

Table 2: Nuclear Near-Misses in 2011

| Reactor and Location | Owner | Highlights |
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| <u>Braidwood</u> Joliet, IL | Exelon | SIT: After NRC inspectors questioned the practice of draining water from portions of the essential service water piping to the auxiliary feedwater pumps (to avoid corrosion damage from untreated water leaking past isolation valves), analysis revealed that this key emergency system might not function during an accident. The NRC team also discovered that workers failed to declare an emergency in response to the recurring failure of all control room alarms. |
| <u>Byron</u> Rockford, IL | Exelon | SIT: After NRC inspectors questioned the practice of draining water from portions of the essential service water piping to the auxiliary feedwater pumps (to avoid corrosion damage from untreated water leaking past isolation valves), analysis revealed this key emergency system might not function during an accident. |
| <u>Callaway</u> Jefferson City, MO | Union Electric Co. | SIT: Routine testing of an emergency pump intended to prove that it was capable of performing its safety functions during an accident actually degraded the pump. The pump's manufacturer recommended against running the pump at low speeds, but this recommendation was ignored during the tests. |
| <u>Cooper</u> Nebraska City, NE | Nebraska Public Power District | SIT: Workers replacing detectors used to monitor the reactor core during low-power conditions were exposed to high levels of radiation when they deviated from the prescribed procedure. |
| <u>Millstone Unit 2</u> Waterford, CT | Dominion | SIT: Despite a dry run of an infrequently performed test on the control room simulator and other precautionary measures, errors during the actual test produced an unexpected and uncontrolled increase in the reactor's power level. |
| <u>Monticello</u> Minneapolis, MN | Nuclear Management Co. | SIT: During a periodic test of the fire sprinkler system, workers found that rust particles inside the system's piping blocked the flow of water past a valve. The NRC determined that the plant owner had not properly evaluated numerous warnings about corrosion inside fire protection piping at other nuclear plants, and had not incorporated the information into maintenance practices. |

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| <u>North Anna</u> Richmond, VA | Dominion | AIT: An earthquake of greater magnitude than the plant was designed to withstand caused both reactors to automatically shut down from full power. |
| <u>Oconee</u> Greenville, SC | Duke Energy | SIT: Workers discovered that an emergency system installed in 1983 to protect the reactor core from overheating in the event of a station blackout, pipe break, fire, or flood would be disabled by the high temperature inside the containment during such an accident. The high temperature would cause electrical components within the emergency system to fail. |
| <u>Palisades</u> South Haven, MI | Entergy | SIT: When a pump used to provide cooling water to emergency equipment failed in September 2009 because of stress corrosion cracking of recently installed parts, workers replaced the parts with identical parts. The replacement parts failed again in 2011, disabling one of three pumps. |
| <u>Palisades</u> South Haven, MI | Entergy | SIT: Workers troubleshooting faulty indicator lights showing the position of the emergency airlock door inadvertently shut off power to roughly half the instruments and controls in the main control room. The loss of control power triggered the automatic shutdown of the reactor and complicated operators' response. |
| <u>Perry</u> Cleveland, OH | FirstEnergy | SIT: Problems during the replacement of a detector used to monitor the reactor core during low-power conditions exposed workers to potentially high levels of radiation. |
| <u>Pilgrim</u> Plymouth, MA | Entergy | SIT: Security problems prompted the NRC to conduct a special inspection. Details of the problems, their causes, and their fixes are not publicly available. |
| <u>Pilgrim</u> Plymouth, MA | Entergy | SIT: When restarting the reactor after a refueling outage, workers overreacted to indications that the water inside the reactor was heating up too rapidly, and lost control of the reactor. The plant's safety systems automatically kicked in to shut down the reactor. |

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| <u>Turkey Point Unit 3</u> Miami, FL | Florida Power and Light Co. | SIT: A valve failure stopped the flow of cooling water to equipment, including the reactor coolant pump motors and the cooling system for the spent fuel pool. |
| <u>Wolf Creek</u> Burlington, KS | Wolf Creek Nuclear Operating Co. | SIT: Workers overlooked numerous signs that gas had leaked into the piping of safety systems, impairing the performance of pumps and flow-control valves. |