

CHAPTER 16

PUBLIC AFFAIRS

16-1 GENERAL

a. A nuclear weapon accident, whether in a remote or populated area, has immediate public impact. Public affairs activities during the initial accident response are perhaps among the most critical aspects of the entire response effort. Within hours of the accident, news media will be at the scene. Local citizens will seek information as to how the accident affects them. Given the public's apprehension and the news media's widespread coverage of radiation incidents/accidents, a dynamic, comprehensive public affairs program must be conducted to ensure credibility of the response effort. Timely, accurate information and frequent updates are essential to keep the public informed and to maintain credibility.

b. All Department of Defense (DoD) response element commanders will face a wide range of complex public affairs issues which require immediate attention. The On-Scene Commander (OSC) communicates or ensures communication with the Office, Assistant Secretary of Defense (Public Affairs) (OASD(PA)). The OSC should devote considerable time to meetings with news media, public officials, and private citizens. To gain the public confidence, public information and community relations programs must be established.

c. An internal information program should be conducted to provide information about policies and daily operational status to all response elements. Cognizant public affairs staffing is required to assist the commander with these programs.

d. The Joint DoD, Department of Energy (DoE), and Federal Emergency Management Agency (FEMA) Agreement, reference (a), contains public affairs related information. If conflicts exist between guidance contained in this manual and DoD directives and agreements, guidance in the DoD document(s) should prevail.

16-2 PURPOSE AND SCOPE

This chapter provides public affairs guidance on procedures and issues which may be encountered at the

scene of a nuclear weapon accident or significant incident (occurring in the United States, its territories and possessions or overseas). Included are contingency press releases extracted from the DoD Directive 5230.16, reference (b), and fact sheets on radiation.

16-3 SPECIFIC REQUIREMENTS

The OSC has specific public affairs responsibilities as indicated below. The military Services may have imposed additional requirements contained in appropriate Service regulations. The OSC will:

- a. Establish or ensure direct communications with OASD(PA) from the accident scene.
- b. Establish a Joint Information Center (JIC) coordinating with DoS, and/or FEMA, DoE, state, and local authorities at the scene of the accident.
- c. Provide news media support at the accident scene.
- d. Protect classified information.
- e. Assess public understanding and identify concerns about nuclear issues.
- f. Provide internal information/guidance.
- g. Identify and respond to community relation needs.

16-4 RESOURCES

The DoD response element commander should have qualified public affairs officers from the supporting installation and/ or staff as members of the response force. These PAOS form part of the DoD element of the JIC. Other public affairs support is available from the following:

- a. Department of Defense: The OASD(PA), as the senior DoD public affairs organization, coordinates with the White House Press Office and other departments and agencies at the national level. The OASD(PA) may be represented at the Crisis Coordination Center (CCC)

or the accident scene during emergencies. Members of the military Service headquarters and major command public affairs staffs may augment the OSC's public affairs staff. The Defense Nuclear Agency (DNA) PAO is knowledgeable on nuclear weapons issues and will assist as a part of the DNA Advisory Team.

b. Department of Energy: A DoE public affairs officer will accompany the DoE Team Leader to the accident scene and be present in the JIC. Other DoE public affairs personnel from DoE field operation offices, national laboratories, and DoE contractors may also be requested to augment the JIC operations. DoE PAOS are knowledgeable in nuclear weapons matters.

c. Department of State: The DoS exercises diplomatic control of the U.S. response to a nuclear weapon(s) accident outside the U. S., its territories, and possessions or if the accident has trans-boundary implications. The U.S. Chief of Mission (COM) will be the focal point for diplomatic and political decisions of the U.S. government. The COM will provide significant public affairs expertise and information on the host country's public reaction. The COM will be assisted by a team from the embassy's Emergency Action Committee (EAC) with augmentation as required by the situation. Additionally, liaison officers will be provided to the OSC and the JIC.

d. Federal Emergency Management Agency: Public affairs personnel will accompany the senior FEMA official to the accident scene. They will be present in the JIC and provide a wide variety of skills in all public affairs operations dealing with disaster and emergency operations. Additional FEMA resources are available from FEMA headquarters, regions, and FEMA's corps of reserve PAOS.

e. Other: Public affairs officers from other Federal agencies involved in the Federal response effort (for example, Health and Human Services, Department of Transportation) also may be present at the scene, and should be integrated into the JIC. Local and state public affairs personnel, although not part of the response element, should be invited to participate in the JIC to provide coordinated responses to the media and general public.

