

Fukushima Reactor Operator Impacts

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PROS Introduction

- ***PROS (Professional Reactor Operator Society)***
- ***Our mission is to serve individuals involved with safe nuclear operations. The society will work to communicate and promote the knowledge and professional values of our members, and to offer constructive input to the regulatory process on issues related to Operators.***

Current Operator Impacts

- ***Training***
 - ***Fukushima Recommendations along with INPO CPE have already led to more focus training on Multiple Events.***
 - ***Recommendations 8.1 and 8.4 for EOPs, SAMGs, and EDMGs will have major effects on Operators.***

Current Operator Impacts

- ***Training (cont.d)***
 - ***Operators attend training 5 to 6 weeks a year***
 - ***Too much focus on Fukushima Recommendations could lead to issues with Operator Proficiency on higher probability events.***
 - ***PROS recommends a balance of training time.***

Current Operator Impacts

- ***Training (cont'd)***
 - ***Additional training since Fukushima has helped Operators discuss possibility of Beyond Design Basis Events***

Current Operator Impacts

- ***Training (cont'd)***
 - ***4 Events since Fukushima that have challenged operators***
 - Browns Ferry Tornadoes***
 - Fort Calhoun Flooding***
 - North Anna Earthquake***
 - Byron (Loss of Off-site Power)***

Current Operator Impacts

- ***Operator Staffing Plans***
 - ***Recommendation 9 states that facility emergency plans address prolonged Station Black Out.***
 - ***Utilities need to have plans for Operator/Maintenance staffing beyond immediate EP responders.***

Future Operator Concerns

- ***Equipment Costs***
 - ***PROS concerned the NRC mandated Fukushima improvements may redirect limited resources away from existing programs, modifications, and upgrades requested by Operators.***

Future Operator Concerns

- ***Surveillance Requirements for New Equipment***
 - ***New equipment will have Surveillance needed to be performed to ensure they are ready to work which will cause extra burden at some plants due to staffing challenges.***

Future Operator Concerns

- ***New Equipment and Modifications Effects on Current Plant Design***
 - ***PROS is concerned that plant modifications and new equipment installation to meet Fukushima requirements could create unanticipated problems for Operators.***

Future Operator Concerns

- ***New Equipment and Modifications (cont'd)***
 - ***Examples of Modification that have already effected Operators***
 - ***Flood Barrier for Pump***
 - ***Delay Barriers for Reactor Trip Breakers***

Conclusion

- ***Operators only seeing the beginning of Fukushima recommendations***
- ***PROS agrees the recommendations will be an improvement to safety margin at US facilities***

Conclusion

- ***Current Operator Impacts***
 - ***Training***
 - ***Operator Staffing***
- ***Future Operator Concerns***
 - ***Equipment Cost***
 - ***Surveillance Requirement***
 - ***Modification effect on Current Plant Design***

Conclusion

- ***Operator Unique Perspective***