Appendix G

Nuclear Operations Checklists

This appendix contains a series of checklists that outline how contamination avoidance tactics, techniques, and procedures (TTPs) can be applied. They apply to platoon through brigade task force elements. The various lists are designed to assist commanders and chemical staff personnel in tactical operations. The TTPs included are not designed to replace Army training and evaluation plan (ARTEP) standards, nor any other listing of collective tasks, but are intended to be operational contamination avoidance checklists. These checklists are not all inclusive and may be adapted or modified for local use.

Prepare for Operations in an NBC Environment

The following specifics apply:
- Enemy is capable of offensive nuclear weapons.
- NBC threat status (nuclear) is Serial 2 or higher.
- Nuclear weapons use is considered to be a likely course of enemy action.
- Unit is provided intelligence reports on enemy capabilities.

Platoon-Company Actions

Authorized unit detection and individual protective equipment is on hand, operational, and issued per unit SOP.

☐ Unit equipment shortages are placed on order. Monitoring equipment not calibrated is sent to TMDE for calibration.

☐ OPSEC, dispersion, and cover and concealment are practiced to avoid being targeted.

☐ Commander analyzes mask-only posture vs MOPP as a protective measure for troops in a radioactive environment.

☐ Unit receives and correctly interprets periodic effective downwind messages.

☐ Unit adopts NBC contamination avoidance measures such as—
- Cover supplies and equipment with NBC protective covers.
- If the unit is in a stationary position and is expected to remain in position for more than one hour, soldiers should improve fighting positions with overhead cover.

☐ Identify nonessential communications assets that can be disconnected and stored in case of an imminent attack.

Battalion-Task Force Actions

Same as company actions, plus—

☐ Ensure subordinate units follow SOPs.

☐ Ensure EDMs are sent to subordinate units.

Prepare for a Nuclear Attack

The following specifics apply:
- The enemy has employed nuclear weapons in theater.
- NBC threat status (nuclear) is Serial 2 or higher.
- Higher headquarters INSUM indicates the enemy is likely to use nuclear weapons on or near your unit area.

Platoon-Company Actions

☐ Alert subordinate units.

☐ Start periodic monitoring.

☐ Unit continues the mission while implementing actions to minimize casualties and damage.

☐ Personnel, equipment, munitions, POL, food, water, and nonessential communications equipment are protected from the effects of nuclear weapons.

☐ *Ensure unit has updated EDM on hand.

* Company only

☐ * OPSEC, dispersion, and cover and concealment are practiced to avoid being targeted and to minimize the effects of an attack.

Battalion-Task Force Actions

☐ Alert subordinate units and elements within the battalion or brigade.

☐ Ensure headquarters and subordinate units take protective measures outlined in SOPs.

☐ Ensure subordinate units have received the most current EDM.

☐ Alert servicing aid station on potential mass casualties.

☐ Ensure radiation monitors are prepared for operations.

Respond to a Nuclear Attack

The unit or a subordinate unit(s) is subjected to a nuclear attack.

Platoon-Company Actions

☐ All personnel immediately take protective action as outlined in STP 21-1 or appropriate FM.

☐ Flash-to-bang time or illumination time is recorded.

☐ Designated observer units record cloud width at H + 5 minutes or cloud-top or cloud-bottom angle at H + 10 minutes.

☐ The chain-of-command and communications are restored, and the unit continues with the mission.

☐ Casualties and damage are assessed. Casualties are cared for and evacuated. Higher HQ is informed of the situation. Casualties and damaged equipment are reported to higher HQ.

☐ * Unit identifies type of burst and potential location of ground zero and submits an NBC 1 nuclear report.

☐ Start continuous monitoring, and report the arrival of fallout (NBC 4 initial nuclear report).

☐ Ensure unit personnel–

- Prepare for follow-on enemy attack.
- Protect themselves from the effects of fallout and fires that may have started.
- Personnel should protect respiratory tracks from the inhalation hazards of fallout by either wearing the protective mask or by placing a cloth over noses and mouths.
- Remove radioactive contamination by brushing, shaking, or washing contamination from personal equipment.

