PUBLIC AFFAIRS

1. GENERAL

a. A nuclear weapon accident or incident has immediate public impact. The general public knows very little about the potential effects of a nuclear weapon accident. The media has routinely publicized plutonium as the most deadly substance on earth. Therefore, public affairs activities during the initial accident response are perhaps among the most critical aspects of the entire response and remediation process. Within minutes of the accident, news media can be expected at the scene; it is possible and conceivable that witnesses to the accident (if off-installation) may transmit still photos or video images to media organizations via cell phones. Civilian authorities state this phenomenon is occurring with increasing frequency. The news media and local citizens will seek information about how the accident affects them. A proactive, comprehensive public affairs program must be conducted to speed the flow of information to the news media, the public, and internal audiences. Timely, accurate information and frequent updates are essential to keep the public and the news media informed. The fact sheets, checklists, and pre-scripted releases at the end of this chapter should help Public Information Officers fulfill this mission. The chief or lead PIO is referred to as the External Affairs Officer (EAO) and is located at the JFO.

b. During a nuclear weapon accident, Federal, State, local, and tribal authorities share responsibility for communicating information regarding the accident to the public. These actions are a critical component of accident management and must be fully integrated with all other operational actions to ensure dissemination of accident information to the general public and recovery instructions to those directly affected by the accident. Providing information that is timely, accurate, understandable, and in perspective is essential to establishing and maintaining credibility with the public, the news media, and response forces. The success of the response to the accident is only as good as the public's perception of the response.

2. POLICY

a. Under the purview of DHS and outlined in HSPD-5, the National Response Plan Incident Communications Emergency Policy and Procedures (NRF-ICEPP) provides detailed guidance to Federal incident communicators on activities to be initiated in conjunction with potential or actual incidents, regardless of DHS involvement. It establishes mechanisms to prepare and deliver coordinated and sustained messages regarding potential or actual domestic incidents and provides for prompt Federal acknowledgement of an incident and communication of emergency information to the public during incident management operations. It is comprised of two parts: the Public Affairs Support Annex of the NRF and ESF#15 – External Affairs Annex. The NRF-ICEPP is supported by the NRF Incident Communications Emergency Support Supplement (NRF-ICES). The NRF-ICES contains supporting guidance and instructions and is distributed on a limited basis to the core group of Federal departments and agencies. All of these documents, however, have a common theme of instituting an integrated concept, termed "incident communications," as the approach used to manage communications with the public during incidents. Incident communications incorporates the process of control, coordination, and communications.

(1) Control. Identification of accident communications, coordinating primary and supporting departments and agency roles and authorities for release of information.

(2) Coordination. Specification of interagency coordination and plans, notification, activation, and supporting protocols.

(3) Communications. Development of message content such as accident facts, health risk concerns, pre-incident and post-accident preparedness recommendations, warning issues, accident information, messages, audiences, and strategies for when, where, how, and by whom the messages will be delivered.

b. The Federal Government operates as a team to ensure successful accident communications with the public. From initial notifications to final recovery actions, the Federal team must operate and speak with a unified voice and consistent message that is coordinated not only with the different Federal authorities involved in an accident, but also with the affected State, local, and tribal authorities. The organizational approach for public affairs and accident communications with the public relies on the Core Group of Federal Agencies, the Joint Information Center (JIC), and the DHS ESF #15 External Affairs Officer.

c. The DoD policy for U.S. nuclear weapon accidents, which is described in reference (a), is to provide effective public affairs activities near the scene of a nuclear weapon accident in order to speed the flow of information to the public and the internal audience. Although it is routine DoD policy to neither confirm nor deny the presence or absence of nuclear weapons or nuclear components at any specific location, exceptions exist when a nuclear accident occurs. Joint Pub 3-61 (reference (by)) provides further guidance on DoD support to media in conjunction with military operations.

(1) In the United States, its territories, or its possessions, DoD policy requires the DoD IC to confirm the presence of nuclear weapons or radioactive nuclear components in the interest of public safety or to reduce or prevent widespread public alarm. Public authorities must be notified if the public is, or may be, in danger of radiation exposure or other danger posed by the weapon or its components.

(2) Statements confirming the presence of nuclear weapons should contain information about the possibility of injury from HE weapon components and/or potential radiation exposure. If injury or radiation exposure is unlikely, that should also be stated. The OSD/PA will be notified in advance, or as soon as possible thereafter, if these exceptions are used.

d. The DOE/NNSA's policy is to provide accurate, candid, and timely information, consistent with the requirements of the Freedom of Information Act and the Privacy Act (reference (bu)), to the public during all emergencies, in order to establish facts and avoid speculation. In situations involving classified information, DOE policy is to provide sufficient unclassified information to explain the emergency response and protective actions required for the health and safety of workers and the public, in accordance with DOE Order 151.1A (reference (bz)).

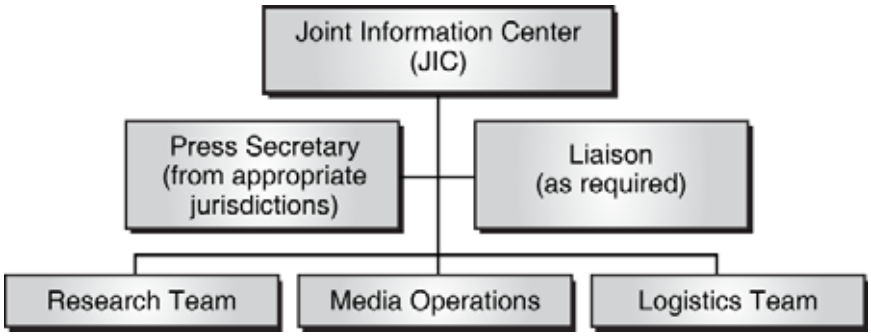
3. RESPONSIBILITIES

The Department of Homeland Security's Office of Public Affairs (DHS OPA) has primary responsibility for coordinating the Federal incident communications effort for domestic incidents. In general, this office fulfills this responsibility by: identifying the Federal department and agency participants in the core group, arranging conference calls and other activities necessary for coordination, providing a leadership role during domestic incidents when significant interagency coordination is required, and providing coordination with the Homeland Security Council and other entities within the Executive Office of the President on matters related to dissemination of accident-related information to the public. Specifically, DHS OPA relies on the Core Group of Federal Agencies, the JIC, and the DHS ESF #15 External Affairs Officer.

a. Core Group of Federal Agencies. At the Federal level, accident messages are developed, coordinated, and delivered by an interagency core group of the key departments and agencies involved in the accident response. For a domestic nuclear weapon accident, DHS, the Department of Defense, and DOE will most likely be members of this core group. DOS will be a member for foreign accidents.

b. Joint Information Centers (JICs). The Joint Information Center (JIC) structure provides a supporting mechanism to develop, coordinate, and deliver messages. It supports the DoD IC or the unified command and the associated elements of ICS. JICs are established to coordinate Federal, State, local, tribal, and private-sector accident communications with the pubic. Major announcements, daily briefings, and accident updates from the JIC are coordinated through DHS Public Affairs, the affected Combatant Command Public Affairs office, affected State, local and tribal leadership, and the interagency core group prior to release. This coordination must be closely assessed and agreed upon by all agencies involved in accident communications with the public in the early stages of an accident. A notional JIC organization is provided at Figure 1.

