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September 8, 2015

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RE: Response to the City of Redondo Beach Letter Dated 9-1-2015, Received 9-4-2015

AES Redondo Beach, LLC welcomes this opportunity to respond to the City of Redondo Beach's (the City) letter requesting additional information regarding a minor equipment failure that resulted in a short-term release of natural gas to the atmosphere. This incident provides the opportunity for the City and AES to cooperatively develop more formal communication protocols for non-emergency incidents. Since this controlled release of natural gas did not trigger our emergency response plan, nor our noise notification procedures for steam releases, the City, Redondo Beach Fire Department and members of the public were not immediately aware of relevant information to understand the nature of the event. The subsequent consternation in the community is understandable. AES Redondo Beach sincerely regrets the anxiety caused by the events of Friday, August 27 and hopes this letter provides clarification regarding the nature of the natural gas release and helps to ease the community's concerns.

On Friday, August 27, 2015 at 7:36 pm, the AES Redondo Beach generating station experienced a minor equipment failure, which caused one of the four generating units at the station to "trip" —automatically switching it offline for a safe shutdown of systems. As a result of the unit trip, the pressure in the natural gas line that supplies fuel to the steam generator increased and the safety relief valves automatically opened, releasing natural gas into the atmosphere. This is precisely how the equipment was designed to operated and the release of natural gas was controlled through an elevated vent stack and valve designed to dissipate the gas safely. This safety relief valve and vent stack are inherent to the design of the safety system to prevent a catastrophic failure of the gas supply line. Once the pressure in the natural gas supply line was reduced, the safety relief valves then closed.

This safety device functioned exactly as it should have and there was no public or worker safety hazard. However, a noticeable odor was evident, and reported by the public, as a result of the natural gas release. Natural gas pressure in the fuel line was stabilized, the generating unit was subsequently reset, restarted and released for normal operations 19 minutes after the event began.

While the pressure in the lines was reduced in less than 10 minutes and normal fuel flow was re-established to the steam generator, from our investigation, it appears one of the safety relief valves most likely did not fully re-seat and continued to sporadically open and close or "chatter" for a total of

39 minutes, continuing to release gas through to the vent stack albeit at a slower rate than during the initial pressure release.

In response to the City of Redondo Beach's letter dated September 1, 2015, please find below the specific questions posed by the City and AES Redondo Beach's reply. We have organized our response in order of the questions posed:

1. A detailed, minute by minute description of the incident and AES' response.

- 19:36 - Unit #6 boiler trips due to a faulty relay operation. When the boiler trips, fuel to the burners is automatically cutoff and combustion ceases. With an almost instantaneous cessation of combustion, pressure in the natural gas supply line increases which causes the gas safety valves to open and relieve pressure in the 40 pound per square inch (psi) natural gas line.
- 19:37 to 20:01 Unit #7 and #8 Control Room Operator (CRO), the senior staff member on site, forwards the control room phone to his cell phone and walked over to Unit # 5 and # 6 control room to investigate the incident and assist where needed.
- 19:44 - Natural gas line pressure is stabilized and combustion is re-established in Unit #6 boiler.
- 19:55 - Unit #6 released for duty to the local utility.
- 20:01 - Unit #7 and #8 CRO receives call from the Redondo Beach Fire Department (FD) dispatcher telling of calls they received and that the FD is on its way to the plant to investigate. Unit #7 and #8 CRO gives the phone to Unit #5 and #6 CRO, the operator in charge of responding to the Unit #6 trip, who explains the incident to the dispatcher.
- 20:01 - Fire Department Chief arrives at front gate. The security guard on duty is inside the security shack at the front gate but had stepped away for a moment to use the restroom. Fire Department Chief uses the intercom button and makes contact with a live person.
- 20:02 - 58 seconds after Fire Department Chief arrives at front gate, Unit #7 and #8 CRO remotely opens the gate from the control room to allow FD to enter.
- 20:02:42 - Security officer appears and greets FD Chief as he enters the plant.
- 20:04:13 - Less than 4 minutes after FD arrives at the front gate Unit #7 and #8 CRO meets Fire Department Chief near front gate and escorts them to the location of the gas safety relief valves and vent stack.
- 20:09 - Fire truck arrives and enters the plant.

