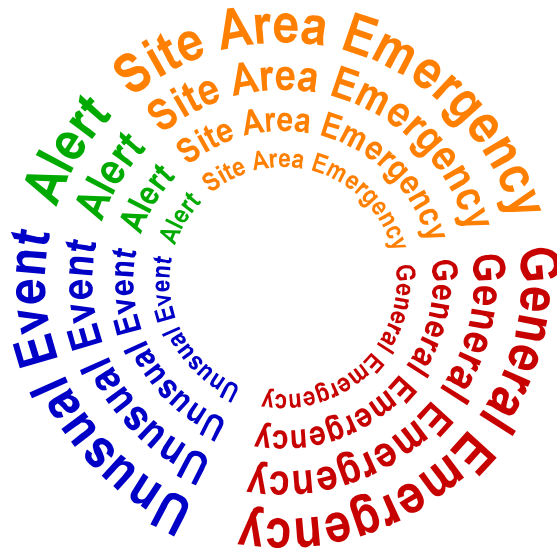


2015

U.S. Nuclear Power Industry

# Emergency Classification Notifications

Statistics, Trends & Operating Experience



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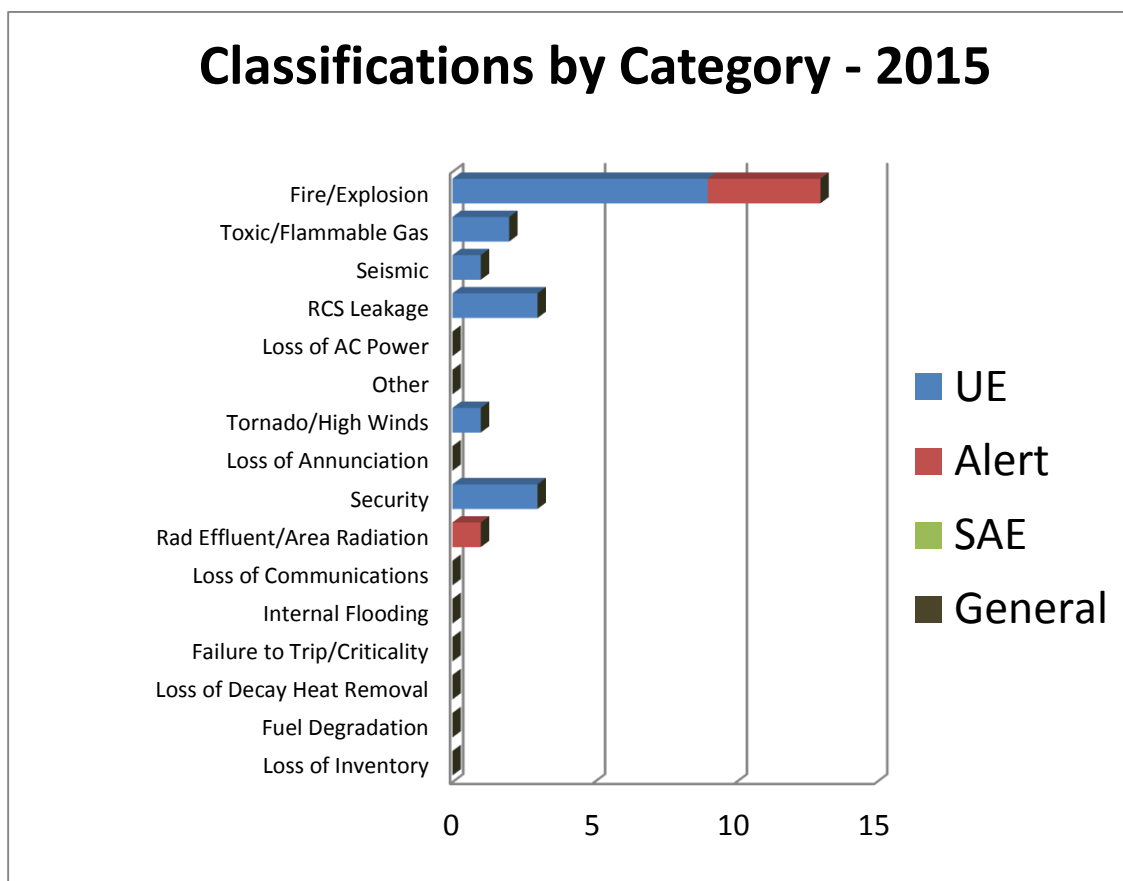
(<mailto:ossikelly@aol.com>) - (704 243-0501)

### STATISTICS & TRENDS

During 2015, there were nineteen (19) Unusual Event and five (5) Alert emergency classification notifications made to the NRC. **Figure 1** depicts the number of emergency classification notifications made in 2015. The categories in Figure 1 are those for which at least one emergency classification notification has been made in the ten year period from 2006 through 2015. **Figure 2** depicts total emergency classification notifications made by category over the same period<sup>1</sup>. The distribution of emergency classifications for the year 2015 does not conform to the cumulative totals, by category, over the ten year period shown in Figure 2. Reasons include:

