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WMD IN A CITY

WEAPON TYPES
DELIVERY
FOOTPRINTS
PERSISTENCE
SCENARIOS

1 of 31

ASSEMBLY JUDICIARY

DATE: 5/9/03 ROOM: 3138 EXHIBIT H

SUBMITTED BY: Paul Grace

[WEAPON TYPES]

- DIRTY BOMB-RADIOACTIVE MATS
- BURSTING CHEM/BIO DEVICE
- SPRAYERS-CHEM/BIO
- PRESSURE TANKS-SCUBA/FIRE EXTINGUISHER
- LNG/LPG TANKER

[DELIVERY]

- TRUCK/CAR BOMB
- CROP DUSTER
- TIME DELAY FIRING OF PRESSURE DEVICE IN AIR INTAKE
- HIJACK OF LNG/LPG TANK-SMALL EXPLOSIVE CHARGE
- RELEASE OF LNG/LPG AT TANK FARM—FUEL/AIR EXPLOSION

FOOTPRINTS

- RADIATION WILL DEPEND ON THE SIZE OF THE EXPLOSIVE CHARGE USED—GOAL IS TO SCARE —TO KILL IS VERY HARD
- CHEM-NERVE IS VISIBLE, BLOOD AND CHOKING MUST BE CONTAINED, MUSTARD WILL BE OBVIOUS (BLISTERS)
- BIO-ANTHRAX LIKE IT WILL BE THERE A LONG TIME BEFORE ITS NOTICED AND WILL TRAVEL WITH YOU

H 4 of 31

[PERSISTENCE]

- CHEM—NERVE VX - 10'S TO 100'S OF YEARS;GB -1 TO 24HRS. HOURS;MUSTARD 10'S TO 100'S;BLOOD&CHOKING -MINUTES
- LNG/LPG- MINUTES
- WIND/TEMP EFFECTS

H 5831

[SCENARIOS]

- CASINOS-TRUCK/CAR/TANKERS/DISPENSER
- PUBLIC SERVICE FACILITY-DIRECTIONAL ANFO DEVICE
- TANK FARMS-DISPENSE AND DETONATE
- GATHERING OF 100'S TO 1,000'S-AERIAL SPRAY TANKS PARTICULARLY AT CONCERTS
- PRESSURE TANKS—TIME DELAY INTO THE MAIN AIR INTAKE OF A LARGE BUILDING

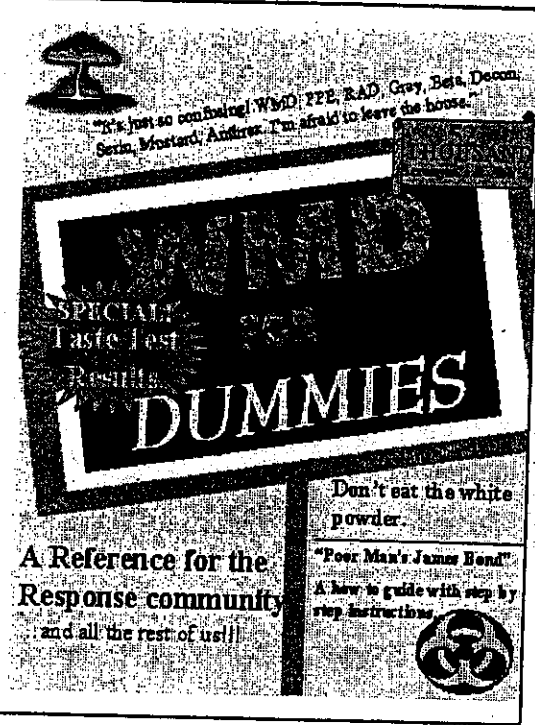
H 6 of 31

**WELCOME
TO:**

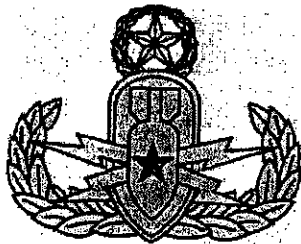
WMD

OVERVIEW

1 DP 8.0 Ver 2.3



92ND Civil Support Team (CST),
 Weapons of Mass Destruction (WMD)
 MSG KEVIN FEATHERSTONE
 Senior Operations NCO
 Office (775) 887-7895, Cell (775) 771-3715
 kevin.featherstone@nv.ngb.army.mil



2 DP 8.0 Ver 2.3

**"INITIAL
SUCCESS OR
TOTAL
FAILURE"**








H 70531

Overview

- The NBC threat
- Chemical warfare agents
- Biological warfare agents
- Radiological material

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Definition of WMD

A deliberate or unintentional event involving a nuclear,  biological,  chemical or  radiological weapon or device,  or large conventional explosive,  that produces catastrophic loss of life or property.

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H 8 of 31

Why NBC Terrorism?

- produces fear

- Agents are available & relatively easy to manufacture
- Large amount not needed in enclosed space
- NBC incident difficult to recognize
- Easily spread over large areas
- Psychological impact
- Can overwhelm existing resources

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Limitations of NBC Agents

- Effective dissemination difficult
- Delayed effects can detract from impact
- Counterproductive to terrorists' support
- Potentially hazardous to the terrorist
- Development and use require skill

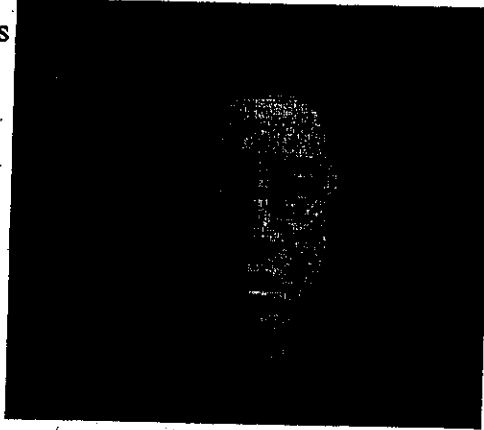
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H 9 of 31

Why should we be taking this WMD threat seriously?

