

## **Beyond the System of Radiation Protection: The Ten Principles and Ten Commandments of Radiation Protection Describe Actions**

Daniel J. Strom

*U.S. Transuranium and Uranium Registries, Washington State University, 1845 Terminal Drive, Suite 201,  
Richland, Washington*

For decades, the mantra of “time, distance, and shielding” has dominated worker training in radiation protection. While memorable, these 3 concepts are woefully incomplete and do not describe actions. To provide a much more complete menu of options that include actions outside of the ICRP’s system of protection, the author published 10 principles and 10 commandments of radiation protection in 1996 (Health Phys 70(3): 388-393). The principles describe the variables that can be controlled (whether by an individual or an organization), followed by actions (“commandments”) that can be taken for each variable, separated into external exposure situations and intake-of-radioactive-material situations. The commandments are expressed in both familiar terms and in technical terms. The principles are 1) time, 2) distance/direction, 3) dispersal, 4) source reduction, 5) source barrier (engineered controls), 6) personal barrier (PPE), 7) decorporation, 8) effect mitigation, 9) optimal technology, and 10) limitation of other exposures. The simple-language commandments are 1) hurry (but don’t be hasty); 2) stay away from it or stay upwind of it; 3) disperse and dilute it; 4) make and use as little as possible; 5) keep it in; 6) keep it out; 7) get it out of you and off of you; 8) limit the damage; 9) choose the best technology; and 10) don’t compound risks (don’t smoke). Only a few items have been added in 28 years. Direction (stay upwind) has been added to the distance principle/ commandment. One commandment has been added to the personal barrier principle, “hold your breath.” While no one should ask a worker to do this, but it could save an individual’s life or dramatically reduce their intake under some emergency circumstances. Under the principle of source reduction, the prevention of attacks on nuclear power plants should be included with the prevention of the use of nuclear weapons.

USTUR-0681-24A