Figure 1. Notional Joint Information Center (JIC) Organization



(1) National JIC. A national JIC may be used when a nuclear weapon incident or accident is expected to be of a long duration (i.e., weeks or months) and when the incident or accident affects a large area(s) of the country. It is established to coordinate information among affected States, as well as Federal departments and agencies.

(2) Accident JIC. The accident JIC is the physical location from which public affairs representatives from organizations involved in the response work together to provide critical emergency information, media response, and public affairs functions. The accident JIC serves as

the focal point for the coordination and dissemination of information to the public and media concerning response, recovery, and mitigation. The JIC may be established at an on-scene location in coordination with State, local, and tribal agencies depending on the requirements of the accident. In most cases, the JIC is established at or is virtually connected to the JFO/RRCC. If necessary, multiple JICs can be established; if so, these JICs should be virtually connected to ensure a unified message and consistent information are delivered to the public. The JIC (or Combined Information Bureau [CIB] in foreign territory) is the single on-scene point of interface between the responding agencies and news media representatives covering the response.

c. When a PFO is appointed and present, the DoD IC's PA responsibilities will be severely limited since PA responsibilities belong to the PFO and his established JIC. However, in the absence of a PFO, the DoD IC's PIO responsibilities are expanded; these responsibilities are shown in paragraphs 3.c.(1) through 3.c.(10). At the JFO, the chief public affairs officer is titled the External Affairs Officer. Additionally, the supported Combatant Commander may impose additional requirements in appropriate Service regulations. The DoD IC's PIO will inform the public and news media through a variety of means.

(1) Protect classified information. Responders must practice "security at the source" to ensure no classified, sensitive, or privacy information is provided to the media or the public. The DoD IC reviews all information about nuclear weapons intended for public release. Most information about the component design and storage of nuclear weapons is classified. However, certain information about nuclear weapon design may be unclassified and appropriate for release to the public. In addition, Unclassified Controlled Nuclear Information (UCNI) must be protected from public release. When the JIC/CIB responsibility is transferred, be careful to ensure nuclear weapons information proposed for public release is reviewed by the appropriate U.S., DoD, and DOE/NNSA offices.

(2) Establish direct communications with the Department-level public affairs office (Office of the ASD(PA) or the DOE/NNSA Office of Public Affairs) and the Combatant Command's public affairs office from the accident scene. The DoD IC should ensure that the EAO at the scene quickly establishes direct communications with the Department-level public affairs office by any means available. The DoD IC must have access to current policy guidance and statements issued at the national level. Direct communications ensure that timely, accurate information may be provided at the accident scene and the national level. The Combatant Command, Military Department, DTRA, and interagency public affairs offices will be kept informed, as appropriate, of news releases and media interest. The U.S. Chief of Mission and the U.S. DOS PAO will be notified and consulted on accidents overseas or on accidents and significant events near a U.S. border.

(3) Establish a JIC in cooperation with State and local authorities in the United States, and establish a CIB with the DOS and host nation authorities outside the United States. The JIC/CIB should be physically collocated or virtually connected with the DoD IC and his or her counterparts. In the United States, the JIC will be composed of one senior, co-equal public affairs representative from the DoD IC, the local authorities, and the State emergency response organization. In foreign territory, the CIB will be composed of the senior U.S. Military and the host nation national and local emergency response authority. The JIC/CIB will plan, manage, and coordinate the on-scene public affairs response. The JIC will coordinate on news press releases before DoD IC final approval. Shortly after the initial release is made, or when appropriate, the DoD IC will assume release authority from the OSD. The JIC/CIB will continue to keep

OSD(PA) and the combatant command public affairs office informed as information is made available.

(4) Identify and establish, in cooperation with State and local authorities, DOS, and host nation authorities, a news media briefing area near the accident scene, but not in a location that interferes with response activities or places the media in danger.

(5) Support news media at the accident scene. The DoD IC may support news media representatives covering a nuclear weapon accident. Support will be the same as that authorized on a military reservation (for example, transportation, logistic, and administrative). Support will depend on the situation and available resources. The media will be briefed on the extent of support available.

(a) Federal, State, and local authorities should jointly establish a media center. Many local authorities already have designated locations. The center should be collocated with the news briefing center, if possible. Initial information provided to the news media will be limited to basic, releasable facts. A news media work area should be established as soon as practical.

(b) Photographers and film crews may arrive on-scene before a cordon is established. The first PIO on-scene will ensure that the initial emergency response force has covered classified or sensitive material. The PIOs should work with police and/or security personnel to identify suitable vantage points for photographers.

(c) Pre-approved handouts, video footage, and photos providing background information should be made available, as appropriate.

(d) The news media may be allowed access to the accident site after the area has been made safe and secure. They should be escorted at all times.

(e) Briefings should be conducted as soon and as often as practical (when there is new information to provide). Subject matter experts (SMEs) should be available for briefings and interviews to include medical experts and representatives from the State and local communities. These subject matter experts should be reminded of what information is releasable and what information is classified. Subject matter expert should avoid speculation when conversing with the media.

(f) The news media should be provided regular photo and film opportunities with specialists and members of the response force, as appropriate.

(g) A news media pool facility may be formed if all the media may not be accommodated near the accident scene. They will decide which organizations will be represented at the facility.

(h) Official photographs or video taken by response force personnel or audiovisual crews may be released to the media through the JIC/CIB after a security review to ensure they do not contain classified information or military controlled technology.

(6) Provide internal information. The DoD IC will ensure that all military and civilian response force personnel are briefed on the public affairs policy when they in-process and ensure that they are informed on the accident response through an internal information program. When news releases and statements are issued to the news media, they should also be issued to the internal audience. They should be coordinated and approved by the JFO Coordination Group or the RRCC before release. Commanders and technical experts may speak to response force and installation audiences in a "town meeting" format if circumstances warrant. Responders should refer the news media to the JIC/CIB. An intranet website should be established, if possible, with a news and information page managed by the JIC/CIB. Logistics information, such as dining hours, should be distributed by the organizations responsible for providing the service. Responders should consider producing a newsletter on response activities and issues for distribution to response personnel.

(7) Work with State and local or U.S. Chief of Mission and/or host nation authorities to identify and respond to public outreach needs. The DoD IC should identify public concerns about the accident and response activities and take appropriate action in cooperation with the SOs, State and local authorities, or the U.S. Chief of Mission and host nation representatives. As soon as public affairs personnel arrive at the accident or incident scene, they will ensure a mechanism is in place to plan a public outreach program and to analyze feedback from the public, the news media, and local authorities to ensure the public affairs program meets the affected public's needs. Programs should be initiated, modified, or stopped based on data evaluation. An Internet website should be established and regularly updated to provide information on the accident and response efforts. Phone lines will be established with a published number for public inquires. Public concerns may include:

(a) Short- and long-term health and safety issues;

(b) Response and recovery activities and timelines;

(c) Impact on the economy;

(d) Impact on the environment;

(e) Legal claims protocol; and

(f) Reimbursement for evacuation and/or lost income.