...our ^{one} factory could turn out two tons of anthrax a day... Stepogorsk demonstrated our ability to wage biological warfare on a scale matched by no other nation in history.

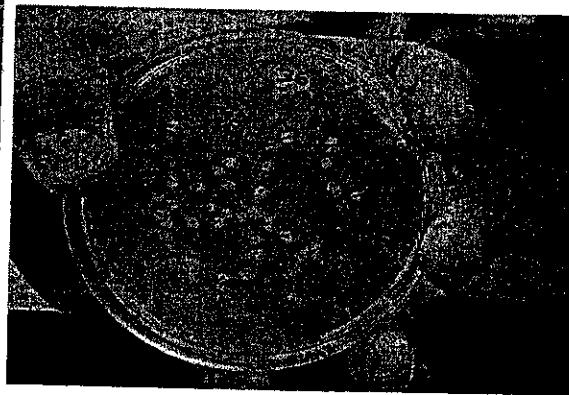
Ken
Dr. Kanatjan Alibekov Former
First Deputy Director of the Soviet
Union's biological weapons program.
Circa 1986



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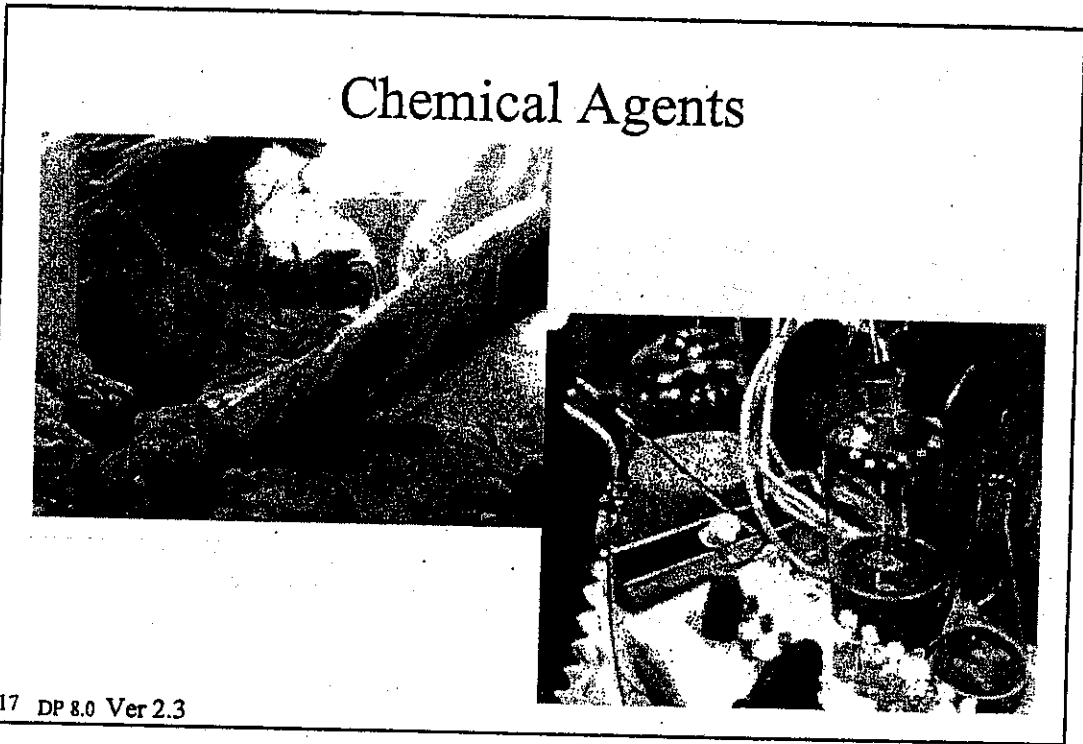
50% death rate

30 Million LD_{50} Of Anthrax



14 DP 8.0 Ver 2.3

4 b of 31



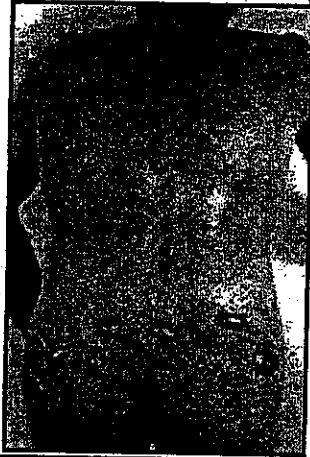
Nerve Agent Classification

Common Name	Tabun (GA)	Sarin (GB)	Soman (GD)	VX
Military Symbol		<i>ZC, Y, CE</i>		<i>1000X CP</i>
Volatility/Persistence	Semi-Persistent			Persistent
Rate of Action	Extremely rapid			
Route of Entry	• Respiratory • Skin			
Odor	Fruity	Camphor	Sulfur	
Symptoms	• Pinpointing of Pupils • Salivation • Vomiting/Diarrhea • Twitching • Difficulty in Breathing			
Protection	Respiratory and Skin			
First Aid	• Atropine		• 2-Pam chloride	
Decontamination	• Remove Agent • Flush With Water or Dilute Bleach			

18 DP 8.0 Ver 2.3

H 1108 31

Blister Agents



21 DP 8.0 Ver 2.3

Blister Agents *chemical burns*

Common Name	Mustard (H)	Lewisite (L)	Phosgene Oxime (CX)
Military Symbol		<i>after mixed</i>	<i>very rare - obsolete</i>
Volatility/Persistency	Persistent		
Rate of Action	Delayed	Rapid	
Route of Entry	• Skin • Inhalation • Eyes		
Odor	Garlic	Geraniums	Irritating
Symptoms	Eyes: burning Inhalation: coughing Skin: blistering after 4-24 hours,		Forms wheel like welts intense immediate pain
Protection	• Respiratory • Skin		
First Aid	• Decontaminate • Ensure air passages are open		
Decontamination	• Immediate removal • Flush with water • Dilute bleach		

