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|  | |  | | --- | | **Date Range (Published Date): 01.02.2020 To 29.02.2020** | |  |
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This caused house load operation (HLO) but the turbine tripped on steam generator (SG) high level. Two hours later, the 132kV auxiliary offsite power was also lost causing the emergency diesel generators to start. A limiting condition of operation was entered. The event is categorised as noteworthy due to total loss of offsite power (LOOP). | The cause of turbine trip on SG high level was a faulty deaerator level controller. The cause of the LOOP was a failure of auto-reclosing in the power circuit breakers and unstable power grid. | SOER 1999-1, Rec1 | 02 - Station transient | 0013 - Former : External | 1 - For information only, automatic scram, limiting condition of operation, loss of offsite power, risk assessment, transmission line | ER.1 , RM.1 | | [**WER PAR 20-0075**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37050','_blank'))) | 17.02.2020 | Dampierre 3 | 08.11.2019 | Accumulated flux rise at the end of MOX fuel rods and large-sized plutonium-producing blocks that could cause localised overpower | 00 | 17.02.2020 | Noteworthy | In 2017, a design change of the MOX fuel assembly was done to change a steel wedge to zircaloy without a detailed analysis of the neutronic impact. The combined phenomenon of flux rise and presence of large-sized particles at the bottom of the fissile column was reported and addressed by changing the fuel pellets manufacturing process. However despite the corrective actions implemented, the presence of large-sized particles has not been fully eliminated. In addition, similar issues identified at the top of the MOX fuel column were noted in 2019. The event is categorised as noteworthy because of fuel design and manufacturing deficiencies, reducing of safety margins, the potential to lead to a significant event due to applicability to all units using the given MOX fuel. | The causes were inadequate manufacturing controls, inappropriate technical reviews and insufficient effectiveness of the corrective measures. | SOER 2004-1 Rec.2 | 10 - Non consequential or near miss | 1350 - Inadequate assessment of the effectiveness of corrective actions, 1470 - Inadequate operating experience feedback process (corrective actions not defined, Inadequate or not implemented promptly, root causes of known problems not addressed), 2001 - Original design inadequate, 2107 - QA requirements not used or met during procurement process | 2 - Important lessons, design change, flux tilt, fuel rod, reactivity management, risk assessment, vendor | CM.1 , NF.1 | | [**WER PAR 20-0073**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37048','_blank'))) | 17.02.2020 | Bugey 3 | 28.08.2019 | Electrocution of a worker due to a defective neon light power supply junction box | 00 | 17.02.2020 | Noteworthy | During normal operation and while carrying on work on scaffolding, a worker put his hands on a scaffolding bar and received an electric shock but his hands remained stuck on the bars. The worker was nursed by his colleague and sent to the hospital and able to return to work the next morning. The event is categorised as noteworthy due to the potential for a serious injury or fatality. | The direct cause was the neutral wire being disconnected in the junction box and contact with the raceway next to the scaffolding. The root was failure to identify the potential electrical risk during statutory inspections. |  | 10 - Non consequential or near miss |  | 1 - For information only, contractor, design change, electric shock, industrial safety, scaffold, surveillance, wiring | IS.1 | | [**WER PAR 20-0070**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37045','_blank'))) | 17.02.2020 | Atucha 1 | 16.10.2019 | Two turbine rotor blades were bent and a worker was injured while performing a lift movement, due to a failed sling. | 00 | 17.02.2020 | Noteworthy | During a cold shutdown and while moving the low pressure turbine rotor using the crane, one eyelet of a wire rope sling failed causing one end of the spreader beam to fall down, damaging two rotor blades. The disconnected rope sling hit a worker. The worker was taken to hospital and diagnosed with minor concussion. The event is categorised as noteworthy due to the potential for a serious injury. | The direct cause was a failed sling. The root cause was inadequate inspections of the sling. | SOER 2008-1 Rec3 | 03 - Equipment damage; fires, 07 - Personal injuries | 0902 - Special conditions or requirements not identified, 2309 - Failed within expected lifetime | 1 - For information only, fall, industrial safety, injury, turbine blade | IS.1 , MA.2 | | [**WER PAR 20-0068**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36993','_blank'))) | 07.02.2020 | Golfech 1 | 19.03.2019 | Train A and train B diesel generators unavailable for 5 days due to jump wires left in place following testing | 00 | 07.02.2020 | Noteworthy | During an outage and while performing a surveillance test for the verification of primary reactor coolant flow rate decrease after shutting down the reactor coolant pumps, the operators noted that the train A and B diesel generators have not started-up automatically. Further investigations revealed that jumpers had not been removed at the end of a previous maintenance activity, rendering both trains of diesel generators unavailable for 5 days in violation of technical specification. The event is classified as noteworthy due to the unavailability of the automatic start up of both trains A and B diesel generators resulting in their delayed connection. | The direct cause was failure to restore configuration at the end of a maintenance activity. Contributors were inadequate post maintenance verifications. |  | 10 - Non consequential or near miss | 0201 - Self checking not used or ineffectively applied, 0203 - Required procedures, drawings, or other references not used | 1 - For information only, configuration control, diesel generator, jumper, procedure adherence, technical specification | CM.2 , MA.1 , NP.1 | | [**WER PAR 20-0059**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36971','_blank'))) | 06.02.2020 | Leibstadt 1 | 11.06.2019 | Near miss diving accident | 00 | 06.02.2020 | Noteworthy | During an outage, and prior to a scheduled dive in the pressure reduction chamber, a contractor diver lost consciousness when he put on his air supplied helmet. His helmet was rapidly removed by an assistant and the person regained consciousness after 10 seconds. The event resulted in minor injuries to the face of the person involved produced while trying to remove the helmet. The event is classified noteworthy due to the potential for a fatality by asphyxiation or fall. | The direct cause was airway constriction due to pressure of the collar of the diving suit, reducing the air volume available for breathing. A contributor was that the diving costume was recently modified, without completely understanding the effects of the modifications on the ergonomics and functionality of the diver suit. |  | 10 - Non consequential or near miss | 0203 - Required procedures, drawings, or other references not used, 0214 - Improper tools / equipment used, 0215 - Failure to maintain written logs, 0218 - Violation of policies/rules/procedures, 0611 - Shortfall in on-job training / experience, 0807 - Control of contractors inadequate | 2 - Important lessons, confined space, contractor, design change, industrial safety, injury, risk assessment | IS.1 , RM.1 | | [**WER PAR 20-0058**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36970','_blank'))) | 06.02.2020 | Hinkley Point B1 | 21.10.2019 | Contractor struck by ground excavator | 00 | 06.02.2020 | Noteworthy | During normal operations, a supplemental worker was struck by the rear blade of an excavator as it rotated around and he suffered a compound fracture, necessitating off-site medical treatment and resulting in a lost time accident. The event is classified as noteworthy due to potential for a more serious injury or fatality. | The direct cause was failure to respect the minimal distance to the excavator while it was operated. Root causes were inadequate safety work practices by the contractors and inadequate oversight of the contractors activities. |  | 07 - Personal injuries | 0104 - Communications equipment inadequate or not available, 0212 - Unsafe working practices applied, 0500 - MAN-MACHINE INTERFACE, 0602 - Training not provided on how to use special equipment or tools | 1 - For information only, contractor, industrial safety, injury, management oversight | IS.1 , MA.1 , MA.2 | | [**WER PAR 20-0043**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36955','_blank'))) | 06.02.2020 | Penly 2 | 15.08.2019 | Total loss of off-site power for 51 minutes with the core defueled | 00 | 06.02.2020 | Noteworthy | During an outage, with the core defueled and the auxiliary transformer out of service for maintenance, the line breaker tripped resulting in the loss of the step-down transformer and loss of off site power. Emergency power generators started on loss of line signal according to the design. The running spent fuel pool pumps on train A and B stopped and were not recovered by the diesel sequence, being manually started up by the operators after one minute. The loss of the step-down transformer required entry into a limiting condition of operation. The event is classified noteworthy due to total loss of offsite power. | The direct cause was an erroneous generator protection signal, during a maintenance activity due to a relay failure. Root causes were that the activity was insufficiently prepared and incorrectly scheduled in an outage window with the auxiliary transformer unavailable. Another cause was failure to take actions after a similar event. | SOER 1998-1 | 04 - Degradation of safety systems | 0604 - Training not based on current plant requirements, 1470 - Inadequate operating experience feedback process (corrective actions not defined, Inadequate or not implemented promptly, root causes of known problems not addressed), 2304 - Degraded sub-component contributed to failure | 1 - For information only, fuel pool, limiting condition of operation, loss of offsite power, relay, risk assessment, turbine protection | ER.2 , OE.1 , RM.1 , WM.1 | | [**WER ATL 20-0066**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36949','_blank'))) | 06.02.2020 | South Texas 2 | 24.10.2019 | Undervoltage Actuation During Emergency Diesel Generator Load Sequencer Maintenance | 00 | 06.02.2020 | Noteworthy | During an outage, and while performing maintenance on a diesel generator sequencer, with the emergency diesel generator (EDG) isolated from the bus, an under voltage actuation signal was received. Actuation of the load shedding logic on emergency bus C resulted in 4.16 kV bus being stripped of all the corresponding loads, including the in service spent fuel pool cooling pump (SFP). The operators restored spent fuel cooling by manually placing in service the redundant SFP after approximately 30 minutes, without measurable increase of spent fuel pool temperature. The event is categorized noteworthy due to loss of decay heat removal for the spent fuel pool. | The direct cause was a short-circuit of opto-isolator module (ODC) installed in the 125V circuit of the sequencer, resulting in the under voltage signal and initiating the load shedding logic. An incorrect ODC was installed by the maintainer, due to part being erroneously identified in the work instructions. The root cause was an inadequate verification and validation of the replacement parts during work planning and review. |  | 04 - Degradation of safety systems | 0200 - PERSONNEL WORK PRACTICES, 0201 - Self checking not used or ineffectively applied, 0211 - Independent checking not used or ineffectively applied, 0214 - Improper tools / equipment used, 0217 - Lack of questioning attitude, 0306 - Time pressure to complete task, 0900 - WORK ORGANISATION, 0906 - Work package did not address all administrative requirements, 1130 - Policies, official guidance (standards), expectations, administrative controls:-Not adequate (not strict enough, confusing or incomplete), 2010 - Inappropriate reliance on human action, 2101 - Material used inadequate, 2212 - Surveillance schedule not followed, 2213 - Situational surveillance not performed | 1 - For information only, control logic, diesel generator, fuel pool, load sequencer, preventive maintenance, procedure inadequacy, residual heat removal pump, spare part, spent fuel | EN.1 , MA.1 , MA.2 , WM.1 | | |

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The EDG was declared inoperable and a limiting condition of operation was entered. | The direct cause was a malfunction of the differential protection relay due to a short circuit caused by foreign materials. The root cause was inappropriate verification of the quality of the spare components. |  | 04 - Degradation of safety systems | 0703 - Technically incomplete | 1 - For information only, diesel generator, FME, limiting condition of operation, procedure inadequacy, relay, spare part, vendor | ER.3 , MA.2 | | [**WER TYO 20-0060**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37119','_blank'))) | 28.02.2020 | Qinshan 2 2 | 07.12.2019 | Failure of Mechanical Seal Caused Water Leakage of Coolant Pump Driven by Engine | 00 | 28.02.2020 | Trending | During normal operation and while performing an emergency diesel engine (EDG) test, the high level alarm in the fuel leakage tank and low level alarm in the cooling water tank were triggered. The EDG was declared inoperable and a limiting condition of operation entered. | The direct cause was mechanical seal leakage of the EDG cooling water pump. The root cause was an inadequate maintenance procedure which failed to specify the technical requirements for the seal installation. A contributing factor was the inappropriate quality of the mechanical seal spares. |  | 04 - Degradation of safety systems | 0703 - Technically incomplete | 1 - For information only, diesel engine, leak, limiting condition of operation, procedure inadequacy, pump seal, spare part | ER.3 , MA.2 | | [**WER TYO 20-0057**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37116','_blank'))) | 28.02.2020 | Qinshan 2 1 | 11.12.2019 | Failure Handling of Fire Sprinkler Resulted in Unavailability of Fire Protection System and Unit Entry into Limiting Conditions of Operation | 00 | 28.02.2020 | Trending | During normal operation and while performing an auxiliary feedwater pump test, a fire sprinkler glass bulb located near the pump inlet pipe burst and water sprayed over the pump. The fire protection pipeline was isolated resulting in unavailability of the fire protection system and entry into a limiting condition of operation. | The direct cause was due to a high temperature pipeline installed too closely to the sprinkler pipework and bulb. The root cause was inadequate design, inadequate installation and inadequate plant handover. |  | 04 - Degradation of safety systems | 2106 - Installation workmanship inadequate | 1 - For information only, fire suppression, limiting condition of operation, sprinkler | FP.1 , MA.1 | | [**WER TYO 20-0056**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37115','_blank'))) | 28.02.2020 | Fuqing 5 | 25.12.2019 | Fireproof Cloth Was Burnt down Due to Improper Welding by Contractor Personnel | 00 | 28.02.2020 | Trending | During construction, while performing welding in the turbine hall, the welder noticed pieces of the fireproof cloth had ignited and was falling to the lower level. A fire was reported and extinguished by the duty fire fighting crew. | The direct cause was the production of electrical sparks due to inadequate grounding of the welding machine earth return. A contributing factor was due to oil on the fireproof cloth. |  | 03 - Equipment damage; fires | 0102 - Pre-job briefing inadequate / not performed, 0205 - Conditions not verified prior to work, 0206 - Task not adequately researched prior to start, 0407 - Cramped work space, 0703 - Technically incomplete, 0802 - Progress not adequately monitored | 1 - For information only, contractor, fire, industrial safety, procedure inadequacy, wiring | FP.1 , IS.1 , PM.1 | | [**WER TYO 20-0054**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37113','_blank'))) | 28.02.2020 | Rokkasho Reprocessing Plant (RRP) | 26.08.2019 | Shutdown of both trains of No.1 exhauster of gaseous waste treatment facility in uranium/plutonium mixing and denitration building | 00 | 28.02.2020 | Trending | Following the receipt of alarm for number 1B exhauster fan, the drive belts were damaged rendering the fan inoperable. The standby exhauster fan 1A was out of service rendering the train 1 inoperable. Train 2 was placed into service to maintain negative pressure. | The direct cause was the use of inappropriate fan belts. The root cause was inadequate procurement specification. |  | 09 - Other | 0106 - Communications incorrect / inadequate, 0707 - Unclear or complex wording, 1220 - Familiarity of workers with relevant policies and/or official guidance not verified, 2014 - Common Cause Failure vulnerability is not adequately considered or analysed | 1 - For information only, fan, heating ventilating and air conditioning, limiting condition of operation, procedure inadequacy | ER.3 , MA.1 , MA.2 | | [**WER TYO 20-0053**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37103','_blank'))) | 25.02.2020 | Rajasthan 6 | 01.12.2019 | Reactor trip on PHT pressure high due to tripping of Start-up Transformer (SUT) on earth fault protection | 00 | 25.02.2020 | Trending | During normal operation, the start up transformer (SUT) tripped on earth fault protection and was followed by a fast transfer. One of the buses did not transfer to the unit auxiliary transformer resulting in two reactor primary circulating pumps tripping and an automatic reactor scram following the initiation of a high reactor coolant pressure protection signal. | The cause was probably a spurious and transient fault of earth fault protection. |  | 02 - Station transient | 0014 - Former : Unknown | 1 - For information only, automatic scram, power supply, reactor coolant pump, transformer | ER.1 | | [**WER TYO 20-0052**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37091','_blank'))) | 20.02.2020 | Maanshan 1 | 15.11.2019 | Actuation of Reactor Trip signal and The Motor Driven Auxiliary Feedwater System Due To Low-Low Water Level of The Steam Generator B of Unit 1 | 00 | 20.02.2020 | Trending | During the return to service from an outage and while in hot standby, the temperature and pressure of the reactor coolant system (RCS) kept increasing. A shift operator manually opened the power operated relief valve to control the RCS temperature. During this operation the pressurizer relief valve opened on high RCS pressure. This was followed by drop of the steam generator level and resulted in actuation signal from the reactor protection system and start-up of auxiliary feedwater system. | The cause were a lack of training for the specific evolution, insufficient understanding of the effects on the primary circuit and inadequate monitoring, control and supervision. |  | 02 - Station transient | 0107 - Internal team communication inadequate, 0206 - Task not adequately researched prior to start | 1 - For information only, management oversight, pressuriser relief valve, reactor coolant, risk assessment, steam generator / boiler | OP.1 , OP.2 , RM.1 , TR.2 | | [**WER TYO 20-0049**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37066','_blank'))) | 18.02.2020 | Maanshan 1 | 20.11.2019 | Leakage of The Train B Accumulator of The Main Steam Isolation Valve AB-HV108 | 00 | 18.02.2020 | Trending | During an outage and while in hot standby and low pressure, a main steam isolation valve (MSIV) nitrogen accumulator leakage was identified on the relief valve at the bottom cover of the MSIV. | The direct cause of the nitrogen leak was an extruded O-ring caused by inadequate workmanship and inadequate installation procedure. |  | 04 - Degradation of safety systems | 2106 - Installation workmanship inadequate | 1 - For information only, contractor, leak, limiting condition of operation, main steam isolation valve, o-ring , procedure inadequacy | MA.1 , MA.2 | | [**WER TYO 20-0048**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37065','_blank'))) | 17.02.2020 | Kashiwazaki Kariwa 7 | 11.12.2019 | Break of emergency air supply filter of DG (C) | 00 | 17.02.2020 | Trending | During an outage and while removing the air supply filters on the emergency diesel generator, 32 broken filters and one damaged frame were found. | The most likely cause was deformation accumulated by ageing. |  | 04 - Degradation of safety systems | 2302 - Ageing of component | 1 - For information only, ageing, diesel engine, limiting condition of operation, preventive maintenance | ER.2 | | [**WER TYO 20-0045**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37031','_blank'))) | 14.02.2020 | Genkai 3 | 10.12.2019 | Occurrence of Fire in the Genkai Substation in the Genkai Nuclear Power Station | 00 | 14.02.2020 | Trending | At the electrical substation, smoke was seen emitting from the substation and a fire alarm indicating a fire in the substation was triggered. The local public fire department was informed and extinguished the fire. | The direct cause was short circuit on the circuit breaker due to inadequate installation and inappropriate verification of the grounding removal. |  | 09 - Other | 0704 - Cautionary information not included | 1 - For information only, breaker, contractor, fire, switchboard | FP.1 | | [**WER TYO 20-0043**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37023','_blank'))) | 13.02.2020 | Qinshan 2 1 | 10.11.2019 | Malfunction of Board Card Resulted in Unavailability of Power Range Channel and Unit Entry into Limiting Conditions of Operation | 00 | 13.02.2020 | Trending | During startup operations and while performing the zero power physics test, one