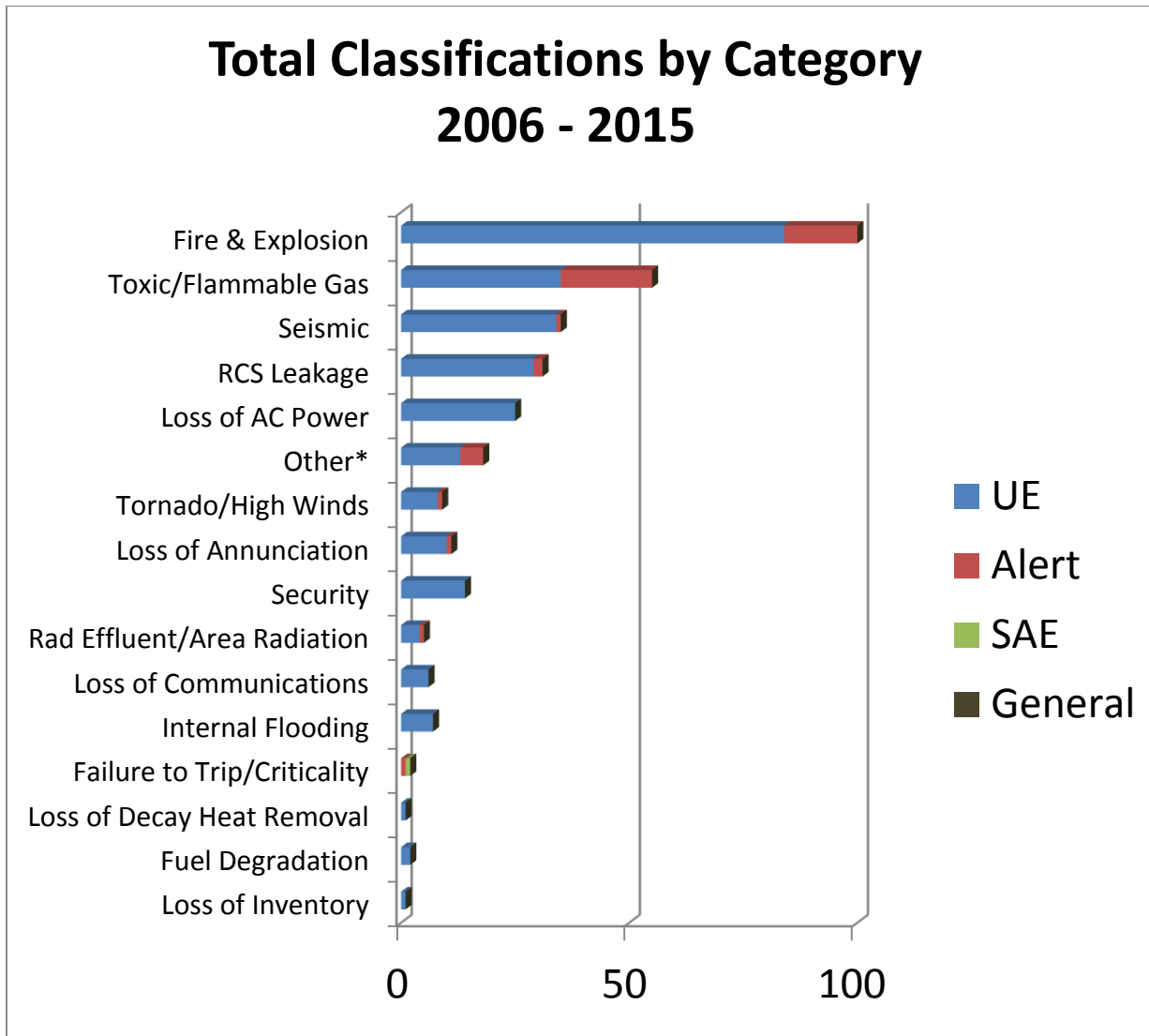
- There has been a notable reduction in hazardous gas event classifications over the previous five year period.
- The lack of hurricane and seismic activity in the US has significantly reduced natural-event-based classifications.
- 2015 is the first year since 2010 that there was no loss of AC electrical power-based classifications.