22 DP 8.0 Ver 2.3

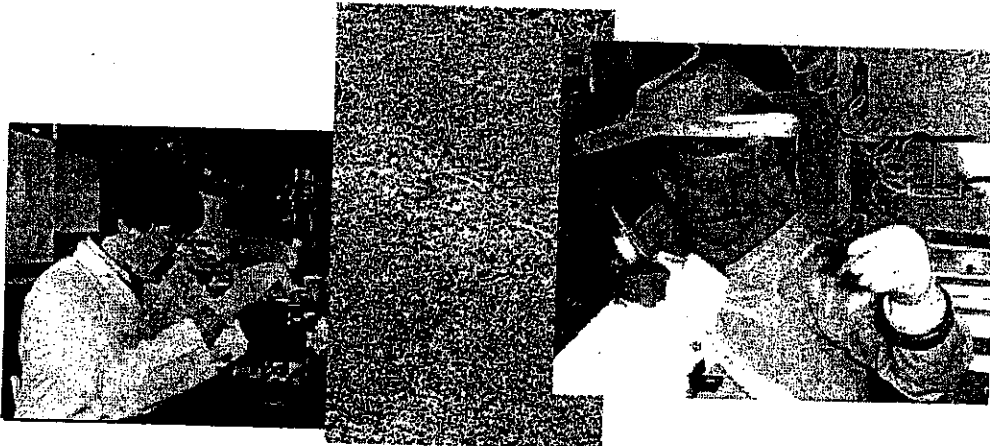
H 12 of 31

Industrial Chemicals

	<u>Choking or Pulmonary Agents</u>	<u>Blood Agents</u>
	Chlorine/Phosgene	Hydrogen Cyanide/ Cyanogen Chloride
Physical Appearance	Greenish-yellow gas / colorless gas	Colorless Gas
Odor	Bleach/Mown Hay	Bitter Almonds
Symptoms	<ul style="list-style-type: none"> • Coughing • Choking • Tightness in chest 	<ul style="list-style-type: none"> • Gasping for air • Red eyes, lips, skin
Protection	Respiratory (Skin)	Respiratory (Skin)
First Aid	Aeration	Aeration, cyanide kit

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Biological Agents

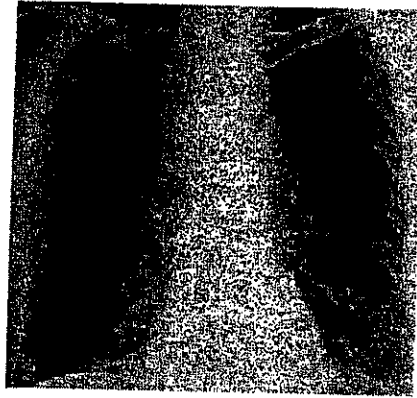


26 DP 8.0 Ver 2.3

H 130631

Inhalational Anthrax

- 2 to 6-day incubation period followed by fever, cough, and fatigue
- Initial improvement followed by abrupt onset of respiratory distress, shock, and death in 24 to 36 hours
- Chest x-ray - may show widened mediastinum with or without a bloody pleural effusion
- 50 % of cases have associated hemorrhagic meningitis *brain fever*
- No documented cases of person-to-person transmission of inhalational anthrax has ever occurred
- Cutaneous transmissions are possible



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Plague (*Yersinia Pestis*)

- "Black Death"
- Transmitted to man from rats through the bite of infected fleas.
- Transmitted via aerosol (pneumonic)



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H 140531

Needs to be Quarantined for 18 days


	Small Pox.	Viral Hemorrhagic Fevers (i.e. Ebola) <i>etc.</i>
Incubation period	7-17 days	3-21 days
Contagious	YES!	YES (Ebola) !!
Signs and Symptoms	fever, rigors, vomiting, headache, pustules	fever, vomiting, diarrhea, mottled/blotchy skin
Protection	BSI	BSI

33 DP 8.0 Ver 2.3

Survives in the air

Smallpox

- **Virus Variola Major**
- "Crowd disease"
- "Droplet infection"
- Remains active on corpses for up to 3 weeks
- If deposited onto warm, damp items it can remain infectious for up to 1 year



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Viral Hemorrhagic Fevers (VHF)

- Dehydrated, apathetic, disoriented
- Severe hemorrhagic manifestations at 5-7 days
- Death at approximately 7-16 days
- Human corpse remains highly infectious
- No vaccine or cure



amputation may work

37 DP 8.0 Ver 2.3

TOXINS

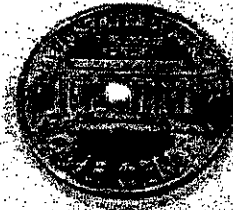
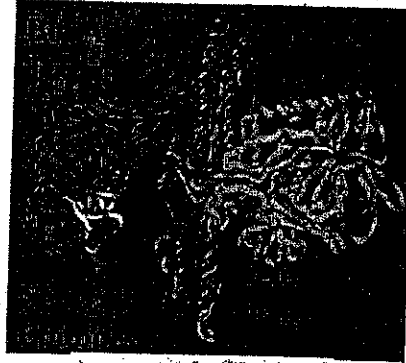


