

Radiation Hazards

General Information

There are a number of potential causes of radiation hazards. Radiation can result from an accident at a fixed nuclear facility, which can "include a variety of complexes in which fissionable fuel is stored or used for such functions as electric power generation or testing, and manufacturing fuels and materials". Radiation can also result from a nuclear detonation. "Nuclear detonation is the thermonuclear reaction (fission or fusion) of a supercritical mass of weapons grade nuclear." Finally, radiation hazards can result from accidents at a research or medical facility utilizing radiological materials in their processes.

Vulnerability

The Puget Sound region is not vulnerable to accidents occurring at fixed nuclear facilities because there are no fixed nuclear facilities within a close proximity to residents. (The University of Washington's research reactor was closed in 1985). However, the region is vulnerable to nuclear detonation that could occur either purposefully (war or terrorism) or accidentally, "resulting in massive damage from heat and blast effects and contamination of the surrounding area by radioisotopes". The threat of use of a nuclear device by a terrorist group has increased since the breakup of the former Soviet Union. The transfer of weapons grade nuclear material from Russian Republics via the black market in recent years, points to the possibility of a weapon falling into the hands of international terrorists.

Puget Sound residents are also vulnerable to accidents occurring at a research or medical facility that uses radiological sources. According to the State Department of Health, there are hundreds of these facilities licensed to use radiological sources in the area.

Finally, the potential exists for a nuclear accident on a Trident submarine coming to Port or docked at the Navy's Bangor facility in Kitsap County. The Navy states that there is no hazard and that all information on the subject is classified. However, there is always a remote probability that an accident could occur.

Effects

Casualties in the state from a nuclear strike could number from tens or hundreds of thousands to millions. All essential local services and facilities, such as fire, medical, and law enforcement, would be immobilized, overtaxed, or affected by radioactive fallout, if present. Most communications and other utilities would be disrupted in a nuclear exchange, however the detonation of a single device would probably cause physical damage only to the local area of the blast.

Conclusion

While the threat of a nuclear disaster is relatively low at the present time, as long as thousands of weapons still exist in the world, the threat of use is still there. Because the potential consequences of nuclear hazards are so severe, preparation must be done. The opportunity to reduce the great numbers of potential casualties exists through preparedness measures, including education, information, training, and planning.