16-5 CONCEPT OF OPERATIONS

A nuclear weapon accident and subsequent response operations, "whether in a remote or a populated area,

will generate immediate public interest. The public must be notified immediately in the event their safety or welfare is endangered. All senior Federal officials, both military and civilian, and responsible State and local authorities and foreign government officials must be fully informed of conditions and actions at the accident scene so they may be prepared to respond accurately to queries from the media and the public. To gain the confidence of the public, a credible public affairs program should be implemented immediately. The public affairs personnel must handle media and public inquiries about the accident and its consequences, provide internal information to the members of the response force, and implement community relations support to the affected communities. Information released about the accident must be both accurate and consistent. Information to be released should be coordinated with the OSC's legal representative (or officer) to ensure that legal implications are considered. The OSC should use technical advisors to respond to and/or address unclassified issues of a technical nature.

a. Policy. DoD policy is stated in DoD Instruction 5230.16, reference (b), which outlines specific procedures for announcements of accidents in the U. S., its territories and possessions or overseas. It is the DoD policy to provide effective public affairs activities at the scene of a nuclear weapon accident. It is also the DoD policy to neither confirm nor deny the presence of nuclear weapons or nuclear components at any specific location. Two exceptions to this policy are:

(1) The OSC is *required to confirm* the presence of nuclear weapons or radioactive nuclear components in the interest of public safety. Notification of public authorities is required if the public is, or may be, in danger of radiation exposure or other danger posed by the weapon or its components. The OASD(PA) will be advised of the notification as soon as practical if this exception is used.

(2) The OSC *may confirm* or deny the presence of nuclear weapons *to reduce or prevent widespread public alarm*. Any statement confirming the presence of nuclear weapons should contain information about the possibility of injury from high explosive weapon components and/ or potential radiation exposure. If injury or radiation exposure is unlikely, it should also be stated. The OASD(PA) should be notified in advance, if practical, or as soon as possible thereafter, if this exception is used.

(3) In locations outside the U. S., its territories and possessions, unless bilateral agreements exist, the OSC must have the concurrence of the appropriate theater

CINC, and the host government, through the U.S. Chief of Mission, prior to exercising the exceptions above.

(4) Contingency releases for the above exceptions are contained in Appendix 16-A.

(5) Radiation information fact sheets for the general **public and** medical personnel are in Appendix 16-B.

b. Public Affairs Responsibilities. The OSC has specific public affairs responsibilities. These are:

(1) Establish communications with **OASD(PA)**. The OSC should ensure that the public affairs office establishes direct communications with OASD(PA) as expeditiously as possible (Area Code (202) 697-5131, AV 227-5131). Any means available should be used (for example, the pay telephone if military communication is unavailable). Communications are essential since the OSC is the senior DoD representative at the scene and must have access to current policy guidance and statements issued at the national level. Moreover, the Service chief of public affairs must be kept fully informed. Also, direct communications ensures that timely, accurate information can be provided at the national level.

(2) Establish a **JIC**. The OSC establishes a **JIC** in coordination with DoS, DoE, FEMA, state and local agencies officials, as appropriate. Local officials should be invited to provide representatives to the **JIC**. All public affairs activities should be coordinated in advance with DoS and/ or FEMA, DoE and other agencies represented in the **JIC**. Located in an area near the accident scene, the **JIC** serves as the focal point for information about the accident. A location in a permanent facility (for example, hotel, motel, office building) is preferred due to support requirements. The OSC should provide dedicated administrative, communications, and logistical support for the **JIC**. The minimum communications required by DoD in the **JIC** are two dedicated telephone lines and a facsimile reproduction capability. However, intense media interest likely will necessitate the installation of additional phone lines. The OSC provides primary leadership and direction to the **JIC** until such time as responsibility may transition to the appropriate agency and/ or affected country to complete the near and long-term follow-up monitoring duties.

