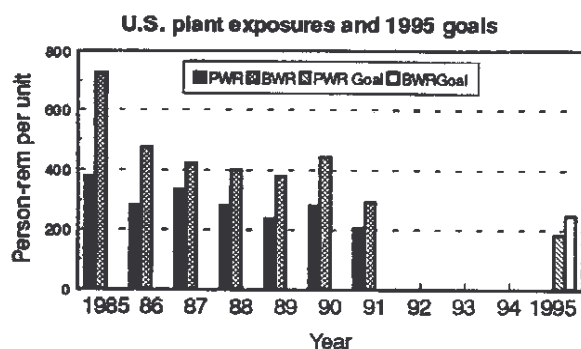
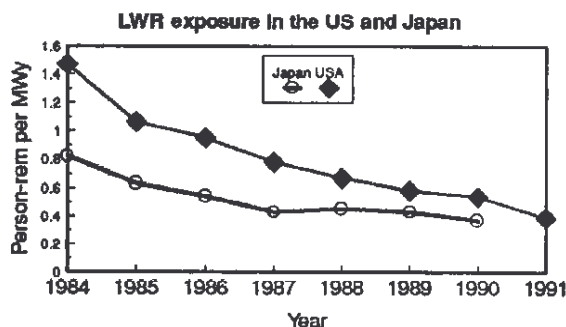


N242. Reducing Exposure at U.S. Nuclear Plants

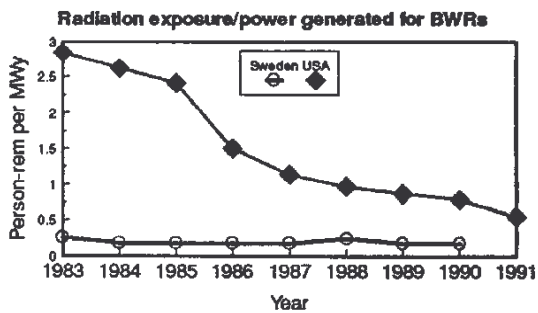
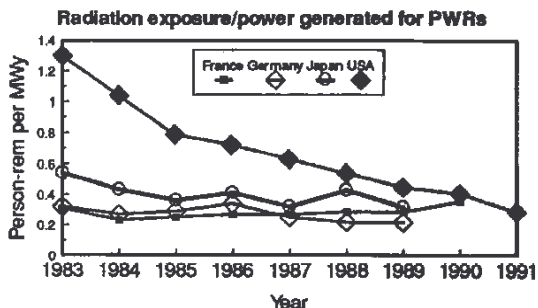
The U.S. nuclear power industry has established a number of performance goals for radiation exposure, which are tracked by the Institute of Nuclear Power Operators. The 1990 industry goal for reducing collective radiation exposure was essentially achieved by PWRs and was exceeded by BWRs and plants showed further improvement in 1991.



Future goals are expressed on the basis of plant median exposures, rather than plant average. The median value for BWRs dropped from 446 person-rem in 1990 to 293 person-rem in 1991. These plants are approaching the 1995 goal of 225 person-rem. PWRs almost achieved the 1995 goal of 185 person-rem in 1991, with 189 person-rem. This is a substantial improvement on the 1990 value of 273 person-rem. Most nations with large nuclear power programs have reduced exposures. Both the U.S. and Japan have large PWR and BWR programs, although Japan has a higher proportion of BWR capacity. While U.S. exposures were approximately double the Japanese values in 1984, the gap has closed and the most recent values are comparable.



Swedish plants set the standard for BWRs, with a remarkably consistent performance: around 0.2 person-rem/MW_y over the past 10 years. The values of BWRs in the U.S. remain much higher, although they have decreased from 1.3 to 0.30 person rem/MW_y in the past eight years, and are now similar to Germany (0.22 in 1989), Japan (0.33 in 1989), and France (0.35 in 1990).



For more, see "Status Report: Reducing Exposure at U.S. Nuclear Plants," 1993 Dosimetry and Radiation Protection, published as a supplement to January 1993 issue of Nuclear Engineering International.