of the power range channels alarm was triggered due to its malfunction resulting in entry into the limiting conditions of operation. | The direct cause was a malfunctioned channel analog input board caused by failed package relay on the board. |  | 09 - Other | 2304 - Degraded sub-component contributed to failure | 1 - For information only, circuit card, limiting condition of operation, nuclear instrumentation, relay | ER.1 | | [**WER TYO 20-0041**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37021','_blank'))) | 13.02.2020 | Qinshan 3 2 | 02.12.2019 | Fault of Block Transfer Controller Board Caused the Plant Computer Control System Shutdown | 00 | 13.02.2020 | Trending | During normal operation, the computer control system under normal operation (DCCX) tripped and automatically transferred to the standby control system (DCCY). | The direct cause of the DCCX trip was a failure of block transfer controller (BTC). The root cause was likely due to the abnormal data transmission of BTC board. |  | 09 - Other | 2300 - EQUIPMENT PERFORMANCE | 1 - For information only, computer, control board, digital control system / digital components, limiting condition of operation | ER.1 | | [**WER TYO 20-0037**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36999','_blank'))) | 08.02.2020 | Fangjiashan 2 | 01.11.2019 | High Exhaust Temperature of Emergency Diesel Engine Resulted in Protective Stop and Unit Entry into Limiting Conditions of Operation | 00 | 08.02.2020 | Trending | During normal operation and while performing a surveillance test on an emergency diesel generator (EDG), the exhaust temperature of the EDG cylinder exceeded the upper limit of 720 degree Celsius causing the protective stop of the EDG. The diesel was declared inoperable and a limiting condition of operation was entered. | The direct cause was excessive lubricating oil entering the cylinders resulting in the incompletely combusted lubricating oil and abnormal increase of exhaust temperature. The most likely root cause were inadequate engineering reviews for oil pressure value and oil injection quantity evaluation and inadequate workmanship for the shaft seal of the turbocharger bearing housing. |  | 04 - Degradation of safety systems | 2001 - Original design inadequate, 2300 - EQUIPMENT PERFORMANCE | 1 - For information only, diesel engine, leak, limiting condition of operation, lube oil, procedure inadequacy | EN.1 , MA.1 , MA.2 , PI.1 | | [**WER TYO 20-0034**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36996','_blank'))) | 08.02.2020 | Sanmen 2 | 23.11.2019 | Improper Installation Position of Limit Switch of Main Steam Isolation Valve Caused Unqualified Valve Position Indication and Unit Entering Limiting Conditions of Operation | 00 | 08.02.2020 | Trending | During a hot standby mode and while performing the fast closing test on a main steam isolation valve, the remote valve position indication of the isolation valve could not be correctly displayed. The valve was deemed inoperable and a limiting condition of operation entered. | The direct cause was an improperly installed limit switch. The root cause were inadequate workmanship of the installation, inappropriate selection of the limit switch and inadequate maintenance procedure for clear distance requirements between the magnetic head and the limit switch. |  | 04 - Degradation of safety systems | 2001 - Original design inadequate | 1 - For information only, limit switch, limiting condition of operation, main steam isolation valve, procedure inadequacy | MA.1 , MA.2 | | [**WER TYO 20-0033**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36995','_blank'))) | 08.02.2020 | Sanmen 2 | 23.11.2019 | Failure of Timely Unblocking of Fire Detectors Resulted in Unit Entry into Limiting Conditions of Operation | 00 | 08.02.2020 | Trending | During a hot standby mode, it was determined that the fire detectors for the containment polar crane were blocked and not in service after completion of work. The shift supervisor made an immediate arrangement to unblock the detectors and a technical specification breach was reported for the period of inoperability. | The root causes were an inadequate risk assessment of the technical specification related to the fire detectors, inadequate review of the system operating status and inadequate procedure adherence during the work order progress. |  | 09 - Other | 0217 - Lack of questioning attitude, 0218 - Violation of policies/rules/procedures | 1 - For information only, configuration control, limiting condition of operation, procedure adherence, risk assessment, tagging, technical specification | CM.2 , FP.1 , OF.2 , OP.1 | | [**WER TYO 20-0032**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36982','_blank'))) | 07.02.2020 | Tarapur 2 | 01.11.2019 | Main condenser water box cleaning | 00 | 07.02.2020 | Trending | During normal operation, it was discovered that the main condenser water box differential pressure for both halves was high. The reactor power was reduced to 30% for isolating and cleaning water boxes and was brought back to rated power after about three days. | The direct cause was clogging of the tubes from foreign material due to absence of online tube cleaning system and debris filters. |  | 09 - Other | 2217 - Failure to exclude foreign material | 1 - For information only, condenser tube, debris / crud, design change, power reduction, risk assessment | OF.2 | | [**WER TYO 20-0031**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36979','_blank'))) | 07.02.2020 | Shin-Kori 2 | 18.11.2019 | Low Nitrogen Alarm Due to Nitrogen Leak from Main Feedwater Isolation Valve | 00 | 07.02.2020 | Trending | During the return to service from an outage and while operating at 80% power, a main feedwater isolation valve low nitrogen pressure alarm was triggered due to a nitrogen leak resulting in entry to a limiting condition of operation. | The direct cause was a damaged sealing O-ring connection of the nitrogen pressure switch. The root cause were inadequate workmanship and inadequate maintenance procedures for assembly. |  | 04 - Degradation of safety systems | 0703 - Technically incomplete | 1 - For information only, isolation valve, leak, limiting condition of operation, o-ring , procedure inadequacy, switch | MA.1 , MA.2 | | [**WER TYO 20-0030**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36978','_blank'))) | 07.02.2020 | Shin-Wolsong 2 | 16.11.2019 | Entry into LCO due to Hunting of RCS Hot Leg Temperature Indication | 00 | 07.02.2020 | Trending | During normal operation, an operator discovered that the reactor coolant system hot leg temperature indication suddenly dropped. A decision was made to bypass the digital plant protection system channel and check the hot leg temperature sensor resulting in entry to a limiting condition of operation. | The direct cause was a damaged cable lug on the terminal strip of the resistance temperature detector. The root cause of the damaged cable lug was likely due to excessive torque during the previous outage of inspection on the cable terminal. The contributing cause was inadequate maintenance procedure of the terminal box inspection. |  | 01 - Degraded plant operating conditions | 0217 - Lack of questioning attitude, 0611 - Shortfall in on-job training / experience | 1 - For information only, limiting condition of operation, preventive maintenance, procedure inadequacy, sensor, wiring | MA.1 , MA.2 | | [**WER TYO 20-0027**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36975','_blank'))) | 07.02.2020 | Shin-Kori 4 | 17.09.2019 | Increased Vibration during Surveillance Test of Turbine Driven Auxiliary Feedwater Pump | 00 | 07.02.2020 | Trending | During normal operation and while performing a surveillance test on a turbine driven auxiliary feedwater pump, axial and vertical vibrations at the pump non-drive end (NDE) remained within the vibration warning range. A decision was made for replacement and a limiting condition of operation entered. | The direct cause was failure of the ball bearing due to operation. The root cause were lack of knowledge on the pump performance curve and operational characteristics for the pump at runout flow and inadequate test procedure to verify pump flow indication deviation between the main control room and local. |  | 04 - Degradation of safety systems | 0217 - Lack of questioning attitude, 0611 - Shortfall in on-job training / experience | 1 - For information only, auxiliary feedwater pump, bearing, limiting condition of operation, procedure inadequacy, vibration | OP.1 , OP.2 | | [**WER TYO 20-0024**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36933','_blank'))) | 04.02.2020 | Chasnupp 2 | 24.04.2019 | Reactor Trip on Grid Loss | 00 | 04.02.2020 | Trending | During normal operation and while one 220kV off site power source was out of service for maintenance, a second 220kV off site power source tripped due to grid fault. This caused the CB-32 and CB-33 breakers to trip, the turbine to trip and reactor to scram. Fast transfer initiated and the emergency diesel generators (EDGs) started at no load but an auxiliary transformer (AT) incoming breaker for 6kV safety bus blocked open. An EDG failed to start and did not supply power to the bus due to 24V control power failure caused by the uninterrupted power supplies (UPSs) trip. | The cause of the power circuit breakers was due to spurious actuation signal from the DTT protection for transmission lines. The cause of the AT incoming breaker is due to a failure of recovering voltage in required time. The cause of the EDG failure was the uninterrupted power supplies trip due to high rate input voltage change causing the blown fuses. |  | 02 - Station transient | 0013 - Former : External | 1 - For information only, automatic scram, breaker, diesel generator, emergency bus, fuse, inverter, limiting condition of operation, loss of offsite power, power supply, technical specification, transmission line | ER.1 , RM.1 | | [**WER TYO 20-0023**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36932','_blank'))) | 04.02.2020 | Chasnupp 2 | 11.03.2019 | Unplanned Power Reduction due to rectification of Hi Level and Hi Hi Level Alarm Problem of De-aerator 1 | 00 | 04.02.2020 | Trending | During normal operation, the deaerator (DA) tank level high alarms appeared while the DA level was observed normal in the main control room and at local. The reactor power was reduced to 73% to keep DA level and condensate flow. | The cause was the spuriously actuated DA level switches caused by rust and debris stuck in the impulse lines of the switches. |  | 09 - Other | 2001 - Original design inadequate | 1 - For information only, deaerator, debris / crud, level instrument, power reduction, switch | ER.1 | | [**WER TYO 20-0021**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36928','_blank'))) | 03.02.2020 | Chasnupp 4 | 28.06.2019 | Reactor Trip due to Anticipated Transients without Scram (ATWS) Mitigation System Actuation | 00 | 03.02.2020 | Trending | During normal operation, the anticipated transients without scram (ATWS) mitigation system actuation alarm appeared on plant computer system and resulted in an automatic scram. The auxiliary feed water pumps started on ATWS signal and the unit was maintained in a hot shutdown. | The direct cause was a spurious alarm from the ATWS mitigation system caused by a loose wire connection in a monitor switch module. |  | 02 - Station transient | 2300 - EQUIPMENT PERFORMANCE | 1 - For information only, anticipated transient without scram, automatic scram, control circuit, digital control system / digital components, preventive maintenance, wiring | ER.1 | | [**WER TYO 20-0020**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36927','_blank'))) | 03.02.2020 | Chasnupp 3 | 26.02.2019 | Severe Grid Fluctuations leading to Generator Trip and Consequent Turbine and Reactor Trip | 00 | 03.02.2020 | Trending | During normal operation and following the power fluctuation due to tripping of 220kV two transmission lines, the main generator tripped on exciter field over current and was followed by an automatic scram. As a consequence, some cables in the field circuit breaker cabinet and rotor earth fault cabinet burnt. | The cause of the power transient and short circuit in the excitation cabinet were not discovered. |  | 02 - Station transient | 2300 - EQUIPMENT PERFORMANCE | 1 - For information only, automatic scram, exciter, insulation electrical, power supply, transmission line | ER.1 | | [**WER TYO 20-0019**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36926','_blank'))) | 03.02.2020 | Chasnupp 1 | 05.07.2019 | Manual Reactor Trip due to fire incident on Pressurizer Backup Heater (SRC-802EH) Circuit Breaker | 00 | 03.02.2020 | Trending | During normal operation and following the receipt of an alarm for the pressurizer backup heater (SCR-EH), fire alarm appeared in the main control room. An operator discovered the SCR-EH circuit breaker trip and smoke in the electric panel room causing fire fighters to be dispatched. The reactor was manually scrammed. | The cause of the damaged circuit breaker was a loosened fork type load side metallic connector between rear cover connections and terminal block resulting in an increase of resistance. |  | 02 - Station transient | 2304 - Degraded sub-component contributed to failure | 1 - For information only, breaker, fire, manual scram, pressuriser heater, preventive maintenance, switchboard | ER.1 , FP.1 | | [**WER TYO 20-0017**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36924','_blank'))) | 03.02.2020 | Chasnupp 1 | 24.04.2019 | Generator Circuit Breaker (GCB) Tripped resulting in Turbine Trip and Reactor Trip | 00 | 03.02.2020 | Trending | During normal operation and following the spurious grid fault actuation, 220kV three circuit breakers via Direct Transfer Tripping (DTT) protection tripped and was followed by the loss of 220kV two transmission lines. As a result of power transient, a generator circuit breaker(GCB) tripped on over frequency and over voltage protection causing an automatic reactor scram. | The cause of spurious actuation of the DTT protection for transmission lines was not discovered. |  | 02 - Station transient | 0014 - Former : Unknown | 1 - For information only, automatic scram, breaker, loss of offsite power, transmission line | ER.1 | | [**WER TYO 20-0016**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36923','_blank'))) | 03.02.2020 | Kanupp 1 | 29.07.2019 | Arcing in Supply Breaker of Reactor Building Ventilation Fan-Motor resulting in fire incident in cable trays above Auxiliary Area | 00 | 03.02.2020 | Trending | During a cold shutdown, a loud sound was heard after starting the process salt water pump and was followed by the distribution electrical panel (DEPL) trip.&nbsp;Heavy smoke in the cable tray beneath DEPL was reported and fire was immediately extinguished by operators and duty fire fighting crew. | The direct cause was electric arc caused by hot spot at the power terminal of the fan motor breaker during detachment of cable. The root cause was inadequate scope of preventive maintenance of the power terminal connectors. |  | 09 - Other | 2203 - Preventive maintenance inadequate | 1 - For information only, fire, industrial safety, motor control centre, preventive maintenance | ER.2 , FP.1 , IS.1 | | [**WER PAR 20-0096**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37088','_blank'))) | 20.02.2020 | Atucha 1 | 14.10.2019 | Worker’s hand injury by entrapment with metal shavings | 00 | 20.02.2020 | Trending | During an outage and while carrying out a drilling task, a contractor injured his hand with a bench drilling machine when his cotton glove hooked on the rotating drill bit. A colleague noticed and quickly turned off the machine. The worker was hospitalised for a few days. | The root cause was a lack of awareness of the hazard by workers. The contributing cause was inappropriate use of personal protective equipment. |  | 07 - Personal injuries | 0212 - Unsafe working practices applied | 1 - For information only, contractor, industrial safety, injury | IS.1 , MA.1 | | [**WER PAR 20-0095**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37087','_blank'))) | 20.02.2020 | Trillo 1 | 25.08.2019 | Reduction in the electrical power of the plant due to a fault with an AKS11 main power card | 00 | 20.02.2020 | Trending | During normal operation, a main power card failure was discovered in the reactor protection system(RPS). The card was replaced and when the fuses were being inserted, the RPS fault signal was triggered resulting in power reduction. | The direct cause was power supply cards failure for the rod bank position indication. |  | 02 - Station transient | 2309 - Failed within expected lifetime | 1 - For information only, control circuit, limiting condition of operation, power reduction, reactor protection system, vendor | ER.1 , PI.1 | | [**WER PAR 20-0094**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37086','_blank'))) | 20.02.2020 | Taishan 1 | 17.09.2019 | Automatic trip due to grid disturbance and inadequate interference protection | 00 | 20.02.2020 | Trending | During normal operation and following 500 kV grid disturbance, the turbine tripped on turbine acceleration protection and the reactor scrammed on high pressure drop rates in the steam generators due to simultaneous opening of two steam dump valves. | The cause of the turbine trip was inadequate anti-interference capability of the turbine acceleration protection logic. |  | 02 - Station transient | 2001 - Original design inadequate | 1 - For information only, automatic scram, control logic, risk assessment, setpoint, transmission line | EN.1 | | [**WER PAR 20-0093**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37085','_blank'))) | 20.02.2020 | Neckar 2 | 25.09.2019 | Lowering the exhaust gas temperature of a cylinder by a broken spring end in the injector of one emergency diesel engine | 00 | 20.02.2020 | Trending | During normal operation and while performing the test of an emergency diesel generator (EDG), one cylinder temperature unexpectedly dropped. The injector was replaced and the test repeated successfully. The manufacture had previously reported defects on individual springs and the EDG provided the required performance during a test. | The cause of the lowering of the exhaust gas temperature was a blockage of the injection nozzle caused by a fragment that broke off from the spring end. |  | 10 - Non consequential or near miss | 2100 - EQUIPMENT SPECIFICATION, MANUFACTURE, TRANSPORTATION, INSTALLATION AND CONSTRUCTION, 2102 - Manufacturer fabrication / construction inadequate | 1 - For information only, debris / crud, diesel engine, nozzle, vendor | ER.3 | | [**WER PAR 20-0092**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37084','_blank'))) | 20.02.2020 | Neckar 2 | 13.09.2019 | Delay to start up due to incorrect main steam safety valve indication installation during maintenance | 00 | 20.02.2020 | Trending | During a start up and while performing main steam safety valve testing, a safety relief valve position indicator showed incorrect position. The unit was shut down for repairs and the start up delayed. | The direct cause was inappropriate installation of the connection between the indicator rod assembly and the valve piston. |  | 10 - Non consequential or near miss | 0200 - PERSONNEL WORK PRACTICES, 0210 - Inattention to detail | 1 - For information only, main steam safety valve, manual scram, outage extension | MA.1 | | [**WER PAR 20-0091**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37083','_blank'))) | 20.02.2020 | Lingao 3 | 10.10.2019 | Pipe leakage from high-pressure oil pump to oil ejector during emergency diesel generator periodic test | 00 | 20.02.2020 | Trending | During normal operation and while performing the test on an emergency diesel generator (EDG), a leakage was found on connecting flange at recirculation fuel oil return line from a cylinder. The EDG was shut down, declared inoperable and a limiting condition of operation entered. | The direct causes were incomplete installation between the flange and connecting flange and inadequate installation procedure. The Apparent cause was a lack of acceptance inspection after its installation. |  | 04 - Degradation of safety systems | 2102 - Manufacturer fabrication / construction inadequate | 1 - For information only, diesel engine, diesel fuel, leak, limiting condition of operation, procedure inadequacy | MA.1 , MA.2 | | [**WER PAR 20-0090**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37082','_blank'))) | 20.02.2020 | Lingao 4 | 03.10.2019 | Startup of emergency diesel generator during periodic test exceeded required time | 00 | 20.02.2020 | Trending | During an outage and while performing an emergency diesel generator (EDG) surveillance test, the startup time exceeded the test criteria. The EDG was declared unavailable and a limiting condition of operation entered. | The cause was slow build-up voltage due to the faulty excitation regulator. |  | 04 - Degradation of safety systems | 2309 - Failed within expected lifetime | 1 - For information only, diesel generator, exciter, limiting condition of operation, voltage regulator | ER.1 | | [**WER PAR 20-0089**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37081','_blank'))) | 20.02.2020 | Lingao 1 | 10.09.2019 | Overtime startup and unexpected startup of the fifth diesel generator due to faults in control circuits | 00 | 20.02.2020 | Trending | During normal operation and while performing emergency diesel generator (EDG) surveillance test, the EDG failed to start due to a EDG selector switch malfunction. Following the control circuit test a day later, the EDG unexpectedly started by spurious actuation signal. | The cause of the malfunctioned EDG selector switch was the high resistance of the closed contacts due to mechanical deformation due to design inadequacy. The cause of spurious signal in the circuit of control switch was likely due to the bistable relay applied different voltage. |  | 04 - Degradation of safety systems | 2001 - Original design inadequate | 1 - For information