidly spreading

		<p>ulcers appearing on the nasal mucosa and nodules on the skin of the lower limbs or abdomen. Death due to septicemia occurs in a few days.</p> <p>Chronic- (signs related to the lesion site); pulmonary form: chronic cough, frequent epistaxis, labored respiration. Nasal and skin form: lesions on the lower parts of the turbinates and the cartilaginous nasal septum, beginning as nodules (1 cm in diameter), ulcerating and becoming confluent; unilateral or bilateral serous discharge later becoming purulent and bloodstained; enlargement of the submaxillary lymph nodes, on healing the ulcers are replaced by a characteristic stellate scar; skin is characterized by subcutaneous nodules (1-2 cm in diameter) which ulcerate and discharge dark honey type pus; thickened fibrous lymph vessels; (predilection site for skin lesions-medial aspect of the hock)</p>
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**5. Swine**

**Viral Diseases**

<b>Disease</b>	<b>Etiological Agent</b>	<b>Clinical Signs</b>
<b>African Swine Fever</b>	DNA virus not classified to date, has characteristics of an Iridovirus and a Poxvirus	Acute form (highly virulent virus)- fever (104.9-107.6 F), early leucopenia and thrombocytopenia (48-72 hrs); reddening of the skin (white pigs) – tips of ears, tail, distal extremities, ventral aspects of chest and abdomen; anorexia; listlessness; cyanosis; incoordination within 24-48 hrs before death; increased pulse and respiratory rate; vomiting; diarrhea (sometimes bloody); eye discharges may exist; death within 6-13 days, or up to 20 days; abortion may occur in pregnant sows; survivors are virus carriers for life. In domestic swine, the mortality rate often approaches 100%. Subacute

		<p>form (moderately virulent virus)-less intense symptoms; duration of illness is 5-30 days; abortion in pregnant sows; death within 15-45 days; mortality rate is lower (e.g. 30-70%, varies widely)</p> <p>Chronic form-various signs: loss of weight, irregular peaks of temperature, respiratory signs, necrosis in areas of skin, chronic skin, ulcers, arthritis, pericarditis, adhesions of lungs, swelling over joints. Develops over 2-15 months. Low mortality</p>
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**Swine (cont.)**

**Viral Diseases (cont.)**

<b>Disease</b>	<b>Etiological Agent</b>	<b>Clinical Signs</b>
<p><b>Classical Swine Fever</b></p>	<p>Family <i>Flaviviridae</i> genus <i>Pestivirus</i></p>	<p>Acute Form-fever (105.8 F), anorexia, lethargy, multifocal hyperemia and hemorrhagic lesions of the skin, conjunctivitis, cyanosis of the skin especially of extremities, transient constipation followed by diarrhea, vomiting (occasional), dyspnea, coughing ataxia, paresis and convulsion, pigs huddle together, death occurs 5-15 days after onset of illness. Mortality in young pigs can approach 100%</p> <p>Chronic form-dullness, capricious appetite, pyrexia, diarrhea for up to 1 month, apparent recovery with eventual relapse and death</p> <p>Congenital form-tremor, weakness, runting, poor growth over a period of weeks or months leading to death; clinically normal by persistently viremic pigs, with no antibody</p>

		response Mild form (sows)-transient pyrexia and inappetence, fetal death, resorption, mummification, stillbirth, birth of live, congenitally affected piglets, abortion (rare)
<b>Swine Vesicular Disease</b>	Family <i>Picornaviridae</i> genus <i>Enterovirus</i>	Sudden appearance of lameness in several animals in a group in close contact; elevation of body temperature; on hard surfaces, animals may be observed to limp, stand with arched back, or refuse to move even in the presence of food; young animals are more severely affected; vesicles occur on the snout and along the coronary band and interdital spaces of the feet, and rarely on the epithelium of the buccal cavity, the tongue and the teats; vesicle rupture results in erosions on the skin of the snout and the coronary bands of the feet; loosened foot pads (young stock, may lose the horny hoof); recovery occurs usually within 1 week, and a maximum of 3 weeks
<b>Vesicular Exanthema of Swine</b>	Calicivirus, 13 serotypes	Similar to other vesicular diseases, lesions seem to be deeper and granulation tissue commonly forms especially on the feet; fever; vesicles in the mouth, on the snout and on the feet; lameness
<b>Nipah Virus Disease</b>	Family Paramyxoviridae	Morbidity is usually high but mortality is low; rapid labored breathing; very harsh explosive cough; in sows disease may be more pronounced with sever breathing difficulties; convulsions, death; pneumonia; mucopurulent discharges from the nose; at post mortem the predominant signs are consolidation of the lungs

6. Avian

Viral Diseases

Disease	Etiological Agent	Clinical Signs
<b>Highly Pathogenic Avian Influenza (fowl plague)</b>	Family <i>Orthomyxoviridae</i> , genus <i>Influenzavirus A</i> , B (to date, all highly pathogenic isolates have been influenza A viruses of subtypes H5 and H7)	Incubation period is 3-5 days; severe depression; inappetence; drastic decline in egg production; facial edema with swollen and cyanotic combs and wattles; petechial hemorrhages on internal membrane surfaces; sudden deaths (mortality can reach 100%)
<b>Exotic Newcastle Disease</b>	Family <i>Paramyxoviridae</i> , genus <i>Rubulavirus</i>	Incubation period is 3-5 days; respiratory and/or nervous signs: gasping and coughing; drooping wings; dragging legs; twisting of the head and neck; circling; depression; inappetence; complete paralysis; partial or complete cessation of egg production; eggs are misshapen, rough-shelled, thin-shelled and contain watery albumen; greenish watery diarrhea; swelling of the tissues around the eyes and in the neck; morbidity and mortality depend on virulence of the virus strain, degree of vaccinal immunity, environmental conditions, and condition of the flock.

7. Lagomorphs

Viral Diseases

Disease	Etiological Agent	Clinical Signs
<b>Viral Hemorrhagic Disease of Rabbits</b>	Calicivirus	Sudden death after 6 to 24 hours of fever (up to 105 F) with few clinical signs; show depression in the final hours and may have a variety of neurological signs; may or may not emit a terminal squeal or produce a serosanguineous, foamy, nasal discharge

**List of Diseases Considered Being Highly Contagious:**

- Foot-and-Mouth Disease \*(cloven-hoofed animals)**
- Hendra Disease**
- African Swine Fever**
- Classical Swine Fever**
- Swine Vesicular Disease**
- Nipah Virus Disease**
- Avian Influenza**
- Exotic Newcastle Disease**
- Rabbit Hemorrhagic Disease**

**See, also, the current OIE List A & B diseases for status of diseases to consider for diagnosis and classification.**

**SECTION VIII**  
**Diseases Causing Vesicular Lesions in Cattle**

Lesions	FMD	VS	BT/EHD	MCF	BVD	Oral Trauma
Drooling	X	X	X	X	X	X
Fever	X			X		
Anorexia	X	X	possible	X	X	X
Vesicles (Nares)	X	X				
Vesicles (Oral)	X	X	X			
Vesicles (feet)	X	X	X			
Erosions (oral)	X	X	X	X	X	X

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Erosions (feet)	X	X	X			
Coronitis	X	X	X			
Lameness	X	X	X		possible	
Crusted Muzzle		possible	X	X	possible	
Teat lesions	X	X				
Depressed				X	X	
High morbidity	X					
Horses Affected		X				X
Corneal Opacity				X		
Tearing	X			X		
Lymphadenopathy				X		

**Diseases Causing Vesicular Lesions in Swine**

Lesions	FMD	VS	SVD	Trauma	VES
Fever	X	X	X		X
Vesicles (snout)	X	X	X		X
Vesicles (feet)	X	X	X	X	X
Oral Necrosis	X	X	X	X	X
Oral Erosions	X	X	X	X	X
Erosions (feet)	X	X	X	X	X
Coronitis	X	X	X	X	X
Lameness	X	X	X	X	X
Sloughing of foot wall	X	X	X	X	X
Teat lesions	X	X	X	X	X
High morbidity	X	X	X	X	X

**SECTION IX**  
**Foreign Animal Zoonoses**  
**Bacterial Diseases**

Disease	Causative Organism	Known Distribution	Principle Animals Involved	Probable Means Spread to Man
Anthrax	Bacillus anthracis	Worldwide, common in Africa, Asia, So. Am., Eastern Europe	Cattle, sheep, goats, horses, wild herbivorous animals	Occupational exposure; foodborne in Africa, Russia, & Asia, occasionally wounds or insects
Brucellosis	B. abortus B. melitensis B. suis B. canis	Worldwide, except N. A. Worldwide Northern hemisphere	Cattle, bison, elk, caribou Goats, Sheep Hogs,	Occupational & Recreational exposure Milk, cheese,