☐ Report increasing, decreasing, or peak dose rates. Report the completion of fallout.

☐ *Receive from higher HQ an NBC 2 nuclear report. Prepare a simplified fallout prediction, and inform the commander.

Battalion-Task Force Actions

☐ Re-establish chain-of-command and communications network.

☐ NBC 1 reports are received and passed to subordinate, adjacent, and higher units.

☐ NBC 1 reports are consolidated to form an NBC 2 report. Estimate yield based on NBC 1 report information and determine resolved yield. The NBC 2 report is posted to the situation map as an overlay. The report is passed to subordinate, adjacent, and higher units.

☐ NBC 1 (follow-up) report is requested from designated observer units, if applicable, to identify the cloud-width or cloud-top bottom angle. The hazard area is predicted and disseminated to subordinate/slice units via NBC 3 report received from higher headquarters.

☐ Ensure subordinate units report the arrival of fallout and all subsequent monitoring reports. Forward this information to higher headquarters.

☐ Subordinate unit damage assessment is evaluated. If required, assistance is provided to the unit for reestablishing command and control. This report is passed to the battalion S1 and S4 for action and/or information.

☐ Decontamination requirements are determined based on METT-T, extent of contamination, and availability of assets.

☐ If decontamination is required and METT-T conditions permit, a decontamination request is prepared IAW SOP and sent to the supporting chemical unit provided it is part of the battalion's task force. If the chemical unit is not available, the request is forwarded to higher HQ. Decontamination priorities are determined and followed, in either case.

☐ Contingency stocks are reordered to replace used stocks and/or to support decon operations.

☐ ** Provide additional assistance or information to the servicing NBCC, as required, to determine location of GZ, yield, and decay rate.

* Company only
** Task force only

Conduct Post Attack Operations

Enemy forces have attacked friendly forces with a nuclear weapon.

Platoon-Company Actions

☐ Unit has reestablished communications and chain of command following the attack.

☐ Local fires are controlled, debris is cleared away, casualties assessed, treated, and evacuated.

☐ Unit continues monitoring and submits scheduled reports on radiation level in the area.

☐ If the unit must continue to operate in the area, the unit should—

- Continue efforts to determine actual location of GZ, and define the extent of the hazard.
- Continue to protect personnel by limiting their exposure to radioactive materials. Be alert for transient contamination, the spreading or movement of contamination by natural sources.
- Mark contaminated areas and identify hot spots.

Battalion-Task Force Actions

☐ Ensure subordinate units have—

- Reestablished chain of command and communications.
- Cared for and evacuated casualties.
- Controlled local fires and cleared debris.
- Continued monitoring for radiation hazard.

☐ Ensure subordinate units are recovering, but are also prepared for a potential conventional enemy attack.

Respond to a Nuclear Fallout Prediction

The following specifics apply:

- Unit has received an NBC 2 or 3 report from higher HQ.
- Unit has received or prepared a current EDM.

Platoon-Company Actions

☐ Unit continues the mission.

☐ * Plot NBC report information on situation map. Notify commander of the significance of the plot to unit operations.

☐ If the unit's position lies within the predicted hazard area—

- Start continuous monitoring. Notify higher headquarters when fallout arrives at unit location.
- Ensure all supplies, equipment, and personnel are protected from fallout contamination.
- Brief commander on cloud arrival time.
- Update higher headquarters of current dose rate and RES category.

☐ Unit remains in place, gathers monitoring data, and passes it to higher HQ.

Battalion-Task Force Actions

☐ Unit continues the mission.

☐ Plot NBC 2 or 3 on the situation map, and brief the S3 or commander on the tactical significance of the prediction.

☐ Identify any subordinate units within the fallout prediction or if future missions will require operations within that area.

☐ Calculate the possible time for arrival of fallout.

☐ Pass on NBC 2 or 3, OEG, and EDM to subordinate Units.