only, diesel generator, limiting condition of operation, relay, switch | ER.1 | | [**WER PAR 20-0087**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37079','_blank'))) | 20.02.2020 | Atucha 1 | 20.09.2019 | Emergency feed water system backup diesel unavailable for 4 hours due to damage when erecting a scaffold | 00 | 20.02.2020 | Trending | During normal operation, low oil level alarm was activated in the emergency feed water system and an oil leak from the gearbox of one of the backup diesel engines was reported by the scaffolding group personnel. The system was deemed inoperable and a limiting condition of operation entered. | The direct cause of oil leakage from the gearbox was broken pipe caused by the scaffolding worker who tripped over on the pipe. The root cause was inadequate workmanship. |  | 04 - Degradation of safety systems | 0208 - Inadvertent bumping, stepping on, or damage to equipment | 1 - For information only, contractor, diesel engine, gear box, leak, limiting condition of operation, oil | MA.1 | | [**WER PAR 20-0086**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37061','_blank'))) | 17.02.2020 | Taishan 2 | 02.07.2019 | 30 hours loss of production due to turbine flange joint rupture | 00 | 17.02.2020 | Trending | During commission, with reactor at 28% FP, a steam leak developed at the flange joint at the high-pressure cylinder inlet pipe. The turbine load automatically dropped, and then the turbine was manually tripped and reactor power was reduced to 10%, resulting in a 30 hours unplanned outage for repairs. | The direct cause was the flange ruptured due to vibration induced fatigue cracking. The root cause was a design weakness. |  | 02 - Station transient | 2001 - Original design inadequate | 1 - For information only, fatigue cracking, leak, power reduction, steam, turbine trip, vibration | ER.1 | | [**WER PAR 20-0084**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37059','_blank'))) | 17.02.2020 | Krsko 1 | 16.09.2019 | Short circuit on a spent fuel pit charcoal exhaust fan during corrective maintenance | 00 | 17.02.2020 | Trending | During normal operation, and while performing maintenance on a spent fuel pit (SFP) charcoal exhaust fan in the fuel handling building, a maintainer unintentionally created a short circuit , resulting in SFP charcoal exhaust fan tripping. With two out of four SFP fans out of service, a limiting condition of operation was entered. | The direct cause was a human error during maintenance activities. The apparent cause was corrective actions for previously identified problems were not implemented in time. |  | 01 - Degraded plant operating conditions | 2303 - Known problems not corrected, including deficiencies in reporting findings | 1 - For information only, control logic, fan, human error, limiting condition of operation, power supply, spent fuel storage | MA.1 , PI.1 | | [**WER PAR 20-0083**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37058','_blank'))) | 17.02.2020 | Hunterston B 2 | 19.11.2019 | ‘D’ quadrant unavailable for automatic post trip cooling for 11 days | 00 | 17.02.2020 | Trending | During normal operation and while performing a technical review after a control loop fault, it was identified that the feed regulating valve (FRV) on 4D boiler quadrant had not responded during the transient, resulting in FRV valve and low pressure vent declared unavailable for post trip cooling. A limiting condition of operation was entered. | The direct cause was that the 4D feed water cubicle 415V electrical supplies had been isolated 11 days ago, without understanding the impact on the unavailability of FRV. Contributors to the event were inadequate assessment of the effect of the 415V supplies isolation, and inadequate monitoring and response to the alarms. |  | 01 - Degraded plant operating conditions | 1130 - Policies, official guidance (standards), expectations, administrative controls:-Not adequate (not strict enough, confusing or incomplete) | 1 - For information only, feedwater control system, flow control valve, limiting condition of operation, power supply, tagging | OP.1 | | [**WER PAR 20-0082**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37057','_blank'))) | 17.02.2020 | Heysham B1 | 29.10.2019 | Termination of wrong supply cable during commissioning of a new battery charger in the electr-chlorination plant | 00 | 17.02.2020 | Trending | During normal operation and while performing commissioning activities for a new 220V electro-chlorination plant closing battery charger, a 415V supply cable which was unterminated was energized, resulting in an electric hazard. The charger cable was made safe and the work area brought under control immediately. | The direct cause was incorrect identification of the cable for termination. The root causes were lack of procedure for the management of electrical cable disconnection and reconnection, and inadequate supervision of contractor's work. |  | 10 - Non consequential or near miss | 0701 - No document available | 1 - For information only, battery, contractor, industrial safety, power supply, procedure inadequacy, tagging | IS.1 , MA.1 , MA.2 | | [**WER PAR 20-0081**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37056','_blank'))) | 17.02.2020 | Heysham B2 | 28.10.2019 | Delivery driver injured during vehicle loading operation | 00 | 17.02.2020 | Trending | During normal operation, a driver injured his foot during loading a steel bar in a truck. The driver sustained a fractured foot and was taken to the hospital for treatment. | The direct cause was the bar rolled on contractor's foot. The root cause was that there was no specific risk assessment for the task performed and inadequate supervision. |  | 07 - Personal injuries | 0106 - Communications incorrect / inadequate, 0712 - Inadequate safety assessment provided | 1 - For information only, contractor, industrial safety, injury, risk assessment | IS.1 | | [**WER PAR 20-0079**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37054','_blank'))) | 17.02.2020 | Embalse 1 | 15.08.2019 | Leakage rate value higher than acceptable during Fuelling Machine coupling with reactor fuel channel | 00 | 17.02.2020 | Trending | During normal operation and while performing online refuelling activities on fuel channel, a high leakage rate was observed after the fuelling machine was clamped to the channel and the refuelling was suspended. A small dent was found in the end fitting face and was removed during a planned outage. | The direct cause was the new end fittings damaged in the clamping seal area during the reactor refurbishment period. The root causes were inadequate workmanship and inadequate oversight of the task. |  | 09 - Other | 0201 - Self checking not used or ineffectively applied, 0211 - Independent checking not used or ineffectively applied | 1 - For information only, fuelling machine, heavy water, leak, seal | NF.2 , PM.1 | | [**WER PAR 20-0077**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37052','_blank'))) | 17.02.2020 | Dungeness B 1 | 01.10.2019 | Unavailability of station transformer 21 due to loss of oil | 00 | 17.02.2020 | Trending | During an outage, a station transformer high voltage disconnection chamber pressure relief device (PRD) catastrophically failed and released the contents of the conservator tank into the bunded area of the transformer compound below. This resulted in partial loss of site power supplies and had potential risk of the release of oil spray outside of the transformer compound and cause possible personnel injury. | The direct cause was excessive corrosion on the top face of the PRD. The root cause was the replacement of glass bursting discs with PRDs was not adequately assessed. | SOER 2011-1 Rec 5 | 09 - Other | 1640 - Consequences of change not adequately assessed | 1 - For information only, common mode failure, design change, leak, loss of offsite power, oil, transformer | CM.3 , ER.2 , ER.4 | | [**WER PAR 20-0076**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37051','_blank'))) | 17.02.2020 | Dungeness B 2 | 12.09.2019 | Clean CO2 leak due to maintenance on incorrect CO2 tank | 00 | 17.02.2020 | Trending | During an outage and while performing work on three safety relief valves (SRV) on the carbon dioxide (CO2) plant, uncontrolled CO2 released from the a non-isolated SRV flange. The fire team enter the area using breathing apparatus and isolated the leak. | The direct cause was working on the incorrected non-isolated SRV. The contributing cause was inadequate valve label. |  | 09 - Other | 0102 - Pre-job briefing inadequate / not performed | 1 - For information only, carbon dioxide, human error, industrial safety, leak, safety relief valve, work control | IS.1 , MA.1 , NP.1 | | [**WER PAR 20-0074**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37049','_blank'))) | 17.02.2020 | Civaux 1 | 03.09.2019 | Automatic reactor trip due to a fault on the 400KV line breaker | 00 | 17.02.2020 | Trending | During a hot standby and while performing the zero-power physics tests, the 400kV line breaker unexpectedly opened resulting in a loss of the step-down transformer and was followed by the reactor coolant pumps trip and an automatic reactor scram. The busbars automatically switched over to the auxiliary transformer. | The direct cause was a spurious trip signal caused by failure of an electronic board of the transmission protection system. |  | 09 - Other | 2302 - Ageing of component, 2304 - Degraded sub-component contributed to failure | 1 - For information only, automatic scram, control circuit, loss of offsite power, relay, transmission line | ER.1 | | [**WER PAR 20-0072**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37047','_blank'))) | 17.02.2020 | Brokdorf 1 | 27.11.2019 | #PRELIMINARY# Broken spring ends inside emergency diesel generator injection pumps | 00 | 17.02.2020 | Trending | During normal operation, several coil springs inside the emergency diesel generator (EDG) injection pumps were found to be defective. The EDG remained operable. The coil springs will be replaced in the next regular maintenance measures. | The cause was inadequately defined design during manufacturing of the coil springs. |  | 10 - Non consequential or near miss | 2000 - DESIGN CONFIGURATION AND ANALYSIS | 1 - For information only, common mode failure, design criteria / design basis, diesel engine, vendor | ER.3 | | [**WER PAR 20-0071**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37046','_blank'))) | 17.02.2020 | Atucha 1 | 20.10.2019 | Worker’s hand injury by steel sheet | 00 | 17.02.2020 | Trending | During a manual material movement task a contractor injured his hand with a steel sheet that had been stored incorrectly. The worker suffered a deep cut on the back of his right hand and was hospitalized for several days. | The causes were lack of housekeeping and inadequate material storage. |  | 07 - Personal injuries | 0402 - Housekeeping inadequate | 1 - For information only, contractor, industrial safety, injury | IS.1 , MA.1 | | [**WER PAR 20-0069**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36994','_blank'))) | 07.02.2020 | Golfech 2 | 03.01.2020 | Error in threshold applied during control rod surveillance test | 00 | 07.02.2020 | Trending | During normal operation and while performing control room panel checks, a difference of two steps on insertion of the rod control bank G1 was discovered and a limiting condition of operation was entered. | The direct cause of the difference of two steps on insertion was an operator mistake during re-alignment of the control rods, and power compensation rod calibration test being carried out with the control rod position not compliant with expectations. |  | 04 - Degradation of safety systems | 0201 - Self checking not used or ineffectively applied, 0211 - Independent checking not used or ineffectively applied | 1 - For information only, control rod, human error, limiting condition of operation, reactivity management, rod position indicator | OP.1 | | [**WER PAR 20-0067**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36992','_blank'))) | 07.02.2020 | Golfech 1 | 15.03.2019 | Outage extended by 2 days due to seizure of the reactor coolant pump seal injection flow control valve | 00 | 07.02.2020 | Trending | During an outage with unit in hot standby, a valve on the chemical and volume control system was found with discrepancies between the open position indicated in the main control room and its real position. The unit fallback was undertaken to transition from hot standby to hot shutdown, in order to carry out repairs resulting in an outage extension of 2 days on the critical path. | The direct cause was a mechanical seizure of the stem-valve assembly inside the valve diffuser due to inadequate preventive maintenance. |  | 09 - Other | 2304 - Degraded sub-component contributed to failure | 1 - For information only, chemical volume control system, outage extension, preventive maintenance, valve, valve actuator | ER.2 , MA.2 | | [**WER PAR 20-0066**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36991','_blank'))) | 07.02.2020 | Golfech 1 | 12.03.2019 | Shortfalls in the management of outage hot work permits | 00 | 07.02.2020 | Trending | During an outage, a contractor failed to report to the main control room an activity which warranted an entry into a LCO, resulting in an aggregate number of more than 5 group-2 LCOs affecting different plant systems not resolved within 1 hour as stipulated by the operating technical specifications. | The direct cause was inadequate work control during outage. A contributor was inadequate risk assessment and work practices for permits with an impact on the technical specification. |  | 10 - Non consequential or near miss | 0106 - Communications incorrect / inadequate, 0610 - Training not provided in personnel work practice, 0712 - Inadequate safety assessment provided, 1130 - Policies, official guidance (standards), expectations, administrative controls:-Not adequate (not strict enough, confusing or incomplete) | 1 - For information only, contractor, limiting condition of operation, risk assessment, technical specification, work control | MA.1 , OP.1 , WM.1 | | [**WER PAR 20-0065**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36990','_blank'))) | 07.02.2020 | Golfech 1 | 10.03.2019 | 2.5 day outage extension due to a continuity fault of the rod control position coil | 00 | 07.02.2020 | Trending | During an outage and after performing isolation measurements subsequent to vessel closure, an electrical continuity fault was found in one coil of the full-length rod control system. This resulted in an outage extension of 2.5 days for repairs. | The root causes of the equipment failure are under investigation. The contributors was inadequate qualification of the maintenance personnel and contractors for the work on the respective connectors and unavailability of the qualified contractors. |  | 09 - Other | 0601 - Training not provided on how to perform a task, 2304 - Degraded sub-component contributed to failure | 1 - For information only, contractor, control rod drive, outage extension, solenoid | ER.1 , MA.1 , WM.1 | | [**WER PAR 20-0064**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36989','_blank'))) | 07.02.2020 | Golfech 1 | 05.03.2019 | Outage extended 2 days due to failure of reactor vessel level reference sensor | 00 | 07.02.2020 | Trending | During an outage and while performing calibration testing on a reactor coolant system level meter, a deviation of the differential pressure reference sensors was identified requiring the sensor replacement. Work planning without any specific priority led to an outage extension of 2.1 days. | The root causes were inadequate risk assessment for the sensor replacement, inadequate work planning and insufficient training of previous operating experiences. |  | 09 - Other | 2209 - Retest delayed, 2215 - Equipment outside acceptance criteria | 1 - For information only, level instrument, outage extension, risk assessment, sensor, work control | ER.1 , MA.2 , TR.2 , WM.1 | | [**WER PAR 20-0062**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36987','_blank'))) | 07.02.2020 | Golfech 1 | 12.02.2019 | 36-minute entry into an unplanned group-1 limiting condition during return to service of a nuclear sampling line | 00 | 07.02.2020 | Trending | During normal operation, primary leak rate estimated at 260 l/hr was identified and a drop in the level of chemical and volume control system (CVCS) tank occurred. It resulted in entry to a limiting condition of operation and a drop of the pressuriser level by approximately 0.3%. | The direct cause was a leakage of the sampling system drain valves due to insufficient valve tightening. The root cause was inadequate risk assessment of leakage and of the possibility of exceeding the threshold. |  | 01 - Degraded plant operating conditions | 2304 - Degraded sub-component contributed to failure | 1 - For information only, chemical volume control system, configuration control, drain valve, leak, limiting condition of operation, pressuriser level, reactor coolant, risk assessment | CM.2 , OP.1 , OP.2 | | [**WER PAR 20-0061**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36986','_blank'))) | 07.02.2020 | Golfech 2 | 05.06.2018 | Unauthorised entry into a group-1 limiting condition during testing of the reactor building’s fuel loading machine | 00 | 07.02.2020 | Trending | During a refuelling outage and while testing the refuelling machine automatic isolation of the containment atmosphere monitoring system, the crew wrongly considered the test as a fuel handling operation in the reactor building (RB) while the activity actually concerned fuel handling in the fuel building (FB), causing unavailability of the system and a technical specification breach for 8 hours and 54 minutes. | The root causes were a lack of understanding on the test activities, miscommunication between departments, procedure inadequacy and inappropriate schedule management. |  | 01 - Degraded plant operating conditions | 0611 - Shortfall in on-job training / experience, 0702 - Technically incorrect, 0703 - Technically incomplete, 1470 - Inadequate operating experience feedback process (corrective actions not defined, Inadequate or not implemented promptly, root causes of known problems not addressed) | 1 - For information only, fuelling machine, limiting condition of operation, procedure inadequacy, technical specification, work control | NF.2 , OP.1 , OP.2 | | [**WER PAR 20-0060**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36985','_blank'))) | 07.02.2020 | Golfech 2 | 05.05.2018 | Steam generator steam valve set pressure too low, making it unavailable for 12 days | 00 | 07.02.2020 | Trending | During normal operation and following the set pressure test of a valve on the main steam supply system, an erroneously set pressure was discovered during the review of the test certificates 12 days after. A limiting condition of operation was entered and reactor power was reduced to 65% to correct the set point value. | The causes were use of an incorrect procedure for setting the valve parameters, inadequate contractor work practices and inadequate verifications performed by the supervisor of the activity. |  | 01 - Degraded plant operating conditions | 0201 - Self checking not used or ineffectively applied, 0203 - Required procedures, drawings, or other references not used, 0204 - Administrative controls circumvented or intentionally not performed, 0211 - Independent checking not used or ineffectively applied, 0807 - Control of contractors inadequate | 1 - For information only, contractor, limiting condition of operation, main steam safety valve, power reduction, procedure adherence, procedure inadequacy, setpoint, technical specification | MA.1 , MA.2 , NP.1 | | [**WER PAR 20-0057**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36969','_blank'))) | 06.02.2020 | Forsmark 3 | 08.11.2019 | Non-operational shutdown secondary cooling system for safety equipment | 00 | 06.02.2020 | Trending | During normal operation, and after troubleshooting, one of the four pumps of the shutdown secondary cooling system was found with a defective bearing and was declared inoperable. The emergency diesel generator in the same train and several other systems trains became inoperable due to loss of cooling in accordance with the units technical specifications and limiting conditions of operation were entered. | The direct cause was a bearing manufacturing defect. The deviations resulted in increased wear, which accelerated ageing of the component. |  | 04 - Degradation of safety systems | 2201 - Corrective maintenance did not correct problems | 1 - For information only, ageing, bearing, diesel cooling water, essential service water, limiting condition of operation, pump, technical specification, vendor | ER.3 | | [**WER PAR 20-0056**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36968','_blank'))) | 06.02.2020 | Forsmark 1 | 24.10.2019 | Improperly set overcurrent protection. | 00 | 06.02.2020 | Trending | During normal operation, the overcurrent protection of two fans for the heat exchanger and valve room for safety objects in core cooling, auxiliary feed water systems in B-division was discovered set incorrectly below the require value. This resulted in a reduction of operating margin and an increased risk that the fans would trip under conditions non-complying with the design. | The direct cause was incorrect reading of the fans label during testing. Contributors were inadequate assessment of the test planning and results. |  | 10 - Non consequential or near miss | 0211 - Independent checking not used or ineffectively applied | 1 - For information only, fan, heating ventilating and air conditioning, procedure inadequacy, relay, setpoint | CM.1 , MA.1 | | [**WER PAR 20-0055**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36967','_blank'))) | 06.02.2020 | Forsmark 1 | 23.10.2019 | Incorrect position on valve in the fire-fighting water system | 00 | 06.02.2020 | Trending | During normal operation, after planned maintenance of the fire water system, a valve