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			Caribou Dogs, Coyotes	Contact
Glanders	<i>Pseudomonas mallei</i>	Rare except for some regions in	Equids	Occupational Exposure
Melioidosis (Pseudoglanders)	<i>Pseudomonas pseudomallei</i>	Asia, Africa, Australia, S. Am., USA; rare	Rodents, sheep, goats, horses, swine, nonhuman primates, kangaroos, zoo	Wound infection; ingestion, organism live in soil & surface H2O
Tuberculosis	<i>Mycobacterium bovis</i>	Worldwide; rare in USA, Canada, Europe	Cattle	Ingestion, inhalation, occupational exposure

**Rickettsial Diseases**

Erlchiosis	<i>Erlichia chaffeensis</i>	USA	Deer	Ticks
Q-fever	<i>Coxiella burnetii</i>	Worldwide; common	Sheep, cattle, goats, cats, other mammals	Mainly airborne; exposure to placenta; occasionally tick
Sporotrichosis	<i>Sporothrix schenckii</i>	Worldwide	Horses, other domestic & lab. animals	Occupational contact, including with animals

**Parasitic Diseases**

Babesiosis	<i>Babesia</i> spp.	Worldwide	Wild and domestic animals	Bite of infected ticks
African Trypanosomiasis	XV. <i>Trypanosoma</i> spp.	Africa; common	Wild & Domestic ruminants	Bite of infected testse fly
Myiasis	<i>Cochliomyia</i>	Tropical	Mammals	Infestation

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	hominivorax	regions of the world		of living tissues by fly larvae
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**Viral Diseases**

Eastern Equine Encephalomyelitis	EEE virus (apohavirus)	Western Hemisphere	Wild birds, domestic fowl, horses, mules, donkeys	Mosquitoes (Culiseta melanu) & Aedes spp.)
FMD	FMD virus (aphthovirus types A, O, C.SAT & Asia)	Europe, Asia, Africa, So. America	Cattle, swine, related cloven-hoofed animals	Contact exposure – people are quite resistant but can be carriers
Hendra	Hendra virus	Australia	Horses	Contact exposure

**Viral Diseases (cont.)**

Influenza	Influenza virus	Worldwide	Swine, horses	Contact exposure
Japanese Encephalitis	Flavivirus	Asia, Pacific Islands	Wild Birds, swine, horses	Bite of mosquito (Cules & Aedes spp.)
Louping Ill	Louping Ill virus (flavivirus)	Australia, New Guinea; rare	Sheep, goats, grouse	Bites of ticks (Ixodes ricinus)
Newcastle Disease	Newcastle virus	Worldwide	Fowl	Occupational exposure
Nipah Disease	Nipah virus	South East Asia	Swine	Contact exposure
Rift Valley Fever	RVF virus (phlebovirus)	Africa; common to rare	Sheep, goats, cattle, camel	Bites of mosquitoes (Aedes spp) contact on necropsy or handling fresh meat
Venezuelan Equine Encephalomyelitis	VEE virus (alphavirus)	Western hemisphere; common	Equids, rodents	Bites of mosquitoes (Mansonia, Aedes, Culex)

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				spp.)
Vesicular Stomatitis	VS virus (Indiana & New Jersey)	No. & So. America	Swine, cattle, horses, bats, rodents, other wild mammals	Contact exposure, insect bites including mosquitoes & biting flies (Phlebotomus spp.)
West Nile Fever	West Nile virus (flavivirus)	Eastern hemisphere; common; USA	Wild birds, horses	Bites of mosquitoes (Cules spp.)
Western Equine Encephalomyelitis	WEE virus (flavivirus)	Western & Central USA, Canada, So. America	Wild birds, domestic fowl, horses, mules, donkeys, bats, reptiles, amphibians	Mosquitoes (Cules spp. In USA, Cules and Aedes spp. outside USA)

SECTION X

Foreign Arthropod Pests of Livestock

Common Name	Scientific Name	Diseases Transmitted
Brown ear tick	Rhipicephalus appendiculatus	East Coast fever, Bovine babesiosis, Louping ill, Nairobi sheep disease, Kesenly sheep disease
Cattle tick	Boophilus annulatus	Bovine babesiosis, Bovine anaplasmosis, Benign bovine theileriosis, Spriochetosis of cattle, sheep, goats, horses
Southern cattle tick	Boophilus microplus	Benign bovine theileriosis, Bovine babesiosis, Bovine anaplasmosis
New world screwworm	Cochliomyia hominivorax	Fly Myiasis
Sheep scab mite	Psoroptes ovis	Sheep scab
Tropical bont tick	Amblyomma vaiegatum	Heartwater, Nairobi sheep disease

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Bont tick	Amblyomma hebraeum	Heartwater
European castor bean tick	Ixodes ricinus	Bovine babesiosis, Bovine anaplasmosis, Louping ill, Tick-borne fever of cattle, sheep, goats
Licking fly	Musca vitripennis	Infectious keratoconjunctivitis, Bovine filariasis
Louse fly	Hippobosca longipennis	Fly myiasis

SECTION XI

PPE Requirements by Suspected Disease

Level 1

Equipment	Disease
Respiratory Protection (optional)- (can range from none to N-95) Coveralls & Rubber Boots Rubber Gloves	Foot & Mouth Disease All other Vesicular Diseases African Horse Sickness African Swine Fever Akabane Anthrax Bluetongue Bovine Babesiosis Bovine Ephemeral Fever Classical Swine Fever (Hog cholera) Contagious Agalactia of Sheep & Goats Contagious Caprine Pleuropneumonia Contagious Bovine Pleuropneumonia Contagious Equine Metritis Dourine East Coast Fever Epizootic Lymphangitis Equine Babesiosis

	Heartwater Hemorrhagic Septicemia *cattle & Buffalo Louping Ill Lumpy Skin Disease Myiasis Nairobi Sheep Disease Peste des Petits Ruminants Parafilaria Pseudorabies Malignant Catarrhal Fever Rabbit Hemorrhagic Disease Rhinderpest Sheep & Goat Pox
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**Level 2**

<b>Equipment</b>	<b>Disease</b>
Respiratory Protection –N-95 to PAPR Disposable Coveralls & Rubber Boots (not disposable) Rubber Gloves Eye Protection (goggles or face shield) Disinfectant – (appropriate for disease suspected)	Highly Pathogenic Avian Influenza VVND Transmissible Spongiform Encephalopathies Encephalitis (Rabies, EEE, WEE, VEE, WNV, Japanese Encephalitis) Glanders Hantavirus

**Level 3**

<b>Equipment</b>	<b>Disease</b>
Respiratory Protection – PAPR or SCBA Double Rubber Gloves (last pair taped to coveralls) Washable and/or Disposable coveralls Rubber Boots Cut Resistant Gloves Tape (Duct Tape) Apron (cut resistant) Disinfectant – 10% Bleach Water-resistant Coveralls as top layer	Nipah Hendra Rift Valley Fever Q-fever

SECTION XII

Approved Disinfectants for OIE List A FADs

Foreign Animal Disease	APHIS Use Only	State Officials & General Public
African Horse Sickness African Swine Fever Bluetongue Classical Swine Fever Contagious Bovine Pleuropneumonia HPAI Lumpy Skin Disease Newcastle Rift Valley Fever Rhinderpest Sheep & Goat Pox Swine Vesicular Disease Vesicular Stomatitis	Sodium Carbonate 4% Sodium Carbonate 4% & Sodium Silicate (0.1%) Sodium Hydroxide (2%) Sodium Hypochlorite (up to 12.5%)	
Foot & Mouth Disease	Sodium Carbonate (4%) Sodium Carbonate (4%) and Sodium Silicate (0.1%) Sodium Hydroxide (2%) Sodium Hypochlorite (up to 12.5%)	Sodium hypochlorite (up to 12.5%) Acetic Acid (4-5%)
Peste des petits Ruminants	NONE	

**SECTION XIII**

**Cleaning and Disinfection Resource and Specifications**

**Appendix**

**Disinfectants:** (see appendix on page 63)

- 1) **Virkon S** – (Farnum Livestock Products) Broad Spectrum Disinfectant

Precautions: (See label) Always mix powder to water.