(8) Review and evaluate news media reports about the accident response to ensure accurate information is provided to the public. The DoD IC should ensure that the JIC/CIB monitors media reports to determine if key messages are understood and issued through the media to the public. Misinformation should be corrected immediately. Sample JIC/CIB key messages and non-releasable information examples are listed at the conclusion of this chapter. Media analysis information obtained should be provided to response organizations on-scene, as well as to the higher headquarters. The JIC/CIB should work with the PLA to ensure the legal sufficiency of all press releases and media guidance. Further, the JIC/CIB should work jointly with the PLA to prepare the DoD IC and his staff for any press conferences.

(9) Planning tips the DoD IC may use in a response situation are covered in great detail of the Public Affairs Support Annex of the NRF under the heading "Incident Action Special Considerations" and should be reviewed. Additional planning considerations are:

(a) Confirm a nuclear weapon accident occurred and whether radiation contamination is present, if applicable. Use the guidelines in reference (by).

(b) Communicate with the Office of the ASD(PA) and appropriate local and State pubic affairs personnel. In foreign territory, ensure communication with the theater PIO; the U.S. Embassy; and, as appropriate, foreign, local, national, and military public affairs personnel.

(c) Ensure a security review is conducted and that all information is coordinated and prioritized before authorizing the release of information about the U.S. nuclear weapon accident response.

(d) Establish a JIC/CIB, a media center, and a briefing area with local authorities, and in foreign territory, with the U.S. Embassy and, as appropriate, with foreign, local, national, and military personnel.

(e) Develop a public affairs plan with key messages.

(f) Monitor news media reports and provide feedback to response organizations and higher headquarters.

(g) Establish an internal information program.

(h) Establish and take part in a public outreach program.

(i) Ensure adequate communications, transportation, logistic, computer and/or information system, and administrative support for public affairs response staff.

(j) Ensure adequate transportation, communications, and logistic support for news media, as appropriate.

4. RESOURCES AND ROLES

All PIOs in the JIC will establish a public affairs information bridge from the JIC to their respective responders and their headquarters. This information bridge will ensure that all agencies involved in the response have information about what is being said or released to the media. The DoD IRF and RTF-ICs will have PIOs from the supporting installation and/or staff as members of the response force. Other public affairs support is available from the organizations listed in paragraphs 4.a. through 4.f., and interagency cooperation is required to ensure timely, accurate, and consistent communication with the news media and the public.

a. The Department of Defense.

(1) The Office of the ASD(PA), as the senior DoD public affairs organization, coordinates with the White House, DOS, DOE/NNSA, DHS, and other appropriate Federal departments and agencies. PIOs from the Combatant Command's component commands may supplement the IC's public affairs staff. A DTRA CMAT PIO is available to provide advice and assistance in the JIC/CIB.

(2) Local media outlets often show a proclivity to "localize" events to make a connection between a national level news story and the local population. For example, a nuclear weapon accident involving a U.S. Navy submarine in Georgia may be localized by the local news media in Wyoming since intercontinental ballistic missiles are deployed throughout the region. This localization can take an inflammatory tone, implying that the mere presence of nuclear weapons can put the local population at risk since the accident has shown that nuclear weapons accidents can occur. For this reason, OASD(PA) will issue an advisory to all DoD installations worldwide announcing the accident and advising installation commanders to expect increased media inquiries. This announcement will reiterate DoD policy found in reference (by).

(3) When an accident occurs, a PIO from the Joint Chiefs of Staff will be included in the JNAIRT. The Joint Chiefs of Staff PIO will help public affairs channels at the accident site and at the departmental level in gathering operational information. Typically, the accident site JIC will be preoccupied with on-scene media and public queries, and the DoD public affairs team will be busy with political, congressional, and agency queries. The JNAIRT, however, is directly connected to operations channels, which places the Joint Chiefs of Staff PIO in a good position to gather, confirm, and share information with other public affairs levels. The Joint Chiefs of Staff PIO is not a release authority on nuclear weapon accidents.

b. Department of Energy. Under DOE policy, a DOE/NNSA PIO will accompany the DOE/NNSA SEO to the accident scene and be present in the JIC/CIB. Other DOE/NNSA public affairs personnel from DOE/NNSA Site Offices, national laboratories, and DOE/NNSA contractors may also be requested to supplement the JIC/CIB operations.

c. Department of State. For accidents occurring on or impacting foreign territory, the U.S. Chief of Mission will be the focal point for diplomatic and political decisions on the U.S. interagency response. A team from the Embassy's Emergency Action Committee, with supplementation as required, will assist the Chief of Mission. The Combatant Command PIOs shall coordinate with the U.S. Embassy in the host nation, as well as the Office of the ASD(PA), to respond to a U.S. nuclear weapon accident in foreign territory. Host nation PIOs should be expected to respond. They may include representatives from the military; national-level health, safety, interior, agricultural, and environmental organizations; and local response organizations. Local fire, police, and emergency management PIOs should be expected on-scene and are likely to arrive at an accident occurring off an installation before U.S. forces. These officials are integral to a successful public affairs operation. In the absence of a bilateral agreement, they should be encouraged to form a combined, coordinated response modeled on the JIC concept. This is normally called the Combined Information Bureau.

d. Department of Homeland Security. If the NRF-ICEPP is implemented, DHS Public Affairs will coordinate all Federal activities related to accident communications with the public; however, the Department of Defense and other departments, agencies, or authorities may retain

primary accident communications responsibility for specific tasks. For example, in a nuclear weapon accident, while DHS may have overall responsibility, the Department of Defense may elect to retain primary accident communications regarding the stabilization of the site and weapons recovery procedures. Similarly, DOE may wish to retain primary accident communications regarding the transporting of the weapon from the accident site to a DOE facility. DHS Public Affairs will manage and coordinate among agencies retaining primary accident communications responsibilities.

e. Other Federal Organizations. PIOs from other Federal agencies involved in the response effort may be present at the scene and will be integrated into the JIC. There may be representatives from agencies such as HHS, EPA, USDA, and DOT. Further, Emergency Support Function #5 (External Affairs Annex) of the NRF provides details on additional support which may be available for the DoD IC. In particular, the Federal Communications Commission's (FCC) Emergency Alert System (EAS) may be particularly useful in rapidly and widely disseminating information regarding the accident to the public.

f. State and Local. PIOs from State and local response organizations, especially fire, police, and emergency management, are key to a successful response. They are likely to arrive at the accident scene before Federal response forces. State and local representatives will be encouraged to become co-equal partners in public affairs operations. Shared Federal, State, and/or local leadership of public affairs operations will ensure a timely, accurate, consistent, and coordinated response. State public affairs on-scene representatives may come from emergency response, agriculture, environmental, health, safety, and transportation agencies. Local public affairs on-scene representatives should be expected from fire, police, and emergency management organizations, as well as utilities.

g. The Internet and the World Wide Web offer an efficient means for response forces to communicate messages and information worldwide. After confirmation of a U.S. nuclear weapon accident, the DoD website, "DefenseLINK" http://www.defenselink.mil/ should establish a page with information about the accident or link to a DoD-established website. The JIC/CIB should ensure releasable information is forwarded to this site. As soon as practical, the JIC/CIB should determine whether a joint and/or combined response force website is more appropriately handled by a local organization or another organization with links to other sites, as appropriate.