was found in closed position resulting in an unavailability of one of the two flow paths of the fire water system, contrary to the technical specifications. | The direct cause was valve failure to open due to mechanical defect and discrepancy between the open indication and actual valve position. A contributor was the remote position of the valve which made the direct verification difficult. |  | 01 - Degraded plant operating conditions | 0202 - System alignment / isolation not verified, 0211 - Independent checking not used or ineffectively applied | 1 - For information only, fire suppression, isolation valve, technical specification, valve misposition | ER.1 , FP.1 , OP.1 | | [**WER PAR 20-0054**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36966','_blank'))) | 06.02.2020 | Forsmark 1 | 17.09.2019 | Deficiencies in contactor function | 00 | 06.02.2020 | Trending | During normal operation, a vendor informed the plant that a model of contactors installed in plant safety related and non safety related systems present deficiencies which may prevent them to fulfil their function. The deficiency could potentially prevent the intended function of equipment relevant to safety. | The direct cause was a manufacturing deficiency, the root cause was ageing. |  | 04 - Degradation of safety systems | 2302 - Ageing of component | 1 - For information only, ageing, common mode failure, relay, technical specification, vendor | ER.3 | | [**WER PAR 20-0051**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36963','_blank'))) | 06.02.2020 | Dungeness B 2 | 31.08.2019 | Configuration Management – Back-up boiler feed valve incorrectly left closed on a claimed boiler | 00 | 06.02.2020 | Trending | During a prolonged outage of the station, with both reactors shutdown, and while testing the Unit 2 back-up feed pump, a valve was identified in closed position, resulting that the corresponding boiler was unavailable for 7 days, from the previous configuration change, though it was claimed to be available. The technical specification requirement for the reactor at the time of event requires two circuits of cooling in operation. A limiting condition of operation was entered. | The direct cause was failure to open the valve after de-isolation of the corresponding boiler and verification of isolation was not performed. A contributor was that the operating instruction contained incorrect instructions related to the state of the boiler. |  | 04 - Degradation of safety systems | 0202 - System alignment / isolation not verified, 0203 - Required procedures, drawings, or other references not used | 1 - For information only, auxiliary feedwater pump, isolation valve, procedure adherence, procedure inadequacy, residual heat removal, technical specification, valve misposition | CM.2 , OP.1 , OP.2 | | [**WER PAR 20-0050**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36962','_blank'))) | 06.02.2020 | Doel 3 | 30.09.2019 | Electrolyte level of cell battery exceeds limit | 00 | 06.02.2020 | Trending | During normal operation, and while performing a field walkdown, the electrolyte level in a cell of a battery was discovered exceeding the maximum mark by approximately 3 mm, above the technical specification value. The system was declared unavailable and a limiting condition of operation was entered. | The direct cause was inadequate filling of the battery. The contributors were inadequate verification practices and incorrect instructions. |  | 09 - Other | 0201 - Self checking not used or ineffectively applied, 0210 - Inattention to detail | 1 - For information only, battery, limiting condition of operation, procedure inadequacy | MA.1 | | [**WER PAR 20-0049**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36961','_blank'))) | 06.02.2020 | Doel 4 | 23.08.2019 | Power reduction to 63% due to a condenser leak causing the chemical parameters to exceed the operational limits | 00 | 06.02.2020 | Trending | During normal operation, increased conductivity and sodium concentration in steam generators was determined. Two condenser compartments were taken out of service to identify the leak, resulting in unit power being reduced to 63% for 14 days. | The direct cause of the increase contaminants was a leak in condenser, which could not be identified. Possible contributors were a deteriorated filter in the circulation water circuit, and operation in high temperature conditions during summer. |  | 01 - Degraded plant operating conditions | 2300 - EQUIPMENT PERFORMANCE | 1 - For information only, chemistry, condenser tube, leak, power reduction | ER.1 | | [**WER PAR 20-0048**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36960','_blank'))) | 06.02.2020 | Daya Bay 1 | 12.09.2019 | Unavailability of a nuclear power range channel caused by card failure | 00 | 06.02.2020 | Trending | During normal operation, indication was lost on a nuclear power range channel in the nuclear instrumentation system. A limiting condition of operation was entered. | The cause was failure of a control card due to degraded insulation in the control circuit. |  | 04 - Degradation of safety systems | 2304 - Degraded sub-component contributed to failure | 1 - For information only, circuit card, insulation electrical, limiting condition of operation, nuclear instrumentation | ER.1 | | [**WER PAR 20-0047**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36959','_blank'))) | 06.02.2020 | Chooz B 2 | 07.08.2019 | Unavailability of the test pump due to non-compliance of operation lockout | 00 | 06.02.2020 | Trending | During power increase after an outage and while performing surveillance testing to check capacity of test pump RCV191PO to supply injection flow rate on reactor coolant pump (RCP) seal 1, the measured injection flow rate on reactor coolant pump seal 1 was insufficient. The test pump was declared unavailable and a limiting condition of operation was entered and a technical specification violation was reported because the LCO action statement was not met. | The direct cause was a manual control valve left in an incorrect position after a previous surveillance test on a different equipment. Root cause was inadequate <span style="text-align: left; color: #000000; text-transform: none; text-indent: 0px; letter-spacing: normal; font-family: arial; font-size: 10pt; font-style: normal; font-variant: normal; font-weight: 400; text-decoration: none; word-spacing: 0px; display: inline; white-space: normal; orphans: 2; float: none; -webkit-text-stroke-width: 0px; overflow-wrap: break-word; background-color: #f5f5f5;">procedure</span> modification during surveillance testing for the position of pre-set equipment with operation lockout. |  | 01 - Degraded plant operating conditions | 0703 - Technically incomplete, 1130 - Policies, official guidance (standards), expectations, administrative controls:-Not adequate (not strict enough, confusing or incomplete) | 1 - For information only, limiting condition of operation, procedure inadequacy, reactor coolant pump seal, surveillance, technical specification, valve misposition | CM.2 , OP.1 , OP.2 | | [**WER PAR 20-0046**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36958','_blank'))) | 06.02.2020 | Chinon B2 | 26.07.2019 | Absence of clamps on the mechanical seal cooling piping for the containment spray pump | 00 | 06.02.2020 | Trending | During normal operation, and while performing maintenance field inspections, absence of three support clamps on the mechanical seal cooling lines for the containment spray pump on train B was identified. This resulted in loss of seismic qualification and qualification for accident operating conditions of the mechanical seal cooling lines of the containment spray pump and a limiting condition of operation was entered. | The direct cause was that the clamps had not been reinstalled during reassembly of the pump during previous outage. The root causes were inadequate work assessment and work instructions and inadequate verification of the contractor activities during the previous outage. |  | 04 - Degradation of safety systems | 0108 - Inter-team communication inadequate, 0218 - Violation of policies/rules/procedures, 0801 - Duties and tasks not clearly explained | 1 - For information only, containment spray, contractor, limiting condition of operation, procedure adherence, procedure inadequacy, pump, seismic qualification, seismic support | ER.2 , MA.1 , MA.2 , WM.1 | | [**WER PAR 20-0044**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36956','_blank'))) | 06.02.2020 | Torness 2 | 02.11.2019 | Plant configuration error led to unavailability of essential plant | 00 | 06.02.2020 | Trending | During normal operation and after receiving alarms in the main control room for low pressure in the CO2 (carbon dioxide) ring while feeding CO2 to top up the coolant on reactor 1, operators discovered the valves in the CO2 plant misaligned. The high pressure CO2 vaporizers were declared unavailable and a limiting condition of operation was entered. | The cause was mispositioning of a CO2 valve during previous maintenance activity, due to lack of adequate drawings and lack of verification of the valve line up. |  | 04 - Degradation of safety systems | 0202 - System alignment / isolation not verified | 1 - For information only, carbon dioxide, documentation, isolation valve, limiting condition of operation, procedure adherence, procedure inadequacy, valve misposition | CM.2 , OP.1 | | [**WER PAR 20-0042**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36954','_blank'))) | 06.02.2020 | Penly 2 | 23.07.2019 | Diesel generator unavailable for 7 hours and 28 minutes when required during high ambient temperature | 00 | 06.02.2020 | Trending | During normal operation, the ventilation for the 6.6 kV train B emergency diesel generator (EDG) was isolated to allow maintenance activity. During the maintenance activity, there were periods when the ambient temperature exceeded 30 degrees Celsius and one ventilator was not available, in contradiction with the technical requirements, causing the diesel generator being declared unavailable for 7 hours and 28 minutes. A limiting condition of operation was entered. | The direct cause was that the maintenance activities for the EDG ventilation system were carried out over multiple shifts without applying for work permit each time. Root causes were inadequate assessment of the impact of the maintenance works on the EDG availability and failure to adequately address these risks after a previous similar event. |  | 04 - Degradation of safety systems | 0902 - Special conditions or requirements not identified, 0906 - Work package did not address all administrative requirements, 1130 - Policies, official guidance (standards), expectations, administrative controls:-Not adequate (not strict enough, confusing or incomplete) | 1 - For information only, diesel generator, fan, heating ventilating and air conditioning, limiting condition of operation, preventive maintenance, risk assessment, work control | CM.2 , MA.2 , RM.1 , WM.1 | | [**WER PAR 20-0041**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36950','_blank'))) | 06.02.2020 | Sizewell B 1 | 09.08.2019 | Challenge to rate of rise of reactor power technical specifications | 00 | 06.02.2020 | Trending | During raising power after an outage, the rate of reactor power increase exceeded the technical specification value. A limiting condition of operation was entered. | The direct cause was not strictly following the rate of change of power alarms according to the procedure, and failure to act on alarms when they were not permanent. A contributor was the large number of alarms during power raise. | SOER 20013-1 rec.3 | 01 - Degraded plant operating conditions | 0101 - Shift hand-over inadequate | 1 - For information only, control room, limiting condition of operation, power surge, procedure adherence, procedure inadequacy | OP.1 | | [**WER PAR 20-0040**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36948','_blank'))) | 06.02.2020 | Sizewell B 1 | 30.07.2019 | Operational transient to pressuriser | 00 | 06.02.2020 | Trending | During operations to bring the reactor to cold shutdown in order to repair a leak in a pilot operated safety relief valve, the pressurizer was filled from 28% to 63% over 130 minutes, without pressurizer back-up heaters, resulting in a pressurizer and surge line temperature transient. | The direct cause was a complicate procedure which was not completely understood by the operational crew. A contributor was the operating personnel was inexperienced with this type of evolution. |  | 01 - Degraded plant operating conditions | 0611 - Shortfall in on-job training / experience | 1 - For information only, pressuriser, pressuriser heater, procedure adherence, procedure inadequacy | OP.1 , OP.2 | | [**WER PAR 20-0039**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36946','_blank'))) | 06.02.2020 | Sizewell B 1 | 26.07.2019 | SEBIM type valve leak during return to service following outage | 00 | 06.02.2020 | Trending | During an outage, a leak was identified on a pressurizer pilot safety valve (SEBIM type) in the reactor coolant system (RCS). The RCS pressure was reduced to 27 bar for repairs, resulting in 6 days delays to the critical outage path impacting return to service. | The direct cause was a polymer O-ring seal failure during the initial installation of the valve cabinet. Contributors were inadequate verifications in the initial installation procedure and lack of a contingency plan including details for repairs of these type of valves at pressure. |  | 09 - Other | 1230 - Inadequate co-ordination/communication between departments | 1 - For information only, o-ring , outage extension, pilot valve, procedure inadequacy, seal | ER.3 | | [**WER PAR 20-0036**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36917','_blank'))) | 03.02.2020 | Sizewell B 1 | 02.06.2019 | Polar crane trip during lifting of reactor pressure vessel head during refuelling outage | 00 | 03.02.2020 | Trending | During an outage, and after performing maintenance and testing of a polar crane, it subsequently failed several times, including tripping during lifting of the reactor pressure vessel head from the reactor vessel. The necessary troubleshooting and repairs resulted in an outage critical path delay of approximately 11 days. | The causes of the multiple failures were incorrect settings of the energy absorbing torque limiter (EATL) and failure of the radial travel drive inverter. Further delay was related to the inverter being obsolete, and it took longer to find a replacement. A contributor was lack of knowledge of maintenance personnel for the settings of this mechanism. |  | 09 - Other | 0608 - Training standard not adequate, 1320 - Inadequate establishment/support of programs or processes | 1 - For information only, ageing, crane, inverter, outage extension, preventive maintenance, procedure inadequacy, spare part | ER.3 , MA.1 , NF.2 | | [**WER PAR 19-0143**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36943','_blank'))) | 15.03.2019 | Forsmark 2 | 26.10.2018 | Fuel failure | 01 | 06.02.2020 | Trending | During normal operations, and while performing routine monitoring and analysis of the reactor coolant chemistry, a small primary fuel failure was detected after samples analysis. The fuel failure was limited to one cladding tube and did not impact operations. | The inspection showed that the fuel pin damage was caused by fretting. No debris that could be the cause of the fretting damage was found during the inspection. |  | 08 - Degradation of a safety barrier | 2303 - Known problems not corrected, including deficiencies in reporting findings | 1 - For information only, fuel defect, iodine, reactor coolant | Z2.CM.4 | | [**WER MOW 20-0059**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37122','_blank'))) | 28.02.2020 | Temelin 2 | 10.11.2019 | Increase of Indicated Pressure Value in Containment Over 0.3 KPa Due to Shutdown of Air-Conditioning Systems | 00 | 28.02.2020 | Trending | During normal operation and following the loss of the heating water supply to the secondary containment heating system on unit two and the intake auxiliary building, the system was shut down resulting in the secondary containment pressure and intake auxiliary building pressures increasing above their operating limits and an entry into two limiting conditions of operation. | The cause was the loss of the heating water supply from unit one following a plant transient. An additional cause was the simultaneous inoperability of the back up gas boiler station and the unit 2 heating water supply due to plant modernising work. A contributing factor was the ambient air temperature. | SOER 2015-2 Rec 4 | 04 - Degradation of safety systems | 2001 - Original design inadequate | 1 - For information only, configuration control, containment pressure, heating ventilating and air conditioning, limiting condition of operation, risk assessment, work control | CM.2 , PM.1 , RM.1 | | [**WER MOW 20-0056**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37100','_blank'))) | 25.02.2020 | Bohunice 3 | 11.10.2019 | Work injury of the contractor at excavation during repair of pipe – injury of the right leg | 00 | 25.02.2020 | Trending | During excavation works to repair fire water pipes, a two-meter long buried pipe became pressurized and was burst from the socket joint. The worker standing at the end of the pipe was injured on a right leg. First aid was immediately provided. | The direct cause of injury was striking a pressurized pipe due to incorrect identification of isolation valve during work clearance. The root causes were insufficient work preparations and work management. |  | 07 - Personal injuries | 0405 - High humidity, 0501 - Label missing / inadequate | 1 - For information only, contractor, industrial safety, injury, risk assessment | IS.1 , WM.1 | | [**WER MOW 20-0055**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37099','_blank'))) | 25.02.2020 | Mochovce 1 | 16.10.2019 | Unavailability of spray pump because of leak of atmospheric part of the seal | 00 | 25.02.2020 | Trending | During normal operation and while performing an emergency load sequencing test, a water leak was discovered on a containment spray pump mechanical seal. The pump was tripped and declared inoperable resulting in an entry into a limiting condition of operation. | The direct cause was a damaged mechanical seal. The root causes were inappropriate selection of the mechanical seal and inadequate corrective actions following previous failures. |  | 04 - Degradation of safety systems | 1620 - Change not implemented in adequate timescale, 2000 - DESIGN CONFIGURATION AND ANALYSIS, 2303 - Known problems not corrected, including deficiencies in reporting findings , 2304 - Degraded sub-component contributed to failure | 1 - For information only, containment spray, leak, limiting condition of operation, pump seal | ER.1 , PI.1 | | [**WER MOW 20-0054**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37098','_blank'))) | 25.02.2020 | Mochovce 1 | 30.10.2019 | Unscheduled reduction of reactor power by more than 5% due to oscillation of fuel element power measurement | 00 | 25.02.2020 | Trending | During normal operation and following the receipt of a fuel element high power alarm, a limiting condition of operation was entered and the power was reduced to 78%. | The cause was a fuel assembly outlet temperature measurement thermocouple failure leading to an erroneous power calculation. |  | 02 - Station transient | 2309 - Failed within expected lifetime | 1 - For information only, limiting condition of operation, power reduction, setpoint, thermocouple | ER.1 | | [**WER MOW 20-0052**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37092','_blank'))) | 21.02.2020 | Paks 3 | 21.10.2019 | The Y System LP ECCS Pump of Unit 3 became inoperable after repair and setting work required due to oil leakage from the recirculation gate valve drive | 00 | 21.02.2020 | Trending | During normal operation and while performing post maintenance testing of a low pressure emergency core cooling system valve, the power supply circuit breaker tripped and the limiting condition of operation was extended for eight hours to carry out the repairs. | The causes were a loose electrical valve actuator supply cable clamp and a strained electrical valve actuator supply cable which resulted in the cable connections to disconnect and cause a short circuit. |  | 04 - Degradation of safety systems | 2001 - Original design inadequate | 1 - For information only, emergency core cooling system, limiting condition of operation, valve actuator | MA.1 | | [**WER MOW 20-0051**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37089','_blank'))) | 20.02.2020 | Paks 1 | 26.12.2019 | Potential unavailability of the measurement of activity concentration in water at the liquid effluent monitoring station and LCO entry due to failed control of the sampling pumps | 00 | 20.02.2020 | Trending | During normal operation, the dosimetry control room radiation monitoring system received a power supply failure signal and the measuring station sampling pumps showed that they were unavailable. The system was declared inoperable and a limiting condition of operation was entered. | The direct cause was a loss of electrical supplies due to a voltage transient during the test run of a feed water pump. The root cause was an inadequately conceived electrical system design modification which rendered the sampling pumps unavailable for automatic starting following the transient. | SER 2005-3 | 10 - Non consequential or near miss | 0704 - Cautionary information not included | 1 - For information only, configuration control, control logic, design change, limiting condition of operation, power supply, pump, radiation protection | CM.3 , CY.3 , EN.1 | | [**WER MOW 20-0050**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37076','_blank'))) | 19.02.2020 | Icebreaker Fleet 1 | 19.02.2020 | #PRELIMINARY# A leak from the steam generator internal tubing | 00 | 19.02.2020 | Trending | With reactors 1 and 2 running at 17% and 15% respectively, a