

- 1 • increased efficiency in the use of raw materials, energy, water, or other resources
- 2
- 3 • recycling to reduce the amount of waste and pollutants destined for release, treatment, storage, and
- 4 disposal.
- 5

6 Pollution prevention is applied to all DOE pollution-generating activities including:

- 7
- 8 • manufacturing and production operations
- 9 • facility operations, maintenance, and transportation
- 10 • laboratory research
- 11 • research, development, and demonstration,
- 12 • weapons dismantlement
- 13 • stabilization, deactivation, and decommissioning
- 14 • legacy waste and contaminated site cleanup.
- 15

16 **2.2.6 Decontamination and Decommissioning of Hanford Facilities**

17
18 Decontamination is the removal, by chemical or physical methods, of radioactive or hazardous
19 materials from internal and external surfaces of components, systems and structures in a nuclear facility.
20 It is usually the first step toward decommissioning. Decommissioning of a nuclear facility can be defined
21 as the measures taken at the end of the facility's lifetime to assure protection of public health and safety
22 and the environment. Such measures can involve protective storage, entombment, or removal. For
23 protective storage, the facility is left intact after removal of most of the radioactive materials and the
24 appropriate security controls are established to assure public health and safety. Entombment consists of
25 removing radioactive liquids and wastes and then sealing all remaining radioactivity within the facility
26 and then establishing appropriate security controls to assure public health and safety. For the removal
27 option, all radioactive materials are removed from the site and the facility is refitted for other use or
28 completely dismantled.

29 **2.2.7 Long-Term Stewardship**

30
31
32 The Hanford Site is being cleaned up to meet certain land-use requirements. These requirements are
33 based, in part, on limitations of what level of cleanup can be practically achieved. Limitations that
34 prevent unrestricted use of all land and groundwater at the Hanford site include:

- 35
- 36 • technical and economic limitations – technically or economically practicable technology does not
- 37 exist to perform cleanup activities. For example, no technology, known or anticipated, can remove
- 38 100% of the contents of Hanford's high-level waste tanks.
- 39
- 40 • worker safety and health issues – impacts to workers from cleaning up may be greater than the
- 41 impacts to the general public for not cleaning up. For example, the impacts to workers from digging
- 42 up and treating waste from old burial grounds might be greater than the impacts to the general public
- 43 from capping the waste in place.