5. PUBLIC AFFAIRS RESPONSE ORGANIZATIONAL CONCEPT

a. JIC. The JIC will contain public affairs decision makers who will develop a public information strategic plan that incorporates key messages and ensures frequent coordination with higher headquarters. The JIC should consist of a senior, co-equal on-scene public information representative from the Coordinating Agency, State emergency response (or foreign national government and/or military), and a local (police and emergency response) public information officer. The JIC should be located with the DoD IC and other senior response leadership. The JIC should:

(1) Authorize release of information upon approval of the DoD IC.

(2) Ensure response personnel are prepared for news briefings and interviews.

(3) Ensure adequate staffing, equipping, and support of the JIC/CIB.

b. JIC/CIB. The JIC/CIB is established for news media relations. However, internal information and public outreach programs may be collocated in separate areas of the JIC/CIB, as appropriate. The JIC/CIB should:

(1) Include representatives from all participating organizations that have public affairs personnel. Computer and administrative support is required.

(2) Ensure public affairs personnel are assigned to the accident scene to handle news media at that site and to gather information to provide to the JIC/CIB.

(3) Have personnel research, prepare, and coordinate responses for news media queries; notify news media of briefings; arrange interviews; coordinate photo, film, and video opportunities; and monitor media reports.

(4) Use personnel to set up news briefings, provide recordings and transcripts of briefings and key interviews, arrange and brief news media escorts, and ensure frequent contact with the news media and/or media center.

(5) Implement an internal information program for responders.

(6) Implement a public outreach program and ensure that response force public affairs and other members take part, as appropriate.

(7) The JIC/CIB layout should include:

(a) Private JIC/CIB director work area with telephones for the co-directors.

(b) Media response area with telephones and Internet access.

(c) Multiagency work area with telephones and Internet access.

(d) Administrative support area.

(e) Conference area for JIC/CIB meetings.

(f) Multimedia area to collect, monitor, and review media coverage.

c. Media Center. The media center is the news media work area. This should be collocated with the media briefing area, when possible.

d. Media Briefing Area. The DoD IC's EAO, working with local authorities (police, emergency response, and county), should select a large area with adequate seating, acoustics, power, and lighting for news media briefings. This should be collocated with the media center, when possible.

e. Supporting Systems. The nuclear weapon accident response operation has four supporting systems that are potentially beneficial for the DoD IC command staff and PIOs. The systems are

the virtual JIC, the National Incident Communications Conference Line (NICCL, pronounced "nickel"), the State Incident Communications Coordination Line (SICCL, pronounced "sickle"), the Homeland Security Information Network (HSIN), and Operations Center Support.

(1) Virtual JIC. A virtual JIC links all participants through technological means (secure or non-secure) when geographical restrictions, accident management requirements, and other limitations preclude physical attendance by public affairs leadership at a central location.

(2) NICCL. The NICCL is a standing conference line designated, maintained, and supported by DHS Public Affairs. It is used for transmission and exchange of critical and timely incident information among Federal and affected SLT authorities. If the nature of the accident is of critical importance and urgency DHS Public Affairs will maintain a controller on the line continuously to provide and receive updates from departments and agencies. During sustained incident management activity, the NICCL will be used for daily or other incident communications coordination calls. DHS Public Affairs will maintain a summary of key NICCL communications and interagency coordination actions. These will be maintained and distributed to participants in a timely manner.

(3) SICCL. The SICCL is a similar dedicated Federal-State incident communications conference line. This standing communications resource can facilitate and assure the inclusion, transmission, and exchange of incident management information, evacuee coordination, and messaging relating to all states and territories. Access and use of this line will be managed by DHS Public Affairs. Examples of information could be unclassified public affairs guidance supporting threat information or status changes, pending national decisions, and major incidents where updates are beneficial in support of State-Federal external affairs situational awareness.

(4) EAS. The EAS provides a convenient and reliable means of emergency communications when other national communications resources have been damaged or compromised. Originally designed as a tool the President and others may use to warn the public about emergency situations, it has evolved into a system capable of providing the general public with urgent information over a variety of mediums. The FCC designed the EAS, working in a cooperative arrangement with the broadcast, cable, emergency management, alerting equipment industry, the National Weather Service, and the Federal Emergency Management Administration; EAS uses NOAA Weather Radio digital signaling to broadcast non-weather emergency messages, such as an evacuation order or a radiological emergency. Reference (ca) discusses the type of messages and procedures for using the Emergency Alert System. Additionally, FEMA works with the FCC and SLT authorities to ensure they all have plans for using the EAS.

(5) HSIN. HSIN provides the incident communications team with an encrypted online Web system for record communications, chat room capability, and a real-time capability to post and review documents. The HSIN is also used by the DHS NOC to coordinate homeland security operations with interagency participants. DHS Public Affairs manages access, account support, and administrative issues relating to HSIN for public affairs coordination.

(6) Operations Center Support. In the event that normal communications are lost or degraded, the core group communicates with DHS Public Affairs through respective Federal, State, local, and tribal emergency operations and command centers. The NOC provides support for this task.

f. Other Actions. The "Actions Supporting Incident Communications with the Public" portion of the Public Affairs Support Annex of the NRF lays out specific public affairs action items. This section should be reviewed carefully by DoD ICs and PIOs assigned to the nuclear weapon accident response operation.

6. JIC/CIB EQUIPMENT REQUIREMENTS. Administrative, communications, and logistics support and/or equipment recommended to support an established JIC/CIB should include:

a. Personal computers, for both classified and unclassified computing, to include laptop systems with CD ROM and CD Read/Write capabilities. Ideally, unclassified computers shall provide access to the Internet, a response force intranet, and e-mail. Classified computing capabilities with SECRET Internet Protocol Router Network access and a STU-III/STE phone for secure communications are highly desirable. Appropriate security considerations should be implemented when establishing secure communications both in terms of computing capabilities and secure telephones.

b. Portable television satellite antennas.

c. Printers and ink cartridges.

d. Software and blank discs.

e. Photocopier machine(s) and access to printing.

f. Copy paper.

g. Furniture to support multiple work areas.

h. Visual information, audiovisual, and sound reinforcement equipment.

i. Graphics capability and/or support.

j. Professional quality multi-system still digital and video cameras, video recorders, and playback systems (film, developing equipment, and digital electronic imaging equipment).

k. Overhead projectors and transparencies.

l. Laptop projection capabilities and screen.

m. Appropriate directional and/or information signs.

n. Voice recorders and battery chargers.

o. Commercial Satellite Radios. Consideration should be given to procuring satellite radios due to the remoteness of many locations. Most major carriers offer news and weather channels (to include simulcast of major television networks) which may aid in monitoring media coverage of the accident. Given satellite radio's large coverage area, satellite radio may be particularly useful where traditional radio and television reception is poor or nonexistent.

p. Blank audio and videotapes, or blank digital formats.

q. Office supplies.

r. Maps.

s. Briefing aids, including easels, mixers, and microphones.

t. News sources including televisions and radio receivers (portable, battery operated); wire services; newspapers; magazines; and electronic bulletin boards, news banks, and databases.

u. Position locators and/or navigational equipment.

v. Power converters (110 and 220 volt).

w. Extension cords, plug adapters, and power strips.

x. Various types of batteries.

y. Mobile radios.

z. Cellular phones.

aa. Answering machines.

ab. Pagers.

ac. Facsimile (fax) machines.

ad. Support vehicles (for public affairs staff and media pools and/or escort).

ae. Satellite communications.