(Tip; Open foil packet under water so powder does not drift)

Dilution: 1 % solution.

Dilution rates include:

0.3 ounces powder to 1-quart water

1.3 ounces powder to 1-gallon water

8.3 containers (10 lbs per container) to 1000 gallons water

- 2) **0.2 % Citric Acid BP** (disinfects by lower pH)

Precautions: Always mix powder to water.

Dilution rates for FMD: (MAFF recommendations)

**(pH = 2.42)**

Dissolve one ounce of crystals in one gallon of water

(or 30 grams of citric acid crystals in 15 liters of water)

**or** 1 lb per 55 gal of water. Exposure for one minute is sufficient to kill the FMD virus.

Note: If a stock solution is desired, a 10% solution may be prepared by dissolving 500 grams in 5 liters of water (or 1 lb of crystals in 1 gallon of water) and further diluting, as required for use, at the rate of 2 ounces in 2 gallons of water (250 ml in 12.5 liters of water). The concentrated (10 %) stock solution should not be kept for more than 2 weeks. Before use the container should be as sterile as possible and should be airtight, to protect against the growth of molds and bacteria, which reduce its efficiency.

*NOTE: Information still needed...*

- 1. pH of 0.2 % Citric Acid solution*
- 2. Application rate of drive through spray device.*
- 3. Plans for constructing drive through spray device.*
- 4. Review of personnel / equipment based on # 2.*
- 5. Source of disinfectants*

**PERSONNEL & EQUIPMENT NEEDS FOR EACH  
DRIVE THROUGH SPRAY DEVICE.**

**Personnel**

- 1 - HazMat tech
- 1 - Operations - cleaning and disinfection personnel
- 2 - Driver (2 tankers and 1 pumper)
- 1 - Water point - (filling the drop tank)
- 1 - Drop point - (mixing and continuous checking of the pH)
- 2 - Law enforcement personnel

**Equipment**

- 1 - Drive through spray device
- 1 - Drop tank
- 2 - Fire tankers
- 1 - Fire pumper
- 1 - Portable pump
- 500' Hose 2 ½ inch (Fire Depts. will have)
- 500' Hose 1 ½ inch (Fire Depts. will have)
- pH Paper
- Lights and generators (Night operations)
- Port-a-Johns
- Trashcans & bags
- Goggles and dust mask or full-face shield
- Mixing paddle
- Tyvek suits/Rain suit
- Boots

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Gloves  
Citric acid  
2 - Hand pump sprayers

**Signs** (to inform public at cleaning and disinfection sites).

“Roll Up All Windows”  
“Cut Off Air Conditioner or Heater

**FAD OPERATIONS**  
**&**  
**TRAFFIC CONTROL**

### **Containment, Quarantine, Traffic Control, and Scene Security**

An effective response to an FAD involves containment of the disease.

Quarantine of infected and exposed animals and of animal products is necessary to stop the spread of disease.

However, quarantine comes at a great price to the responding authorities and affected individuals. In addition, it may be necessary to stop all movement of animals and most livestock vehicles to prevent the spread of the agent and assess the magnitude of the outbreak. Orders to hold or quarantine animals will cease the operation of agricultural enterprises and can impact those directly or indirectly associated with the enterprises.

It has been suggested that all livestock markets within the state be shut down for a period of 7 days. This will give the OK Vet IMT time to develop trace in and trace out inventories. One reason for this is that all markets will be shut down for the same cycle therefore not creating a hardship or unfair advantage for some markets over others.

To be effective, quarantine measures must be quick, decisive and dispensed with a high degree of clarity. Quarantine orders must be tactically developed for an area, authoritatively derived, and clearly understood by ranchers, farmers, allied industries, law enforcement officials and all others in the vicinity of an outbreak. An in depth knowledge of containment is necessary so that access to an area is not merely limited, but severely restricted to ensure the containment of an infectious

disease, especially for zoonotic diseases, which can infect humans.

A) **Introduction:** Traffic Control procedures will also begin as soon as Adjacent, Control and Surveillance Zones were established. Planning and preparation for activating traffic control procedures should begin as soon as the maps are developed early in the investigation phase. OK Vet IMT, in cooperation with ODCEM and law enforcement will identify entry and exit points for the Zones. OK Vet IMT will oversee the permitting process in the zones and answer or relay any questions concerning unsafe movements to ODCEM. **Note: EMERGENCY VEHICLES WILL NOT BE DETAINED FOR ANY REASON WHEN CONDUCTING EMERGENCY OPERATIONS.**

**Traffic Control Procedures:**

1) **Locations of Traffic Control Points In the Zones:**

- **Infected Premises:** The control point will be placed at premise entrance.
- **Adjacent Zone:** Traffic will be limited to designated roadways where cleaning and disinfection stations will be located at each exit point (with the intention of no more than four (4)). All traffic exiting or entering the zone will use the cleaning and disinfection station.

There will be one or more entry points in conjunction with the exit points. All traffic entering the zone will pass through these points. The intention is to limit entry and exits as much as possible.

- **Control Zone:** Numerous cleaning and disinfection stations will be located on designated roadways around the periphery of the control zone as necessary to permit efficient traffic flow. Traffic control points, (i.e., road blocks, etc.) that restrict traffic will be set up as needed.

**\*\*Rerouting of traffic will occur to ensure biosecurity of the various zones. The rerouting plan will be developed after the zones are established by OHP in conjunction with the OK Vet IMT.**

**2) Traffic Control Protocols for Infected, Adjacent, Control and Surveillance Zones**

- **Infected Premises: No admittance or exit** unless authorized by on-site FADD or OK Vet IMT. Exit requires full cleaning and disinfection of personnel and equipment. Law enforcement will enforce recommendations of entry

and exit of all people/vehicles/equipment as directed by OK Vet IMT.

- **Adjacent Zone: No movement of susceptible livestock.** Movements of **agricultural products and non-susceptible species** will be by permit only, issued by OK Vet IMT. Domestic and all other animal movements are restricted and can only occur through written permission (VS 1-27 Permit) from OK Vet IMT and will be subject to cleaning and disinfection before exiting and may be quarantined upon arrival of destination. **Residents** living within the Adjacent Zone must comply with cleaning and disinfection exit station procedures. Entry and exit should be limited only to job related or other necessary travel. If **schools** are in session, school buses will not travel in the Adjacent Zone. School children will be brought to Adjacent Zone cleaning and disinfection exit stations for pickup by parents and returned to Adjacent Zone entry points at the end of the school day. Students will have their shoes sprayed with disinfectant (or walk through

disinfection mat) and will be given disinfectant wipes for hands. Any **farm related vehicles** such as feed trucks would need a permit to enter the Zone.

- **Control and Surveillance Zone:** Movements of susceptible livestock will be at the discretion of the OK Vet IMT. All other traffic is discouraged except for essential services, including food, fuel, drug, human services, and emergency personnel. Personnel allowed entry are:
  - Food distributors
  - Emergency personnel
  - Drug distributors
  - Health care personnel
  - Residents
  - Clergy
  - Fuel distributors
  - Utility workers

All vehicles and persons will be subject to Control Zone cleaning and disinfection procedures upon exiting. Possible **closures of school, civic functions, and other activities**, which would affect the Bio-security of the Adjacent and Control Zones, will be evaluated. **Susceptible livestock movements** within the control zone will be restricted to those allowed by OK Vet IMT. Exit from the control zone of susceptible livestock will be by

permit only, issued by OK Vet  
IMT.

- **High Risk Vehicles** (i.e. livestock or farm use). These vehicles **will** need to be washed of all organic material and soil before the owner exits the Control Zone cleaning and disinfection station. The following vehicles will need a permit to exit the Control Zone.  
**NOTE:** unless approved, animal feed, milk, and even some produce may not be allowed to exit the Control Zone.

High-risk vehicles are:

- Animal feed trucks
- Milk tankers
- Produce trucks
- Farm trucks, tractors, and equipment

- **SCHOOLS.** (if in session)  
Buses may be allowed to travel within the Control Zone and will comply with Control Zone cleaning and disinfection procedures upon exiting the Control Zone. Buses will be equipped with hand pump sprayers and the floor of the bus will be disinfected (spray the aisle-way) just before students were unloaded at the school (or walk through disinfection mats may be used).