38 DP 8.0 Ver 2.3

H 16 of 31

Botulinum Toxin - Characteristics

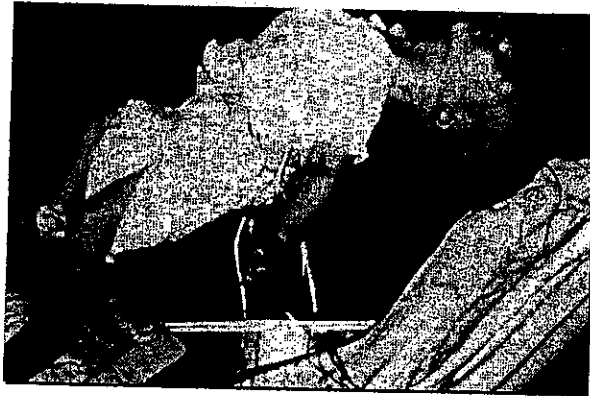
- Neurotoxin produced by *Clostridium botulinum* - Botulism
- Most lethal compound per weight (15,000 times more toxic than the nerve agent VX)
- Different toxicity if inhaled or ingested



41 DP 8.0 Ver 2.3

Botulism - Signs & Symptoms

- Descending paralysis
- Bulbar palsies
 - Blurred vision
 - Photophobia
- Antitoxins are available; must be administered early
- CDC vaccine protective for A and B toxins



"Floppy" baby
flaccid paralysis"

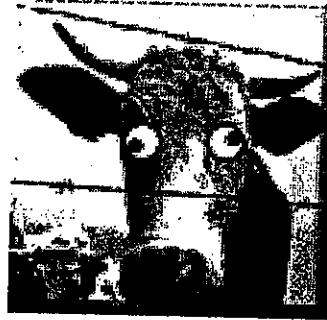
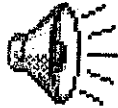
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H 17 of 31

How to identify if your cow has MAD COW disease



If your cow sounds like this,
then fire up the barbecue.

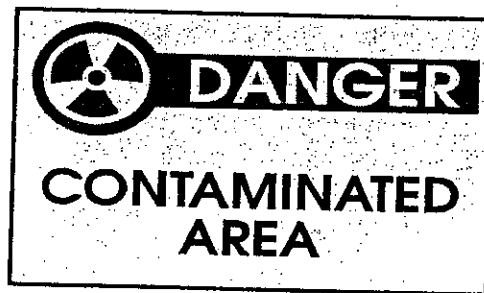


If your cow sounds like this, then
May we suggest the fish.



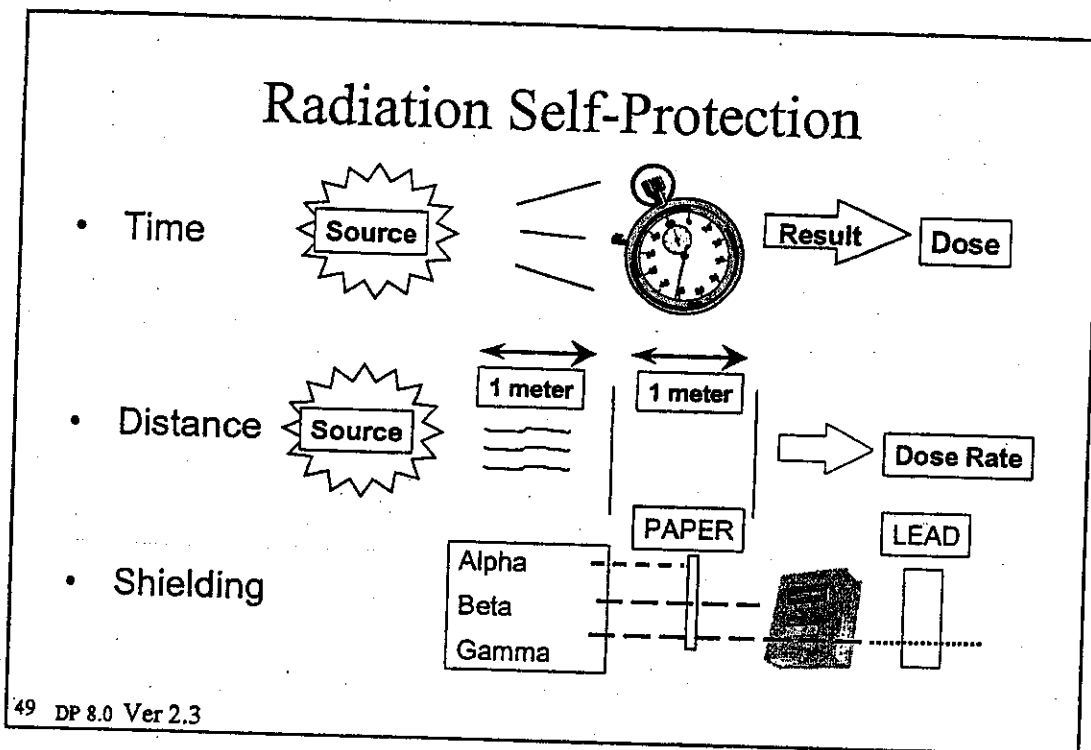
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Nuclear/Radiological Materials