7. JIC/CIB RECOMMENDED KEY MESSAGES AND NON-RELEASABLE INFORMATION

a. JIC/CIB Recommended Key Messages.

Local emergency response officials are responsible for public safety. DoD IC release of information to those officials must not be confused with release of information to the general public. It is crucial to publicly confirm a nuclear weapon accident and confirm radioactive contamination (if true) as soon as this information is received and confirmed. Delay may lead to public speculation (response forces show up in personal protective suits), panic, and loss of credibility. Delay may also cause members of the public to be unnecessarily exposed to low levels of radiation that may be released during the accident. Paragraphs 7.a.(1) through 7.a.(5), below, list key messages recommended for use during the initial phase.

(1) Safety.

(a) Public safety is our first priority.

(b) Trained military and civilian personnel are responding.

(c) Please stay away from the cordon so that we may work without interference.

(d) Preventing any further injuries or loss of life is paramount.

(e) Please continue to listen to local TV and radio and/or refer to response website for further advice.

(2) Sympathy.

(a) We deeply regret this accident has occurred.

(b) Our thoughts and condolences go out to families and friends of those involved.

(3) Cooperation.

(a) We are working closely with all involved military and civilian organizations.

(b) We are working together as a team.

(c) Hundreds of trained military and civilian personnel are responding.

(d) We are bringing our best people and the most advanced equipment to deal with this emergency.

(4) Disclosure.

(a) We are here to coordinate the initial response.

(b) We will give you information as soon as it becomes available.

(c) We want to answer your questions.

(d) We do not have all the answers.

(5) Compensation.

(a) There will be an investigation.

(b) Procedures will be established to handle requests for compensation.

b. JIC/CIB Non-Releasable Information. The JIC/CIB must ensure that the media and public understand early on that there is some information that is not expected to be released by the DoD IC or the JIC/CIB.

(1) Political.

(a) U.S. and/or host nation diplomatic efforts.

(b) Foreign relations.

(c) NATO information.

(d) Comments about other nations' nuclear weapons.

(2) Policy.

(a) Future nuclear program and/or posture.

(b) Deterrence.

(c) Legality of nuclear weapons and their use.

(d) Nuclear disarmament.

(e) U.S. nuclear weapons overseas.

(f) Accident investigation arrangements.

(g) Details of government-to-government agreements and/or arrangements.

(3) Operational.

(a) Nuclear weapon C2 arrangements.

(b) Location of nuclear weapons (excluding those involved in the accident).

(c) Transportation of nuclear weapons (frequency of flights and routes).

(d) Specific weapon design, characteristics, and/or modifications.

(e) Weapon recovery plans (routes, packaging, and containerization).

(f) Cost estimates for cleanup and/or remediation.

8. CONTINGENCY RELEASES. Figures 2. through 6. show templates for contingency releases.

Figure 2. Contingency Release Number 1

CONTINGENCY RELEASE NUMBER 1

To the General Public

"When the Public Is Probably in Danger"
(Does confirm)

(Format of sample release to be used when a nuclear accident occurs. Public safety considerations require this announcement because of the likelihood of fire or conventional high-explosive detonation of the weapon. The following statement should be made locally or by appropriate higher authority if no local authority is available.)

An aircraft (other type of transportation) accident occurred (or other circumstances) about (location and time). The accident involved a nuclear weapon that contains conventional explosives and radioactive material. There is no danger of a nuclear detonation, but there is a danger from the conventional explosives that (are burning, may detonate, have detonated). The public is requested to stay out of (indicate the area) (under surveillance by guards) in the interest of safety and to avoid hampering operations at the accident scene. An experienced response team has been ordered to the scene.

(If appropriate, the following WILL be included in the release.) Radioactive material in the form of dust may be scattered because of the accident. The dust poses little risk to health unless taken into the body by breathing or swallowing, although it is unlikely that any person might inhale or swallow an amount that should cause illness. As a precautionary measure, you are asked to stay calm and indoors. Turn off fans, air conditioners, and forced-air heating units that bring in fresh air from the outside. Use them only to re-circulate air already in the building. Eat and drink only canned or packaged foods that have been inside. If you must go outside, cover your nose and mouth and avoid stirring up and breathing any dust. It is important to remember that your movement might cause yourself greater exposure to any radioactive dust, should it be present, and you might possibly spread contamination to others.

(If plutonium is involved) One of the materials involved is plutonium, which is both a toxic and a radiation hazard and a chemical poison if ingested. The radiation given off consists of alpha particles that do not have sufficient energy to penetrate buildings, clothing, or even the outer skin. Therefore, short-term exposure to contamination outside the body poses a negligible health risk. The precautions mentioned earlier should be carefully followed to prevent inhalation or ingestion.

Figure 2. Contingency Release Number 1, continued

(If uranium is involved) One of the materials involved is uranium. Uranium, depending on the type, may be a radiological hazard or a chemical health hazard, similar to lead poisoning. Uranium gives off alpha particles that do not penetrate skin and pose no health risk when outside the body.

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 en route to the accident site, may survey the ground and determine the exact area affected by the accident. Any fragments found near the scene may be contaminated and should be left in place. If fragments have been picked up, avoid further handling and notify (authorities) for proper recovery and disposition.

Periodic announcements will be made as more information is known. It is expected that these precautionary actions will be modified as more information becomes available. A U.S. (Military Service) team from (name of installation) is en route to (has arrived at) the accident scene.

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

The cause of the accident is under investigation. Further details will be provided as they become available.

Figure 3. Contingency Release Number 2

CONTINGENCY RELEASE NUMBER 2

To notify the general public

"No Radiological Danger to the Public"

(Confirms to reduce public alarm)

(Format of sample release to be used initially when no danger to the public from contamination or blast exists, but when confirming the presence or absence of a nuclear weapon or nuclear components significantly prevents or reduces widespread public alarm that may result from unusual activity at the accident and/or incident site.)

A U.S. (type) aircraft (other type of transportation) carrying HAZMAT, classified cargo, or unarmed nuclear weapon(s) crashed (or other circumstances) at about (location and time).