**PERSONNEL AND EQUIPMENT FOR  
CONTROL POINTS** (24 hr. staffing)

PRIMARY HIGHWAYS (3 to 4 Lanes)

- 4 - law enforcement officers with vehicles
- 60 - cones with flashers
- 4 - wooden barricades
- 1 - Port-a-John
- 2 - auxiliary lights with generator
- lighted signs
- flashlights
- road flares and batteries
- drinking water

SECONDARY HIGHWAYS (3 lanes or less)

- 2 - 3 law enforcement officers with vehicles
- 2- 4 cones with flashers
- lighted signs
- 2 - wooden barricades
- 1 - Port-a-John
- 1 - auxiliary lights with generator
- road flares and batteries
- drinking water
- Dept. Of Transportation will assist with mobile road signs detailing road closures and detour information.

**3) Traffic Control outside the Zones and at State Borders:**

- a) **Introduction:** To limit the risk of exposure to an FAD within the borders of Oklahoma, the importation of exposed/infected animals will be restricted and intrastate and border traffic

Numbers will be of law enforcement providing the se

control measures will be enforced to ensure compliance. The goal is to lessen the likelihood of contamination by monitoring the entry of equipment, personnel and vehicles from infected areas. Law enforcement activated through ODCEM will enforce procedures. The procedures below are a guideline for the State Veterinarian and Area Veterinarian In Charge (Area Command) to determine how best to protect Oklahoma's susceptible animal populations from exposure to FAD once another state in the U. S. becomes infected.

- b) **Procedures and Set-up:**  
Monitoring points will be established at a number of potential locations, including weigh stations, visitor centers as well as other strategic sites. The major interstates, will receive primary attention with the placement of law enforcement personnel that will monitor the movements of vehicles carrying livestock, produce, equipment, etc.

- 1) **Borders with other States (major**

**highways into  
Oklahoma)**

- **State highways  
bordering Oklahoma**

2) Procedures

**Monitoring will include:**

- **Vehicles/trailers that haul livestock including horse trailers**, which may be used to transport goats and sheep. These vehicles will be stopped and inspected for proper permits or paperwork indicating state of origin. Any officer stopping a vehicle hauling livestock, including horses, without proper permits will notify OK Vet IMT of it's origination, and escort the vehicle to the border if necessary. **Paperwork includes:** All livestock entering Oklahoma should be accompanied with a health certificate noting origin of shipment and health information. Intra-state movements should be accompanied by information indicating origin of shipment.
- Any vehicle with a farm insignia or animal sign of any kind. (Some owners use unconventional vehicles such as mini-vans etc. to

haul livestock.

- Any other vehicle, which may contain produce, animal products and/or equipment that officer suspects could have originated from an infected area, may be detained until origination is confirmed. All drivers hauling the above should have proof of “**Origination of Shipment**”. OK Vet IMT will be notified of vehicles not carrying the proper paperwork and will conduct a risk assessment and determine the disposition of the vehicle and animals.
- Visitor Centers and weigh stations will also be used as information dissemination points as well as monitoring sites.
- All other highway and road surveillance will be accomplished through routine patrol by agencies tasked by ODCEM During an FAD outbreak within the United States, Oklahoma should consider issuing an Executive Order requiring all haulers carrying livestock, animal products, agriculture equipment, and any equipment used on a farm to carry paperwork that identifies origin of shipment.

2) **Release of Traffic**

**Restrictions:** Release of traffic restrictions (including major highways) will occur as soon as contamination risks have been sufficiently decreased. Factors that will be considered when lifting restrictions include:

- Animal population densities and also species in area
- Human demographics and traffic patterns
- Weather conditions
- History and specifics of outbreak
- Disease etiology
- The intent is to release roadways as soon as the risk of spread is decreased. Once infected animals have been euthanized and disposed of by burial or covering (plastic) and cleaning and disinfection of the premises has taken

place, the risk for  
spread will be  
greatly diminished.

# **Appendix E**

## **Euthanasia And Disposal**

**Euthanasia and Disposal (Burial etc.)**

- A. OK Vet IMT will determine the most appropriate options for euthanasia and disposal of animals on all premises selected for depopulation. Euthanasia teams could include farm personnel, contract workers, and National Guard as well as others. The key to eradication of highly contagious FAD's such as Foot and Mouth Disease is to MINIMIZE the time lapse between the decision to depopulate (by euthanasia) a premises and the actual completion of the burial (or other disposal) of the carcasses.
- **Personnel for Euthanasia:** If possible, **farm employees** should be utilized (to gather and handle animals only) under agreement of farm owner/operator. These people would be under the authority of OK Vet IMT but their participation would be approved by company/owner. ***Only trained and approved persons will actually euthanize the animals.***
  - **Work Shifts:** Workers should consider rotation of activities if possible. Notice should be taken to avoid long periods of work at the euthanasia site for any one worker. Fatigue and mental stress could jeopardize safety and have long-term negative effects.
  - **Methods of Euthanasia:** Must be AVMA approved.
  - Examples are:

- a) Captive bolt (penetrating not stunning)
- b) Euthanasia by firearm (pistol/rifle)(if 22 caliber then must be 22 LR)
- c) Gas (CO, CO<sub>2</sub>) utilizing covered dump trailers (grain, dump trucks) with covers that would seal and allow euthanasia.
- d) Other: Injection (by euthanasia solutions.)
- e) Methods currently under research include: electrocution

\*\*\*\*\* Proper technique is critical to ensure humane euthanasia for each method.

See AVMA's manual.

- **Discussion of Potential Approaches to Euthanasia on Large Swine Premises.**

- a) One innovative approach currently being researched is to use large **covered dump trailers (such as grain haul trailers or dump trucks) to euthanize animals by gas (CO or CO<sub>2</sub>)**. The loading chutes on the facility would be used to load the trailers to capacity. The gas would be introduced into the covered trailer and once euthanized, the carcasses would be hauled to a burial site or holding site if a burial site was not available. If a burial site were not available or not

already prepared, the carcasses would be unloaded at a holding site. An industry suggestion was to use trailers that unload using a sliding track system (BFI) (the trailer unloads by moving tracks located inside and does not dump eliminating possibility of tipping over. Also, the trailer's floor is not slick and swine will load more readily.) Once all the carcasses have been delivered to the holding site (euthanasia complete), plastic would be used to cover the carcasses and dirt placed over the plastic to hold it in place until burial crews could arrive. The feasibility of this method is undergoing testing as this approach has a great potential to depopulate large swine facilities in the shortest amount of time. It also has the advantage of fewer workers and less risk of injury.

- b) Another approach that has already been proven is euthanasia by **captive bolt (penetrating) or firearm.** Recommendations would include using the Facility's loading chutes to move the

animals to a place where they can be more easily loaded into dump-type vehicles immediately after being euthanized. These vehicles would then move the carcasses to the incineration or burial site. Considerations include the safety of the workers as they perform euthanasia and the size of the animals being euthanized. (Penetrating captive bolt is the preferred method because of obvious safety reasons when compared to firearms.) If the loading chutes are to be used as the site to euthanize the animals, the suitability of the chute as a safe work area must be evaluated (especially if it is an elevated chute). Using elevated chutes as the euthanasia site, this approach would work well for smaller animals (i.e. pigs < 80lbs.) as the carcasses could be easily removed from the end of the chute into the waiting dump truck.

- c) **An alternate plan would be to use the facility's runways and additional panels to form a chute to guide animals** to a point where access could be gained once euthanasia was

performed (i.e. open parking area, area between buildings, or adjacent fields). If the burial site is located nearby, considerations should be made to form an alleyway to the burial site and animals moved to that location before being euthanized. Lameness and condition of the affected animals will determine the feasibility of distance of movement. Euthanasia would be done at the end of the chute system. Access to the carcasses would be attained by opening the chute (disengaging panels). The back end of the panels (sides) would be attached to the walkway (or set of panels connected to the walkway) and to each other with fasteners that could be undone as each animal was euthanized to allow access to the downed animal for removal. Removal of carcasses would be done by track-hoe or bobcat/front-end loader to a waiting transport truck, trailer, or dumpster. If the burial site was adjacent to the chute, then carcasses could be moved straight to the burial trench site or adjacent holding area. The euthanasia

set-up/crate has to be substantial enough to withstand the impact of a sow falling, but still be able to be broken down quickly to allow access to the fallen animal for removal. To facilitate quick loading of the carcasses into a tall transport vehicle such as a dump truck, a track-hoe fitted with a bucket with a "thumb" could be used to load the carcasses.

