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Nuclear Power - Post Fukushima

JOSE REYES, JR

The extreme events that led to the prolonged power outage at the Fukushima Daiicchi nuclear plant have highlighted the importance of assuring a means for stable long term cooling of the nuclear fuel and containment following a complete station blackout. Legislative bodies, regulatory agencies and industry are drawing lessons from those events and considering what changes, if any, are needed to nuclear power, post Fukushima. The enhanced safety of a new class of reactor designed by NuScale Power is drawing significant attention in light of the Fukushima events. During normal operation, each NuScale containment is fully immersed in a water-filled stainless steel lined concrete pool that resides underground. The pool, housed in a Seismic Category I building, is large enough to provided 30 days of core and containment cooling without adding water. After 30 days, the decay heat generations coupled with thermal radiation heat transfer is completely adequate to remove core decay heat for an unlimited period of time. These passive power systems can perform their function without requiring an external supply of water of power. An assessment of the NuScale passive systems is being performed through a comprehensive test program that includes the NuScale integral system test facility at Oregon State University