☐ Ensure subordinate units–

- Initiate protection procedures IAW SOP to protect against potential fallout.
- Start continuous monitoring.
- Report arrival of fallout and dose rates.
- Have current EDM.

☐ Receive monitoring reports from subordinate units. Post information to situation map. Relay reports to the NBCC. Advise NBCC on RES of units.

☐ Assist the NBCC in decay rate calculations, if required, and the preparation of the NBC 4 report.

Operate in a Nuclear-Contaminated Area

The unit must remain in a contaminated environment.

* Company only

Platoon-Company Actions

☐ Unit continues the mission.

☐ Ensure the following procedures are conducted until the unit is able to leave the contaminated environment:

- Remain in protective posture or protected positions until higher headquarters determines the optimum time for exit.
- Continue monitoring and advise higher headquarters on current RES level.
- Monitoring reports are submitted (NBC 4) to refine radiation area parameters.
- Additional shielding is ad&d to protective positions to reduce the total dose received.
- Clean areas are located where soldiers can be rotated.
- * NBC 5 nuclear report is received and plotted. Advise commander on the impact on unit mission.

Battalion-Task Force Actions

☐ Post NBC 5 report to situation map. Advise S3 or commander on the tactical implications of the contaminated area. This briefing should cover—

- Any subordinate units within the contour lines of the contaminated area.
- How long the unit can stay in this area and not exceed the OEG. This is based on total dose calculations and/or optimum time of exit calculations. To perform these calculations, assistance may be required from the NBCC.
- Period of validity for the NBC 5 report.
- In coordination with the S2, identify possible enemy courses of action.

☐ Ensure subordinate units are aware of the S3 or commanders decision, NBC 5, tactical implications, and optimum time of exit.

☐ Ensure subordinate units continue to monitor radiation levels, report casualties, and provide protection IAW SOP.

☐ Ensure unit evacuates the area at the appropriate time and IAW SOP.

Cross a Nuclear-Contaminated Area

The following specifics apply—

- Given an NBC 5 nuclear report, period of validity, decay rate, and OEG from higher HQ.
- Unit is required to cross area.

Platoon-Company Actions

☐ * Unit NBC defense team advises the commander on the significance of the NBC 5, OEG, and the turn-back dose/dose rate.

☐ Unit radiation monitoring equipment is zeroed and issued to appropriate operators.

☐ Unit leaders ensure vehicles are prepared to cross contaminated area by adding additional shielding (sandbag floor, etc.).

☐ Unit personnel don protective masks or cover noses and mouths with cloths to reduce inhalation hazards. Unit personnel may don MOPP 4 to reduce contamination from fallout.

☐ Unit coordinates potential decontamination of vehicles and personnel after crossing.

☐ If the unit possessor has access to an NBC recon vehicle, this vehicle should be used by the advance party.

☐ Unit crosses contaminated area as quickly as possible while following the most expeditious route available.

☐ Continuously monitor the environment, while crossing, and record radiation exposure.

☐ Report radiation exposure and crossing completion to higher headquarters.

☐ Request unit decontamination if mission permits.

Battalion-Task Force Actions

☐ Post the NBC 5 report to the situation map.

☐ Review operation order and determine—

- If the unit must cross the contaminated plot to accomplish the mission.
- What mode of transportation will be used to cross.
- At what time does the unit have to start crossing.
- How long does the unit have to cross?

☐ Calculate the total dose the unit is expected to receive.

☐ Contact the S1 and obtain RES of crossing unit.

☐ Add total dose calculated to the RES. If the expected total dose and current RES are more than the stated OEG—

- Rework total dose estimates with a delay in crossing, faster road speed while crossing, or by choosing a new route, with lower dose rates.
- Calculate the effects of additional shielding added to the vehicles.

* Company only

☐Brief the commander or S3 on findings.

☐Ensure crossing unit—
Crosses at prescribed time, at the proper speed, and correct route.
- Crosses contaminated area IAW SOP.