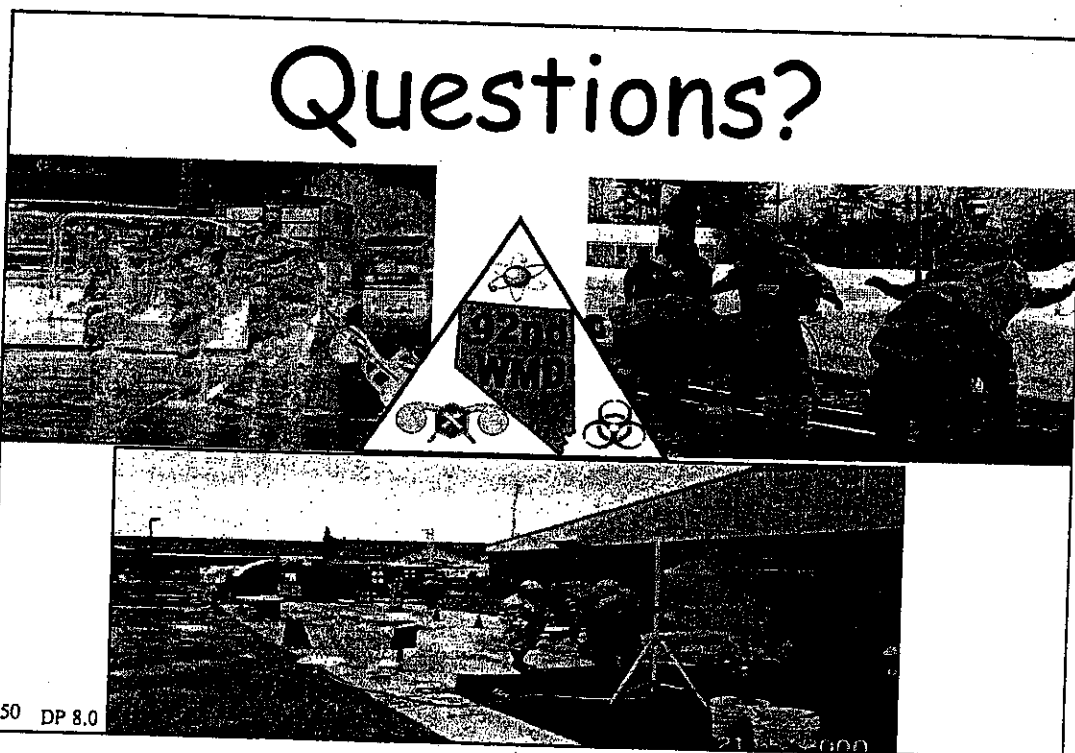
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H 18 of 31

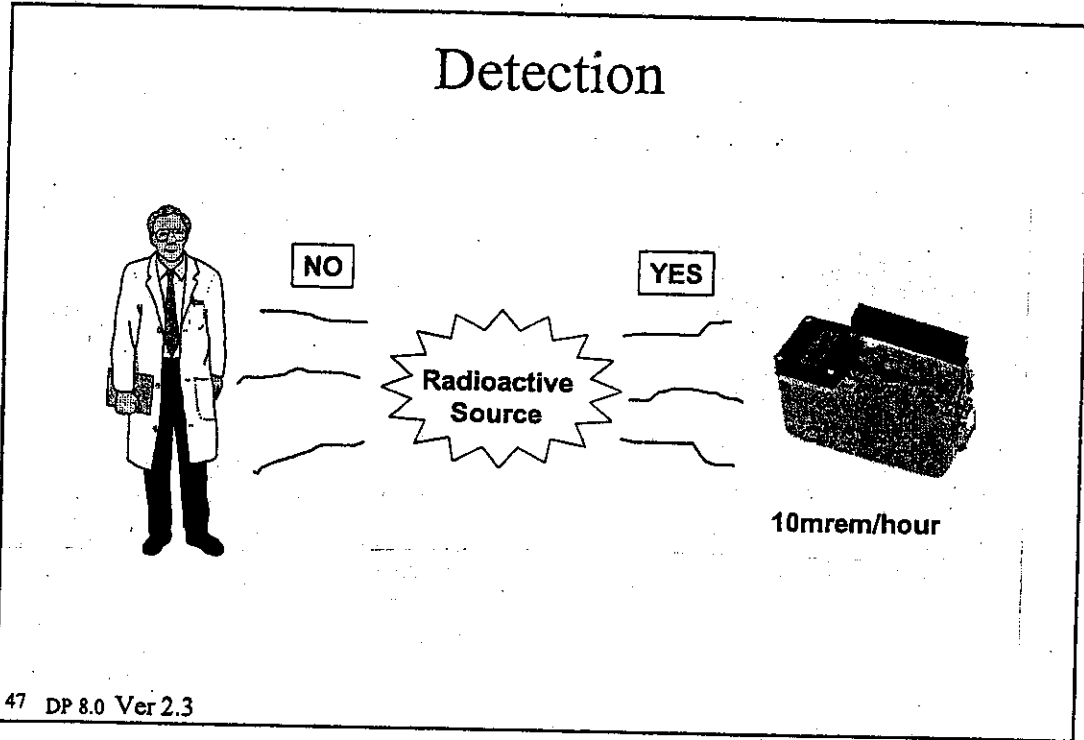


rad = Radiation unit

Rem = absorbing unit



H 19 of 31



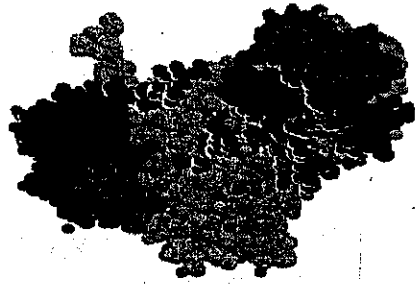
Radiation Dose Comparisons (REM)

Dose	Function	Dose	Function
500	Lethal Dose in 50% within 60 days with supportive care	>25	Lifesaving or protection of large populations. Only on a volunteer basis for personnel fully aware of the risks involved.
350	Lethal Dose in 50% within 60 days without supportive care		
300	Definite Nausea, 50% chance of vomiting	25	Lifesaving or protection of large populations.
200	50% chance of nausea, occasional vomiting after 3-6 hours	10	Protection of major property
150	Emergency Risk (NATO STANAG)	5	Occupation Annual Limit for Radiation Workers
100	Urgent Action, Accident (ICRP 63)	0.36	Annual BACKGROUND dose to public in US
70	Moderate Risk (NATO STANAG)	0.10	Dose limit for member of the public
50	Emergency limit (ICRP)	0.001	Insignificant dose (NCRP)