- 20:15 - Unit #7 and #8 CRO closes one Motor Operated Valve and lowers the gas pressure set point which re-seats the "chattering" gas safety valve.
- 20:17 - Southern California Gas technician arrives and enters plant.
- 20:24 - Fire truck exits plant 15 minutes after entering plant site.
- 20:26 - Fire Department Chief and Southern California Gas Technician exits plant. Fire Department Chief is on site a total of 25 minutes

2. A detailed description of AES' existing protocols to respond to such an incident and to notify the City, the public, and appropriate agencies.

AES Redondo Beach has an Emergency Response Business Plan that directs roles and assignments, incident notifications and emergency contacts. This document is a ready resource for responding to plant emergencies. One of the key elements of this plan is proper notifications. Local and County Emergency contacts are integrated into the plan for use, when the plan is activated. The incident in question did not trigger AES' implementation of the Emergency Response Business Plan resulting in no notifications to the City. AES will work with the City of Redondo Beach and the appropriate agencies to develop a non-emergency notification process.

3. A list of all agencies that must legally be notified of such an event.

AES must notify two agencies in the event of a unit trip: the transmission operator (Southern California Edison, [SCE]) and the balancing authority (California Independent System Operator,[CAISO]). In the event of a natural gas release, the South Coast Air Quality Management District (SCAQMD) and the Gas Company are both notified. Both of these notifications were made. In the event of a plant incident resulting in an outage or delay of returning the unit to service, the California Public Utility Commission will be notified. This notification was not required to be made.

4. A specific, detailed description of any attempt by AES to notify or communicate with the City, the Fire Department, or any local, state or federal agency regarding this incident.

As noted in AES' response to inquiry 3 above, the local, state and federal notices that were made include the unit trip notices to SCE the CAISO and the Southern California Gas Company, and a post-event notice of an equipment breakdown that caused an offsite odor was made to the SCAQMD. The Fire Department dispatcher made the first contact with AES Redondo Beach and that communication is detailed below in AES' response to inquiry 5.

5. An explanation as to why AES was not reachable by phone during the incident.

AES Redondo Beach was reachable by phone during the incident. The Unit #7 and #8 CRO had forwarded the control room phone to his cell phone when he left the control room to conduct an investigation. At 20:01 this control room operator received a call on his cell from the Fire Department dispatcher informing the operator that they had received calls concerning the plant and that the Fire

Department was on their way to the plant to investigate. This CRO handed his phone to the Unit #5 and #6 CRO who explained the nature of the incident. Two separate AES people had conversations with the Fire Department dispatch. This has been verified through cell phone records and interviews with the operators on site during the trip. AES will work with the Fire Department to ensure that the proper numbers are being utilized to further foster AES' open communications with emergency responders.

6. An explanation as to why no one was available at the security gate when the Fire Department arrived to investigate the incident.

The security gate was not unattended. As described in the narrative in response to inquiry number 1, the guard was at the front gate, but had stepped into the guard shack momentarily. The call button and cameras allowed the gate to be remotely opened by the Control Room, which was done 58 seconds after the Fire Department's request for access.

7. A detailed description of steps being taken by AES to ensure that this type of incident does not occur again, and that the City, the public, and all relevant agencies are immediately notified in case of a future emergency.

There are multiple facets to this particular question. AES Redondo Beach has replaced the pressure switch that caused the trip on Unit #6, and its associated relay. AES Redondo Beach will reset, and test both relief valves to dynamically verify -and, if necessary, adjust - the relief valve set-points against the design specifications to ensure all relief valves close properly and eliminate the "chattering" valve seat. In addition, AES Redondo Beach will tune the gas pressure regulating valves for faster response to gas supply line pressure swings.

AES Redondo Beach will work cooperatively with the City and the associated relevant agencies to determine the onsite events that the City would like notification of, and establish protocols and contacts for notification. Once these triggering events are determined, the appropriate agency representatives and contact numbers will be integrated into a revised and updated Emergency Action and Notification Plan at AES Redondo Beach. All site personnel will be trained in the notification protocols.