leak from the steam generator internal tubing was determined based on a noble gas activity analysis. The steam generator was isolated and the reactor power was lowered. | A preliminary cause attributed to equipment wearing or the manufacture defect. The event is being investigated. |  | 08 - Degradation of a safety barrier |  | 1 - For information only, leak, power reduction, pressure tube, steam generator / boiler | ER.1 , ER.3 | | [**WER MOW 20-0049**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37074','_blank'))) | 19.02.2020 | Leningrad 4 | 19.02.2020 | #PRELIMINARY# Unit 4 loaded down for the circulating water preliminary filter FPO-72 repairing | 00 | 19.02.2020 | Trending | During normal operation, a malfunction of a circulating water filter occurred and the reactor power was reduced to 90% for repairs. | The event is being investigated. |  | 01 - Degraded plant operating conditions |  | 1 - For information only, power reduction, service water | ER.1 | | [**WER MOW 20-0047**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37067','_blank'))) | 18.02.2020 | South Ukraine 2 | 13.02.2020 | #PRELIMINARY# Vacuum degradation in the main turbine condenser | 00 | 18.02.2020 | Trending | During normal operation, a vacuum degradation in the main turbine condenser with the consequent electric power decreasing was identified. The unit power was reduced to approximately 82%. | The direct cause was a partially closed valve for steam supply to the turbine gland seals. The event is being investigated. |  | 01 - Degraded plant operating conditions |  | 1 - For information only, condenser vacuum, power reduction, steam supply, valve misposition | CM.2 | | [**WER MOW 20-0046**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37062','_blank'))) | 17.02.2020 | Rovno 3 | 17.02.2020 | #PRELIMINARY# The turbine feedwater pump 3TPN-2 was stopped followed by Unit 3 downloaded | 00 | 17.02.2020 | Trending | During normal operation, a steam leak was found from the end shaft seal of a booster pump of the turbine feedwater pump. The unit was down powered to 49% for switching off the turbine feedwater pump. | The cause of the end shaft seal leak of the booster pump is being investigated. |  | 02 - Station transient, 03 - Equipment damage; fires |  | 1 - For information only, feedwater pump, leak, power reduction, pump seal | ER.1 | | [**WER MOW 20-0044**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37043','_blank'))) | 17.02.2020 | Paks 4 | 11.10.2019 | The main servo of Turbine 2 at Unit 4 unreasonably locked and the generator circuit breaker tripped on reverse power signal. | 00 | 17.02.2020 | Trending | During normal operation, the main servo-unit of a turbine locked and the generator circuit breaker tripped on reverse power signal. This event resulted in a loss of production and entry into a limiting condition of operation. | The direct cause was the spurious protection signal from the turbine control system. |  | 02 - Station transient | 0014 - Former : Unknown | 1 - For information only, limiting condition of operation, power reduction, turbine control, turbine trip | ER.1 | | [**WER MOW 20-0043**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37035','_blank'))) | 14.02.2020 | Smolensk 2 | 04.10.2019 | Turbine Generator Removed from Service to Address Increased Bearing Vibrations During Unplanned Maintenance | 00 | 14.02.2020 | Trending | During operation at 50% with the turbine generator (TG) 3 in service and the TG 4 finishing a maintenance, increased bearing vibration of the TG 3 was identified. The TG 4 was connected to the grid and put in normal operation, while TG 3 was shut down for maintenance. | The direct cause was uncontrolled operational and seasonal TG bearing support foundation shifting. The root causes were inadequate maintenance procedure and inadequate response to a previous event. |  | 02 - Station transient | 1320 - Inadequate establishment/support of programs or processes, 1470 - Inadequate operating experience feedback process (corrective actions not defined, Inadequate or not implemented promptly, root causes of known problems not addressed), 2303 - Known problems not corrected, including deficiencies in reporting findings | 1 - For information only, bearing, procedure inadequacy, turbine trip, vibration | MA.2 , OF.2 | | [**WER MOW 20-0042**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37034','_blank'))) | 14.02.2020 | Icebreaker Fleet 1 | 13.02.2020 | A Leak from the Steam Generator Internal Tubing | 00 | 14.02.2020 | Trending | During operation of both reactors at 62%, noble gas activity in the air samples was identified with concentration increasing. One steam generator was isolated resulting in a power reduction of both reactors. | The event is being investigated. |  | 03 - Equipment damage; fires |  | 1 - For information only, leak, power reduction, pressure tube, steam generator / boiler | ER.1 | | [**WER MOW 20-0041**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37032','_blank'))) | 14.02.2020 | Tianwan 5 | 17.12.2019 | Removal and Use of Drain Pipe by Contractor Personnel in Violation of Regulations | 00 | 14.02.2020 | Trending | During construction and while pressurizing the high pressure feedwater heater, leakage was discovered on the temporary water supply hose during the water injection process. This could have caused injury due to hot and pressurised water. | The causes were use of inappropriate hose due to inadequate workmanship and inadequate control and supervision of the contract workers. |  | 10 - Non consequential or near miss | 0106 - Communications incorrect / inadequate, 0503 - Controls provided not adequate | 1 - For information only, contractor, feedwater heater, industrial safety, management oversight | IS.1 , PM.1 | | [**WER MOW 20-0035**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37001','_blank'))) | 10.02.2020 | Armenia 2 | 09.02.2020 | #PRELIMINARY# Reactor and unit 2 was tripped manually due to a weld leak on the Primary Circulation Pump (2PCP-1) bearing cooling pipe. | 00 | 10.02.2020 | Trending | During operation at 92% full power, a leak was identified on the reactor coolant pump 2 bearing cooling pump. The reactor was orderly shutdown for repairs. | Preliminary, the cause is a weld failure. The event is being investigated. |  | 03 - Equipment damage; fires |  | 1 - For information only, leak, reactor coolant pump, reactor shutdown, weld | ER.1 | | [**WER MOW 20-0034**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37000','_blank'))) | 09.02.2020 | Kalinin 1 | 09.02.2020 | #PRELIMINARY# The bus 1BA01 switched off followed by automatic start of a diesel generator. | 00 | 09.02.2020 | Trending | During an outage and while placing bus 1BA01 in service after maintenance, the circuit breakers tripped on electrical protection and the diesel generator started automatically. The bus was manually transferred to stand-by transformer and the diesel was stopped. | The event is being investigated. |  | 01 - Degraded plant operating conditions |  | 1 - For information only, bus bar, power supply | ER.1 | | [**WER MOW 20-0032**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36983','_blank'))) | 07.02.2020 | Dukovany 1 | 10.10.2019 | Damage of Main Steam Activity Standby Measuring Probes due to Closed Cooling Valves | 00 | 07.02.2020 | Trending | During normal operation, a probe on one of the six steam generators (SG) activity measuring lines was found inoperable due to lack of cooling. | The direct cause was probe damage due to lack of cooling, because cooling water was inadvertently isolated. A contributor was unclear documentation. |  | 01 - Degraded plant operating conditions | 0703 - Technically incomplete | 1 - For information only, documentation, limiting condition of operation, procedure inadequacy, radiation protection, steam generator / boiler, valve misposition | CM.2 | | [**WER MOW 20-0031**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36981','_blank'))) | 07.02.2020 | Tianwan 5 | 14.11.2019 | Contractor’s Personnel Damaged Small Branch Line of Reactor Coolant System Accidentally | 00 | 07.02.2020 | Trending | With unit under construction, a contractor inadvertently damaged a small branch line of reactor coolant system when cutting a bracket above. The line was repaired and tested according to the original design requirements. | The direct cause was performing work in the immediate vicinity of the line without taking the adequate precautions. The contributors were inadequate assessment of the activity and inadequate oversight of the contractors work. |  | 08 - Degradation of a safety barrier | 0703 - Technically incomplete, 1792 - Lack or weaknesses in raising nuclear safety concerns, 2012 - Inadequate risk analysis performed, including design or modification risk assessment and maintenance vulnerability | 1 - For information only, contractor, management oversight, reactor coolant, work control | PM.1 | | [**WER MOW 20-0029**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36935','_blank'))) | 06.02.2020 | Akademik Lomonosov 2 | 02.01.2020 | Reactor 2 Protection System Actuation from the Loss of Power to the Power Output Panel | 00 | 06.02.2020 | Trending | During operation at 45% reactor power with turbine at rated speed, a loss of power to the 10kV main switchgear bus occurred because of phase A and B overcurrent protection actuations and subsequent transient in the electric power supply resulted in an automatic reactor scram. | The direct cause was a short circuit in the 110 kV line due to foreign material which came in contact with the electric lines due to high wind. A contributor was lack of selectivity of the circuit breakers protection relays. |  | 02 - Station transient, 03 - Equipment damage; fires | 0217 - Lack of questioning attitude, 0400 - ENVIRONMENTAL CONDITIONS, 2001 - Original design inadequate | 1 - For information only, automatic scram, breaker, bus bar, insulation electrical, reactor protection system, relay | ER.1 | | [**WER MOW 20-0028**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36934','_blank'))) | 06.02.2020 | Akademik Lomonosov 1 | 02.01.2020 | Reactor 1 Protection System Actuation from the Loss of Power to the Power Output Panel | 00 | 06.02.2020 | Trending | During operation at 10% reactor power with turbine on turning gear, a loss of power to the 10kV main switchgear bus because of phase A and B overcurrent protection occurred because of phase A and B overcurrent protection actuations and subsequent transient in the electric power supply resulted in an automatic reactor scram. | The direct cause was a short circuit in the 110 kV line due to foreign material which came in contact with the electric lines due to high wind. A contributor was lack of selectivity of the circuit breakers protection relays. |  | 02 - Station transient, 03 - Equipment damage; fires | 0217 - Lack of questioning attitude, 0400 - ENVIRONMENTAL CONDITIONS, 2001 - Original design inadequate | 1 - For information only, automatic scram, breaker, bus bar, insulation electrical, reactor protection system, relay | ER.1 | | [**WER MOW 20-0027**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36922','_blank'))) | 03.02.2020 | Kalinin 4 | 02.02.2020 | #PRELIMINARY# Kalinin Unit 4 Down Powered by Fast Acting Preventive Protection Actuation on Reactor Coolant Pump (RCP) Sensor Failures with Reactor Protection System and Preventive Protection System Actuations | 00 | 03.02.2020 | Trending | During normal operation, reactor power was automatically reduced on a reactor coolant pump sensor failure. | The event is being investigated. |  | 02 - Station transient |  | 1 - For information only, power reduction, reactor coolant pump, reactor protection system | ER.1 | | [**WER MOW 20-0026**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37123','_blank'))) | 01.02.2020 | Rovno 3 | 01.02.2020 | Turbogenerator of Unit 3 Rovno NPP disconnected from the grid | 01 | 28.02.2020 | Trending | During normal operation, the turbine generator tripped on generator electrical protection, the reactor power was automatically reduced to 35% and stabilised later to 9% by the operators. | The cause was a damaged porcelain support insulator on the generator and transformer 24 kV interconnector due to a latent manufacturing defect. |  | 02 - Station transient | 2102 - Manufacturer fabrication / construction inadequate | 1 - For information only, bus bar, insulation electrical, power reduction, turbine trip, vendor | ER.3 | | [**WER MOW 20-0020**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36972','_blank'))) | 25.01.2020 | Novovoronezh 5 | 24.01.2020 | Unit 5 of Novovoronezh NPP was disconnected from the grid. | 01 | 06.02.2020 | Trending | During normal operation and following an increase in temperature and humidity within the containment, the reactor power was initially reduced to 50 percent before being shutdown and incurring an outage of five days. | The cause was an increase in containment temperature and humidity, due to a leak from a non-isolatable portion of steam generator 4 blowdown line, because of a weld failure caused by fatigue cracking. The root causes were deficient design of the line and deficient installation during plant modification. |  | 02 - Station transient | 2001 - Original design inadequate, 2102 - Manufacturer fabrication / construction inadequate, 2307 - Externally damaging condition not properly evaluated or correlated | 1 - For information only, containment pressure, fatigue cracking, leak, power reduction, reactor shutdown, steam generator / boiler, weld | CM.3 , ER.3 | | [**WER MOW 20-0004**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37024','_blank'))) | 09.01.2020 | Zaporozhye 2 | 08.01.2020 | Electric protection actuation followed by Unit 2 of Zaporozhye NPP disconnection from the grid. | 01 | 13.02.2020 | Trending | During normal operation, a turbine generator tripped on differential protection actuation resulting in disconnection from the power grid and the reactor power reduction. | The direct cause was the spuriously actuated differential protection due to the B phase charging current from operating unit during a test device installation. The root cause was inadequate design review of the relay protections. |  | 02 - Station transient | 2001 - Original design inadequate | 1 - For information only, power reduction, power supply, relay, setpoint, turbine trip | EN.1 , ER.1 | | [**WER MOW 20-0001**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37104','_blank'))) | 04.01.2020 | South Ukraine 3 | 04.01.2020 | Unit 3 Turbogenerator disconnected from the grid | 01 | 26.02.2020 | Trending | During normal operation, an overhead transmission line single phase fault occurred and was followed by the circuit breakers tripping. The reactor power was reduced to 39% but the steam generators level controllers malfunctioned and the reactor protection system initiated on a low pressure signal resulting in the loss of the two feedwater pumps. | The direct cause of the turbine generator trip was a fault in the rectifier cathode arm in the exciter. The root cause was inappropriate procedure to verify the protection circuit. The direct cause of a failure of steam generator control was spurious input signal. The root cause were deficient design for setpoint determination, insufficient update for the feedwater control system and inadequate operating procedures. |  | 02 - Station transient, 03 - Equipment damage; fires | 0703 - Technically incomplete, 1330 - Inadequate monitoring of the effectiveness of programs or processes, 2001 - Original design inadequate | 1 - For information only, automatic scram, capacitor, exciter, feedwater control system, power reduction, procedure inadequacy, rectifier, steam generator / boiler, transmission line | EN.1 , ER.1 , MA.2 , OP.2 | | [**WER MOW 19-0424**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37033','_blank'))) | 27.12.2019 | Kursk 4 | 23.12.2019 | Unplanned maintenance of Unit 4 of Kursk NPP | 01 | 14.02.2020 | Trending | During normal operation the reactor cavity humidity and gas parameters indicated off-normal values. The unit was shutdown to investigate, resulting in production losses equivalent to 7.6 full power days. | The leak came from a control and protection system (CPS) channel zirconium tube due to metal erosion in the heat-affected zone of the channel tube zirconium part. The direct and root cause were not determined. |  | 03 - Equipment damage; fires | 0014 - Former : Unknown | 1 - For information only, control rod drive, erosion/corrosion, leak, reactor cavity, reactor coolant, reactor shutdown | Z2.ER.1 | | [**WER MOW 19-0423**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37015','_blank'))) | 26.12.2019 | Zaporozhye 4 | 24.12.2019 | Emergency Diesel Generator (4EDG-2) failed during a surveillance test. | 01 | 10.02.2020 | Trending | With unit in normal operation and during emergency diesel generator (EDG) surveillance test, the EDG tripped on overspeed protection. The EDG was declared inoperable and a limiting condition of operation entered. | The direct cause was an incorrectly set relay in the overspeed protection circuit, which actuated at a speed value below the setpoint. The root cause was inaccurate vendor documentation used for settings of the speed relay. A contributor was that the diesel control system upgrade was deferred. |  | 04 - Degradation of safety systems | 0703 - Technically incomplete | 1 - For information only, diesel generator, limiting condition of operation, procedure inadequacy, relay, setpoint, vendor | Z2.ER.1 , Z2.ER.3 | | [**WER MOW 19-0402**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37002','_blank'))) | 15.12.2019 | Novovoronezh-2 2 | 14.12.2019 | Unit 2 of Novovoronezh 2 power reduction. | 01 | 10.02.2020 | Trending | During normal operation and while performing an operational test, the reactor protection initiated resulting in an automatic power reduction to 70 percent. | The cause was the initiation of the low level protection of a low pressure feed water heater resulting in a trip of a condensate pump and the initiation of the reactor protection. The cause was related to a voltage regulator control valve failure. A contributor was a design flaw in the regulator logic. |  | 02 - Station transient | 1330 - Inadequate monitoring of the effectiveness of programs or processes, 2001 - Original design inadequate | 1 - For information only, control board, feedwater heater, flow control valve, power reduction | Z2.ER.1 | | [**WER MOW 19-0326**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37073','_blank'))) | 23.10.2019 | Mochovce 1 | 15.10.2019 | Loss of common control room remote control | 01 | 18.02.2020 | Trending | During normal operation, eight containment isolation valves at Unit 1 and Unit 2 became inoperable from the common control room of Unit 1 and 2 due to failure of the information and control system. The condition repeated itself the same day and a limiting condition of operation was entered. Both times the condition was cleared by resetting the information and control system. | The direct cause was a failure of a network interface in a server of information and control system. The root cause was hardware failure because of long life due to inadequate scope of preventive maintenance. |  | 01 - Degraded plant operating conditions | 2203 - Preventive maintenance inadequate, 2302 - Ageing of component | 1 - For information only, computer, containment isolation, digital control system / digital components, limiting condition of operation, preventive maintenance | Z2.ER.2 | | [**WER MOW 19-0300**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37072','_blank'))) | 08.10.2019 | Mochovce 2 | 05.10.2019 | Unexpected start of safety spray pump. | 01 | 18.02.2020 | Trending | During a unit start up, and while performing electrical switching a spray safety pump unexpectedly started. | The cause was the electrical switching was incorrectly carried out due to human error. The root causes were inadequate application of the error prevention tools, inappropriate labelling of equipment important for severe accident management and inadequate scope of failure alarms. |  | 04 - Degradation of safety systems, 09 - Other | 0500 - MAN-MACHINE INTERFACE | 1 - For information only, containment spray, human error, power supply, procedure adherence, pump, risk assessment, tagging | Z2.OP.1 , Z2.OP.2 | | [**WER MOW 19-0299**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36921','_blank'))) | 08.10.2019 | Mochovce 2 | 04.10.2019 | Unexpected start of emergency load sequence | 02 | 03.02.2020 | Trending | During an outage and while performing the transfer of the third safety train bus bar from reserve to normal electrical supply, the transfer failed and the corresponding diesel generator started and performed sequential loading of the safety related equipment. | The direct cause was the activation of an electrical protection on the normal supply circuit. The root cause was failure of a circuit breaker in the synchronisation circuit of the transformer when it was switched on. A contributor was failure to report the same type of failure in the past. |  | 09 - Other | 2309 - Failed within expected lifetime | 1 - For information only, breaker, bus bar, power supply | Z2.ER.1 , Z2.PI.1 | | [**WER MOW 19-0267**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36936','_blank'))) | 12.09.2019 | Armenia 2 | 11.09.2019 | Diesel-generator damaged during the test. | 01 | 06.02.2020 | Trending | During operation at 53% power and while performing a routine surveillance test on an emergency diesel generator (DG), a loud banging noise was heard from the DG coincident with the receipt of a DG abnormal alarm in the main control room. The test was terminated, the DG shutdown, a limiting condition of operation was entered and the unit was shutdown for repairs. | The direct cause of the failure was a water hammer in the X cylinder due to water entry in the inter-piston space, attributed to the sealing gasket damage in the area between the inner cover and air cooler. The cause of sealing degradation was attributed to high pressure