(3) Provide Support for News Media. The OSC is authorized to provide support to the news media covering a nuclear weapon incident/accident. Support will be the same as that authorized on a military reservation (for example, transportation, logistical, and administrative). Specific support will depend upon the situation and available resources. The media should be briefed on the extent of support available.

(4) Protect Classified Information. The OSC is responsible for reviewing all material, news releases, and information released to the public. Information on nuclear weapons and their storage is classified Restricted Data/ Formerly Restricted Data and is very sensitive (for example, *information concerning* design of nuclear weapons and components, disclosing whether or not a weapon contains tritium, and its physical state and chemical form). If declassification of information is needed, it should be referred to DoD for consideration and coordinated with DoE, as required. When the **JIC** responsibility and authority is transferred to FEMA, to an agency following a U.S. territory accident or to the involved government following an overseas accident, all public affairs matters pertaining to the technical response are coordinated in advance with the OSC, who has final clearance responsibility in the classification area.

(5) Assess Public Understanding. The OSC should identify public concerns about DoD nuclear matters and take appropriate action in the public affairs arena. This is a continuing effort, before, during, and after an accident. During the accident, the **JIC** should be responsible for public affairs planning and analyzing feedback received from the media, the general public and through community relations programs to ensure that the public affairs program is meeting the needs of the affected public. Programs should be initiated, modified, or stopped based on the data obtained.

(6) Personnel Guidance. The OSC should ensure that all response force personnel (including civilian personnel working with the response force) are briefed on accident response and public affairs policy through an internal information program. Specific guidance should be provided to response force personnel, especially those who may come in contact with the general public (for example, security personnel, medical personnel, and radiological survey or monitoring teams) on how to respond to queries about the accident and response operations.

c. The OSC should consider forming a Community Emergency Action Team (**CEAT**) composed of public affairs, legal, medical, security, communications, administrative, logistics, and other personnel from DoD and civil resources. The **CEAT** should function under the OSC and operate out of the **JIC** to facilitate coordination. The purpose of the team is to make experts in various functional areas available to assist the affected civilian community. The **CEAT** activities should be coordinated through the Senior FEMA Official (**SFO**) and/ or U.S. Chief of Mission to assure a unified **approach** in working with the community. Phone lines should be established with a published number for public questions and information.

APPENDIX 16-A

PUBLIC AFFAIRS GUIDANCE

CONTINGENCY RELEASES

CONTINGENCY RELEASE NUMBER 1

“No Danger to the Public”
(Confirms to reduce public alarm)

(Format of sample release to be used when no danger exists to the public from contamination or blast, but when confirmation of the presence of a nuclear weapon or nuclear components significantly prevents or reduces widespread public alarm).

A U.S. (type) aircraft (other type of transportation) carrying hazardous material (classified cargo or unarmed nuclear weapon(s), for example) crashed (or other circumstances) approximately (location and time).

The public is requested to stay out of the area under surveillance by guards to preclude any remote possibility of hazard from the accident (or conventional high explosives detonation) and to aid removal operations. There is no need for evacuation. There is no danger of nuclear detonation.

CONTINGENCY RELEASE NUMBER 2-A

“To notify local and State officials
When Public is Possibly in Danger”
(Neither confirms nor denies)

(Format of sample release to be used if public safety considerations require notifying local and State officials that hazardous cargo has been involved in an accident, the possibility exists for contamination due to fire or explosion, and details are unknown).

MINIMUM ANNOUNCEMENT

A U.S. (type) aircraft (other type of transportation) carrying hazardous material crashed (or other circumstances) approximately (location) at (time).

Visitors are warned to stay out of the area of the accident in the interest of public safety. Fire, rescue, and other emergency services personnel should approach the area with caution from upwind and be equipped with protective clothing and breathing apparatus. Use of water directly on the aircraft should be avoided unless needed to save property or lives. Any local official at the scene of the accident who can provide details on the situation should make a telephone call to this number (local phone). Current information from the accident scene will assist in evaluating the accident and providing additional public safety guidance. ¹

EXPANDED ANNOUNCEMENT

If there is no immediate threat to life, and the fire cannot be extinguished immediately (5 minutes), the fire should be contained and allowed to burn out. Water as a **firefighting** agent should be used with caution due to possible adverse reaction with materials involved in the fire.

