

N312. Robots in PSE&G's Nuclear Plants Experience and Future Projections

Robotics has become a key technology in nuclear power plants and electric utilities are realizing significant cost savings. Further reduction in allowable radiation dose exposure will only accelerate the trend to increase use of robots.

Four factors are motivating the accelerating trend to robotic applications:

- Increasingly stricter health/radiation exposure limits and general plant environmental and human safety standards
- The need to reduce increasing operation and maintenance costs
- Economic pressures for higher availability and capacity factors
- Necessary extension of useful plant lifetimes

With its applications, robotics technology can:

- Remove humans from potentially hazardous areas within the plant
- Reduce outage time and improve plant availability
- Facilitate on-line plant maintenance
- Provide for inspection of areas not previously able to be inspected
- Perform work faster and more efficiently
- Gather valuable plant life extension/management data

Many robots can perform inspection, surveillance and monitoring tasks currently. Tomorrow's more sophisticated robotic devices will incorporate artificial intelligence, improved sensors, and onboard intelligence, and will perform power plant operation and maintenance tasks.

For more, "Robots in PSE&G's Nuclear Plants - Experience and Future Projections," by H. T. Roman, Proceedings of 40th Conference on Remote Systems Technology, Volume 2, 1992. For further information, contact Harry T. Roman, Public Service and Gas Company, (201)430-6646, P.O.Box 570, Newark, NJ 07101.