- d) **Alternate methods include using panels to direct the animals** to the area in between the buildings. One set of panels would be used to confine the animals nose-to-tail against the side of the buildings. Euthanasia would occur down the length of the chute and each animal removed by Bobcat and buried in a trench located between the buildings or nearby. One requirement is that the trench not be located within ten feet of the building foundation for building stability reasons. Another is that there has to be room to maneuver equipment in between the buildings. Burying carcasses between buildings and in the farm's driveway are options that delete the use of

vehicles such as dump trucks to haul animals to a burial site and also allow for quick disposal. To prevent farm access problems, use the farm driveway as a last resort and only after accurate assessment has been made of total trench footage needed based on the type and number of animals.

If only a skid loader or small front-end loader is used, an alternative would be to transfer carcasses first to a dumpster and then to a transport vehicle.

- e) **Non-ambulatory animals:** Consideration must be made for the animals, which are not able to walk. These animals will be moved as little as possible (i.e. to the aisle way if possible) and euthanized. Then other means (winch, cart etc.) will be used to move them to an area where loading equipment could be used. This is a very time consuming and labor intensive part of the depopulation plan and has the potential to be a tremendous time and effort-multiplying factor, especially if large numbers of animals are extremely lame.

- f) **Distance shooting by firearms** of cattle or other animals that must be depopulated but that cannot be corralled or rounded up may also be a necessary option for euthanasia. Correct selection of the firearm, appropriate ammunition, shooter skill, and safety measures must be considered when this method is used. Headshots are preferred and shooters should be aware of the proper aiming sites for different species of animals. *See Euthanasia Manual.*
- g) **Other methods utilizing firearms** may be utilized if approved by OK Vet IMT under advisement of the State Veterinarian. These include creation of a bunker that will allow animals to be herded into a closed area and euthanized by firearm or captive bolt. If the burial site is located nearby, the animals could be moved to it and then captive bolt or firearms used to euthanize groups of animals with the intent that animals would be stressed as little as possible by avoiding situations where large numbers of animals were herded into an area and then euthanized.

**Example of Depopulation Set-up for a large swine operation:**

Background: Oklahoma has a diverse collection of swine producing facilities. The facilities range from sophisticated total confinement units that house up to 50,000 head of hogs ranging in size from 3 pounds up to 500 pounds; to outdoor ("backyard") operations that have less than 10 animals in nothing more than a hot wire. With that said, the following is an estimate based on several different types of production units.

**Definitions:**

**Sow:** adult female (350lbs+) **Boar:** adult male (400lbs+) **finishers:** pigs (60-250lbs) **Nursery:** pigs up to 60lbs.

**Farm types:**

**Farrow to wean:** Contains sows and pigs (up to 4weeks of age). Also any boars.

**Farrow to nursery:** Contains sows, boars, and pigs (up to 60lbs).

**Farrow to finish:** Contains sows, boars, and pigs from birth to finishing /250lbs.

**Nursery farm:** Contains just pigs up to 60-80lbs.

**Finishing farm:** Contains just pigs from 60-250 lbs. Average households 960 head. Farms often hold several thousand head per premise.

**Requirements for Depopulation of 2000 head Farrow to Wean Farm:**

**Plan:** Depopulate. 2000 sows, and approximately 2000 pigs (less than 10lbs.). Also any boars used on premise (up to 50) and move to a nearby burial site.

**Setup:** First set in place the actual euthanasia sites. If the burial site is within proximity to the houses, then consider panel setup to move hogs to the burial site before euthanasia (i.e. burial sites include area between buildings or land directly adjacent to buildings.) Most premises will require some hauling to the burial site (open pasture or spray/irrigation fields). Euthanasia pens/crates would be set at the access end of alleyways (already in place or created) extending from hog houses. Workers continually move animals to euthanasia pen/crates. Each euthanasia pen/crate would work a house at a time. Track hoe/front-end loader would be set at euthanasia pen/crate to move carcasses from the pen/crate to a waiting vehicle (dump truck or other) that when full carries carcasses to burial site. Track hoe bucket would be fitted with a thumb to allow picking up of the carcass. Dumpsters (with an appropriate dumpster truck) could be used to allow for a smaller skid loader or front-end loader to load the dumpster and then move the carcasses to the burial site by way of the dumpster truck.

**Personnel: (Listed below is one shift of workers.)**

**Sow Crew:** (one per euthanasia pen/crate)----one captive bolt operator, three crate handlers, one dump truck driver, one track-hoe operator, and 3 hog movers.

**Pig Crew:** Crew of two handlers and one captive bolt operator. Equipment includes captive

bolt and means to move pigs to carcass removal area (cart or wheelbarrow).

**Downer animal crew:** Crew of three handlers, one captive bolt operator. Equipment includes cart equipped with hand winch, knife, and hand operated come-along (winch) and captive bolt.

Note: If the set-up allowed for the burial trench to be located near or adjacent to the euthanasia site, then fewer people and equipment would be needed. (One less pen/crate person, one less dump truck driver and one less dump truck)

\*\*\*\*In this scenario, 3 (minimum) sow crews, 2 pig crews, and at least one downer crew would be needed to perform the euthanasia within 18 hrs if all went well (total of around 40 people). To shorten the time to 12-14 hours, adding another sow crew and pig crew would bring the one-shift personnel total to 59. Considering two shifts, depopulation of a 2000 head farrow to wean farm would require 120 people. Disposal would require additional time for trench equipment (track hoe or other) unless equipment other than that used at the euthanasia site was used. If the burial site were adjacent to the euthanasia site eliminating the need for transfer vehicles, approximately 20 less workers would be needed.

Equipment needed per euthanasia crate set-up includes: 1 captive bolt, knife and steel, 2 cutting (sorting) boards, 3 prods, 1 crate, panels (set of 10/10ft if using transfer vehicles (possibly 4-5 sets if not transferring carcasses), track hoe with thumb, Bobcat, or front-end loader (sufficient to lift carcasses), one or two dump trucks or dumpsters (and truck). Clothing needed would be Tyvek

coveralls, rubber boots, headgear, earplugs and rubber gloves.

Capacity: Once they are set up and running the sow crew should be able to euthanize 35-40 adult animals per hour. The pig crews could euthanize 60 per hour.

With a 3 sow crews, 2 pig crews, and 2 or more downer animal crews, the farm could be depopulated in 17-18 hrs. in a best case scenario, 24 hours in a worst case. The pig crews would probably be done first and could then help the other crews as needed. By adding an additional sow crew and pig crew, the time frame shortens to 12-14 hours. The burial site would need approximately 1800 feet of trench and 900 feet if "mounding" were allowed (see burial guidelines below).

For each additional 1000 sows it would require at least one more pen/crate crew, one more pig crew and one more downer animal crew to meet the goal of 18 hours best and 24 hours worst-case scenario. For every additional 1000 sows, 800ft of trench would be needed (400ft if "mounding" were allowed.)

By contrast, if the gas euthanasia method using a grain trailer was available, 125-150 head per hour per truck could be euthanized and moved to a holding site. Workers needed would include 3 handlers per load out chute, at least one truck/trailer per load out chute and the technicians that would perform the

euthanasia (2-3 people). Downer sow crews would still be needed to euthanize and transport the non-ambulatory animals.

**Discussion of Depopulation of Cattle, Goats, and Sheep:**

- If loading corrals and chutes are available they can be used, understanding that access has to be gained to remove the animal once it is euthanized. If not, a temporary corral/chute will need to be set up. A harness or drag hook could be used to facilitate access to the animal once it is euthanized (pull animal outside the chute area). An alternative is to use a long chute made of panels to euthanize animals along its length and then break down the panels to allow access. Front-end loaders could be used to move the animals to adjacent burial trenches or transport vehicles if needed.
- Non-ambulatory animals or animals that could not be caught could be euthanized on the spot and then transported or buried.
- Recommendations include setting the corral holding pen if possible adjacent to the burial site (pasture). This is especially true of beef cattle, sheep, and goats.
- Dairy cattle will have facilities that will allow the animals to be handled more effectively, but consideration should include the possibility of setting up a temporary corral adjacent to the burial site much like with beef cattle contained in an open pasture.