Law enforcement officials should prevent unauthorized personnel from entering the site and picking up fragments of the plane (vehicle) or its cargo. If any fragments have been picked up already, avoid further contact or handling. Notify (authorities) for retrieval and proper disposition.

¹If contact with the accident scene is established, determine the **following**:
—Condition of aircraft (burning, evidence of explosion, extent of damage, etc.)
—Condition of accident site (fire, blast, or damage)
—Evidence of obvious cargo (shapes or containers)

Determine the need for a public announcement of nuclear weapons involvement based on the responses to the above

Military personnel have been dispatched (will be dispatched) and will arrive (are scheduled to arrive) soon at the site.

CONTINGENCY RELEASE NUMBER 2-B

To notify the general public
“When Public is Possibly in Danger”
(Neither confirms nor denies)

(Format of sample release to be used if public safety considerations require making a PUBLIC RELEASE that hazardous cargo was involved in an accident, the possibility exists for contamination due to fire or explosion, and details are unknown).

A U.S. (type) aircraft (other type of transportation) carrying hazardous material crashed (or other circumstances) approximately (location) at (time). The public is warned to stay out of the area (under surveillance by guards) in the interest of safety and to aid operations at the accident scene.

A U.S. (Military Service) team from (name of installation) is enroute to (has arrived at) the scene of the accident.

We have no details yet on civilian or military injuries or property damage.

Further announcements will be made as more information is known.

CONTINGENCY RELEASE NUMBER 3

“When Public is Probably in Danger”
(Does confirm)

(Format of sample release to be used if public safety considerations require announcement that a nuclear weapon has been involved in an accident and contamination is likely because of fire or conventional high explosive detonation of the weapon. Make the following statement locally or from competent authority if no local authority is available).

An/ a (aircraft/ railroad train/truck/ other) accident occurred (state time and location). The accident involved a nuclear weapon that contains conventional high explosives and radioactive material.

There is no danger of a nuclear detonation.

The public is warned to stay out of the area (or indicate the area) (now under surveillance by guards) because the conventional high explosives *in* the weapon (have detonated, are burning, may detonate). Again, there is no danger of nuclear detonation, but there is a danger from the conventional high explosives in the weapon that (have detonated, are burning, may detonate).

An experienced Federal response team has been ordered to the scene of the accident.

The most immediate danger in an accident of this kind is the effect of the blast caused by detonation of the conventional high explosives in the weapon. Local scattering of nuclear material in the form of finely divided dust may have resulted near the accident site and downwind from the explosion (fire). This poses little risk to health unless taken into the body by breathing or swallowing, and it is considered unlikely that any person would *inhale* or swallow an amount that would cause illness. As a precaution and until further evaluations are made, anyone within a (to be filled in by OSC or Deputy Director of Operations (DDO), NMCC) radius of the accident site, particularly downwind from this site, (specify boundary where possible) is encouraged to remain indoors.

(NOTE: If applicable, the following shall be included in the release.)

The following precautionary measures are recommended to minimize the risk to the public.

The most appropriate initial action is to remain calm and inside homes or office buildings. Turn off fans, air conditioners, and forced-air heating units. Drink and eat only canned or packaged foods that have been inside. Trained monitoring teams will be moving through the area wearing special protective clothing and equipment to determine the extent of any possible contamination. The dress of these teams should not be interpreted as indicating any special risk to those indoors. If you are outside, proceed to the nearest permanent structure. If you must go outside for critical or lifesaving activities, cover your nose and mouth and avoid stirring up and breathing any dust. It is important to remember that your movement outside could cause yourself greater exposure and possibly spread contamination to those already supervised and protected.

(If plutonium is involved): One of the materials involved is plutonium. Plutonium is both a poison and a radiation hazard. The radiation given off consists of alpha particles

which do not have sufficient energy to penetrate buildings, most clothing, or even the outer skin. Therefore, short-term exposure to contamination outside the body will pose negligible health risk.