☐ Receive total dose reports from the unit. Pass reports to higher HQ and to the S1 for inclusion in RES report.

☐ Coordinate for decon support, if required and if situation permits.

Conduct or Supervise a Radiological Survey

The following specifics apply:
- Higher headquarters directs the battalion-task force to conduct a survey in its area of operation.
- Areas of interest within the unit's operational area may be contaminated.
- The tactical situation requires the unit to conduct a survey.

Platoon/Company Actions

☐ *Unit NBC defense team briefs commander on the tactical implications of conducting the survey.

☐ * Subordinate element best suited, due to METT-T and training of personnel, is tasked to perform survey.

☐ * Unit NBC Defense Team or higher guidance from the requesting headquarters briefs survey team. Briefing includes but is not limited to the following—
- Type of recon and/or technique to be employed.
- Reporting requirements.
- Marking requirements.
- Special preparation of vehicle to enhance contamination avoidance.
- Turn-back dose or dose rate.
- Operational exposure guidance.

☐ Survey team(s) executes mission as directed.

☐ NBC defense team submits evaluated data to higher headquarters.

☐ Unit decontaminates as required.

Battalion-Task Force Actions

☐ Unit receives the mission request and/or determines the area to be surveyed. Request support from an NBC reconnaissance vehicle, if possible.

☐ Ensure subordinate unit initiates, conducts, and reports survey data IAW guidance from the requesting headquarters and unit SOP. Ensure turn-back dose dose-rate and OEG are covered in briefing.

☐ Alert the supporting chemical unit to the potential need for decontamination of survey party. If the battalion does not have an organic supporting chemical unit, the battalion notifies the MUC.

☐ Identify potential decontamination sites (if required).

☐ Ensure subordinate unit reports the start time of the survey, significant finds, and completion time of the survey.

☐ Ensure subordinate unit submits the NBC 4 report as required by SOP. The report is received, logged in, checked for accuracy, and forwarded to higher headquarters. The battalion keeps a copy of this report.

☐ Survey findings are posted or annotated on the situation overlay IAW SOP.

☐ RES of the survey party is passed to the S1.

Conduct or Supervise Decontamination

The following specifics apply:
- ** Subordinate units(s) reports contamination from a nuclear burst.**
- Personal wipe down and operator spraydown have been completed.

Platoon-Company Actions

☐ Unit determines the extent and numbers of contaminated personnel and equipment.

☐ * Unit requests decon support and coordinates for chemical protective clothing, and decontaminates for thorough troop decon.

☐ Unit designates decon team, moves to the assembly area, which is downwind from the decon site, links up with chemical company's decon unit, and receives a briefing on the decon site operation.

☐ Unit conducts thorough troop decon and sends equipment to the thorough equipment decon site as instructed by the chemical company decon unit's OIC or NCOIC.

☐ * Unit conducts thorough troop decon for the chemical unit after it completes its mission and it closes the troop decon site.

☐ Unit completes reconstitution and resumes or awaits the next mission.

*Company only
**Battalion-task force only

Battalion-Task Force Actions

☐ Subordinate unit requests decontamination IAW SOP.

☐ The commander is briefed on the type and extent of contamination, how long the contaminated unit can stay in the current posture without further decontamination, the availability of chemical unit support, and a recommendation on which decon should be done.

☐ The commander decides if the unit will initiate decontamination operations, and if so, whether the decontamination will be hasty or detailed. The decision is based on METT-T and the advice from the battalion-task force chemical staff.

☐ The commander's decision is transmitted back to the requesting unit as follows:

- If the decision is not to decontaminate, the subordinate unit is provided guidance on protective measures to take.
- If the decision is to decontaminate using operational decontamination procedures, then—

→ The battalion requests decontamination support from the chemical unit, if decon assets are not organic to the battalion.

→ The subordinate unit is notified of the decision and location of the linkup point of the decontamination site.