**Example of Depopulation Set-up for a Dairy farm**

**Background:** Oklahoma has ~450 dairy herds and the average dairy herd milks 100 head but some farms have as few as 20 head up to as many as 10,000 head in the Braum's milking herd. Along with the cows that are milked, the farms will have replacement heifers (young cows not yet in milking herd-usually not numbering more than 1/2 the total number of the milking herd) and calves (approximately 1/3 of the total number in the milking herd). The cows are accustomed to being handled daily and the premise will have pens and holding areas in place. Pasture will likely be available for burial. Consider using facility's working area or strongly recommend the use of a corral set-up in pasture adjacent to the burial site.

**Setup:** The plan will be to corral the cows in the pasture and work them adjacent to the burial site. Thirty 10-foot panels to create a corral and chute will be needed. A chute with a side gate is preferable. Euthanasia would be performed by penetrating captive bolt or firearm. A track-hoe with thumb will remove the carcasses after the chute side gate is opened to allow access. The carcasses would be set aside until the burial site was prepared (after euthanasia) or a dump truck could be used if necessary. Total number of animals in this scenario includes 100 cows, 30

replacement heifers and 15 calves. It is very likely that not all animals will be located in one area. Replacement heifers are often kept in "nearby pastures" and cows will be grouped into lactating and dry cows with the lactating cows being the largest number of animals and they will be centrally located. If animals cannot be gathered into the facility, euthanasia by firearms may be the most appropriate method.

**Capacity:** Depopulate entire herd in 10hrs once setup is functional. Burial would require approximately 400 feet of trench and 200 feet of trench if "mounding" were allowed (see Burial Guidelines below).

**Personnel needed:**

**Cow crew:** herders (2-4), captive bolt operator (1), chute workers (2-3), dump truck operator (1) if needed, track hoe operator (1).

**Calf crew:** handlers (2), captive bolt operator (1).

Total personnel needed: 13 for one shift

**Equipment:** Track-hoe fitted with a thumb, dump truck if needed, 30 ten-foot panels, 1 or 2 four-foot bow gates, prods (1), captive bolt and/or firearm (2-3) and knife with steel. One drag strap should be available in case an animal is non-ambulatory and has to be euthanized in a non-accessible area.

**Clothing:** Tyvek suits, rubber boots, gloves and head coverings for a crew of 10 to 13 people on each shift. ( Tyvek suits are not very durable, it is best to wear rubber rain suit over Tyvek coveralls. These will need to be disinfected after use.

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### **Example of Depopulation Set-up for a Beef Cattle Herd**

**Background:** Oklahoma has ~5 million cows in ~60,000 herds. Herd size in Oklahoma can run from 5 to 7 cows to 2,000 or more. The average herd size is around 50 animals plus one calf per cow depending on the calving cycle. The premise may or may not have a working facility and could consist of cattle grazing winter cover crop in nothing more than a field with a hot wire around the perimeter. The owner's help in capturing his cattle may prove invaluable. Some owners have several hundred cows and on average, at least one bull per thirty cows. Time of year will dictate how many calves are present. Most of the larger cattle herds will have cows grouped into smaller groups averaging 80 or less. Beef cattle are not handled as frequently as dairy cows and so are harder to pen. A larger corral (such as a wheeled corral) may be needed to allow capture versus restraint. Euthanasia would be performed by penetrating captive bolt or firearm.

Expect that not all the cattle will be caught and will need to be euthanized by firearm in open pasture or wooded area.

**Setup:** Much like the dairy setup with the exception that an additional set of 10 panels may be needed. A portable corral may be set in the pasture located adjacent to the burial site with a working chute extending off the main holding area. For a beef herd, only a cow crew should be needed. All cattle including calves would be corralled together. The corral would have a "swing gate" setup with a chute extending from the corral leading to the euthanasia site.

**Personnel, Equipment, and Clothing-** see dairy.

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### **Example of Euthanasia Set-up for depopulating Sheep or Goats**

**Background and plan for Goats and Sheep:** There are any number of types of setups for goats and sheep but usually the facilities are not elaborate. Sheep and goats will require more manual restraint and handling. They can be quite difficult to catch if not handled frequently and often require herding into a smaller area before capture can occur. Euthanasia would be performed by penetrating captive bolt or firearm.

**Setup:** A pen situation with a swing gate to allow handlers to catch the animals is desirable. Manual or mechanical restraint for euthanasia is required for smaller animals. For larger animals, a narrow working area would need to be formed at the end of the chute. Holding pen size should be large enough to catch the herd and then can be reduced in size as the animals are removed to facilitate easier capture. The pen would be positioned in the pasture and located near the burial site.

**Personnel:** 4 handlers, 1 captive bolt operator, one front-end loader operator.

**Equipment:** 1 or 2 captive bolt, front-end loader, ten-10 foot panels (or more depending on size of the herd), rubber gloves, Tyvek suits, head cover, rubber boots, rain suits and knife with steel.

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## **Disposal**

### **A. Burial Guidelines and Recommendations:**

#### **B. Burial crews:**

- Burial crews will be dispatched to the premises for disposal of carcasses. Disposal procedures will commence as soon as practical. The burial procedure to be used will be determined by OK Vet IMT based on information

already available (mapping) or reports from on site FADD. Burial crews will be provided maps and directions. Pit depth will allow for one foot (12inches) of dirt above the established water level.

**C. Trench dimensions and capacity:**

Burial guidelines call for animals to be buried to a depth so that they are covered with 3 feet of dirt. A trench dug 6 feet deep, 7 feet wide, and 50 feet long could hold at least 15-16 head of adult cattle, 4 times that many or 60 head of adult swine, and 6 times 15 or 90 head of adult sheep or goats (deer). (This figure assumes an adult cow is 7'x3'x3' and 4 sows are approx the same size as 1 cow, and 6 sheep/goats equate to 1 cow). If "mounding" of the removed dirt is allowed (i.e. the trench would be completely filled level with the ground surface with carcasses and the dirt mounded over the animals to a depth of three feet), the capacities could be doubled. The same is true if the trench were to be dug to a depth of 9 feet. To prevent carcasses from filling with gas during decomposition, puncture holes should be placed in the thoracic and abdominal cavities. Locate any carcass holding sites as close to the burial sites as possible.

**D. Mounding:** Mounding is an approved procedure that places

carcasses at ground level and then meets the three-foot coverage requirement by "mounding " dirt over the carcasses to the depth of three feet. The dirt on top of the mound should not be packed. If mounding is used, it is recommended that seeding of the mound (i.e. Hydro-seeding etc.) be done to prevent erosion. Contracts should include clauses concerning correction of problems by contractor at burial sites within specified time frame.

**E. Acidifier:** Consideration should be given to addition an acidifier to aid in decomposition and deactivation of the virus.

**F. Ground water contamination:** Ground water contamination by FMD virus is still under debate. Studies show there should be very little concern because of the natural reduction in virus in tissue that undergoes pH changes due to rigor mortis and lactic acid formation (esp. muscle tissue) and the application of acidifiers would further reduce the likelihood of contamination. In many areas, ground water is also known to have an acidic pH.

**G.** After completion of disposal of carcasses, a **burial site** (or mounding site if future use by the **wildlife surveillance** (and possibly depopulation) crews. The burial/mounding site should provide space for disposal of sixty swine (90

deer). Feral/wild swine are likely to be approximately 1/2 the size of domestic swine so the actual capacity for swine carcasses would approach 90-120 animals. (See trench dimensions above.) If the disposal crew had already moved to another premises, the wildlife recovery/disposal crew would be responsible for use and disposal activities related to the wildlife burial or mounding site (see Wildlife Procedures section).

## **Appendix F**

### **Liaison and Coordination**

#### **Oklahoma Dept. of Wildlife Conservation**

**Interagency Liaison and Coordination  
Procedures (i.e. Oklahoma Department of  
Wildlife Conservation):**

**A. Introduction**

The characteristics of an FAD in wildlife populations in North America are largely unknown, but FMD is of particular concern. There are many unanswered questions regarding the impact of an FAD on wildlife populations in Oklahoma. There have, however, been studies of experimentally infected white-tailed deer and other cervids that provide a framework for decisions that will guide the response to an outbreak. Because of the dynamic nature of wildlife populations and the general lack of information, common sense approaches to procedures such as surveillance and depopulation will be developed on a case by case basis using known information and information gathered as a response progresses. During the response to an outbreak that involves wildlife, data should be gathered to address many of these questions, including:

- 1) characteristics of an FAD outbreak in wildlife in a natural setting and the ability of the disease to become endemic (i.e., mortality rate estimation, extent of lesions and the propensity for infected animals to spread the disease to other wildlife and domestic animals, behavioral patterns of infected animals, formation and characteristics

- of carrier states of susceptible wildlife species, etc.)
- 2) susceptibility of Oklahoma wildlife species other than white-tailed deer and swine and evaluation of the potential of non-susceptible species (i.e., Canada geese, etc.) to become fomites and effectively transmit the disease.