14 20 of 31

Ricin

- Route of entry
 - ingestion
 - inhalation
 - injection
- Incubation period 24-72 hours
- Symptoms
 - nausea, vomiting, bloody diarrhea, abdominal cramps, breathing difficulty
- Mortality is high
- Not contagious
- Treatment
 - respiratory therapy
 - supportive care



x-ray crystallography model



43 DP 8.0 Ver 2.3

Staphylococcal Enterotoxin B (SEB)

- Form of food poisoning
- Easy to produce and used to contaminate open food sources and water supplies
- Heat resistant *to 170° or higher to kill*
- Inhalation of SEB creates severe health complications
- If airborne (military agent), effects begin at 2 - 5 min
- If ingestion, effects begin at 30 min- 7 hours
- Symptoms: salivation, nausea, vomiting, abdominal pain, diarrhea, prostration, fever
- Recovery occurs within 24-35 hours

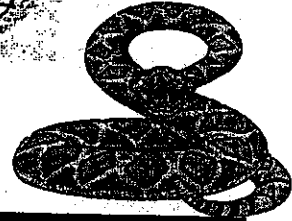
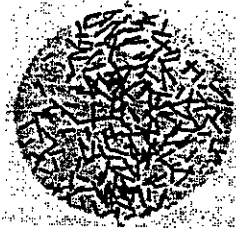


44 DP 8.0 Ver 2.3

H 21 of 31

Toxins

- Naturally produced poisons
- More toxic per weight than manmade chemical agents
- Non-volatile
- Minimal absorption in intact skin
- Not prone to person-to-person transmission



39 DP 8.0 Ver 2.3

not contagious

	Toxins	
	Botulinum	Ricin
Incubation period	1-3 days	1-7 days
Contagious	NO	NO
Signs and Symptoms	weakness, dizziness, dry mouth & throat, blurred vision, paralysis	nausea, vomiting, bloody diarrhea, GI cramps, SOB
Protection	BSI	respiratory

Toxins

15,000,000 x Cl gas

castor bean concentrate

#1




←

40 DP 8.0 Ver 2.3

very easy to make from the beans

H 22 of 31

Smallpox

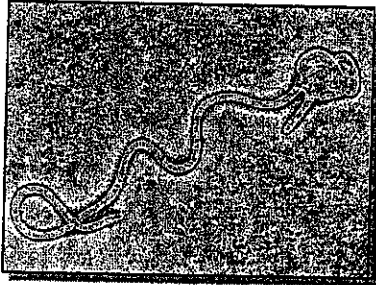


- Contagious
- All contacts are quarantined for at least 17 days
- Infectious until all scabs are healed over

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Viral Hemorrhagic Fevers (VHF)

- Symptoms (early)
 - fever
 - chills
 - headache
 - loss of appetite
 - generalized muscle aches
- Symptoms (later)
 - nausea/vomiting
 - sore throat
 - abdominal pain
 - diarrhea (bloody)
 - chest pain (maybe)



36 DP 8.0 Ver 2.3

H 23 of 31

persistant flu symptoms



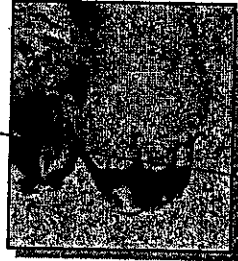
Bubonic Plague

- Rapid spread through lymphatic system
- Incubation period 2-3 days
- Symptoms similar to, but less severe than pneumonic plague
- Mortality 25-50%

then goes to

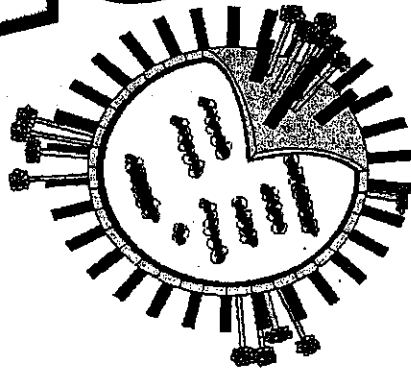
Pneumonic Plague

- Rapid spread to lungs
- Mortality 90-100%
- Incubation period 3-4 days



can't spread

VIRUS



H 24 of 31

good military weapon due to storage


Bacteria

	Anthrax	Plague <i>new world black death</i>
Incubation period	1-7 days	2-3 days
Contagious	NO	YES (pneumonic) NO (bubonic)
Signs and Symptoms	Chills, fever, nausea, swollen lymph nodes	Chills, high fever, headache, spitting up blood, SOB
Protection	BSI	BSI

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from rare meat - well done ^{140°} no problems.


Gastrointestinal Anthrax



non-lethal

Cutaneous Anthrax

cure < 3 weeks



28 DP 8.0 Ver 2.3

1/25 of 31

Blisters



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Lewisite

- Symptoms:
- Immediate pain or irritation
- - 5 - 15 minutes after contact will produce a blister
- - Full lesion does not develop for 12 to 18 hours