**Figure 1**



<sup>1</sup> Compiled from data available on the [Nuclear Regulatory Commission Event Report website](#)

**Figure 2**



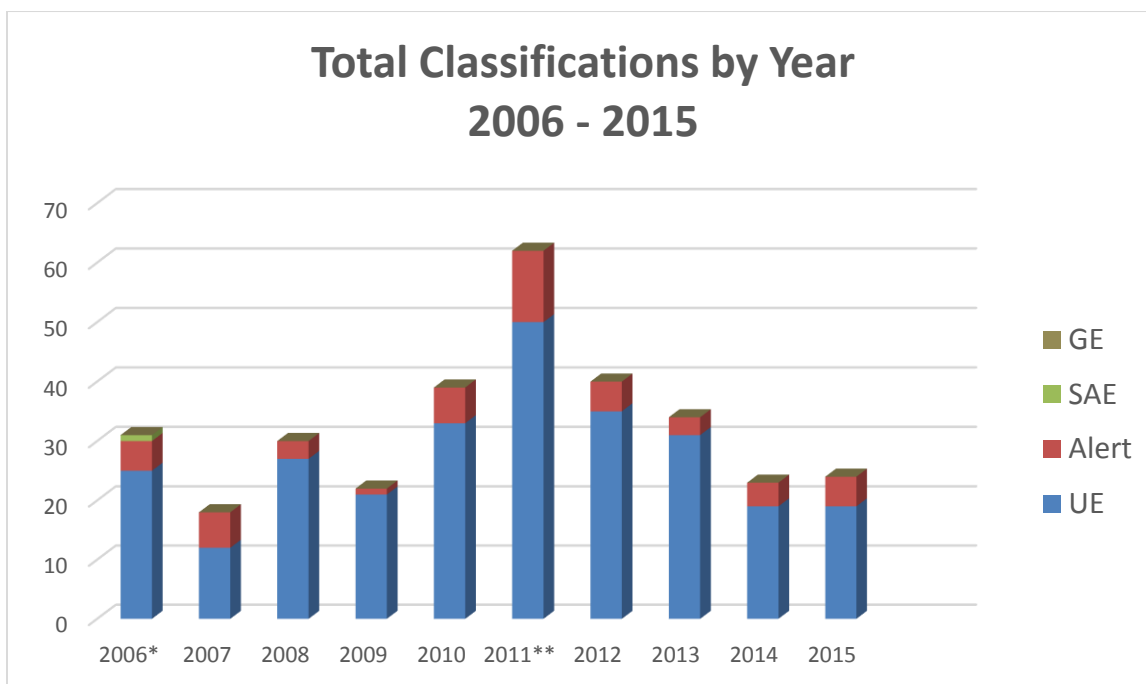
\* The **Other** category includes reported events such as: high and low ultimate heat sink/intake levels, Containment operability issues, fuel handling incidents, and Emergency Director judgment.

## 2015 Emergency Classification Notifications

**Figure 3** depicts total number of emergency classifications reported to the Nuclear Regulatory Commission per year for the years 2006 through 2015. The 2015 total (24 declared events) represents the third year in a row that total classifications are significantly below the previous 10-year historical average (~34 declared events per year).

2015 again saw a higher percentage of fire/explosion related Alert classification notifications – 4 of 13 (~31%), relative to ten year historical data – 16 of 100 (16%).

**Figure 3**



\* One (1) Site Area Emergency was declared during the analyzed 10-year period; 2006 LaSalle scram failure ([42348](#)).

\*\* Sixteen (16) Unusual Events and one (1) Alert were declared on 8/23/11 due to an east coast seismic event.

### INSIGHTS

#### After-the-Fact Classifications

In 2015, there were no after-the-fact classifications. The lack of such classifications is likely due to licensees adhering to the guidance provided in NEI 99-01 Revision 6 Section 5.9 *"After-the-Fact Discovery of an Emergency Event or Condition"* which states that *"...when personnel discover that an event or condition existed which met an EAL, but no emergency was declared, and the event or condition no longer exists at the time of discovery,"* that no emergency declaration is warranted and the event should be reported to the NRC in accordance with 10CFR50.72 (consistent with the guidance provided in NUREG-1022).

#### Emergency Classification Notification Retractions

In 2015, there were two (2) emergency classification notification retractions. Emergency classification retractions are typically based on classified events that were later determined to have been either inaccurate or over classified. On 6/7/15 Grand Gulf Nuclear Station declared an Unusual Event ([51137](#)) based on what was believed to be a wiring box fire that was later determined to not meet the intent of the term "fire." On 11/13/15 South Texas Project declared an Unusual Event ([51536](#)) based on Unidentified RCS leakage. A subsequent assessment determined that since the leakage was from the Chemical & Volume Control System (CVCS) that the leakage did not constitute RCS leakage. This distinction is a site-specific determination based on how RCS leakage is defined in the plant's Technical Specifications.

#### Focus Area: Inability to Validate Fire Alarms in Containment / Reactor Building

In 2015 four (4) of the nine (9) Fire/Explosion based Unusual Event classification notifications were made due to the inability of plant operators to validate a fire alarm in the Containment building within 15 minutes (~45%). In all instances it was subsequently determined that no fire existed and that the alarms were not valid.