(If uranium is involved): One of the materials involved is uranium. Contamination by uranium fragments or small particles dispersed by conventional (chemical) explosions or burning of a weapon is primarily a chemical health hazard (heavy metal poisoning similar to the lead poisoning associated with some paints), not a radiological hazard.

The public is **asked** to stay out of the area (under surveillance, or closed off by guards) (and, if true) until a monitoring team, now enroute to the site of the accident, can survey the ground and determine the exact area affected by the accident. As a result of the explosion (fire), any fragments found near the scene of the accident may be contaminated and should be left in place. If fragments have been picked up, avoid further handling and notify (authorities) for proper retrieval and disposition.

Continuous announcements will be made as more information is known. It is expected that these immediate

protective precautionary actions will be required for the next 4-6 hours.

A U.S. (Service) team from (name of installation) is enroute to (has arrived at) the scene of the accident.

We have no details yet on civilian or military casualties (or give number only of civilian and military casualties) or property damage.

The (type of carrier) was enroute from (name of facility) to (name of facility).

The cause of the accident is under investigation.

IN RESPONSE TO QUERY ONLY:

Question: "Are nuclear weapons stored at (name of facility) or (name of facility)?"

Reply: "It is Department of Defense policy neither to confirm or deny the presence of nuclear weapons at any particular location."

APPENDIX 16-B

RADIATION FACT SHEETS

FACT SHEET 1

CHARACTERISTICS, HAZARDS AND HEALTH CONSIDERATIONS OF PLUTONIUM

(For release to the general public)

The accident at _____ has resulted in the release of the radioactive substance plutonium. Persons who are downwind from the accident may become exposed to this substance by coming into contact with contamination (radioactive material which has coated or fallen upon the surfaces of structures, the ground, or objects) from the mishap. Also, very small amounts of plutonium may have been spread by the winds to adjacent areas. Radiological survey teams are monitoring these suspected areas to determine the presence of plutonium and to measure the levels if present. No immediate danger exists to anyone, and no medical intervention is necessary. However, some actions may help prevent further contamination or minimize its spread to clean areas.

Plutonium, which is abbreviated Pu, is a heavy metal which has a shiny appearance, similar to stainless steel, when freshly machined. After exposure to the atmosphere for any period of time, it will oxidize to a dark brown or black appearance. When released from a weapons accident, plutonium may not be readily seen by the naked eye, but in areas close to the accident, its presence may be assumed in dust and dirt on the ground or on flat surfaces, and from ash resulting from the accident fire.

Plutonium is an alpha radiation emitter. That is, it radiologically decays by the emission of an alpha particle, a very heavy radioactive particle. Alpha particles do not penetrate materials very substantially. Their range in air is only a few inches at most. This means that alpha radiation is not a hazard to people as long as it remains external to the body. The epidermis, or outer dead layer of the skin, is sufficient protection for exposure to this isotope from sources external to the body. No external hazard exists to people walking through an area contaminated with plutonium. Alpha radiation can

however, represent an internal radiation hazard when plutonium is taken into the body by inhalation of contaminated air, eating contaminated food or getting contamination into a wound or cut. In actuality, contamination from ingestion is unlikely to be a problem, since plutonium is very poorly absorbed through the intestines. Less than .02 percent will be absorbed, or two (2) of every 10,000 atoms eaten. Likewise, absorption from wounds is not a probable means of significant contamination either, since contamination of a cut or laceration will likely introduce only very small amounts of plutonium into the body. Because of its poor absorption, only inhaling plutonium particles is likely to result in any amount of internal radiation exposure.

Inhaled plutonium is retained in the lungs in much the same manner that people in a dust storm inhale dust. This "dust" settles in the lungs. Once in the lungs, a low percentage of plutonium may be **translocated** by the bloodstream to the liver and the bones. This deposition can be prevented by using "chelation" compounds, such as ethylene diamine **trichlor** acetic acid (**EDTA**) or **diethylene triamine** pent acetic acid (**DTPA**), which hasten the excretion of plutonium from the body via the urine. The use of these chelating compounds is not without some medical hazard to the individual, since they are administered intravenously, and should be performed by a physician who has been in contact with appropriate agencies to coordinate the use of these drugs.