→ The battalion notifies the contaminated unit and ensures the battalion or chemical unit deploys a decon team to prepare the site. The unit decontamination team will operate the decon site. The battalion decon team or chemical platoon will do the vehicle washdown for the decon team. If this support is not available, the unit's decon team will operate the site using organic decon assets, M13 DAP, and M11 to remove dust. The unit decon team establishes entry and exit traffic control.

- If the decision is to decontaminate using thorough decon procedures, then, the following occurs:

→ The battalion requests thorough decon support from the supporting chemical unit.

→ Subordinate unit is notified about the decision, location of the decontamination site, time the unit has to complete decon operations, and which unit if any will relieve the contaminated unit in place or assume the contaminated unit's mission during decon.

☐ Subordinate unit will be given the time for reporting to the decon site, moving into the predecon staging area, rendezvous, point of contact at the site, route and type of march to and from the site, etc.

☐ Battalion will ensure contaminated units decon team operates the decon site IAW SOP. If more than two companies require decon, the battalion will coordinate with the MUC for additional decon assets.

☐ The contaminated unit reports arrival at the decon site, completion of 50% of the unit, and completion of decon operations to the battalion headquarters.

☐ Battalion reports completion of the decon operations and site closure to the MUC.

☐ Subordinate unit reorders contingency stocks of CDE expended during decon.

Evacuate Radiologically Contaminated Casualties

The unit has sustained casualties that are radiologically contaminated.

Platoon-Company Actions

☐ Unit requests medical evacuation based on normal considerations of medical care required and urgency. Evacuation requests are made IAW SOP.

☐ Unit informs higher headquarters on how many casualties were sustained, and mode of evacuation.

☐ Casualties are brought to MEDEVAC aircraft or vehicle(s). Unit takes measures to limit the spread of contamination.

☐ Each casualty is marked, identifying the type of contamination and first aid received.

Battalion-Task Force Actions

☐ Subordinate unit informs headquarters on the number of casualties, type and time of contamination and method of evacuation desired.

☐ Notify subordinate unit designated to provide a ten-person detail for patient decon support. Ensure subordinate unit is given time for the detail to report, location of battalion aid station (BAS), and POC at the BAS.

☐ BAS is notified of incoming casualties. BAS has a ten-person detail on hand to assist in decon, and has adequate decontaminants and CDE available.

☐ Notify higher headquarters on the number of casualties, type of contamination, and estimated time of arrival to the BAS.

☐ Notify the supporting chemical unit or higher headquarters about the possibility of decon support, either for the MEDEVAC helicopter or ground ambulance.

☐ Ensure a responsible individual knowledgeable in NBC defense is at the BAS to assist in casualty decon. This individual must ensure aircraft or ambulance personnel off load casualties into a designated area downwind from the BAS, and must assist or ensure the crew of the vehicle or aircraft monitors for contamination.

- ☐ Ensure the BAS coordinates with the battalion for decon if required.
- ☐ Inform the BAS when to have the ambulance or helicopter report to the decon site, from what direction to approach the decon site, and point of contact at the site.
- ☐ Ensure the ambulance or MEDEVAC helicopter is decontaminated IAW the unit SOP. Decon site will be operated by the detail unit provides a casualty decon team to the BAS.
- ☐ Notify higher headquarters when the operation is completed.

Respond to a STRIKWARN Message

The following specifics apply:
- Unit is notified by higher headquarters that a friendly nuclear strike will occur in the unit's area of operations.
- Unit receives a STRIKWARN message.

Platoon-Company Actions

- ☐ Unit requires authentication if unsecure net is used.
- ☐ Unit acknowledges warning receipt.
- ☐ Unit relocates if required.
- ☐ Unit implements protective measures prior to strike IAW unit SOP, and maintains protective posture until STRIKWARN is executed or cancelled.

Battalion-Task Force Actions

- ☐ Post the STRIKWARN to the situation map.
- ☐ Determine which subordinate unit(s) must initiate protective measures or relocate.
- ☐ The commander is briefed on the impending strike and post detonation effects.
- ☐ Directs subordinate affected units to relocate or implement protection measures IAW SOP.
- ☐ Notifies MUC when all company and separate platoon-size units in battalion area of operations have been notified.