The interpretation of the Unusual Event fire EAL under NEI 99-01 Revision 5 and earlier has been that a fire alarm must be verified within 15 minutes of receipt. That verification is performed either by someone physically confirming the existence of a fire at the alarm sensor location or through some other pre-determined means of alarm verification from within or nearby the Control Room. In NEI 99-01 Revision 6 the fire based Unusual Event EAL threshold was revised to allow 30 minutes (vs. 15 minutes) to validate a single fire alarm. This revision provides additional time to validate a fire alarm in remote or hard to access

## 2015 Emergency Classification Notifications

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fire areas such as the Containment / Reactor Building. However, it is not clear whether this 30 minute alarm validation time for single fire alarms would have resulted in any reduction in these classifications caused by a lack of timely access. Feedback from numerous licensees indicates that during power operations, Containment /Reactor Building fire area access would likely still exceed the 30 minute limit.

Alternatively, some licensees have specified fire alarm validation procedures utilizing Control Room indications such as area temperatures/pressures or redundant confirming sensors (smoke, heat and flame) precluding the need to dispatch an individual to locally validate the alarm.

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Event identification numbers are enclosed in parentheses and hyperlinked to the [NRC Event Report website](#).



**FIRE/EXPLOSION**

(NEI 99-01 Rev. 5 IC HU2/HA2: Rev. 6 IC HU4/HA4)

**3/15/15 UNUSUAL EVENT - INABILITY TO VALIDATE A CONTAINMENT FIRE ALARM WITHIN 15 MINUTES**

**Prairie Island Nuclear Generating Plant ([50866](#))**

Instrument Air containment isolation failed closed on Unit 2. This isolated normal letdown / excess letdown and required pressurizer level to be maintained by diverting pressurizer level to the Pressurizer Relief Tank. The Pressurizer Relief Tank rupture disc ruptured which resulted in a fire alarm in Unit 2 Containment. The fire alarm could not be validated within 15 minutes which resulted in a declaration of an Unusual Event based on EAL HU2.1. The loss of Instrument Air to Unit 2 containment resulted in a loss of cooling to the reactor vessel gap and support cooling systems. Due to the loss of reactor vessel ventilation systems a plant shutdown to Mode 3 was initiated. No radioactive releases to the environment occurred or were expected to occur.

At 1725, CST on 3/5/15 Instrument Air to Unit 2 containment was established. Letdown was then reestablished. These actions stabilized the plant and stopped the 30 GPM identified leakage out of the PZR Relief Tank rupture disc into containment. This condition is what caused the fire detection alarm in containment, and was also Unusual Event classification criteria. Unit 2 containment was entered and it was confirmed that no fire existed in containment. The Unusual Event was terminated at 0018 CST on 3/6/15 based on no fire and no identified RCS leakage into containment.

**4/5/15 ALERT - FIRE IN MOTOR CONTROL CENTER**

**Limerick Generating Station ([50956](#))**

An Alert was declared due to a fire in a Unit 2 Division 2 Safeguard (250 volt) DC Motor Control Center. This made the High Pressure Core Injection system inoperable and unavailable. The fire was out. The emergency response organization was activated and investigation / repair planning commenced. Unit 2 was stable with no other system affects.

The fire was extinguished by on-site personnel. No off-site responders were required. The Reactor Core Isolation Cooling system remained operable. A Fire Watch was stationed to monitor for fire re-flash. There were no injuries resulting from this event. There was no effect on Unit 1.

**4/30/15 UNUSUAL EVENT – ELECTRICAL FAULT**

**Oconee Nuclear Station ([51026](#))**

An Unusual Event (4.6.U.1) was declared by the Shift Manager at Oconee Nuclear Station at 1840 EDT on 4/30/15 due to scorched 4160V cable and a hole created in the metal connector coming into the top of 1C condensate booster pump motor electrical junction box. Unit 1 experienced a decrease in power to approximately 98.6% power due to the perturbation in condensate flow from the loss of 1C condensate booster pump. Unit 1 was stable at 98.6% power. The 1A condensate booster pump auto-started as expected. Smoke was observed and quickly dissipated. No visible fire or flame was observed. No Fire Brigade response was required.

The Unusual Event was terminated at 1945 EDT on 4/30/15.

**5/9/15 UNUSUAL EVENT – MAIN TRANSFORMER FIRE**

**Indian Point Energy Center ([51060](#))**

At 1750 EDT Indian Point Unit 3 experienced a fire on the 31 Main Transformer resulting in a unit trip. An Unusual Event was declared at 1801 EDT. The onsite fire brigade was mobilized. Offsite firefighting assistance was requested. The fire was reported extinguished at 1815 EDT. The reactor was shut down by an automatic trip. Plant response to the trip was as expected with no complications. The 31 and 33 Auxiliary Feed Pumps were operating and feeding the steam generators. Personnel accountability was performed.

The plant was stable in mode 3, with all control rods fully inserted, with normal offsite electrical power, and decay heat being released to the main condenser. There was no impact on Unit 2 which continued to operate at 100% power.