Plutonium in a weapon has a radiological half-life (the length of time it takes for the plutonium to lose one half of its radioactivity) of over 24,000 years. This long half-life means that its radioactivity does not decrease substantially by nuclear decay or disintegration. Likewise, elimination of plutonium from the body is also a very slow process. Biological elimination of

plutonium can be improved significantly by the use of the chelating agents mentioned above.

Therefore, until the limits of contamination are determined, the public is advised to follow a few simple guidelines to minimize the spread of contamination, and there will be little if any hazard. Remain inside and minimize opening doors and windows. Turn off fans, air conditioners, and forced air heating units that bring in fresh air from the outside. Use them only to recirculate

air already in the building. Children should not play outdoors. Fruits and vegetables grown in the area should not be eaten. Individuals who think they have inhaled some plutonium, should not be unduly concerned. The inhalation of plutonium is not a immediate medical emergency. Very sensitive monitoring equipment is being brought into this area to survey the inhabitants of suspected contamination area(s) for inhaled radiation, and once established, this will be made available to all those who need it.

FACT SHEET 2

MEDICAL DEPARTMENT FACT SHEET ON PLUTONIUM

(Use with Characteristics, Hazards and Health Considerations of the Plutonium Fact Sheet)

Plutonium is a highly reactive element, which can exhibit five oxidation states, from 3 to 7. The principal routes into the body are via inhalation and contaminated wounds; ingestion and contaminated intact skin are unimportant.

Inhalation is probably the most significant route of contamination in a nuclear weapons accident. Retention in the lungs depends on particle size and the chemical form of plutonium involved. Generally, in a weapons accident, plutonium will be in the form of an oxide, which has a pulmonary retention half-time of up to 1,000 days.

Absorption via wound contamination will result in a translocation of some of the material to the skeleton and liver. The majority will remain in the vicinity of the wound, and may result in the formation of a fibrous nodule, within months to years. The possible development of a sarcoma or carcinoma in such nodules is a matter of concern, although there have been no reports of such in the literature.

After entry into the body, some of the plutonium is **solubilized** by the body fluids, including blood, and is redistributed within the body. Ultimately, it will be distributed by the blood to the skeleton (45 percent), liver (45 percent), and the other tissues (10 percent). The retention half-times are estimated to be 200 years (whole body), 100 years (skeleton) and 40 years (liver).

All medical treatment for plutonium contamination or inhalation should be coordinated with the appropriate Service medical department or with Radiation Emergency Assistance Center/ Training Site (**REAC/ TS**) because of the hazard of the substances involved. DTPA compounds are defined as investigational new drugs which require the advice and concurrence of **REAC/ TS** before administration. **REAC/ TS** can be contacted at the following 24-hour number: (615) 481-1000.

Treatment of plutonium contaminated wounds should involve copious washing and irrigation to attempt to dislodge the contamination. If possible, washings should

be saved for later counting to determine contamination levels. More extensive treatment by excision requires judgment in assessing the area involved, the difficulty of excision and the total quantity in the wound. Greater than "4 nCi of Pu embedded in a wound would be considered a candidate for such treatment. It is not expected that the physician will need to make this determination, since a specialized team to perform such monitoring can be made available from the OSC or his or her representative. Immediate chelation therapy with DTPA (consult **REAC/TS** for protocol) should be accomplished prior to surgical excision to prevent possible systemic absorption of Pu. In burn cases, flushing with sterile saline or water will remove a great deal of contamination. The remainder will likely be removed when the **eschar** sloughs off.

DTPA treatment given immediately following wound or burn treatment has been shown to remove up to 96 percent of the remaining plutonium. In the case of inhaled plutonium, the results have been relatively disappointing, since the oxide forms of Pu are transferred at a relative slow rate from the lungs into the systemic circulation. Thus little systemic burden of Pu is available for chelation in the early period after exposure and there is never a time when a sizable systemic burden is available in the **extracellular** spaces for effective chelation.