in the essential service water system. The root cause was an inadequate preventive maintenance programme for the failed components. |  | 01 - Degraded plant operating conditions, 04 - Degradation of safety systems | 0200 - PERSONNEL WORK PRACTICES | 1 - For information only, diesel cooling water, limiting condition of operation, preventive maintenance, reactor shutdown, seal, water intrusion | Z2.ER.2 | | [**WER ATL 20-0108**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37124','_blank'))) | 28.02.2020 | Darlington 4 | 04.12.2019 | Pressure Boundary Related Steam Leak resulted in Unit Shutdown | 00 | 28.02.2020 | Trending | During normal operation and following the discovery of a steam leak on the poison prevent extraction steam header pipeline to the deaerator, the unit was shut down to repair the pipeline. | The direct cause was a crack in the pipework at a weld toe due to vibration induced high cycle fatigue. The root cause identified as the removal of the defect from the 2016 outage scope due to inadequate decision making. |  | 02 - Station transient | 1340 - Inadequate monitoring of results of decisions/assignments, 1440 - Risks and consequences of decision not identified or assessed before decision made | 1 - For information only, fatigue cracking, leak, reactor shutdown, risk assessment, steam, vibration, weld, work control | EN.1 , RM.1 , WM.1 | | [**WER ATL 20-0105**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37110','_blank'))) | 27.02.2020 | Haiyang 2 | 05.08.2019 | Hydrochloric acid leaked from Haiyang Unit 2 Condensate Polishing System Acid Storage Tank B | 00 | 27.02.2020 | Trending | During normal operation, a leak was discovered at the bottom of an acid storage tank. A chemical hazard emergency was declared and the tank was emptied and flushed through. | The cause was inadequate vulcanization of the rubber lining to the tank and outlet pipework caused by the rubber being out of design specification and inadequate surface preparation. |  | 01 - Degraded plant operating conditions | 2102 - Manufacturer fabrication / construction inadequate | 1 - For information only, industrial safety, leak, storage tank, vendor | EP.3 , ER.3 , IS.1 | | [**WER ATL 20-0102**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37105','_blank'))) | 26.02.2020 | Laguna Verde 2 | 30.11.2019 | Automatic Reactor Scram due to main turbine trip | 00 | 26.02.2020 | Trending | During normal operation, following the receipt of a differential protection signal the turbine protection initiated a turbine trip which was followed by the initiation of the reactor protection on a high reactor vessel water level protection signal and an automatic reactor scram. | The direct cause was a failure of the main transformer potential transformer phase A fuse feeding the differential protection relay. The root causes were an inadequate design modification to the phase cubicle humidity protection heaters allowing the cubicle and fuse temperature to rise above their design temperature limits and a failure to implement corrective actions following a similar event the previous year. | SER 2005-3 | 02 - Station transient | 2011 - Deficiency in engineering of modification, including follow-up of implementation | 1 - For information only, automatic scram, fuse, turbine protection, turbine trip | CM.3 , EN.1 , PI.1 | | [**WER ATL 20-0099**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37097','_blank'))) | 24.02.2020 | Susquehanna 1 | 02.10.2019 | Emergency Service Water Pump Found With Flange Separation | 00 | 24.02.2020 | Trending | During normal operation and while performing quarterly surveillance tests on an emergency service water (ESW) pump, pump pressure was below the acceptance criteria and ESW pump was declared inoperable and a limiting condition of operation was entered. | The direct cause was separation of the pump casing to column pipe flange, resulting in a loss of differential pressure during the test. The apparent cause was corrosion of the carbon steel bolting in raw water, accelerated by galvanic interactions with silt and flange components. A causal factor was that preventive maintenance did not mitigate the known contributors to corrosion. |  | 04 - Degradation of safety systems | 2010 - Inappropriate reliance on human action, 2302 - Ageing of component | 1 - For information only, erosion/corrosion, essential service water, limiting condition of operation, preventive maintenance, pump | EN.1 , ER.2 | | [**WER ATL 20-0098**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37096','_blank'))) | 24.02.2020 | Browns Ferry 2 | 20.08.2019 | Reactor Protection System Half Scram | 00 | 24.02.2020 | Trending | During normal operation, with no reactor protection system (RPS) activities on-going, the electrical bus supplying RPS de-energized causing a half scram. A limiting condition of operation was entered. | The RPS half scram was due to an erroneous signal from the overvoltage relay, possibly due to erratic operation of the setpoint adjustment potentiometer. A probable secondary cause can be attributed to a cold joint found on one lead of the filter capacitor. |  | 04 - Degradation of safety systems | 2304 - Degraded sub-component contributed to failure | 1 - For information only, limiting condition of operation, power supply, reactor protection system, relay, setpoint | ER.1 | | [**WER ATL 20-0097**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37095','_blank'))) | 24.02.2020 | Browns Ferry 1 | 13.07.2019 | Downpower Due To Reactor Feedwater Line Drain Valve Leak | 00 | 24.02.2020 | Trending | During normal operation, a leak was identified on the reactor feedwater pump discharge line in a locked high radiation area not accessible at high power. Reactor power was reduced to 62.6% to allow access and temporary repair of the leak. | The most likely cause was determined to be age related degradation of valve packing or body to bonnet seal. |  | 01 - Degraded plant operating conditions | 2300 - EQUIPMENT PERFORMANCE | 1 - For information only, ageing, feedwater pump, globe valve, leak, power reduction, seal | ER.1 | | [**WER ATL 20-0096**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37093','_blank'))) | 21.02.2020 | Koeberg 1 | 25.11.2019 | Reactor Fuel Engineering was allowed to perform fuel movement while two Reactor Cavity and Spent Fuel Pit Cooling System pumps were out of service | 00 | 21.02.2020 | Trending | During an outage, and while two spent fuel pool cooling pumps were out of service, fuel movement in the spent fuel pool (SFP) was performed in non-compliance to the technical specifications. | The direct cause was inadequate control of the activities during the outage. Contributors were lack of experience and inadequate communications between the control room and spent fuel pool operators. |  | 10 - Non consequential or near miss | 0205 - Conditions not verified prior to work | 1 - For information only, fuel pool, procedure adherence, technical specification | NF.2 | | [**WER ATL 20-0095**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37090','_blank'))) | 20.02.2020 | Hope Creek 1 | 28.03.2019 | Planned Maintenance Outage to Replace a Safety Relief Valve | 00 | 20.02.2020 | Trending | During normal operation, a safety relief valve (SRV) leakage was identified accompanied by an audible noise in the reactor building torus area. After monitoring, the unit was shutdown for repairs resulting in power losses equivalent to 6.6 full power days. | The cause of the SRV leakage was its pilot valve leakage during previous operating cycle resulting in main disc/seat thermal distortion. A contributor was the leakage calculation did not properly predict SRV leakage at specified temperatures. |  | 01 - Degraded plant operating conditions | 2300 - EQUIPMENT PERFORMANCE | 1 - For information only, leak, pilot valve, reactor shutdown, safety relief valve, torus | EN.1 , ER.1 , PI.1 | | [**WER ATL 20-0094**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37078','_blank'))) | 19.02.2020 | Cernavoda 1 | 30.11.2019 | Inadvertent trip of SDS#1 channel E on neutron power high parameter due to a defective connection | 00 | 19.02.2020 | Trending | During normal operation, a spurious actuation of one channel of shutdown system number one (SDS#1) occurred on neutron overpower high parameter. A limiting condition of operation was entered. | The cause of the SDS#1 channel trip was a spurious signal triggered by electromagnetic induction in one reactor overpower loop due to a connectivity problem. The root cause was inadequate scope of preventive maintenance. |  | 04 - Degradation of safety systems | 2304 - Degraded sub-component contributed to failure | 1 - For information only, control logic, limiting condition of operation, nuclear instrumentation, preventive maintenance, reactor protection system | ER.2 | | [**WER ATL 20-0093**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37071','_blank'))) | 18.02.2020 | Koeberg 1 | 28.11.2019 | Catastrophic damage incurred to Chemical and Volume Control system pump 1RCV003PO | 00 | 18.02.2020 | Trending | During an outage, and after chemical and volume control (CVCS) bypass valve was not closed after overhaul, the CVCS pump was started for testing and sustained a catastrophic damage. The event resulted in an outage extension to repair. | The apparent cause of the CVCS pump failure was start up in incorrect valve configuration, resulting in a lack of cooling inside the pump and subsequent catastrophic failure. The contributors were incorrect identification and tagging of the valves, inadequate preparation of the test and communication during performance of the test. |  | 03 - Equipment damage; fires | 0202 - System alignment / isolation not verified, 0211 - Independent checking not used or ineffectively applied, 0608 - Training standard not adequate, 0804 - Supervisor too involved in tasks, 1240 - Co-ordination/communication not sufficiently promoted by management, 1740 - Taking of short-cuts allowed/tolerated, 2013 - Failure mode or risk or consequences of a failure is not adequately taken into account | 1 - For information only, bypass valve, chemical volume control system, outage extension, pump, surveillance, tagging, valve misposition | CM.2 , MA.1 , NP.1 , OP.1 | | [**WER ATL 20-0090**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37042','_blank'))) | 14.02.2020 | Bruce B 6 | 21.11.2019 | Sling failed and pulley hit worker in the arm | 00 | 14.02.2020 | Trending | During normal operations, a team of contractors were pulling a cable between two elevations when sling failed hitting a worker, which suffered minor injuries to their arm. | The causes were inadequate work planning, inadequate recognition of hazards and inadequate field oversight of work activities. |  | 07 - Personal injuries | 1300 - MANAGEMENT MONITORING AND ASSESSMENT | 1 - For information only, industrial safety, injury | IS.1 | | [**WER ATL 20-0088**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37040','_blank'))) | 14.02.2020 | Hope Creek 1 | 07.11.2019 | Refueling Outage Extension | 00 | 14.02.2020 | Trending | During an outage and while performing inspection activities of the torus, two flaws in the safety relief valve (SRV) suppression pool discharge flow sparger (T-quencher) were identified. The event resulted in an eight day extension to the refuelling outage. | The cause of the perforations was erosion of the T-quencher due to localized cavitation due to steam condensation in the down-comer piping caused by SRV main seat leakage, a mechanism which was not understood and no preventive maintenance or inspections were performed to address it. |  | 04 - Degradation of safety systems | 2300 - EQUIPMENT PERFORMANCE, 2308 - Equipment erosion / corrosion | 2 - Important lessons, erosion/corrosion, leak, outage extension, safety relief valve, torus | EN.1 , ER.1 | | [**WER ATL 20-0087**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37039','_blank'))) | 14.02.2020 | Dresden 3 | 23.09.2019 | Oil Leak On Main Power Transformer | 00 | 14.02.2020 | Trending | During normal operation, an oil leak was identified on a main power transformer and the unit was shutdown for repairs, requiring a 3 days forced outage. | The direct cause was a failure of the neutral bushing lead connection. The root cause was an unanticipated failure due to a material issue attributable to manufacturing and / or design issues by original equipment manufacturer. |  | 01 - Degraded plant operating conditions | 2102 - Manufacturer fabrication / construction inadequate | 1 - For information only, reactor shutdown, transformer, vendor | ER.3 | | [**WER ATL 20-0086**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37038','_blank'))) | 14.02.2020 | St. Lucie 1 | 07.09.2019 | Automatic Reactor Trip Due to Low Reactor Coolant System Flow | 00 | 14.02.2020 | Trending | During normal operation, a trip of the reactor coolant pump (RCP) on overcurrent protection occurred, followed by an automatic reactor scram from full power on reactor coolant low flow signal. The event resulted in an unplanned outage and energy losses equivalent to 14 full power days. | The trip of the RCP was caused by a ground fault due to a cooling water leak from the motor upper bearing oil cooler piping entering the motor enclosure. The root cause was an inadequate modification of the RCP motor cooling water piping and inadequate assessment of water intrusion pathways into the motor internals. | SER 2005-3 | 02 - Station transient | 0203 - Required procedures, drawings, or other references not used, 0218 - Violation of policies/rules/procedures, 0700 - WRITTEN PROCEDURES AND DOCUMENTS, 0702 - Technically incorrect, 0703 - Technically incomplete, 0704 - Cautionary information not included, 0705 - Not up to date with plant design, 1600 - CHANGE MANAGEMENT, 2010 - Inappropriate reliance on human action, 2011 - Deficiency in engineering of modification, including follow-up of implementation, 2102 - Manufacturer fabrication / construction inadequate, 2103 - Specifications provided to manufacturer inadequate, 2107 - QA requirements not used or met during procurement process | 1 - For information only, automatic scram, design change, reactor coolant pump motor, water intrusion | CM.3 , ER.1 | | [**WER ATL 20-0085**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37037','_blank'))) | 14.02.2020 | Watts Bar 1 | 31.08.2019 | Manual Reactor Trip Due to Failure of Feedwater Regulating Valve | 00 | 14.02.2020 | Trending | During normal operation, a loss of control of the steam generator two level occurred and operators performed a manual reactor scram. | The direct cause was failure of the main feedwater regulating valve due to diaphragm tears because of case bolt relaxation. |  | 02 - Station transient | 0900 - WORK ORGANISATION, 2212 - Surveillance schedule not followed, 2213 - Situational surveillance not performed | 1 - For information only, erosion/corrosion, feedwater control system, flow control valve, manual scram, steam generator / boiler, torque | ER.1 | | [**WER ATL 20-0084**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37036','_blank'))) | 14.02.2020 | Hope Creek 1 | 03.08.2019 | Manual Reactor Trip Due to Loss of Condenser Vacuum | 00 | 14.02.2020 | Trending | During normal operation at 94% full power, condenser vacuum began to degrade. The reactor power was reduced in an attempt to maintain vacuum. A cooling tower bypass valve was discovered open and it was closed, but the operators were not able to recover condenser vacuum and scrammed the reactor manually. | The apparent cause of the cooling tower bypass valve inadvertent opening was a failure of its logic module. Contributing to this event was a legacy decision of not implementing procedure changes to tagout the cooling tower bypass which was classified as a single point vulnerability. |  | 02 - Station transient | 1440 - Risks and consequences of decision not identified or assessed before decision made, 2102 - Manufacturer fabrication / construction inadequate | 1 - For information only, bypass valve, condenser vacuum, control logic, manual scram, procedure inadequacy, single point vulnerability | ER.1 , PI.1 | | [**WER ATL 20-0082**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37026','_blank'))) | 13.02.2020 | Koeberg 1 | 04.11.2019 | Accidental opening of electrical switchgear supplying an essential switchboard, while performing routine electrical switching. This caused the essential switchboard to de-energise. | 00 | 13.02.2020 | Trending | During normal operation and while performing alignment of electrical equipment after maintenance, an electrical operator accidently touched an energised contactor, causing it to open inadvertently. This caused the switchboard to de-energise and resulted in the loss of electrical supply to various equipment, prompting entry into a limiting condition of operation. | The direct cause was inadvertent bumping into the lever of the energised contactor. The root causes were difficult working conditions and inadequate work practices. |  | 10 - Non consequential or near miss | 0208 - Inadvertent bumping, stepping on, or damage to equipment | 1 - For information only, breaker, human error, limiting condition of operation, power supply | OP.1 | | [**WER ATL 20-0081**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37014','_blank'))) | 10.02.2020 | Palo Verde 2 | 21.10.2019 | Heater Drain Tank Level Control Valve Failure | 00 | 10.02.2020 | Trending | During normal operation and after receiving several alarms indicating issues with the heater drain tank level control, reactor power was reduced to 80% to allow for repairs to the level control system. | The direct cause was failure of a instrument air supply line to the normal level control valve. The contributor was that the need to replace the rigid copper lines with flexible tubing had been previously identified in a self-assessment but the changes had not yet been incorporated. |  | 01 - Degraded plant operating conditions | 1440 - Risks and consequences of decision not identified or assessed before decision made | 1 - For information only, feedwater heater, instrument air, level instrument, power reduction | ER.1 , PI.1 | | [**WER ATL 20-0080**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37013','_blank'))) | 10.02.2020 | Brunswick 1 | 08.10.2019 | Transmission Line Lockout Requiring Unit Downpower | 00 | 10.02.2020 | Trending | During normal operation and after the unexpected loss on one of four transmission lines, unit power was reduced to 72% in accordance with plant operating procedures.&nbsp; | The cause of the initial line loss was a fault that occurred during transformer deluge testing at a remote customer station on equipment that is not owned, maintained, or controlled by the plant. The cause of the failure for the line to re-close was an incorrect relay setting on transmission owned and maintained line protective relaying. |  | 01 - Degraded plant operating conditions | 2300 - EQUIPMENT PERFORMANCE | 1 - For information only, loss of offsite power, power reduction, relay, setpoint, transmission line | ER.1 | | [**WER ATL 20-0079**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37012','_blank'))) | 10.02.2020 | Browns Ferry 3 | 07.05.2019 | Spurious Control Rod Drift Results In Unintentional Power Reduction | 00 | 10.02.2020 | Trending | During normal operation, a control rod drifted into the core from position 48 to fully inserted position. The reactor power lowered from 100% rated-thermal-power to approximately 96% (-4.4%) due to the control rod insertion. The control rod was declared inoperable and a limiting condition of operation was entered. | The direct cause was a sudden failure of the teflon seat on the scram outlet valve for hydraulic control unit of the control rod mechanism, determined to be age related. |  | 02 - Station transient | 2205 - Testing not performed as required, inadequate testing and maintenance program | 1 - For information only, ageing, control rod drive, limiting condition of operation, power reduction, preventive maintenance, reactivity management, valve | ER.2 | | [**WER ATL 20-0078**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37011','_blank'))) | 10.02.2020 | Calvert Cliffs 1 | 12.09.2019 | Personnel Injury Due to Reflexive Reaction to Oversized Item on Security Xray Conveyor | 00 | 10.02.2020 | Trending | An individual placed equipment on the X-ray machine rollers at Main Access Facility (MAF). As the equipment was moving towards the X-ray machine, the security officer attempted to prevent the valve from being tipped over as it entered the X-ray machine. The security officer instinctively reached for the equipment which resulted in a finger pinched, resulting in a lost time event. | The direct cause was instinctive reaction of the security officer to prevent the object from falling from the X-ray belt. The root cause was failure to correctly assess the risks before placing the valve on the conveyor. |  | 07 - Personal injuries | 0200 - PERSONNEL WORK PRACTICES, 0212 - Unsafe working practices applied, 0217 - Lack of questioning attitude | 1 - For information only, industrial safety, injury, risk assessment | IS.1 | | [**WER ATL 20-0077**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37010','_blank'))) | 10.02.2020 | Sequoyah 1 | 10.09.2019 | Inoperable Pressure Transmitter | 00 | 10.02.2020 | Trending | During normal operation, and while performing a past operability evaluation, it was determined that a pressure transmitter installed on the main steam system was behaving incorrectly during plant transients and was declared inoperable between transients. | The cause of the sluggish response of the transmitter was the sense line blockage. The root cause was lack of periodic maintenance to clear the associated sense lines of blockages. |  | 09 - Other | 2203 - Preventive maintenance inadequate | 1 - For information only, debris / crud, limiting condition of operation, preventive maintenance, sensor | ER.2 | | [**WER ATL 20-0076**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37009','_blank'))) | 10.02.2020 | Sequoyah 1 | 27.08.2019 | Automatic