These questions must be addressed to allow for adaptive revision of procedures as the response to an outbreak proceeds.

**B. Responsibility for Response by the Oklahoma Department of Wildlife Conservation (ODWC):**

ODWC will be tasked with the responsibility of implementing the procedures dealing with wildlife during an FAD outbreak. Routine surveillance procedures for wildlife will also be carried out by the ODWC. All procedures carried out by the ODWC will be integrated with other efforts and will utilize resources already in place to avoid duplication, including routine surveillance. One notable exception would be the highly unlikely situation where wildlife is infected initially, and no domestic animals are involved and no existing response procedures are in place. In this case, the procedures including cleaning and disinfection, traffic control, depopulation, disposal, etc.

would be tailored to the needs present. The ODWC will be activated as a part of ODCEM activation, and its role will be exercised through the Surveillance Branch within Operations. OK Vet IMT based on the determination that wildlife could be involved in a suspected/actual outbreak will give initial direction to the Chief of Wildlife Management. The Chief of Wildlife Management, in consultation with other division chiefs if other division personnel are required, will designate ODWC personnel to provide expert direction to Incident Command and to implement wildlife procedures carried out through the Surveillance Branch including:

- Surveillance
- Prevention
- Depopulation (if needed)
- Education

**C. Technical and Operational**

**Resources:**

Technical expertise and experienced personnel are available from several different sources including, but not limited to, OSU College of Veterinary Medicine, U.S. Fish and Wildlife Service, and USDA researchers.

**D. Wildlife Procedures:**

1) **Routine surveillance:**

- Involves routine investigations of wildlife (deer/feral swine) that are reported to have lesions and

history suggestive of FMD. There are several diseases in white-tailed deer that can mimic FMD, with the most common and notable being Hemorrhagic Disease, a common, endemic disease that cycles in deer populations. Feral and wild swine are also subject to diseases that can mimic FMD. Because of the relatively low probability that wildlife will be the initial infection in a FMD outbreak and the difficulty involved in conducting surveillance on an unrestricted, elusive population, submission of samples will be limited to those animals showing clinical signs of FMD and a history that would suggest the possibility of exposure to the virus (e.g., a deer found with suspicious lesions in an area known to be visited frequently by international travelers, or a feral or wild hog that exhibits clinical signs located near an airbase that handles international flights, etc.). If, however, wildlife in an adjoining state becomes infected with FMD, white-tailed deer in areas along the border will be surveyed to determine if FMD has spread to wildlife in Oklahoma.

- **Confirmed or suspected case reported to ODWC officials:**

If a confirmed or suspected case of FMD is initially reported to the ODWC, the Chief of Wildlife Management will contact the State Veterinarian's Office and provide details of the suspicious animal and any history. A Foreign Animal Disease Diagnostician (FADD) may be dispatched through USDA to the scene to collect samples, etc. If no FADD is dispatched and samples are to be submitted by personnel from the State Veterinarian's Office with assistance from ODWC personnel, the head and feet will be removed, placed in a cadaver bag, put on ice, and submitted to the State Veterinarian for forwarding to Plum Island. If the carcass is located in a remote area, the carcass will be secured by placing it in cadaver bags (double bagged) and left in place, unless removal is necessary to decrease risk of exposure to other animals. Removal to another site will occur under consultation with the State Veterinarian or his designee. GPS or other spatial data will be recorded. The immediate area and bagged carcass will be sprayed with disinfectant (citric acid or Virkon S using a hand sprayer) to reduce contamination. Disinfectant will also be applied to the carcass before bagging. In areas and

situations where burial can be performed, the carcass will be buried ("Burial Guidelines" listed previously) and the immediate area sprayed with disinfectant and equipment decontaminated according to the above recommendations. (See ODWC personnel cleaning and disinfection for bio-security procedures and precautions for personnel and equipment.)

2) **Personnel and equipment cleaning and disinfection:**

- Because ODWC personnel may be involved in handling potentially infected animals, a standard cleaning and disinfection protocol will be followed when the presence of disease is suspected. Where possible, contamination will be limited by use of disposable clothing and equipment. As much as possible, ODWC personnel will use established cleaning and disinfection resources such as vehicle spray devices (located at Traffic Control points), shower/cleaning and disinfection facilities, etc. ODWC personnel will be supplied with personal cleaning and disinfection equipment and portable cleaning and disinfection

sprayers while operating within quarantine zones.

- **Clothing and personal equipment:**

All ODWC personnel will carry a full extra set of clothing sealed in a plastic bag for unexpected situations that require a change of clothing. If personnel expect to encounter a risk situation, protective disposable clothing such as disposable (or easily disinfected) boots, and Tyvek suits will be worn. Disposable gloves and headwear will also be needed when handling infected carcasses. Any disposable articles will be burned on site or bagged and disposed of (i.e., burned) in another approved location. If non- disposable clothing or disposable clothing that would be taken elsewhere for disposal is used, they will be immersed in a disinfectant solution, wrung out, and sealed in a plastic bag to prevent contamination. Personal equipment, such as keys and cellular phones, will be placed in zip-lock bags and wiped with disinfectant as appropriate. Body cleaning and disinfection will be

accomplished by showering with soap and water when feasible. Secondly, Handi-wipes will be used to reduce contamination, followed by showering as soon as possible. Organic material or soil on equipment will be removed before final application of disinfectant. Vehicle tires will be sprayed with disinfectant before departing the area and more thorough cleaning and disinfection accomplished at the vehicle cleaning and disinfection spray device located at the traffic control points. Care should be taken to not expose or contaminate vehicles any more than absolutely necessary. Disposal of all potentially contaminated material must be conducted properly to insure bio-security. (**Note:** Disinfectants include citric acid and Virkon S. When mixing, always add the powder to the water. Virkon S can be irritating to the skin especially when mixed at high concentrations. It tends to blow in the wind so it helps to open the packets under water.)

- **Personal cleaning and disinfection equipment** to be provided to ODWC personnel includes:
    - hand pump sprayer
    - two gallons of water (5 gallons is better )
    - disinfectant (concentrate form) citric acid/Virkon S and directions for mixing
    - Handi-wipes
    - disposable coveralls, boots, gloves, head cover
    - cadaver bags (large and heavy gauge plastic)
    - plastic garbage bags
    - lighter
    - bucket and brush if using non-disposable clothing/boots
- 3) **Procedures for Surveillance on an Infected Premise or in corresponding Adjacent/Control Zones:**
- **Planning:** A plan for surveillance of wildlife in the wake of a nearby outbreak in domestic animals will need to address several issues such as methods of capture/taking of different species potentially involved, expected behaviors of affected animals with regard to stage of infection, surveillance time schedules,

number of animals to be taken based on density estimates, securing and submission of samples, and disposal of carcasses. Also, differences in the production of virus by infected domestic species, possibility and type of exposure to wildlife, weather conditions, and premises layout will also affect the surveillance plan.

- **Personnel:** Wildlife surveillance crews will consist of three ODWC (or ODWC designated) personnel, accompanied by personnel in a separate vehicle to collect samples and recover and/or dispose of all wildlife taken by ODWC personnel. The crews will be tasked to the area needing surveillance by and given direction in consultation with Wildlife Surveillance Director/Technical Advisors (see IC System organizational chart). The Wildlife Surveillance Director/Technical Advisors will use the framework below to customize a surveillance plan appropriate to each situation encountered. The Generalized Surveillance Plan is organized with day

one being confirmation of infection on a premise.