Respond to an Unexpected Contaminated Area

One or more of the following specifics apply:
- Advance party or reconnaissance team did not detect contaminated area.
- Templating (NBC 5 report) did not accurately depicit the boundaries of the contaminated area.
- Enemy forces executed attack after reconnaissance was completed.
- Maneuver element or unit enters contaminated area unexpectedly.

Maneuver Element

- ☐ After recognizing the unit is in a contaminated area—
  - Elements halt.
  - Personnel don protective masks to prevent inhalation of radioactive particles.
  - Each soldier performs personal wipedown, if required.
  - Alert other maneuver elements and higher HQ that contamination has been found.
  - If element is in direct-fire contact, continue mission and fight dirty. If not, proceed with remaining steps.
  - Using radiac equipment, check immediate area for contamination.

Note: First clean element has found the initial near side of the contamination.

- ☐ Element in contaminated area continues forward, checking area every 500 meters.
- ☐ Based on METT-T, OEG, and guidance from higher HQ, the maneuver element commander determines which direction the element should move to exit and bypass or continue through the contaminated area.
- ☐ If the maneuver element is directed to bypass the area, the first clean element, based on the commanders assessment, will move 500 meters to the rear to establish the initial near-side line. The element will—
  - Turn 90 degrees (left or right) and move 500 meters
  - Halt, and check for contamination.
  - If contaminated, turn 90 degrees and move 500 meters to the rear.
  - Check for contamination. If no contamination is found, turn 90 degrees in the original direction of travel and move 500 meters. Check area again for contamination.
  - Continue process until initial far-side line of contamination is crossed.
- ☐ Element finding the initial far-side line, or bypass route, should clearly mark the route, using either—
  - VX17 panels,
  - Colored smoke, or

- Guides.

☐ Once maneuver unit has safely transverse contaminated area—
- Report coordinates of bypass route to higher and adjacent units.
- Report casualties, and request medical extraction, if required.
- If mission permits, conduct vehicle spraydown.
- Request decon support from higher headquarters at earliest possible time.
- Continue mission.

Higher Headquarters

☐ Receive initial report from the maneuver element and–
- Plot coordinates of contact on situation map.
- Prepare NBC 4 contact report, and send to higher and adjacent units.
- Provide any guidance and assistance possible to maneuver element.
- Inform commander and/or S3 of situation.
- Monitor progress of maneuver element until element has safely transverse area.

☐ Report coordinates of bypass route to higher HQ.

☐ Inform commander and/or S3 of the bypass route, and status of maneuver element.

☐ Coordinate for—
- Medical evacuation, if required.
- Decon support, at earliest possible time.
- Further recon of contaminated area.

Respond to a Civilian Nuclear Accident or Incident

The following specifics apply:
- Enemy operatives, agents, or an attack has created damage to civilian nuclear facilities or a power plant.
- Tactical operations have caused the unexpected or unintentional release of radioactive material (solid, liquid, or gas) into the environment.

Maneuver Element

☐ Alert higher, adjacent, and lower units.

☐ Immediately secure the area and–
- Start continuous monitoring, and ensure results are reported using NBC 4 nuclear report format.
- Establish security zone around the area of no less than 620 meters radius.
- Evacuate casualties. Casualties should be considered contaminated, and should be contained in one central location.
- Identify witnesses for questioning.

☐ Maintain security until released by higher HQ.

Higher Headquarters

☐ Alert higher, adjacent, and lower units.

☐ Ensure security zone is established of 620-meter radius and—
- Casualties are evacuated.
- Request assistance from—

→ Military Police.
→ Medical personnel.
→ EOD teams if required.
→ Division radiological protection officer.
→ Host nation supportl
→ DOD response teams.

☐ Maintain security of area until released from mission by appropriate authority.