Reactor Trip Due To Dropped Rod | 00 | 10.02.2020 | Trending | During normal operation, an automatic reactor scram occurred due to a dropped rod causing a negative rate trip. The unit was stabilized as per design. The event resulted in power losses equivalent to 2.7 full power days. | The direct cause was vibration. The root cause was excessive wear to the stationary gripper latch mechanism, resulting in the inability to maintain the rod position for an extended period of time. |  | 02 - Station transient | 2300 - EQUIPMENT PERFORMANCE | 1 - For information only, automatic scram, control rod drive, reactivity management, vibration | ER.2 | | [**WER ATL 20-0075**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37008','_blank'))) | 10.02.2020 | Grand Gulf 1 | 12.08.2019 | Hand Injury While Using a Hammer Wrench | 00 | 10.02.2020 | Trending | During normal operation and while performing a mechanical maintenance task, a maintainer injured one of his hand using a slugging wrench. The event resulted in a lost time accident. | The direct cause was inadequate use of the tool and inadequate self checking practices during performance of the activity. The contributing factor was that task assessment failed to identify the hazard and eliminate it during task preparation. |  | 07 - Personal injuries | 0102 - Pre-job briefing inadequate / not performed, 0200 - PERSONNEL WORK PRACTICES, 0201 - Self checking not used or ineffectively applied, 0206 - Task not adequately researched prior to start, 0211 - Independent checking not used or ineffectively applied, 1310 - Inadequate level of management involvement, 1820 - No management oversight of problem-solving by workers for unforeseen events | 1 - For information only, human error, industrial safety, injury, procedure adherence, procedure inadequacy, risk assessment | IS.1 , MA.1 | | [**WER ATL 20-0074**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37007','_blank'))) | 10.02.2020 | Palisades 1 | 27.07.2019 | Digital Electro-hydraulic Power Supply Degradation | 00 | 10.02.2020 | Trending | During normal operation, degradation of power supplies in the main turbine generator digital electro-hydraulic (DEH) turbine control system was noted. After monitoring primary power supply voltage for 17 days and identifying a degraded trend, the unit was orderly shutdown for repairs, resulting in production losses equivalent to 3.6 full power days. | The direct cause was failure of the primary and standby power supplies, due to degraded internal cooling leading to overheating, resulting in the degraded output voltage on the primary power supply and failure of the standby. |  | 01 - Degraded plant operating conditions | 2102 - Manufacturer fabrication / construction inadequate | 1 - For information only, digital control system / digital components, electro hydraulic control, fan, power supply, reactor shutdown, turbine control | ER.1 | | [**WER ATL 20-0073**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37006','_blank'))) | 10.02.2020 | Calvert Cliffs 1 | 09.05.2019 | Failure to Identify and Enter the Correct Technical Specification Following Failure of the Containment Personnel Air Lock Leakage Rate Testing in Mode 1 | 00 | 10.02.2020 | Trending | During normal operation and after performing a local leak rate test on a personnel air lock (PAL), a leaking equalization valve was identified on the outer side of PAL. The operators failed to correctly identify PAL unavailability in this case, resulting in not taking the required actions as per the technical specifications. This deviation was identified during regulatory review. | The causes were inadequate assessment of risks and consequences of a failed PAL test, ineffective implementation of the operability determination process upon discovery of the leakage and inadequate training of the operating staff regarding LCO determination for PAL. | SOER 2013-1 rec.3 | 08 - Degradation of a safety barrier | 0200 - PERSONNEL WORK PRACTICES, 1440 - Risks and consequences of decision not identified or assessed before decision made | 1 - For information only, airlock, containment hatch, limiting condition of operation, procedure adherence, risk assessment, surveillance, technical specification | CM.2 , OP.1 , OP.2 , RM.1 | | [**WER ATL 20-0070**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37003','_blank'))) | 10.02.2020 | Barakah 1 | 13.12.2019 | Circulating Water Pump Motor Fire | 00 | 10.02.2020 | Trending | During commissioning, alarms were received in the main control room and a circulating water pump (CWP) motor was found on fire, which was extinguished by the fire brigade. | The direct cause was electrical insulation failure due to overheating, possibly due to pump operating in harsh environmental conditions (vibration and salt water). |  | 03 - Equipment damage; fires | 0403 - Temperature too hot / cold | 1 - For information only, fire, insulation electrical, pump motor, service water | ER.1 , FP.1 | | [**WER ATL 20-0068**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36952','_blank'))) | 06.02.2020 | Koeberg 1 | 27.09.2019 | Penstock removal while transfer compartment containment valve was open | 00 | 06.02.2020 | Trending | During an outage, with the reactor in cold shutdown, the penstock was removed while transfer compartment containment valve was open during the fuel handling and storage system wet requalification. This resulted in a violation of technical specification requirements and a limiting condition of operation was entered. | The cause was inadequate planning of the outage activities due to various equipment being unavailable and inadequate review of plant configuration. Contributors were lack of experience of outage planners and lack of questioning attitude. |  | 08 - Degradation of a safety barrier | 0611 - Shortfall in on-job training / experience, 1640 - Consequences of change not adequately assessed | 1 - For information only, configuration control, limiting condition of operation, technical specification, work control | WM.1 | | [**WER ATL 20-0067**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36951','_blank'))) | 06.02.2020 | Dresden 2 | 29.10.2019 | Posted Locked High Radiation Area Door Found Unsecured | 00 | 06.02.2020 | Trending | During normal operation and while performing a walkdown, a radiation protection technician found a posted locked high radiation area (LHRA) door unsecured, that could have allowed unauthorized access into a LHRA. | The cause was inadequate radiation protection work practices. |  | 09 - Other | 0200 - PERSONNEL WORK PRACTICES, 0201 - Self checking not used or ineffectively applied, 0211 - Independent checking not used or ineffectively applied, 0710 - Inadequate technical review process, 0800 - SUPERVISORY METHODS, 2010 - Inappropriate reliance on human action | 1 - For information only, human error, procedure adherence, radiation protection | RP.1 | | [**WER ATL 20-0065**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36947','_blank'))) | 06.02.2020 | Cook 1 | 14.10.2019 | Supplemental Worker Lost Time Recordable Hand Injury | 00 | 06.02.2020 | Trending | During an outage, a supplemental worker assisting other workers in moving a loaded cart pinched a finger between the cart and door frame. He sustained a broken bone and necessitated time off work, resulting in a lost time recordable injury. | The cause of the injury was determined to be lack of hazard awareness. |  | 07 - Personal injuries | 0200 - PERSONNEL WORK PRACTICES, 0210 - Inattention to detail, 0807 - Control of contractors inadequate, 1002 - Stress / Perceived lack of time / Boredom | 1 - For information only, contractor, industrial safety, injury, risk assessment | IS.1 | | [**WER ATL 20-0064**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36945','_blank'))) | 06.02.2020 | Susquehanna 1 | 13.10.2019 | Diesel Generator Slow Start During Monthly Surveillance Test | 00 | 06.02.2020 | Trending | During normal operation and while performing a monthly testing of the diesel generator, it failed to reach the acceptance criteria due to slow start. The system was declared inoperable and a limiting condition of operation was entered. | The cause of the slow start was lack of internal pressure in the mechanical governor. The root cause was that the post maintenance testing performed after a starting air clearance failed to identify the depressurization of the governor oil. |  | 04 - Degradation of safety systems | 2206 - Post-maintenance testing inadequate, 2207 - Post-modification testing inadequate | 1 - For information only, diesel generator, diesel start system, limiting condition of operation, procedure inadequacy, surveillance, technical specification | EN.1 , ER.1 , MA.2 | | [**WER ATL 20-0063**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36942','_blank'))) | 06.02.2020 | Cook 1 | 29.09.2019 | Main Feedwater Drain Line Crack | 00 | 06.02.2020 | Trending | During normal operation, a steam leak was identified on the main feedwater pump casing drain line. The unit power was reduced to 54% to repair the leak. | The direct cause was a weld failure, associated with original manufacturing and service induced fatigue due to equipment vibrations. |  | 01 - Degraded plant operating conditions | 2102 - Manufacturer fabrication / construction inadequate | 1 - For information only, fatigue cracking, feedwater pump, leak, power reduction, weld | ER.3 | | [**WER ATL 20-0062**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36941','_blank'))) | 06.02.2020 | Columbia Generating Station | 24.09.2019 | High Pressure Core Spray Declared Inoperable Due To Air Leak On Valve | 00 | 06.02.2020 | Trending | During normal operation, and while isolating and draining diesel starting air system air receiver for maintenance, both diesel starting air trains for the high pressure core spray (HPSC) diesel generator depressurized below the operability limit. The depressurization of both diesel air start systems resulted in an inoperable diesel generator (DG), which rendered the HPCS system inoperable. A limiting condition of operation was entered. | The direct cause was that the isolation valve leaked, resulting in a pressure control valve on the other train to see a false high downstream pressure and relieve pressure. The root cause was that the procedure used for the isolation of the starting air system was not reflecting the current system configuration. A similar event was not adequately analysed and no corrective actions taken to prevent future events. |  | 04 - Degradation of safety systems | 0702 - Technically incorrect, 0703 - Technically incomplete, 0704 - Cautionary information not included, 0705 - Not up to date with plant design, 1470 - Inadequate operating experience feedback process (corrective actions not defined, Inadequate or not implemented promptly, root causes of known problems not addressed), 2010 - Inappropriate reliance on human action | 1 - For information only, design change, diesel start system, high pressure core spray, isolation valve, leak, limiting condition of operation, procedure inadequacy | ER.1 , OP.2 , PI.1 | | [**WER ATL 20-0061**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36940','_blank'))) | 06.02.2020 | South Texas 2 | 14.09.2019 | Reactor Coolant Filters Plugged During Flushing Of New Mixed Bed Demineralizer | 00 | 06.02.2020 | Trending | See summary below. | See causes below. |  | 09 - Other | 0200 - PERSONNEL WORK PRACTICES, 0203 - Required procedures, drawings, or other references not used, 0217 - Lack of questioning attitude, 0218 - Violation of policies/rules/procedures, 0306 - Time pressure to complete task, 1120 - Policies, official guidance (standards), expectations, administrative controls:-Not enforced, 2010 - Inappropriate reliance on human action | 1 - For information only, debris / crud, procedure adherence, reactor coolant, risk assessment | OP.1 | | [**WER ATL 20-0060**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36939','_blank'))) | 06.02.2020 | Limerick 2 | 22.07.2019 | Emergency Diesel Generator Lube Oil Sensing Line Sheared | 00 | 06.02.2020 | Trending | During normal operation and while performing the slow start monthly run for the emergency diesel generator (EDG), a leak was detected on the instrumentation line for lube oil header pressure indicator. The diesel was declared inoperable and a limiting condition of operation was entered. | The direct cause of the lube oil piping failure was high cyclic fatigue due to a misalignment of the lube oil header piping, which resulted in added stress at the threaded pipe connection. A contributor was that hat corrective actions from a previous investigation failed to address and correct the cause. |  | 04 - Degradation of safety systems | 1470 - Inadequate operating experience feedback process (corrective actions not defined, Inadequate or not implemented promptly, root causes of known problems not addressed) | 1 - For information only, diesel generator, leak, limiting condition of operation, lube oil | ER.1 , PI.1 | | [**WER ATL 20-0059**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36938','_blank'))) | 06.02.2020 | Waterford 3 | 25.06.2019 | Control Room Envelope Inoperable Due To Broad Range Gas Monitors Being Inoperable | 00 | 06.02.2020 | Trending | During normal operation, one train of the broad range gas monitors system for the main control room went into alarm when the other train was already inoperable for maintenance. The chemical detection system was declared inoperable and a limiting condition of operation was entered. The control room was manually placed in isolate mode. | The direct cause was incorrect settings of a parameter on control room intake broad range gas analyser. The root cause was an inadequate design because failure of both monitors in the broad range gas monitoring system does not automatically isolate the control room envelope. |  | 01 - Degraded plant operating conditions | 2302 - Ageing of component | 1 - For information only, control room, gas analyser, heating ventilating and air conditioning, limiting condition of operation | CM.2 , ER.1 | | [**WER ATL 20-0058**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36937','_blank'))) | 06.02.2020 | Peach Bottom 3 | 03.04.2018 | Fuel Cladding Defect in the Reactor Core | 00 | 06.02.2020 | Trending | During normal operation and while performing routine monitoring of off-gas activity, a fuel defect was identified in the reactor core. During the outage, the defective fuel bundle was visually inspected and then permanently discharged to the spent fuel pool. | The most credible causes were considered a fuel bundle manufacturing defect or a cladding failure due to flow-induced, debris fretting at a spacer elevation. |  | 02 - Station transient, 08 - Degradation of a safety barrier | 1370 - Information or monitoring system does not give accurate and in-time information | 1 - For information only, debris / crud, fuel defect | NF.1 | |

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Progress not adequately monitored | 1 - For information only, debris / crud, procedure adherence, procedure inadequacy, single point vulnerability, valve | MA.1 , MA.2 | | [**WER TYO 20-0059**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37118','_blank'))) | 28.02.2020 | Sanmen 2 | 09.12.2019 | Abnormal Switching of Control System of Reactor Coolant Pump Frequency Converter Caused Rotating Speed of Reactor Coolant Pump Decreasing | 00 | 28.02.2020 | Other | See the summary below. | See the causes below. |  | 09 - Other | 2106 - Installation workmanship inadequate | 1 - For information only, computer, control logic, reactor coolant pump | ER.1 | | [**WER TYO 20-0058**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37117','_blank'))) | 28.02.2020 | Sanmen 1 | 09.12.2019 | Contractor Personnel Falsified Maintenance Records | 00 | 28.02.2020 | Other | See the summary below. | See the causes below. |  | 10 - Non consequential or near miss | 1003 - Skill of the craft less than adequate / Not familiar with job performance standards | 1 - For information only, contractor, counterfeit / fraudulent , procedure adherence, surveillance | MA.1 | | [**WER TYO 20-0055**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37114','_blank'))) | 28.02.2020 | Fangjiashan 1 | 15.01.2020 | Failure of Power Module of Logic Controller Caused Chilled Unit Being Unavailable | 00 | 28.02.2020 | Other | See the summary below. | See the causes below. |  | 09 - Other | 1003 - Skill of the craft less than adequate / Not familiar with job performance standards | 1 - For information only, battery, chiller, control logic, power supply | ER.1 | | [**WER TYO 20-0051**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37077','_blank'))) | 19.02.2020 | Hamaoka 4 | 17.04.2019 | Malfunction in the contact operation of the outlet pressure gauge of the valve lever lubricating oil pump attached to the emergency diesel generator engine | 00 | 19.02.2020 | Other | See the summary below. | See the causes below. |  | 04 - Degradation of safety systems | 2013 - Failure mode or risk or consequences of a failure is not adequately taken into account | 1 - For information only, diesel generator, switch | ER.1 , ER.3 | | [**WER TYO 20-0050**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37075','_blank'))) | 19.02.2020 | Hamaoka 4 | 10.05.2019 | Deviation from a determination value for the gap between the piston ring groove and the piston ring of the startup air compressor (B-1) for an emergency diesel generator | 00 | 19.02.2020 | Other | See the summary below. | See the causes below. |  | 04 - Degradation of safety systems | 0014 - Former : Unknown | 1 - For information only, air compressor, diesel generator | ER.1 , ER.2 | | [**WER TYO 20-0047**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37064','_blank'))) | 17.02.2020 | Kashiwazaki Kariwa 4 | 09.12.2019 | Unopenable door on a large cargo entrance | 00 | 17.02.2020 | Other | See the summary below. | See the summary below. |  | 10 - Non consequential or near miss | 2304 - Degraded sub-component contributed to failure | 1 - For information only, switch | ER.1 | | [**WER TYO 20-0046**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37063','_blank'))) | 17.02.2020 | Kashiwazaki Kariwa 3 | 24.01.2020 | Malfunction of the gravity damper (GD) on DG (HPCS)/Z Exhauster (B) | 00 | 17.02.2020 | Other | See the summary below. | See the causes below. |  | 10 - Non consequential or near miss | 2304 - Degraded sub-component contributed to failure | 1 - For information only, diesel engine, preventive maintenance | ER.2 | | [**WER TYO 20-0044**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37030','_blank'))) | 13.02.2020 | Maanshan 1 | 13.11.2019 | Leakage of The Core Exit Thermocouple Nozzle Assembly (CETNA) G1 at The Reactor Vessel Head | 00 | 13.02.2020 | Other | See the summary below. | See the causes below. |  | 09 - Other | 0904 - Work initiated prior to ensuring all skills, parts, tools, instruments, etc., are available | 1 - For information only, leak, nozzle, reactor vessel head, seal | MA.1 | | [**WER TYO 20-0042**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37022','_blank'))) | 13.02.2020 | Changjiang 1 | 16.11.2019 | Incorrect Operation by Contractor’s Personnel Resulted in the Alarm of High Pit Liquid Level Trigged in the Main Control Room | 00 | 13.02.2020 | Other | See the summary below. | See the causes below. |  | 09 - Other | 0611 - Shortfall in on-job training / experience, 1003 - Skill of the craft less than adequate / Not familiar with job performance standards | 1 - For information only, contractor, management oversight, work control | MA.1 , MA.2 | | [**WER TYO 20-0040**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37020','_blank'))) | 13.02.2020 | Sanmen 1 | 04.12.2019 | Noncompliance of Calculation Difference of Temperature Measurement Instrument with Procedure Requirement Caused Unqualified Supervision Test | 00 | 13.02.2020 | Other | See the summary below. | See the causes below. |  | 09 - Other | 0408 - Distractions | 1 - For information only, calibration, procedure inadequacy | EN.1 | | [**WER TYO 20-0039**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37019','_blank'))) | 13.02.2020 | Sanmen 1 | 04.12.2019 | Shutdown of Hydrogen Seal Oil System Without Generator Pressure Relief Caused Lube Oil Leakage | 00 | 13.02.2020 | Other | See the summary below. | See the causes below |  | 09 - Other | 0205 - Conditions not verified prior to work, 0703 - Technically incomplete | 1 - For information only, leak, procedure adherence, procedure inadequacy, seal oil, turbine generator | OP.1 , OP.2 | | [**WER TYO 20-0038**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37018','_blank'))) | 13.02.2020 | Sanmen 1 | 07.12.2019 | High-temperature Melt Produced by Cutting Burnt Through Fire Blanket and Scalded the Protected Cable | 00 | 13.02.2020 | Other | See the summary below. | See the causes below. |  | 09 - Other | 0218 - Violation of policies/rules/procedures, 2012 - Inadequate risk analysis performed, including design or modification risk assessment and maintenance vulnerability, 2101 - Material used inadequate | 1 - For information only, control cable, fire, risk assessment | FP.1 | | [**WER TYO 20-0036**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36998','_blank'))) | 08.02.2020 | Qinshan 2 1 | 01.11.2019 | Correction of Mechanical Seal Leakage Fault of Reactor Coolant Pump Caused Unit to Return to Maintenance Cold Shutdown State | 00 | 08.02.2020 | Other | See the summary below. | See the causes below. |  | 03 - Equipment damage; fires | 2217 - Failure to exclude foreign material, 2300 - EQUIPMENT PERFORMANCE | 1 - For information only, FME, leak, procedure inadequacy, reactor coolant pump, seal | MA.2 , OP.1 , OP.2 | | [**WER TYO 20-0035**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36997','_blank'))) | 08.02.2020 | Sanmen 1 | 22.11.2019 | Abnormal Switching of Control System of Reactor Coolant Pump Variable Frequency Drive Caused Rotating Speed Decrease of Reactor Coolant Pump | 00 | 08.02.2020 | Other | See the summary below. | See the causes below. |  | 09 - Other | 2300 - EQUIPMENT PERFORMANCE | 1 - For information only, control circuit, power reduction, power supply, reactor coolant pump, vendor | ER.3 | | [**WER TYO 20-0029**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36977','_blank'))) | 07.02.2020 | Shin-Kori 2 | 15.11.2019 | Steam Generator Level Stabilization Delayed by Malfunctioning Main Feedwater Control Valve during Power Ascension | 00 | 07.02.2020 | Other | See the summary below. | See the causes below. |  | 09 - Other | 0210 - Inattention to detail | 1 - For information only, feedwater control system, procedure inadequacy, steam generator / boiler, wiring | ER.1 , MA.2 | | [**WER TYO 20-0028**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36976','_blank'))) | 07.02.2020 | Hanul 3 | 08.11.2019 | Failure of Excore Nuclear Instrumentation to Monitor Count Rates during Fuel Loading Due to Incorrect Wiring | 00 | 07.02.2020 | Other | See the summary below. | See the causes below. |  | 09 - Other | 0611 - Shortfall in on-job training / experience, 0701 - No document available | 1 - For information only, nuclear instrumentation, procedure inadequacy, wiring | NF.2 | | [**WER TYO 20-0026**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36974','_blank'))) | 07.02.2020 | Shin-Wolsong 1 | 31.10.2019 | Delayed Generator Gas Purging due to Valve Lineup Error | 00 | 07.02.2020 | Other | See the summary below. | See the causes below. |  | 09 - Other | 0702 - Technically incorrect | 1 - For information only, gas analyser, isolation valve, procedure inadequacy, valve misposition | OP.1 , OP.2 | | [**WER TYO 20-0025**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36973','_blank'))) | 07.02.2020 | Shin-Kori 4 | 13.10.2019 | Leaking Weld Upstream of Main Feedwater Strainer Vent Valve | 00 | 07.02.2020 | Other | See the summary below. | See the causes below. |  | 09 - Other | 2001 - Original design inadequate | 1 - For information only, configuration control, fatigue cracking, feedwater pump, leak, risk assessment, vent valve, vibration | CM.2 , CM.3 , EN.1 | | [**WER TYO 20-0018**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36925','_blank'))) | 03.02.2020 | Maanshan 1 | 21.10.2019 | An Eddy Current Test (ECT) Probe Got Stuck Inside A U-Bend Tube And Could Not Be Retrieved | 00 | 03.02.2020 | Other | See the summary below. | See the causes below. |  | 03 - Equipment damage; fires | 0611 - Shortfall in on-job training / experience | 1 - For information only, contractor, eddy current test, FME, pressure tube, procedure inadequacy, steam generator / boiler | MA.1 , MA.2 | | [**WER PAR 20-0088**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37080','_blank'))) | 20.02.2020 | Daya Bay 1 | 19.10.2019 | A distance block on corrugated plate of steam generator secondary side fell off during outage | 00 | 20.02.2020 | Other | See the summary below. | See the causes below. |  | 10 - Non consequential or near miss | 0214 - Improper tools / equipment used | 1 - For information only, loose part, steam generator / boiler | ER.1 | | [**WER PAR 20-0085**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37060','_blank'))) | 17.02.2020 | Krsko 1 | 23.09.2019 | Bunkered building roof leak | 00 | 17.02.2020 | Other | See summary below. | See causes below. |  | 10 - Non consequential or near miss | 2012 - Inadequate risk analysis performed, including design or modification risk assessment and maintenance vulnerability | 1 - For information only, contractor, diesel generator, leak | MA.1 , PM.1 | | [**WER PAR 20-0080**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37055','_blank'))) | 17.02.2020 | Forsmark 1 | 17.10.2019 | Inoperable limit switch to main Steam Isolation Valve | 00 | 17.02.2020 | Other | See the summary below. | See the causes below. |  | 10 - Non consequential or near miss | 0210 - Inattention to detail | 1 - For information only, limit switch, main steam isolation valve, procedure inadequacy | MA.1 , MA.2 | | [**WER PAR 20-0078**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37053','_blank'))) | 17.02.2020 | Embalse 1 | 05.07.2019 | Unnoticed discontinuity of "Online Gas Chromatography" measurement data display | 00 | 17.02.2020 | Other | See the summary below. | See the causes below. |  | 09 - Other | 0503 - Controls provided not adequate | 1 - For information only, air operated valve, configuration control, design change, gas analyser, instrument air | CM.3 , ER.1 | | [**WER PAR 20-0063**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36988','_blank'))) | 07.02.2020 | Golfech 1 | 25.02.2019 | Inadequate control of intermediate decontamination of reactor building pools | 00 | 07.02.2020 | Other | See the summary below. | See the causes below. |  | 06 - Unforeseen personnel exposure | 0206 - Task not adequately researched prior to start, 0611 - Shortfall in on-job training / experience, 0712 - Inadequate safety assessment provided, 0801 - Duties and tasks not clearly explained, 0807 - Control of contractors inadequate, 0809 - Inappropriate selection of staff for task, 0904 - Work initiated prior to ensuring all skills, parts, tools, instruments, etc., are available | 1 - For information only, contractor, fuel pool, radioactive contamination, work control | RP.1 , RS.1 | | [**WER PAR 20-0053**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36965','_blank'))) | 06.02.2020 | Forsmark 3 | 16.10.2019 | Protruding objects from pallet racks resulted in a person getting an object in the eye | 00 | 06.02.2020 | Other | See summary below. | See causes below. |  | 07 - Personal injuries | 0407 - Cramped work space | 1 - For information only, industrial safety, injury | IS.1 | | [**WER PAR 20-0052**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36964','_blank'))) | 06.02.2020 | Emsland 1 | 18.11.2019 | Broken off spring ends in elbow flange joints of injection pumps of an emergency diesel engine | 00 | 06.02.2020 | Other | See summary below. | See causes below. |  | 10 - Non consequential or near miss | 2006 - Unauthorised or unreviewed modification, 2108 - Equipment installed does not meet all codes/requirements (except code 2110) | 1 - For information only, diesel fuel, FME, vendor | ER.3 | | [**WER PAR 20-0045**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36957','_blank'))) | 06.02.2020 | Brokdorf 1 | 19.02.2019 | Delayed opening of a pressure relief flap in the emergency diesel generator building | 00 | 06.02.2020 | Other | See summary below. | See causes below. |  | 09 - Other | 2302 - Ageing of component | 1 - For information only, diesel generator, vent valve | ER.1 | | [**WER PAR 20-0038**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36919','_blank'))) | 03.02.2020 | Fangchenggang 2 | 24.09.2019 | Abnormal fluctuation of water level across the circulating water filtration system drum filter screen | 00 | 03.02.2020 | Other | See summary below. | See causes below. |  | 09 - Other | 2301 - Equipment operated outside of design specifications | 1 - For information only, level instrument, service water | ER.1 | | [**WER PAR 20-0037**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36918','_blank'))) | 03.02.2020 | Trillo 1 | 12.08.2019 | Placing a tagout for an eyebath shower while work involving a chemical hazard had not been completed. | 00 | 03.02.2020 | Other | See summary below. | See causes below. |  | 10 - Non consequential or near miss | 0108 - Inter-team communication inadequate | 1 - For information only, work control | WM.1 | | [**WER PAR 20-0035**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36916','_blank'))) | 03.02.2020 | Santa Maria de Garoña 1 (Shutdown) | 10.10.2019 | Spillage in Standby Liquid Control System Area | 00 | 03.02.2020 | Other | See summary below. | See causes below. |  | 09 - Other, 10 - Non consequential or near miss | 0802 - Progress not adequately monitored | 1 - For information only, configuration control, spill, valve misposition | CM.2 , OP.1 | | [**WER PAR 19-0576**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36944','_blank'))) | 30.08.2019 | Grohnde 1 | 05.05.2019 | Flooding of the pump chamber of an emergency auxiliary cooling water pump during disconnecting the supply line | 01 | 06.02.2020 | Other | See the summary below. | See the causes below. |  | 10 - Non consequential or near miss | 0100 - VERBAL COMMUNICATIONS, 0101 - Shift hand-over inadequate, 0108 - Inter-team communication inadequate | 1 - For information only, service water, water intrusion | Z2.OP.1 | | [**WER MOW 20-0057**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37106','_blank'))) | 26.02.2020 | Smolensk 1 | 24.11.2019 | Low-pressure heater (LPH) condensate level growth to the alarm actuation setpoint. | 00 | 26.02.2020 | Other | See the summary below. | See the causes below. |  | 09 - Other | 0014 - Former : Unknown | 1 - For information only, feedwater heater, level instrument | ER.1 | | [**WER MOW 20-0053**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37094','_blank'))) | 21.02.2020 | Kalinin 3 | 11.10.2019 | Discontinuities with the Depth Exceeding 60% of the Steam Generator Heat Exchange Tube Wall Thickness Identified During Plant Maintenance | 00 | 21.02.2020 | Other | See the summary below. | See the causes below. |  | 03 - Equipment damage; fires | 2001 - Original design inadequate, 2005 - Material selection inadequate | 1 - For information only, erosion/corrosion, pressure tube, steam generator / boiler | ER.4 | | [**WER MOW 20-0048**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37068','_blank'))) | 18.02.2020 | Kola 1 | 23.10.2019 | Generator Stator Cooling Pump Automatic Changeover Due to Power Cable Open-Phase | 00 | 18.02.2020 | Other | See summary below. | See the causes below. |  | 09 - Other | 0802 - Progress not adequately monitored, 0902 - Special conditions or requirements not identified, 1470 - Inadequate operating experience feedback process (corrective actions not defined, Inadequate or not implemented promptly, root causes of known problems not addressed), 1610 - Need for change, further change not identified, 2203 - Preventive maintenance inadequate, 2303 - Known problems not corrected, including deficiencies in reporting findings | 1 - For information only, power supply, preventive maintenance, pump motor | ER.2 , PI.1 | | [**WER MOW 20-0040**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37029','_blank'))) | 13.02.2020 | Balakovo 3 | 05.11.2019 | Corrosion-induced leak from emergency and planned cooldown heat exchanger tubes was revealed during a statutory outage | 00 | 13.02.2020 | Other | See the summary below. | See the causes below. |  | 04 - Degradation of safety systems | 0703 - Technically incomplete, 0802 - Progress not adequately monitored, 0902 - Special conditions or requirements not identified, 1470 - Inadequate operating experience feedback process (corrective actions not defined, Inadequate or not implemented promptly, root causes of known problems not addressed), 1610 - Need for change, further change not identified, 2001 - Original design inadequate, 2003 - Design analysis deficiency, 2203 - Preventive maintenance inadequate | 1 - For information only, chemistry, debris / crud, design criteria / design basis, erosion/corrosion | CM.1 , MA.2 | | [**WER MOW 20-0039**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37028','_blank'))) | 13.02.2020 | Rovno 4 | 23.10.2019 | Loose Fastening of Brushless Exciter Current Sensor TAS4 with Turbine Generator No.6 Rotating Rectifiers | 00 | 13.02.2020 | Other | See the summary below. | See the causes below. |  | 09 - Other | 0700 - WRITTEN PROCEDURES AND DOCUMENTS | 1 - For information only, exciter, procedure inadequacy, rectifier, wiring | MA.2 | | [**WER MOW 20-0038**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37025','_blank'))) | 13.02.2020 | Kursk 4 | 18.10.2019 | Cutout Defective Piping and Equipment Sections Not Inspected Due to the Presence of Defective Sections in the Cutting Area | 00 | 13.02.2020 | Other | See the summary below. | See the causes below. |  | 03 - Equipment damage; fires | 0701 - No document available, 0902 - Special conditions or requirements not identified, 1320 - Inadequate establishment/support of programs or processes | 1 - For information only, preventive maintenance, weld | ER.2 | | [**WER MOW 20-0037**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37017','_blank'))) | 12.02.2020 | Rovno 4 | 27.09.2019 | Overheating of Stage 2 of Compressor 2VK-4 | 00 | 12.02.2020 | Other | See summary below. | See the causes below. |  | 09 - Other | 2305 - Component monitoring or parameter trending inadequate | 1 - For information only, compressor | EN.1 , ER.2 | | [**WER MOW 20-0036**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37016','_blank'))) | 11.02.2020 | Rovno 2 | 03.09.2019 | A Working Fluid Leak from the Model PV-1600-92-20 High Pressure Heater No.7 Tube Side | 00 | 11.02.2020 | Other | See summary below. | See causes below. |  | 09 - Other | 2001 - Original design inadequate, 2302 - Ageing of component | 1 - For information only, erosion/corrosion, feedwater heater, leak | ER.3 | | [**WER MOW 20-0033**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36984','_blank'))) | 07.02.2020 | Dukovany 4 | 18.10.2019 | Foreign Materials Found in Spent Fuel Pool Ventilation Hole | 00 | 07.02.2020 | Other | See summary below. | See causes below. |  | 10 - Non consequential or near miss | 2217 - Failure to exclude foreign material | 1 - For information only, FME, fuel pool | MA.1 | | [**WER MOW 20-0030**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36980','_blank'))) | 07.02.2020 | Tianwan 4 | 14.11.2019 | Closing of the Valve Outside the Scope of Work by Contractor's Personnel in Violation of Regulations | 00 | 07.02.2020 | Other | See summary below. | See causes below. |  | 09 - Other | 0218 - Violation of policies/rules/procedures | 1 - For information only, contractor, risk assessment, valve misposition | MA.1 | | [**WER MOW 19-0285**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36920','_blank'))) | 26.09.2019 | Mochovce 2 | 25.09.2019 | Plastic cable tie in the spent fuel pool | 01 | 03.02.2020 | Other | See summary below. | See causes below. |  | 10 - Non consequential or near miss | 0902 - Special conditions or requirements not identified | 1 - For information only, FME, fuel pool | Z2.FA.1 , Z2.PI.3 | | [**WER ATL 20-0107**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37112','_blank'))) | 27.02.2020 | Darlington 4 | 12.12.2019 | Excessive Vibration of Turbine Auxiliary Lube Oil Pump | 00 | 27.02.2020 | Other | See the summary below. | See the causes below. |  | 01 - Degraded plant operating conditions | 2102 - Manufacturer fabrication / construction inadequate | 1 - For information only, fatigue cracking, lube oil pump, vendor, vibration | ER.3 | | [**WER ATL 20-0106**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37111','_blank'))) | 27.02.2020 | Haiyang 1 | 19.11.2019 | Core makeup tank up sampling isolation valve（PSS-V016B）was not securely tightened after sampling | 00 | 27.02.2020 | Other | See the summary below. | See the causes below. |  | 04 - Degradation of safety systems | 2001 - Original design inadequate | 1 - For information only, configuration control, emergency core cooling system, valve misposition | CM.2 , OP.1 | | [**WER ATL 20-0104**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37109','_blank'))) | 27.02.2020 | Haiyang 1 | 15.05.2019 | High Outlet Temperature Difference between Haiyang Unit 1 Generator Stator Bar TE3455 and TE3457 | 00 | 27.02.2020 | Other | See the summary below. | See the causes below. |  | 01 - Degraded plant operating conditions | 2001 - Original design inadequate | 1 - For information only, chemistry, erosion/corrosion, stator, turbine generator | CM.1 , CY.2 | | [**WER ATL 20-0103**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37108','_blank'))) | 26.02.2020 | Point Lepreau 1 | 13.01.2020 | Standby Diesel Generator 3#1 Loss of Phase to Engine Coolant System Heater | 00 | 26.02.2020 | Other | See the summary below. | See the causes below. |  | 10 - Non consequential or near miss | 2300 - EQUIPMENT PERFORMANCE | 1 - For information only, diesel cooling water, diesel engine, diesel start system, vibration | ER.1 , IS.1 | | [**WER ATL 20-0101**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37102','_blank'))) | 25.02.2020 | Darlington 4 | 27.11.2019 | Liquid Zone Control Heat Exchanger Degradation | 00 | 25.02.2020 | Other | See summary below. | See causes below. |  | 10 - Non consequential or near miss | 2203 - Preventive maintenance inadequate | 1 - For information only, erosion/corrosion, FME, gasket, liquid zone control , preventive maintenance | ER.2 | | [**WER ATL 20-0100**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37101','_blank'))) | 25.02.2020 | Darlington 1 | 13.11.2019 | Foreign Material Exclusion Events at Darlington Station | 00 | 25.02.2020 | Other | See summary below. | See causes below. |  | 10 - Non consequential or near miss | 0102 - Pre-job briefing inadequate / not performed, 1130 - Policies, official guidance (standards), expectations, administrative controls:-Not adequate (not strict enough, confusing or incomplete), 1220 - Familiarity of workers with relevant policies and/or official guidance not verified, 1310 - Inadequate level of management involvement, 1360 - Inadequate assessment of personnel behaviour and performance | 1 - For information only, FME, procedure adherence, procedure inadequacy | MA.1 , MA.2 | | [**WER ATL 20-0092**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37070','_blank'))) | 18.02.2020 | Koeberg 1 | 19.11.2019 | Unit 1 Reactor Coolant Valve for the 6th Refuelling Outage renew valve diaphragm task not performed due an erroneous date change on System Application Product and Data Processing system change control form. | 00 | 18.02.2020 | Other | See summary below. | See causes below. |  | 09 - Other | 0210 - Inattention to detail, 0217 - Lack of questioning attitude | 1 - For information only, diaphragm valve, preventive maintenance, procedure adherence, reactor coolant | WM.1 | | [**WER ATL 20-0091**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37069','_blank'))) | 18.02.2020 | Koeberg 1 | 16.11.2019 | Responsible Person not present for duration of sanction for test as required by the Plant Safety Regulations. | 00 | 18.02.2020 | Other | See summary below. | See causes below. |  | 10 - Non consequential or near miss | 0204 - Administrative controls circumvented or intentionally not performed, 0806 - Standards not adequately communicated, 0902 - Special conditions or requirements not identified | 1 - For information only, auxiliary boiler, documentation, surveillance | OF.1 | | [**WER ATL 20-0089**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37041','_blank'))) | 14.02.2020 | Pickering B6 | 12.10.2019 | Inadequate Inactive Drainage Resulted in Small Flooding of 255’ Elevation | 00 | 14.02.2020 | Other | See summary below. | See causes below. |  | 10 - Non consequential or near miss | 2012 - Inadequate risk analysis performed, including design or modification risk assessment and maintenance vulnerability | 1 - For information only, check valve, debris / crud, pump | ER.1 | | [**WER ATL 20-0083**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37027','_blank'))) | 13.02.2020 | Koeberg 1 | 28.12.2019 | Reactor Coolant System Pressuriser level transmitters did not respond as expected. | 00 | 13.02.2020 | Other | See summary below. | See causes below. |  | 10 - Non consequential or near miss | 0704 - Cautionary information not included | 1 - For information only, configuration control, level instrument, pressuriser level, procedure inadequacy | MA.1 | | [**WER ATL 20-0072**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37005','_blank'))) | 10.02.2020 | Calvert Cliffs 1 | 23.04.2019 | Articulating Dump Truck Bed Turned Over at Construction Site | 00 | 10.02.2020 | Other | See summary below. | See causes below. |  | 09 - Other | 0200 - PERSONNEL WORK PRACTICES | 1 - For information only, contractor, industrial safety, risk assessment | IS.1 , PM.1 | | [**WER ATL 20-0071**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=37004','_blank'))) | 10.02.2020 | Barakah 1 | 02.01.2020 | Configuration Control Issue – Motor Leads Not Re-landed | 00 | 10.02.2020 | Other | See summary below. | See causes below. |  | 10 - Non consequential or near miss | 0218 - Violation of policies/rules/procedures | 1 - For information only, configuration control, motor operated valve, service water | PM.1 | | [**WER ATL 20-0069**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36953','_blank'))) | 06.02.2020 | Koeberg 1 | 02.10.2019 | Radiation worker entered the controlled zone with a paused new model DMC 3000s Electronic Personal Dosimeter | 00 | 06.02.2020 | Other | See summary below. | See causes below. |  | 09 - Other | 0904 - Work initiated prior to ensuring all skills, parts, tools, instruments, etc., are available, 1640 - Consequences of change not adequately assessed | 1 - For information only, radiation protection | RS.1 | | [**WER ATL 20-0057**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36930','_blank'))) | 04.02.2020 | Shidao Bay 1 | 11.04.2019 | Insufficient Spot Welding of Mounting Bolts on 2# Steam Generator Flow Distribution Plates | 00 | 04.02.2020 | Other | See summary below. | See causes below. |  | 10 - Non consequential or near miss | 0217 - Lack of questioning attitude, 0218 - Violation of policies/rules/procedures | 1 - For information only, documentation, loose part, weld | PM.1 | | [**WER ATL 20-0056**](javascript:void(window.open('http://www.wano.org/OperatingExperience/OE_Database_2012/Pages/EventReportDetail.aspx?ids=36929','_blank'))) | 04.02.2020 | Koeberg 1 | 09.07.2019 | The Spent Fuel Cask inadvertently made contact with the Unit 1 Fuel Building Ventilation System shaft entrance wall. | 00 | 04.02.2020 | Other | See summary below. | See causes below. |  | 03 - Equipment damage; fires | 0103 - Message misunderstood / misinterpreted, 0712 - Inadequate safety assessment provided | 1 - For information only, crane, industrial safety, procedure adherence | NF.2 | |
|  |  |