The public is requested to stay out of the area (add, if true: under surveillance by guards) to prevent any remote possibility of hazard from the accident (or conventional HE detonation) and to avoid hampering removal operations. There is no need for evacuation. (There is no danger of nuclear detonation.)

The cause of the accident is under investigation. Further details will be provided as they become available.

Figure 4. Contingency Release Number 3

CONTINGENCY RELEASE NUMBER 3

To notify the general public

"When the Public Is Possibly in Danger"

(Confirms possibility of contamination in a nuclear weapon accident)

(Format of sample release to be used when nuclear weapons or nuclear components have been involved in an accident and the possibility exists for contamination due to fire or explosion, and details are unknown. The release to the general public should only be used after the area has been secured. Release may be modified as shown below depending on audience.)

MINIMUM ANNOUNCEMENT

A U.S. (type) aircraft (other type of transportation) carrying unarmed nuclear weapons or nuclear components crashed (or other circumstances) at (location) at about (time).

The public is asked to stay out of the accident area in the interest of safety due to the possibility of hazard from the accident (or conventional HE detonation) and to avoid hampering recovery operations. (There is no danger of nuclear detonation.)

ADD THE FOLLOWING FOR APPROPRIATE OFFICIALS

Fire, rescue, and other emergency services personnel should approach the area with caution from upwind and be equipped with protective clothing and breathing apparatus. Any local official at the scene of the accident or who has left the site who may provide details on the situation should call this number (_____). Current information from the accident scene will help response personnel respond to the accident and provide additional public safety guidance. If contact with the accident scene is established, determine the following: condition of aircraft and/or vehicle (such as burning, evidence of explosion, or extent of damage); condition of accident site (such as fire or blast damage); or evidence of obvious cargo (such as shapes or containers). Avoid handling any debris at the crash site.

If the aircraft is transporting nuclear weapons containing IHE or weapons overpacked with accident-resistant containers, detonation is much less likely, and the fire should be fought as long as there is a reasonable expectation of saving lives or containing the fire. The weapons, or containers, if exposed, should be cooled with water.

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 already been picked up, avoid further contact or handling. Notify (authorities) for recovery and proper disposition.

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

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

The cause of the accident is under investigation. Further details will be provided as they become available.

Figure 5. Contingency Release Number 4-A

CONTINGENCY RELEASE NUMBER 4-A

"To Notify State and Local Officials
When the Public Is Possibly in Danger"
(Neither confirms nor denies)

(Format of sample release to be used if public safety considerations require notifying State and local 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 HAZMAT crashed (or other circumstances) about (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. Water should not be directly used on the aircraft unless needed to save property or lives. Any local official at the scene of the accident who may provide details on the situation should make a telephone call to this number (local phone). Current information from the accident scene helps evaluate the accident and provide additional public safety guidance. If 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.

EXPANDED ANNOUNCEMENT

If there is no immediate threat to life, and the fire may not be extinguished immediately (five 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 recovery and proper disposition.

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

Figure 6. Contingency Release Number 4-B

CONTINGENCY RELEASE NUMBER 4-B

To Notify the General Public
"When the 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 HAZMAT crashed (or other circumstances) about (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 en route 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.

IN RESPONSE TO QUERY ONLY

In response to the question, "Are nuclear weapons stored at (name of facility) or (name of facility)?" The official reply is, "It is DoD policy neither to confirm nor deny the presence of nuclear weapons at any particular location."

In response to the question, "Are nuclear weapons aboard a specific surface ship, attack submarine, or naval aircraft?" The official reply is, "It is general U.S. policy not to deploy nuclear weapons aboard surface ships, attack submarines, and naval aircraft. However, we do not discuss the presence or absence of nuclear weapons aboard specific ships, submarines, or aircraft.

9. PUBLIC AFFAIRS RADIATION FACT SHEETS. Figures 7. through 11. show standard public affairs radiation fact sheets.

Figure 7. Fact Sheet 1: Characteristics, Hazards, and Health Considerations of Plutonium

FACT SHEET 1

CHARACTERISTICS, HAZARDS, AND HEALTH CONSIDERATIONS OF PLUTONIUM

(For release to the general public)

The accident at _____(to be filled in)_____ 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 that has coated or fallen on 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 reduce its spread to clean areas.

Plutonium, which is abbreviated Pu, is a heavy metal that has a shiny appearance, similar to stainless steel when freshly machined. After exposure to the atmosphere for any period of time, it oxidizes 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 emitting an alpha particle, a very heavy radioactive particle. Alpha particles do not substantially penetrate materials. Their range in air is only a few inches at most. This means that alpha radiation is not a hazard to people if it stays 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 may, however, represent an internal radiation hazard when plutonium is taken into the body by inhaling 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 0.02 percent may be absorbed, or 2 of every 10,000 atoms eaten. Absorption through wounds may introduce small amounts of plutonium into the body. Inhaling plutonium particles is the most likely route of internal exposure.

Inhaled plutonium is kept 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 may be prevented by using “chelation” compounds, such as ethylenediamine tetraacetic acid or diethylenetriamine pentaacetic acid (DTPA), which hasten the excretion of plutonium from the body through the urine. The use of these chelating compounds is not without some medical hazard to the individual, since they are IV-administered, and should be performed by a physician who has been in contact with appropriate agencies to coordinate the use of these drugs.

Figure 7. Fact Sheet 1: Characteristics, Hazards, and Health Considerations of Plutonium, continued

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 more than 24,000 years. This long half-life means that its radioactivity does not decrease substantially by nuclear decay or disintegration. Likewise, eliminating plutonium from the body is also a very slow process. Biological elimination of plutonium may be improved significantly by using the chelating agents mentioned above.

Therefore, until the limits of contamination are determined, the public is advised to follow a few simple guidelines to reduce the spread of contamination, and there will be little, if any, hazard. Stay inside and reduce 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 an 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 those who need it.

Figure 8. Fact Sheet 2: Medical Department Fact Sheet on Plutonium

FACT SHEET 2

MEDICAL DEPARTMENT FACT SHEET ON PLUTONIUM

(For Medical Personnel)

Plutonium is a highly reactive element that may exhibit five oxidation states, from three to seven. The principal routes into the body are through inhalation and contaminated wounds; ingestion and contaminated intact skin are unimportant.

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

Absorption through wound contamination results in a translocation of some of the material to the skeleton and liver. The majority remains 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 medical 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 is 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 the REAC/TS because of the hazard of the substances involved. DTPA compounds are defined as investigational drugs that require the advice and concurrence of the REAC/TS before administration. The REAC/TS may be contacted at: (423) 576-3131.

Treatment of plutonium-contaminated wounds should involve copious washing and irrigation to try 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 mCi of Pu embedded in a wound should 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 may be made available from the Incident Commander or his or her representative. Immediate chelation therapy with DTPA (consult the REAC/TS for protocol) should be accomplished before surgical excision to prevent possible systemic absorption of plutonium. In burn cases, flushing with sterile saline or water removes a great deal of contamination. The remainder is likely to be removed when the eschar sloughs off.