In spite of this, DTPA should be used as soon as possible after significant inhalation exposures since the oxides may not be the only compound present. Attempts to stimulate phagocytosis and the **mucociliary** response or to use expectorant drugs have not been successful in animal studies, however, this may not be true in humans.

The only demonstrated **useful** procedure in enhancing the clearance of insoluble particles, such as plutonium oxides, from the lung is **bronchopulmonary lavage**. The risk of this procedure versus the risk of future health effects from the estimated lung burden must be very carefully weighed. The use of repeated **lavages** should remove 25 to 50 percent of the plutonium that would otherwise be retained in the lung. Again, advice should be sought from Service medical command and **REAC/TS**.

FACT SHEET 3

PLUTONIUM FACT SHEET

(For Operational Commanders)

As Operational Commander, you will be assaulted by many needs at once in determining the actions to be taken in coping with a nuclear weapons accident. You should have had the opportunity to review the preceding fact sheets for the general public and medical personnel. Several facts are important to keep in mind, as general guidance.

By the time you have arrived at the scene, the weapons will generally have suffered low order detonations if they are going to do so. This low order detonation produces a cloud of finely dispersed plutonium which falls out over the area downwind, depending on particle size, wind direction and speed, and amount of explosives in the detonation. A very worst case situation is shown on the Atmospheric Release Advisory Capability (ARAC) plots which are made available to you. The initial ARAC plots show the detonation of all weapons involved, utilizing all the available explosives. The actual scenario should be less, perhaps 10 to 100 times less, based on the actual survey data from the site.

The cloud will deposit its radioactive material within minutes of the accident. Unless it happens on base, or you are at the scene, there is little you can do to prevent inhalation from the cloud passage. After initial cloud passage, the inhalation of material from the accident is by resuspending the plutonium by operations in the area of cloud passage, such as walking. Department of Energy (DoE) can calculate a dose equivalent for persons in the area of the initial cloud passage. Generally, these people will be in the area of hundreds of rem of exposure to the lungs. Note that this is only from the cloud passage! Doses from resuspension will be on the order of 100 to 1,000 times less.

The important point is that the ARAC plot generally overestimates the total dispersion of plutonium, and the dose estimate is based only on cloud passage, not later resuspension of the plutonium. Therefore, basing your sheltering plans on these numbers can easily result in a significant overestimation of the real problem.

Sheltering should be recommended for the downwind population, but you must be careful to avoid the impression of extreme hazard from the plutonium. Your sheltering advisory should indicate that there is a

contamination hazard and a slight inhalation hazard. Care should be taken not to increase tension over the incident. You and your Public Affairs Office (PAO) should emphasize that people should remain indoors as much as possible, keep houses closed to prevent contamination, and other ideas as outlined in the public release.

Generally, the resuspension of plutonium in the original areas of contamination is not severe, except for the area very close to the accident site. To prevent the spread of material in this area, early thought should be given to spraying with some sort of fixative to prevent resuspension/ spread of the plutonium. Something as simple as hand sprayers with vegetable oil may be used to bind the plutonium into the soil/surface around the site. A secondary advantage is that this method lowers the airborne hazard for the workers inside the control boundaries and may help in making the eventual clean up process move faster. It will, however, mask the plutonium from some alpha detection RADIACS, such as the AN/ PDR 56. Generally, these types of instruments are used only for monitoring people or material leaving the site, not site contamination surveys.

In dealing with a nuclear weapons accident, some of the concepts which are generally employed in handling injuries and/ or fatalities on board ship do not hold true, or may be counterproductive. Such an example would be keeping the population under tight sheltering requirements or restricting traffic from the contamination area downwind. Any recommendation for the civilian populace will be just that, recommendations. The military has no authority in the contamination areas unless they are military areas anyway, or are within the National Defense Area (NDA). Utilize the local authorities, and have the FEMA representative assist in this function.

Some concept of the exact magnitude of the risk people experience from the incident can be compared with the risks outlined in the Nuclear Regulatory Guide 8.29, reference (ap). The Service/ DoE health physicists should be consulted to give the best approximation of the public risk, and this can be compared with the risks in the guide.