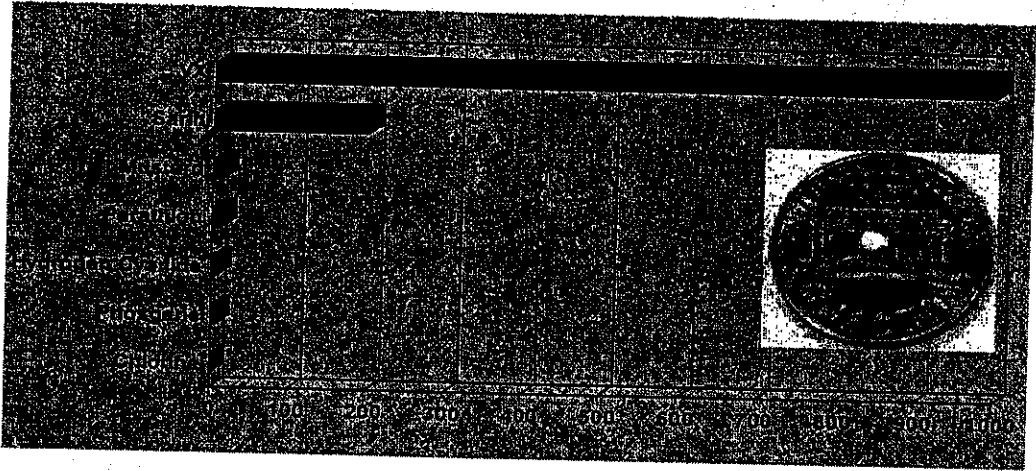
Severe Lewisite Exposure
Central Nervous System:

- Apathy, lethargy
- Euphoria
- Convulsions (only with massive exposure)
- Coma
- Death

24 DP 8.0 Ver 2.3

14 26 of 31

Comparative Toxicity



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Signs and Symptoms of Nerve Agents

constricting pupils

days after exposure

3

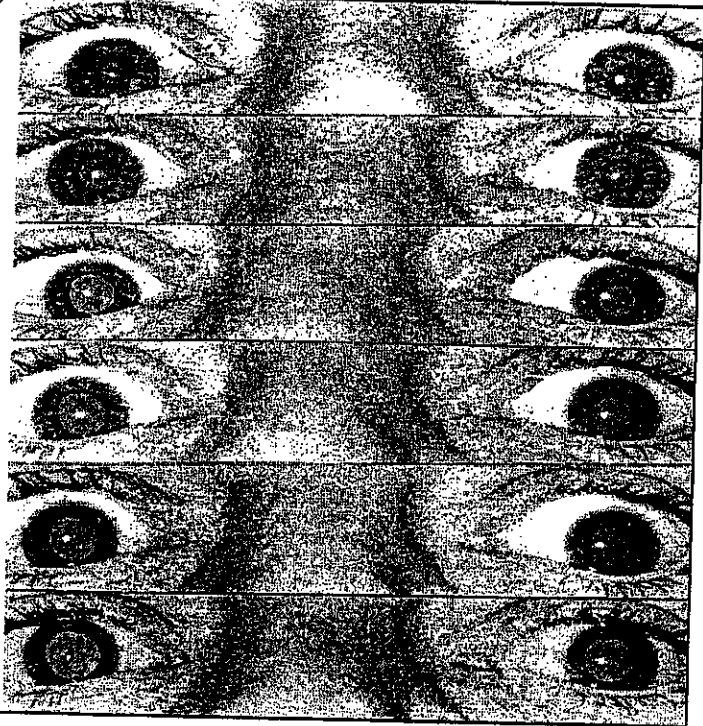
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62



20 DP 8.0 Ver 2.3

H 27 of 31

A Bold New Day!!!

(For Terrorist's)

Billions

20 March 1995, Tokyo

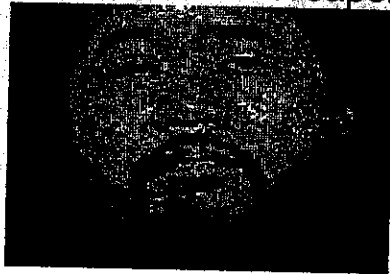
"AUM SHINRIKYO"

The "Supreme Truth"

is that terrorists

will use Weapons of Mass Destruction

Sarin



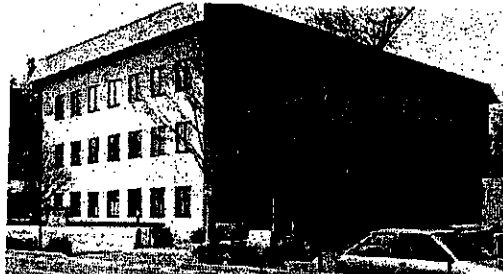
15 DP 8.0 Ver 2.3

12 dead, over 5,500 injured

Chemical Agent Terrorist Attacks

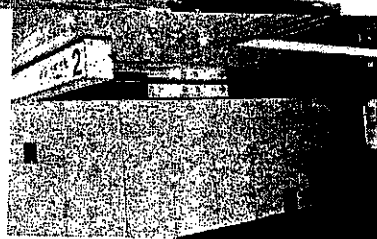
- Matsumoto: 1994

- Approximately 280 injured *95% +*
- 7 dead



- Tokyo: 1995

- 12 dead *only 2.1%*
- Approximately 1,000 hospitalized *met. aerosol*
- 7,500 sought medical care
- 10% of first responders injured



- Produced Sarin, Tabun, Soman, VX, Mustard, Anthrax, Botulism, and LSD

16 DP 8.0 Ver 2.3

used twice to get e.p.d.a - Rick M. Gailip

H 28 of 31

Potential Terrorist Targets-WMD

- Enclosed spaces
- Large crowds (high profile events)
- Critical facilities and infrastructure
- Accessible facilities with significant hazard / damage potential (materials in transit)
- Facilities of interest to terrorists' cause