Figure 8. Fact Sheet 2: Medical Department Fact Sheet on Plutonium, continued

DTPA treatment given immediately after 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 plutonium are transferred at a relatively slow rate from the lungs into the systemic circulation. Thus, little systemic burden of plutonium 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 should otherwise be kept in the lung. Again, advice should be sought from the Service medical command and the REAC/TS.

Figure 9. Fact Sheet 3: Plutonium Fact Sheet

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 weapon 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 have usually suffered low order detonations if they are going to do so. This low order detonation produces a cloud of finely dispersed plutonium that 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 ARAC plots that are made available to you. The initial ARAC plots show desposition and dose predictions based on the detonation of all weapons involved, using all the available explosives. Desposition resulting from explosive dispersal is significantly larger than that resulting from a fire. The actual scenario should be less, perhaps 10 to 100 times less, based on the actual survey data from the site. Note that plots are predictive in nature, and must be corroborated by actual field measurements.

Figure 9. Fact Sheet 3: Plutonium Fact Sheet, continued

The cloud deposits its radioactive material over several hours after an explosion or fire, with the largest particles settling out earlier and closer to the accident site and the finest particles being carried further by the wind and taking longer to settle out. In the case of such releases, Protective Action Recommendations to civil authorities for sheltering downwind members of the public in place must be made (and executed) within the several-hour period of plume passage to be effective for reduction of dose from the initial plume. 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. The DOE may compute a dose equivalent for persons in the area of the initial cloud passage. People exposed in the plume may experience significant intakes of radioactive material through inhalation (with corresponding significant radiation doses). Note that this is only from the cloud passage; doses from resuspension will be significantly less.

The important point is that the ARAC plot usually 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 may easily result in a significant conservatism.

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 accident and/or incident. You and your PIO should stress that people should stay indoors as much as possible, keep houses closed to prevent contamination, and follow other ideas, as outlined in the public release.

Usually, the resuspension of plutonium in the original areas of contamination is not significant, except for the area very close to the accident site. To prevent the spread of material in this area, consider spraying with some sort of fixative to prevent resuspension and/or spread of the plutonium. Something as simple as hand sprayers with vegetable oil may be used to bind the plutonium into the soil and/or 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 the eventual cleanup process move faster. It does, however, mask the plutonium from some alpha detection RADIACs, such as the AN/PDR 56, AN/PDR-77, and the ADM-300 with AP-100 alpha detector. Usually, these types of instruments are used only for monitoring people or material leaving the site, not site contamination surveys.

In dealing with a nuclear weapon accident, some of the concepts that are usually used to handle injuries and/or fatalities on board ship do not hold true, or may be counterproductive. Such an example is 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, a recommendation. The military has no authority in the contamination areas unless they are military areas, or are within the NDA. Use 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 accident may be compared with the risks outlined in the Nuclear Regulatory Guide 8.29 (reference (cb)). The Service, DOE, and/or NNSA health physicists should be consulted to give the best approximation of the public risk; this may be compared with the risks reference (cb).

Figure 10. Fact Sheet 4: Characteristics, Hazards, and Health Considerations of Uranium

FACT SHEET 4

CHARACTERISTICS, HAZARDS, AND HEALTH CONSIDERATIONS OF URANIUM

(For Operational Commanders)

Some nuclear weapons may contain uranium. Uranium is a mild to moderately radioactive material that may be hazardous if inhaled in large quantities. In a nuclear weapon accident, the uranium in the warhead of the weapon may get dispersed into the air by fire or explosion of the HE in the weapon. (Keep in mind that this is not a nuclear detonation.) The heat and smoke from the fire or explosion may carry small particles of uranium into the air. As the smoke plume travels downwind, the particles of uranium begin to settle to the ground, leaving a track of contamination on the ground surface and vegetation. Larger particles settle out first, smaller particles may travel much further. The highest levels of uranium contamination will be in the immediate area of the accident. In general, the further away from the accident, the lower the levels of uranium contamination that may be expected.

Uranium is a heavy metal, somewhat like lead. Uranium is a naturally occurring mineral that is mildly radioactive. As found in nature, uranium consists mostly of the isotope U-238, with small quantities of U-235 and extremely small quantities of U-234. This so-called “natural uranium” is only mildly radioactive, emitting alpha and beta radiation and low levels of gamma radiation. The half-life of U-238, the major constituent of natural uranium, is 4.5 billion years. It is likely that uranium released in the circumstances of a weapons accident is in the chemical form of uranium oxide. Natural and depleted uranium are primarily chemical hazards (heavy metal toxins) rather than radiological hazards, even at relatively high exposures. The radiological hazard associated with enriched uranium is higher than for its other forms.

Uranium may be “enriched,” that is, the concentration of U-235 may be increased, by many methods. Commercial nuclear reactors use uranium that has been enriched so that the U-235 makes about 5 percent of the total uranium mass (the rest is U-238). Some nuclear weapons use highly enriched uranium (HEU) in which the U-235 makes up more than 90% of the total mass of uranium, though U-234 comprises almost 97% of the total alpha radiation activity. The uranium left over from the enrichment process is called “depleted” uranium because it has only about one-third as much U-235 as natural uranium. Nuclear weapons may contain several types of uranium, from depleted to highly enriched.

Uranium may be a mild to moderate radiation hazard if it is inhaled. Uranium is not particularly hazardous if it stays outside the body. If uranium is inhaled, the lungs and other organs of the body may receive doses of radiation; however, a person must inhale a very large quantity of uranium to get a significant dose of radiation. Even if the uranium was involved in a fire or explosion, it is unlikely that anyone would get a serious radiation dose from inhalation. It is much more likely that dispersal of uranium should create more of a “nuisance” contamination problem.

Figure 10. Fact Sheet 4: Characteristics, Hazards, and Health Considerations of Uranium, continued

Compared to plutonium (the major HAZMAT in many nuclear weapons), uranium is not very hazardous. In a nuclear weapon accident in which both plutonium and uranium have been dispersed, the hazard from plutonium is far more serious than that from uranium. Although uranium emits alpha radiation (that may result in internal radiation doses if taken into the body) very much like plutonium, pound-for-pound, uranium is from 1,000 to 100,000 times less radioactive than plutonium. A person would have to inhale roughly 1,000 to 100,000 times as much uranium mass to get the same dose as they would from plutonium. In addition, uranium does not stay in the body as long as plutonium; therefore, the radiation dose received by the organs is somewhat lower.

Depleted and natural uranium is at least 100 times less radioactive than HEU. It is unlikely that accidents involving dispersal of depleted or natural uranium will result in any significant radiation doses. HEU contamination presents more of a problem than depleted or natural uranium, but is still far less of a problem than plutonium contamination.