It was subsequently determined that oil from 31 Main Transformer had spilled into the discharge canal and had made its way into the river. Plant personnel began sandbagging drains and release paths. IPEC made required notifications for the spill.

Indian Point Unit 3 exited the Unusual Event at 2103 EDT. The basis for exiting the Unusual Event was that the fire was out and field operators reported they had been successful in cooling the transformer.

**5/9/15 UNUSUAL EVENT – STEAM LEAK IN THE TURBINE BUILDING**

**Davis-Besse Nuclear Power Station ([51061](#))**

At 1855 EDT, a steam leak from the #1 moisture separator re-heater in the turbine building was reported to the control room. Operators performed a rapid down power to approximately 30% at which time the reactor was manually tripped. At 1910 EDT an Unusual Event was declared. The steam feed rupture control system was manually initiated (this includes actuation of both turbine-driven Auxiliary Feedwater Pumps) and the steam leak was isolated. Station air compressor #2 (non-safety related) tripped. Station air compressor #1 automatically started.

The unit was subsequently placed in mode 3 (Hot Standby) and stable. Steam was being discharged through the atmospheric dumps as a means of decay heat removal. There was no known primary to secondary leakage. All systems functioned as expected. There were no reported injuries and personnel accountability was performed.

The licensee exited the Unusual Event at 2121 EDT based on the steam leak being isolated and plant conditions being stable. Cooling continued to be maintained via the Auxiliary Feedwater System.

**6/7/15 UNUSUAL EVENT – FIRE IN PROTECTED AREA LASTING GREATER THAN 15 MINUTES  
(retracted)**

**Grand Gulf Nuclear Station ([51137](#))**

At 2359 EDT the Grand Gulf Nuclear Station declared an Unusual Event in accordance with Emergency Action Level HU4 for a fire in the protected area lasting greater than 15 minutes. The fire started in the wiring of a terminal box for Electro Hydraulic Pump C, the running pump located in the turbine building. The running pump was then de-energized by operators and the standby pump started. The site fire brigade responded and extinguished the fire. The emergency was terminated at 0030 on June 8, 2015.

**Retraction** at 1645 ON 7/9/2015

The Unusual Event was retracted because the event did not meet the definition of 'fire' in NEI 99-01 Revision 5, 'Methodology of the Development of Emergency Action Levels'. The document was endorsed by the NRC and is part of the Grand Gulf Nuclear Station's current licensing basis. Per the guidance, a 'fire' is defined as: "Combustion characterized by heat and light. Sources of smoke such as slipping drive belts

or overheated electrical equipment do not constitute as 'fires'. Observation of flame is preferred but is NOT required if large quantities of smoke and heat are observed.”

According to eyewitness reports from personnel, flames were not observed at any time and evidence of large quantities of heat and smoke were not observed. Additionally, the definition of 'fire' specifically excludes overheated electrical equipment. This information lead to the conclusion that the event did not meet the definition of a 'fire' per NEI 99-01 Revision 5. Therefore, the event was not an immediately reportable Unusual Event under 10 CFR 50.72(a)(1)(i).

**7/9/15            UNUSUAL EVENT – INABILITY TO VALIDATE A CONTAINMENT FIRE ALARM WITHIN 15 MINUTES**

**Vogtle Electric Generating Plant ([51219](#))**

The Vogtle Unit-1 control room received a fire alarm from inside the containment building. Per plant requirements, verification of the fire was not obtained within 15 minutes and an Unusual Event was declared. Plant personnel were able to enter containment and verify that there was no fire present. The reactor remained at 100% power throughout the event.

Unusual Event entered: 1732 EDT.

Unusual Event exited: 1848 EDT.

**9/16/15            UNUSUAL EVENT – RAPID COMBUSTION OF A LOAD CENTER BREAKER**

**Palo Verde Nuclear Generating Station ([51403](#))**

Non-class load center breaker, 2ENGN-L04 failed, resulting in a visible observation of rapid combustion and resultant charring (burned area) of the breaker enclosure and housing. No physical deformation to the breaker housing or surrounding area was identified. The rapid combustion self-extinguished immediately following the audible and visible combustion event. As a result, an emergency classification of HU2.2, explosion was declared due to the load center breaker failure and noise and visible indication observed in the field.

The plant was, and continued to operate at 100% full power operations on normal power alignment. The 2ENGN-L04 Non-class load center breaker supplies power to non-essential service loads and has no immediate impact to plant operation or safety mitigating systems. The plant remained stable and the event did not adversely affect the safe operation of the plant or health and safety of the public.

PVNGS Unit 2 terminated the Unusual Event HU2.2 on 9/17/15 at 04:04 MST. Non-class load center 2ENGN-L04 was isolated and de-energized. There was no re-flash or fire at the breaker and no hazard to plant personnel existed. Damage appeared to be limited to the NGN-L04D3 breaker cubicle and a spare breaker cubicle below NGN-L04D3. There was no damage to any safety related equipment.