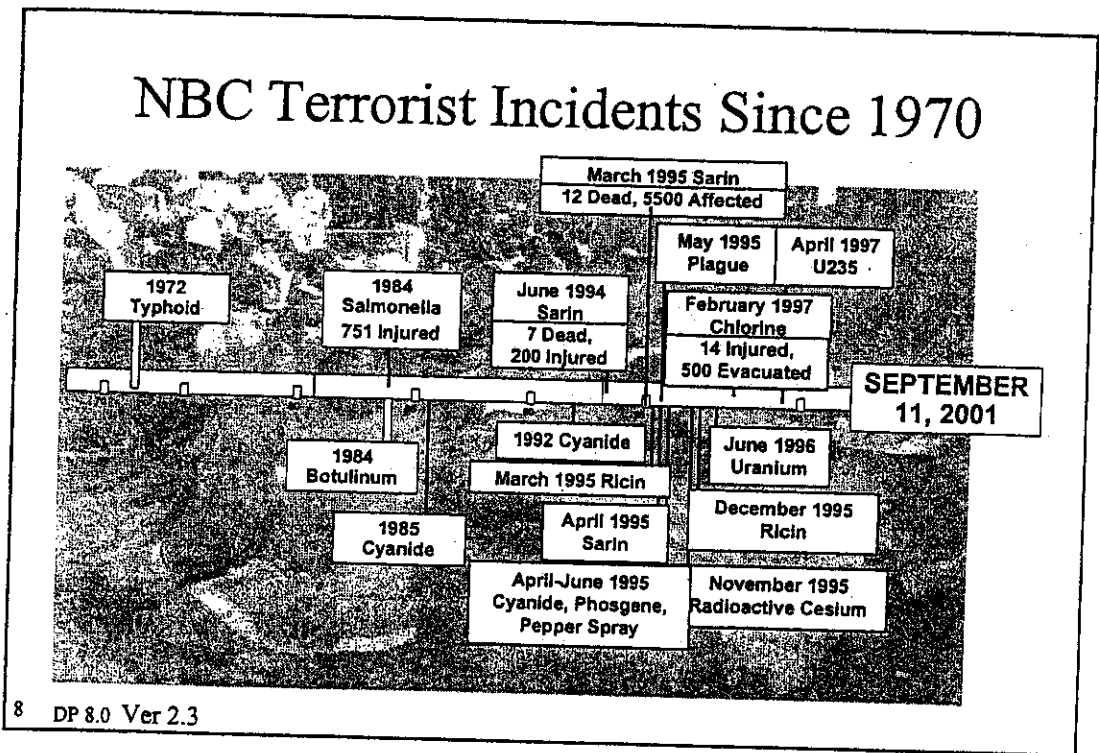
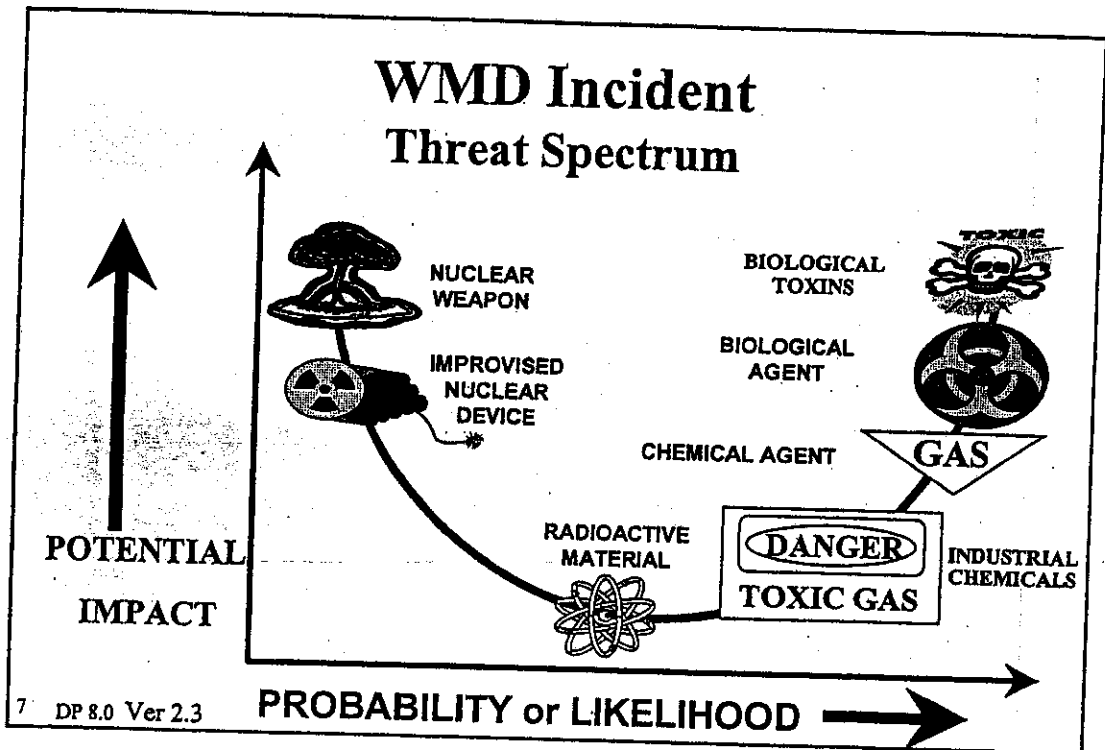
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The Fallacies

- It can't happen to us
- NBC agents are so deadly the victims will all die anyway
- There is nothing we can do

12 DP 8.0 Ver 2.3

H 29 of 31



H 30 of 31

FOLLOW-ON SUPPORT

Homeland Defense - Reducing the consequences of weapons of mass destruction incidents by enhancing the preparedness, protection, and response capabilities of local, state, and federal agencies.

Homeland Defense

Reducing the consequences of weapons of mass destruction incidents by enhancing the preparedness, protection, and response capabilities of local, state, and federal agencies.

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Homeland Defense Web Site <http://hld.sbcom.army.mil/>

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FOLLOW-ON SUPPORT



National Homeland Security Knowledgebase

"The definitive homeland security information resource"

BOOKMARK THIS SITE
for easy return
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<http://www.twotigersonline.com/resources.html>

4 DP 8.0 Ver 2.3

H 31 & 31