

Possible Measures of Consequence

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Why Measure Consequences

- Possibly required by law
- Possibly for emergency response preparations
 - Equipment
 - Worst possible case (shelter or evacuate)
- Possibly to justify physical protection system costs
 - High *risk* may justify high cost PPS
 - Low *risk* may justify low cost PPS
- Possibly to prioritize and address greatest *risks* first



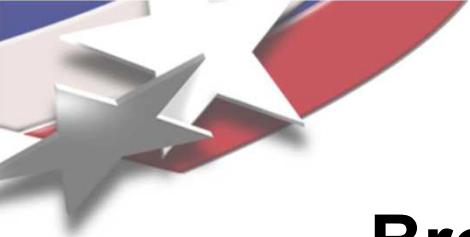
Consequences of a Real Terrorist Incident

- Short Term:
 - Possible fatalities of convoy personnel
 - Possible prompt fatalities of public
 - Possible dose to public (maximum individual and population)
 - Possible emergency response - possible shelter in place or evacuated
 - Possible police response - criminal investigations
 - Possible news media coverage
 - Possible political and public questions (what happened?)
 - Possible denial of access (facility or area is removed from use)



Consequences of a Real Terrorist Incident

- Long-Term
 - Possible fatalities of convoy personnel and public
 - Possible news media coverage
 - Possible political and public questions (how could this happen?)
 - Possible denial of access (facility or area is removed from use)
 - Possible cost to replace equipment
 - Possible medical costs
 - Possible litigation
 - Possible cleanup



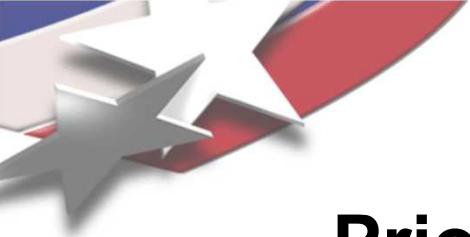
Broad Measure of Consequences

- **Broad measures of consequence**
 - Radiological / human health
 - Cost
 - Political / Public
 - Other



Measure of Consequence Depends on Need

- **Emergency response** - doses, proper equipment, fast decision (shelter in place or evacuate)
- **News media** - injuries and fatalities (not doses)
- **Manager to justify PPS costs** – cost of incident, or public/political outcry



Prioritizing Consequence and Theft

- Prioritizing requires a common scale
 - Which is higher (assume P_{Inter} & P_{Neut} are equal)
 - \$4 M USD total incident cost to JAEA or
 - total population dose of 38 person-Sv?
- Theft is especially important and difficult
 - Which is higher
 - Theft of 4 kg of Pu-239
 - Total population dose of 380 person-Sv?
- Prioritizing requires a common scale and Benson-san will discuss some U.S. systems