**9/20/15      ALERT – FIRE GREATER THAN 15 MINUTES OUTSIDE OF THE FACILITY**

**Honeywell International, Inc. (UF<sub>6</sub>) ([51414](#))**

At 2019 CDT, the licensee declared an Alert due to a truck fire, outside of the protected area, that lasted greater than 15 minutes. The truck was awaiting entry to the plant to deliver materials when the truck driver noticed smoke emanating from the dash. He attempted to put out the fire using a handheld extinguisher but was unsuccessful so he left the vehicle and notified licensee employees.

The licensee contacted the Massac County and Metropolis Fire Departments who responded to the site and put out the fire. The cab of the truck was considered a total loss but the trailer was not affected by the fire and remained intact.

At 2055 CDT, once they determined the fire was out, the licensee downgraded the Alert to a plant emergency.

At 2216 CDT, the licensee declared all clear for the event when swipes taken on the trailer did not indicate a spread of contamination.

**10/5/15      ALERT – FIRE IN THE AUXILIARY BUILDING**

**Three Mile Island Nuclear Station ([51455](#))**

At 2115 EDT on 10/05/15, an Alert was declared due to a fire in the Auxiliary building affecting DC-P-1A (Decay closed cooling pump 1A) and A-Train safety equipment.

The licensee reported the fire was extinguished at approximately 2201 EDT. The fire did not hamper operations personnel responding to the fire. Offsite fire assistance was requested.

Following inspection by electrical maintenance the 'P' 480V bus was re-energized at 2305 EDT and restoration of previously running loads was in progress. The station entered a 72-hour LCO for repairs to the Decay Closed Cooling Water Pump '1A' (DC-P-1A).

The licensee terminated the Alert at 0009 EDT on 10/06/15.

**11/4/15      ALERT – FIRE ON THE 'A' EMERGENCY DIESEL GENERATOR**

**Millstone Power Station ([51513](#))**

At 1133 EST on 11/4/15, an Alert was declared due to a fire in the 'A' Emergency Diesel Generator (EDG) enclosure. Fire caused damage to the safety related EDG and was declared inoperable. The fire was out, and off-site assistance was not necessary. A fire watch was stationed, and no personnel injuries were reported.

At 1446 EST on 11/4/15, Millstone Unit 3 terminated the Alert declaration following satisfactory atmospheric samples at the site boundary and notifying the State of Connecticut.

**11/9/15      UNUSUAL EVENT – INABILITY TO VALIDATE A CONTAINMENT FIRE ALARM WITHIN 15 MINUTES**

**Palo Verde Nuclear Generating Station ([51522](#))**

During Palo Verde Nuclear Generating Station Unit 2 containment pressurization for integrated leak rate testing in Mode 5, a containment fire alarm in Fire Zone 63B (Steam Generator 2 all elevations of containment) was received. Containment temperature and pressure at the time of event were 72°F and 13 psig.

Due to the inability to access containment to validate the fire alarm, an Unusual Event (HU2.1) was declared at 0547 MST for a fire in containment which was unable to be validated within 15 minutes of receipt. No safety functions had been impacted due to the fire alarm. No automatic or manual RPS or ESF actuations occurred and none were required.

Actions were taken to depressurize containment to enter and validate the fire alarm.

There was no effect on U-1 or U-3 due to the fire alarm.

The containment was entered following depressurization. Operations and Fire Protection personnel inspection of containment and Fire Zone 63B identified no indication of fire or smoke and the fire alarm was determined to be invalid. No other impacts to plant equipment were identified. The Unusual Event was terminated on 11/9/2015 at 0901 MST.

**12/17/15 UNUSUAL EVENT – INABILITY TO VALIDATE A CONTAINMENT FIRE ALARM WITHIN 15 MINUTES**

**Prairie Island Nuclear Generating Plant ([51609](#))**

Unusual Event HU2.1 was declared at 1318 CST. A fire alarm was received in the Unit 2 containment at 1307 CST. Due to the location of the alarm, personnel were unable to verify the status within 15 minutes. At 1343 CST, the fire alarm in containment cleared. This alarm came in shortly after a Unit 2 reactor trip. The reactor trip was due to a turbine trip. Decay heat removal was via forced circulation with auxiliary feed and steam dumps providing secondary cooling. Offsite power remained available.

**RCS Leakage**

**(NEI 99-01 Rev. 5 IC SU5: Rev. 6 SU4)**

**10/4/15 UNUSUAL EVENT – IDENTIFIED RCS LEAKAGE > 25 GPM**

**Millstone Power Station ([51448](#))**

At 0932 EDT on 10/4/15, the licensee declared an Unusual Event for identified Reactor Coolant System (RCS) leakage exceeding 25 gallons per minute, per EAL BU2, due to a relief valve leaking on the Shutdown Cooling System common header. The RCS leakage was within the capacity of the Charging System. At 0954 EDT the RCS leakage was terminated by isolating the Shutdown Cooling System. The cause of the relief valve failure was unknown and under investigation.