- **General Surveillance Plan:**  
(Assumes outbreak with unknown status of wildlife)
  - **Day One:**
  - Activation and notification to the ODWC Chief of Wildlife Management by ODCEM that a wildlife surveillance plan for a particular situation is needed.
  - Formulate the details of the plan omitting or adding activities as dictated by the situation. Obtain maps/details of outbreak.
  - Determine presence and characteristics of susceptible wildlife populations in affected area using existing data and information from local residents.
  - Base initial considerations of area to be covered to include the area immediately around Infected Premises unless weather or other factors dictate change.
  - Designate wildlife surveillance crewmembers and

- assign tasks. Provide direction of needed prevention measures to protect wildlife.
- **Day Two** (or evening one – most wildlife sampling will be done during night time hours depending upon time of year, weather, etc.):
    - One sampling crew (three ODWC personnel and two to three other personnel in separate vehicles) will take deer/swine in pre-determined vicinity of the infected premise. All free-ranging deer/swine will primarily be collected by driving through the collection area with an ODWC vehicle in which there will be a driver, a spotter/rangefinder and a shooter. The spotter/rangefinder will direct the driver, spot deer/swine with spotlight/binoculars and determine target distance with a laser range finder which is immediately communicated to the designated shooter who will shoot the deer/swine with a center

fire, scoped rifle. The driver communicates information regarding safety issues (houses, buildings, etc.) to the spotter/rangefinder and navigates using maps. The driver also maintains communications via radio with the accompanying vehicle carrying designated personnel who will take the biological samples, record the location, and arrange for disposal of each animal taken while following the ODWC vehicle. ODWC personnel will either remain with each shot animal until the second vehicle arrives or clearly mark the animal location and relay that information by radio to the second vehicle. The number of crews will be determined based on area, cover, and number of wildlife samples needed.

- **Days Three through Twenty-Four**  
-Continue Day Two (Evening One) sample

collections and expand number of crews and/or distance from infected premise as needed, depending upon results of diagnosis from wildlife previously collected.

**\*\*Note: If wildlife is determined to be infected the Surveillance Plan will give way to Control/Depopulation Procedures.**

**4. Prevention Recommendations/Procedures:**

As technical advisors, ODWC will be tasked with making recommendations that would help protect susceptible wildlife populations. These would include but not be limited to:

- Feasibility of and need for control plans for species that could act as mechanical fomites (i.e., Canada geese and other migratory birds, etc.)
- Measures such as pond/lagoon coverage, etc.
- Value of deterrents that would discourage wildlife from using fields or open areas at night that could be contaminated.
- Feasibility of vaccination programs and procedures if desirable.

**5. Wildlife Control/Depopulation Procedures:**

If it is determined that wildlife have become infected, options for control or depopulation measures will be considered. It is unlikely that the most common susceptible species (deer and feral swine) can be totally depopulated by any practical methods. Though it is not feasible to consider depopulating all deer or swine in an area that has infected wildlife, a partial depopulation program may be instituted if the ODWC is directed to do so by OK Vet IMT. Partial depopulation of susceptible species may be conducted in an effort to lower the risk of spread both within wildlife and domestic animals. Swine are not thought to have an appreciable carrier state, but white-tailed deer have been shown in studies by USDA to maintain a carrier state for 11 weeks. Whether this carrier state would facilitate an endemic cycle of infection is unknown. The infection of wildlife poses a potential threat to any eradication procedure due to the factors discussed above. Before an eradication effort for FMD will be considered complete, it must be shown that susceptible wildlife species have not been infected or if infected, that the virus had been eliminated. In essence, these efforts combined with sample submission are actually just an extension of the surveillance program. The extent to which a wildlife population will be reduced depends on many considerations including:

- -extent of infection in the population determined through surveillance,
- -species infected and the ability of the virus to establish an endemic infection,

- -estimated risk of spread to other areas or populations of animals,
- -size and density of the population infected,
- -geographic features that would promote spread of the disease through animal movement (e.g., river basins),
- -progress and success of the eradication effort in domestic species, and
- -the role that the ODWC has played in OK or other similar states with an outbreak.

**Methods:**

*Techniques for control/depopulation of free-ranging wildlife (deer/swine) will generally follow the techniques described under surveillance, with a crew consisting of one vehicle with three ODWC personnel shooting wildlife being followed by a second vehicle in which two to three personnel who will secure/dispose/transport all wildlife taken. The number of crews conducting depopulation and additional techniques employed will depend upon the depopulation area size, wildlife density, vegetation density, time of year, vehicular*

*access, etc. Techniques such as baiting and shooting or shooting from elevated stands might be utilized if determined to be effective. These techniques require extended time periods to be effective and will most likely be employed in the final phases of depopulation. It will become necessary for ODWC personnel to expend significant amounts of time searching for free-ranging wildlife (deer/swine) sign as depopulation progresses to maximize spotlighting and shooting success. The same personnel will conduct the depopulation of any captive wildlife in the Adjacent Zone responsible for depopulating captive domestic animals with assistance from ODWC in cases where animals are enclosed but not confined, using the same techniques as with free-ranging wildlife*

**Equipment and Considerations for Depopulation Procedures:**

**-Firearms:**

For shooting free-ranging wildlife, center fire rifles of at least 6mm caliber capable of discharging a 100+ grain bullet at a muzzle velocity of 3000 to 3500 feet per second fitted with high quality telescopic scopes with large (50mm) objective lenses and target or varmint grade heavy barrels will be the primary firearm used.

Additionally, if federal authorization is provided from USDA through ODA to the ODWC semiautomatic center fire rifles fitted with sound suppressors will be used when encountering multiple targets at relatively close ranges (<300 meters).

Rifle ammunition should be frangible to minimize ricochet and maximize impact

on tissue. Handguns of .357 caliber or larger and 12 gauge repeating shotguns will also be used for dispatching animals at extreme close range (<10 meters). One of each firearm type should be made available for each depopulation/surveillance crew.

**-Vehicles:**

Vehicles should be four-wheel drive pickup trucks with an elevated shooting platform installed in the bed with space for a shooter and a spotter. Sturdy rails on which to steady a rifle should surround the platform. Vehicles with a sliding rear window are preferred to improve communication between the driver and the spotter. Fuel will be provided by Operations on-site to minimize movement of vehicles from and into the quarantine zone. It may be necessary during periods of wet weather in areas where sufficient roads do not exist to operate full-sized vehicles to utilize four-wheel drive all terrain vehicles (ATVs) to gain access to surveillance/depopulation areas. These ATVs should be equipped with trailers for transport rather than being transported in the beds of pickup trucks. The use of ATVs will also facilitate expedient survey of areas where regular vehicular movement would be restricted by terrain features.

**-Spotting:**

Each Spotter on a crew will have a spotlight of  $\geq 200,000$  candlepower that can be fitted with a red filter, a laser rangefinder capable of measurements up to 500 meters, high-quality 8 power binoculars with 56mm objective lenses,

and detailed maps of the depopulation area which identify all dwellings, roadways, etc. that need to be identified for safety reasons. A hand-held GPS will be used in conjunction with the laser rangefinder and a compass to identify locations of wildlife taken by the shooter. In addition, spotters should also be provided night vision scopes/binoculars.

**-Communications:**

Each vehicle will be equipped with an ODWC radio and each driver will have a portable hand-held radio with which contact will be maintained with the companion animal sampling/disposal crew. Each vehicle will also be equipped with a cellular telephone. These multiple communication tools are necessary to coordinate multiple crews and maintain safety parameters while using center fire rifles for taking free-ranging wildlife.

**-Other Considerations:**

There will need to be considerable daily coordination during wildlife depopulation/control/surveillance activities due to the nature of this work and concerns for safety. Much of this coordination can be done during daylight hours because most of the activity will take place at night. All facilities such as cleaning and disinfection etc. must be available on a 24-hour basis.

Arrangements will be made for ODWC personnel to obtain access to all areas beyond locked gates. Crews doing the shooting need to work as efficiently as possible with as few interruptions as are feasible. It may be necessary to work in 12 hour shifts beginning at noon and

midnight with the crew working until midnight covering the same territory after dark in which they operated/inspected during daylight hours and the midnight crew working the area in which they operated/inspected the previous morning. This approach will allow each crew to know the conditions of roads and trails as well as the layout of the terrain including any features that could present a safety hazard.

**6. Suspension/Cancellation of Activities such as Hunting and Fishing:**

- OK Vet IMT will determine the need for the cancellation of activities that could allow for the spread of virus or movement of animals/carcasses during an outbreak. Hunting activities increase the likelihood that infection could be spread in a contaminated area, or elsewhere due to the movement of animals after hunting. Activities such as field trials, fishing, and trapping could also promote spread of infection through the movement of individuals from areas that were contaminated to uncontaminated areas.
- If activities under jurisdiction of the ODWC are suspended or cancelled by OK Vet IMT, the ODWC will oversee the enforcement of the

suspension/cancellation. As technical experts, ODWC would be consulted to ensure that all practical measures possible be taken to protect wildlife in Oklahoma.