While the event in question was a non-emergency situation, AES Redondo Beach's current Emergency Action Plan contains all notification protocols for defined emergencies such as: fire, bomb threats, medical incidents, earthquake, explosions and others. This plan defines a "plant emergency" as "an abnormal condition which cannot be controlled by the area involved, requiring the immediate assistance of additional people and resources". It also notes that a plant emergency is "an abnormal condition that presents a danger to the remainder of the plant, to our neighbors or our community".

Neither the unit trip, which was reset shortly after the event nor the natural gas venting by the safety valves met the thresholds of emergency as defined by our Emergency Action Plan. However, we acknowledge that the lack of information experienced by the City and local residents caused the perception of an emergency at the plant.

8. An estimate of the amount of natural gas that was released during the incident.

AES Redondo Beach continues to work on this calculation. This calculation is complicated by the fact the duration of full valve lift was limited, as indicated by line pressure impacting the duration of both the full lift and partial lift phases of the safety valve operations. The boiler gas supply pressure was returned to normal (40 psig) and the boiler fires reestablished within nine minutes of the trip. As the line pressure returned to normal, the safety valve will typically reset fully or in this case, partially.

9. An analysis of the risk of explosion posed by the incident.

There was no risk of explosion from this incident. The venting of natural gas by the safety relief valves is a function that is designed into the plant's safety systems. These safety valves and vent stacks are designed, built and installed to prevent an accumulated flammable mixture that may cause physical damage to the properties, or injury to anyone in the vicinity. They ensure that the gas supply line pressure never exceeds the line rating. The valves are 25 feet above ground and are pointed upwards to facilitate rapid dispersion of the vented gas. Natural gas is flammable in air in a very narrow band of concentration, between 5 and 15% by volume. There are no enclosures around the valves, thus preventing a flammable gas concentration build up. The risk of explosion is avoided by the design and construction of the venting system. However, since very strong odorants are added to natural gas it has a noticeable odor at very low concentrations, at only a few parts per billion, well below any flammable limit.

10. An analysis of the any potential health risks to the workers or the public, as a result of exposure to the gas.

The natural gas safety relief valves and vent stacks, by design, are located 25-feet above ground level in an open area of the AES Redondo Beach plant, away from ignition sources, so that any functional release of the product, through this safety device, to atmosphere is rapidly diluted and dissipated. This is consistent with the reactivity characteristic data described on the Material Safety Data Sheet (MSDS) provided by the product supplier, Southern California Gas. The 'free release' to atmosphere and ease of mixing eliminates the release from concentrating at levels within the limited band-width of concentrations by volume for flammability.

The odorants (tetrahydrothiophene, tertiary-Butyl Mercaptan and/or other mercaptans) added as a safety feature, are heavier than air and would have remained detectable in the atmosphere long after the flammable portions of the gas had dissipated. As listed on the MSDS, these constituents represent not more than 0.5% by volume of the gas as designed. , We have no reason to believe this incident posed any health risks to the public or our employees.

11. An analysis of the risk to workers posed by the incident, including a discussion of potential OSHA and Cal OSHA violations.

Once identified, the on-shift senior CRO, Amer Saeed, acted in a manner consistent with his training and closed the inlet supply block valve which reduced line pressure and allowed the relief device to "reset" as the line pressure was reduced. There was no physical exposure to known and communicated hazards; our installed safety devices operated as designed; and our Control Room Operator performed

consistently with his training and best practices for the hazard, once identified. For these reasons, our performance and response to this event was appropriate and in compliance with all applicable State and Federal regulations.

Safety comes first at AES. We are pleased that all safety systems and plant personnel responded to the equipment fault and unit trip appropriately, ensuring that this event posed no hazard to the public or our own staff. This was not an "uncontrolled release of natural gas", but a controlled release through appropriately designed safety systems. AES will take steps to improve both notifications and communications with the City and our local community, those steps have been previously outlined in the letter above. AES Redondo Beach looks forward to working cooperatively with the City on a notification and communication plan so we may avoid the undue anxiety caused by this event.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jose A. Perez". The signature is fluid and cursive, with a large initial "J" and "P".

Jose A. Perez

AES Redondo Beach Site Leader