The RCS cooldown was terminated and both RCS loops were restored to service for decay heat removal using both steam generators and the main condenser. All offsite power and Emergency Diesel Generators were available.

The licensee intended to repair the relief valve to resume the RCS cooldown using the shutdown cooling system.

The licensee terminated the Unusual Event at 1100 EDT, based on verification that the RCS leakage was stopped.

**11/3/15 UNUSUAL EVENT – UNIDENTIFIED RCS LEAKAGE GREATER THAN 10 GPM (retracted)**

**South Texas Project ([51536](#))**

While in Mode 3, South Texas Project Unit 1 declared an Unusual Event at 0639 CST on 11/13/15, due to SU7 EAL1- Unidentified RCS or Pressure Boundary leakage greater than 10 gpm.

The excessive leakage to the WHT (waste holding tank) occurred when a letdown system demineralizer was placed in service. Operators bypassed the demineralizer and the RCS leakage was stopped. The excess leakage lasted for approximately 8 minutes and the maximum leakage was estimated to be 12-15 gpm.

There was no impact on South Texas Unit 2 which continued to operate at 100% power.

South Texas Project Unit 1 exited the Unusual Event at 0802 CST on 11/13/15, after verifying Unidentified RCS leakage less than 1 gpm. The demineralizer drain valve was partially open and was the cause of the excess leakage. The drain valve was closed.

**Retraction** at 1221 EST on 12/08/15. After further review, the emergency declaration was retracted because the source of the leakage was from the Chemical and Volume Control System (CVCS) and not from the RCS.

**11/23/15 UNUSUAL EVENT – UNIDENTIFIED RCS LEAKAGE GREATER THAN 10 GPM**

**Salem Generating Station ([51563](#))**

At 2148 EST on November 23, 2015, Salem Unit 2 declared an Unusual Event due to Reactor Coolant System (RCS) leakage greater than 10 gpm. While performing troubleshooting to determine the source of leakage from the Emergency Core Cooling System high head safety injection piping, a motor operated valve was opened and the high head piping relief valve lifted. Indications in the control room calculated the leak rate at 16 gallons per minute based on the change in pressurizer level. The leak was terminated when the motor operated valve was closed and the relief valve reseated. The duration of the leak was about one minute.

The licensee terminated the Unusual Event at 0100 EST on 11/24/15. The licensee cooled down and depressurized to mode 5 in order to replace the affected valve.



**SECURITY**

**(NEI 99-01 Rev. 5 IC HU4: Rev. 6 HU1)**

**6/7/15 UNUSUAL EVENT – SECURITY CONDITION DUE TO NON-HOSTILE ACTION**

**V. C. Summer Nuclear Station ([51135](#))**

An individual approached the outside of the administrative fence near the circulating water intake structure. Local law enforcement assistance was requested. The Security Team Leader does not consider this to be hostile.

An emergency declaration was made based on HU4.1, for a security condition that does not involve a hostile action.

The individual was taken into custody without incident.

**10/2/15 UNUSUAL EVENT – SECURITY EVENT**

**Fort Calhoun Station ([51439](#))**

At 0905 CDT on 10/02/15, Ft. Calhoun Station declared an Unusual Event based on criteria in the site Security Plan.

At 1136 CDT, the Unusual Event was terminated based on the fact that criteria for entry into the site Security Plan no longer existed.

**10/20/15 UNUSUAL EVENT – SUSPICIOUS VEHICLE IN OWNER CONTROLLED AREA**

**Davis-Besse Nuclear Power Station ([51483](#))**

A Security Condition in the Owner Controlled Area outside of the Protected Area. There was an unknown vehicle located on the south side of the intake canal. The vehicle was locked, the engine was not running, and the parking lights were on. Security performed an inspection of the vehicle for explosives or other contraband in conjunction with local law enforcement.

The Unusual Event was declared based on EAL HU-1.

At 2229 EDT, the Unusual Event for a Security Condition at Davis-Besse Nuclear Power Station was terminated.

An inspection of the vehicle in question was performed and it was determined that no threat existed to the site at any time.

**TOXIC/FLAMMABLE GASES**

(NEI 99-01 Rev. 5 IC HU3/HA3: Rev. 6 IC HU3/HAS)

**1/22/15 UNUSUAL EVENT - TOXIC GAS IN THE SECURITY DIESEL BUILDING**

**Brunswick Nuclear Plant ([50751](#))**

At 1801 EST, the control room received multiple fire alarms in the control room. At 1803, site security notified the control room of the presence of smoke in the security diesel building. At 1813, the licensee declared an Unusual Event due to the presence of toxic gas in the security diesel building on the battery/UPS side of the building. The fire suppression (NOVEC) system had discharged. Both the Technical Support Center and the Operations Support Center were fully manned.