If a person is directly exposed to a smoke plume from a fire or explosion involving uranium, he or she may have been exposed to significant levels of airborne uranium. If he or she is in areas where the ground was contaminated, he or she may have been exposed to a much lower level of uranium than was re-suspended into the air. If a person thinks he or she may have been exposed to uranium (as described above) he or she should contact the appropriate Federal or State authorities and let them know. The authorities will arrange for appropriate radiation detection tests to be made. These tests may include collecting urine samples and/or scheduling for a "lung count" examination. Depending on the chemical form of the uranium that has been inhaled, some part of the uranium in the body is excreted in the urine. Urine samples may be analyzed for the presence of uranium. (All people have a low concentration of uranium in their urine from the trace quantities of uranium in the normal diet.) Lung count is a procedure performed by placing very sensitive radiation detectors near a person's chest to look for low-energy X rays emitted by the uranium mixture. Typically, the person reclines on a table or in a chair while the detectors are placed near the chest wall. A lung count is not like an X-ray exam. A lung count is a completely passive exam; the detectors do not emit any radiation, and the person does not receive any radiation dose from the exam. A "quick" screening lung scan may be performed in about 10 or 15 minutes. A more sensitive exam performed at a special "whole body counting" facility typically takes about 45 to 50 minutes.

In general, uranium is more hazardous to children than adults, due to the smaller size and different metabolism of children. To assure that children are adequately protected, PAGs established by the EPA take this increased sensitivity into account.

If uranium stays outside of the body, it is not particularly hazardous. The beta and gamma radiation emitted by uranium is relatively weak, and uranium emits only low levels of this radiation. The intensity of these gamma rays is so low that the measurable radiation field from uranium only extends a few feet away from solid uranium metal. Even high levels of uranium contamination on the ground do not produce any significant external radiation hazards.

Figure 11. Fact Sheet 5: Characteristics, Hazards, and Health Considerations of Tritium

FACT SHEET 5

CHARACTERISTICS, HAZARDS, AND
HEALTH CONSIDERATIONS OF TRITIUM

(For Operational Commanders)

Some nuclear weapons have small metal bottles that contain tritium, a radioactive gas. In an accident involving nuclear weapons, it is possible that these gas bottle systems may be damaged, and that some or all of the tritium gas is released into the air. Tritium gas that is released into the air is quickly diluted and dispersed, and is not likely to be a significant hazard, unless there was a fire or explosion at the accident, and then it should only be a hazard to people in the immediate area of the accident.

Tritium is a radioactive form of the element hydrogen. From a chemical standpoint, tritium atoms behave just like hydrogen atoms. Tritium is often stored and used in the form of a gas. Like stable hydrogen, tritium combines readily with many other elements. In a fire, tritium combines spontaneously with oxygen in the air and also replaces ordinary hydrogen in water, forming tritiated water, sometimes called "tritium oxide" or "HTO." It may also replace the stable hydrogen in other hydrogenous material (grease or oil), causing these materials to become radioactive. Metals can react with tritium in two ways: plating, the deposition of a thin film of tritium on the surface of the metal; or hydriding, the chemical combination with the metal. In either case, the surface of the metal becomes contaminated.

Some tritium is produced naturally, by the interaction of cosmic rays in the earth's atmosphere. These cosmic ray interactions produce about 4 million Ci of tritium every year worldwide. This tritium is incorporated into rainwater, resulting in a low, but measurable "background," level of tritium in almost all water. The concentration of tritium in surface water is typically on the order of 10 to 50 picocuries per liter.

Tritium is also produced in nuclear reactors. This manufactured tritium may be separated and purified for a variety of uses. There is no difference between manufactured tritium and tritium that is produced naturally. Tritium is used in nuclear weapons, fusion research, luminous signs and watches, and in biomedical research.

Tritium gas is relatively harmless, since very little of it is absorbed into the body, even if inhaled; however, if there were a fire or explosion at the same time as the tritium was released, some or all of the tritium gas would probably be converted to HTO, which behaves like water vapor. When people are exposed to HTO in the air, some of it is inhaled, and some of it may be absorbed through the skin.

The radiation doses that might be received from exposure to the smoke plume decrease rapidly with distance away from the accident. People who were directly exposed to the smoke plume very close to the accident site (within a few hundred yards) might -- although unlikely -- receive radiation doses greater than the occupational limit of 5 rem. Beyond a few hundred yards, doses

Figure 11. Fact Sheet 5: Characteristics, Hazards, and Health Considerations of Tritium, continued

should be well below a few rem. Beyond about 1/2 mile, the dose to a person who was directly in the smoke plume is likely to be less than the dose a person receives every year from natural background radiation. The key point to remember is that as distance from the plume increases, radiation dose decreases.

Normal RADIACs cannot detect tritium; specialized portable/laboratory instruments are required. Tritium on surfaces may be detected by rubbing a small piece of filter paper over the surface, and then "counting" the radioactivity on the paper (which is placed in a small vial) in an instrument called a "liquid scintillation counter." Tritium in water or other liquid may be counted by placing a sample of the liquid in a small vial and then counting the vial in the liquid scintillation counter. Tritium in the air may be measured by sampling the air with a "flow-through ionization chamber" instrument, which gives a real time reading of the concentration of tritium in air.

The form of tritium that is most likely to get inside the body is HTO in the form of water vapor (in the air.) Airborne tritium (as HTO vapor) may be inhaled, and may also be absorbed through the skin. When people are exposed to HTO vapor, about 2/3 of the total intake comes from inhalation of the tritium, and about 1/3 comes from absorption of the tritium through the skin. Tritium may also be incorporated into crops, which then may be ingested. Tritium release could be a significant hazard only for personnel close to the accident site.

Once tritium is inside the body, it behaves just like water and is distributed rapidly and uniformly throughout the entire volume of body water, where it may deliver a radiation dose to the soft tissues of the entire body. Tritium is eliminated from the body at the same rate and through the same pathway as water is eliminated from the body, excretion of urine and feces, sweat, and loss through exhalation.

The amount of time required for half of the tritium remaining in the body to be removed from the body is called the "biological half life." Although the physical half-life of tritium is 12.26 years, because tritium in the body behaves just like water, and since the body's water is continually eliminated and replaced, the biological half life of tritium is very short – about 10 days.

10. PUBLIC AFFAIRS CHECK LIST

The Public Affairs Checklist is listed in paragraphs 10.a. through .10.j.

a. Recommend the DoD IC confirms nuclear weapon accident or incident occurred and radiation contamination.

b. Communicate with the Office of the ASD(PA) and appropriate local and State pubic affairs personnel. In foreign territory, ensure communication with the theater PIO; the U.S. Embassy; and, as appropriate, foreign, local, national, and military public affairs personnel.

c. Ensure security review of, coordinate (legal, weapons, medical, radiological, and SR), and authorize release of information about U.S. nuclear weapon accident response.

d. Establish a JIC/CIB, a media center, and a briefing area with local authorities, and in foreign territory, with the U.S. embassy and, as appropriate, with foreign, local, national, and military personnel.

e. Develop a public affairs plan with key messages.

f. Monitor news media reports and provide feedback to response organizations and higher HQ.

g. Establish an internal information program.

h. Establish and take part in a public outreach program.

i. Ensure adequate communications, transportation, logistic, computer and/or information system, and administrative support for public affairs response staff.

j. Ensure adequate transportation, communications, and logistic support for news media, as appropriate.