

N298. Robotics and the Power Plant of the Future

Robotics technology is rapidly progressing to the point where it can and should be integrated into future power plant design. This technology has been proven to be very economic even in its early stages.

Some typical robot applications for the power plant of the future are:

- Valve diagnosis, disassembly, and repair
- Radwaste handling
- Remote handling
- Heavy lift tasks
- Moving lead shielding
- Reactor vessel surface conditioning/repair
- Drywell inspection
- Routine security/surveillance
- Firefighting
- Retrieval of loose parts from the reactor vessel
- Service water system inspection and repair
- Tool transport
- Handling of hazardous materials/chemicals
- Repair leaking pipes, valves, equipment, steam leaks
- Handle emergencies

The characteristics of the robot of the future should be:

- Modular in design and capable of reconfiguration for a variety of useful applications
- Easy to decontaminate
- Highly mobile and able to contend with a wide variety of plant obstacles and terrain types
- Long time between component/subsystem/total system failure (1000 hrs.+)
- Must be fail safe and be capable of rescue by other robots
- Must be able to interact with and operate upon various pieces of equipment

Robots will play a very important role in the power plants of the future.

For more, "Robotics and the Power Plant of the Future," by F.A. Marian and H.T. Roman. For further information, contact Frank A. Marian or Harry T. Roman, 201/430-6646, Public Service Electric and Gas Company, 80 Park Plaza, P.O.Box 570, Newark, NJ 07101