The site fire brigade made entry into the building and saw no evidence of fire but they did see and smell an acrid odor from an apparent electrical fire as well as the presence of the NOVEC fire suppressant.

Offsite assistance was requested but not required to mitigate the event. The cause of the toxic gas was subsequently under investigation. No security equipment was affected.

At time 1923 EST, the Unusual Event was terminated after normal access to the security diesel building was restored. The cause of the event was still under investigation.

**7/11/15 UNUSUAL EVENT - CO<sub>2</sub> RELEASE AFFECTING NORMAL PLANT OPERATIONS**

**Salem Generating Station ([51222](#))**

At 1810 EDT, the Salem Unit 1 control room received an alarm that a CO<sub>2</sub> discharge occurred in the Diesel Fuel Oil Transfer Pump Rooms on the 84 foot elevation in the Auxiliary Building. The control room referred to the OHA (Overhead Annunciator) response procedure S1.OP-AR.ZZ.0001 for OHA A-8, 'Fire Prot CO2/Halon Disch.' The ARP (Alarm Response Procedure) directed implementation of the S1.OP-AB.Fire-0001 procedure and control room ventilation was shifted to the 'fire outside' mode of operation. The onsite fire protection team responded to the area and confirmed the CO<sub>2</sub> discharge. The onsite fire department determined that there was no fire and no smoke in the area of the discharge. The Fire Brigade

Liaison inspected the equipment and determined that there was no adverse impact to any equipment located in the vicinity of the discharge and no operational impact on the plant.

All systems responded as expected. There were no personnel injuries as a result of the discharge. Atmosphere in the area of the discharge was verified normal and no restrictions to the area were put in place.

The cause of the discharge was determined to be a faulty detector. No off site response was requested and an hourly fire watch was initiated until the detector was repaired.

The Unusual Event was terminated at 2154 EDT.

### **SEISMIC EVENTS**

**(NEI 99-01 Rev. 5 IC HU1/HA1: Rev. 6 IC HA2)**

#### **5/2/15 UNUSUAL EVENT – SEISMIC ACTIVITY FELT ONSITE**

##### **Palisades Nuclear Power Plant ([51033](#))**

At 1241 EDT, Operations staff at Palisades declared an Unusual Event under EAL HU1.1 due to seismic activity felt on site. No seismic alarms were initiated. No plant equipment was affected. The epicenter of the 4.2 magnitude earthquake was located south of Galesburg, MI. Palisades continued to operate at 100% power.

The licensee terminated the Unusual Event at 1541 EDT on 5/2/15.

**TORNADO/HIGH WINDS**

(NEI 99-01 Rev. 5 IC HU1/HA1: Rev. 6 IC HA5)

**10/30/15 UNUSUAL EVENT – TORNADO WARNING ON CAMPUS**

**Texas A&M Research Reactor (51508)**

At 1250 CDT, a Notification of Unusual Event was declared at the Texas A&M Nuclear Science Center due to a tornado warning on the Texas A&M campus. The reactor was secured and Science Center staff were evacuated to their designated tornado shelter in the facility. There was no risk to public health and safety.

The tornado warning was in effect until 1345 CDT.

At 1342 CDT, the tornado warning was terminated. The licensee conducted a facility walk down and did not observe any damage to the facility. At 1400 CDT, the Notification of Unusual Event was terminated.

**RADIOLOGICAL RELEASE**

(NEI 99-01 Rev. 5 IC AU1/AA1: Rev. 6 IC AU1)

**8/1/15 ALERT – URANIUM HEXAFLUORIDE (UF<sub>6</sub>) RELEASE**

**Honeywell International (UF<sub>6</sub>) ([51283](#))**

At 1755 CDT on 08/01/15, Honeywell declared an Alert and activated their Emergency Response Team (ERT) based on an on-going UF<sub>6</sub> release. The source of the leak was from a tell-tale valve installed during maintenance activities for Condenser #4 in the Feed Materials Building (FMB) 6th floor. The licensee employed a mitigating strategy using CO<sub>2</sub> inside the FMB and spray towers external to the FMB.

A Protective Action Recommendation (PAR) order was issued for local residents to shelter in-place although there was no indication of an offsite release.

At 2035 CDT the licensee reported that the leak was isolated by installing a pipe plug into the threaded tell-tale line. The PAR was lifted at 1948 CDT.

There were no worker injuries with all personnel accounted for. The licensee planned to issue a press release.

At 2032 CDT on 08/01/15, the ALERT was downgraded to a Plant Emergency based on mitigation status and visual observation of the affected area.

The licensee remained in the plant emergency mode while monitoring the vessel under vacuum conditions.

Should you have questions about the contents of this report, please contact **Kelly Walker**.

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