August 15, 2012

The Honorable Edward J. Markey
United States House of Representatives
Washington, DC 20515

Dear Congressman Markey:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your letter of June 22, 2012, regarding the recent shutdown of the Palisades Nuclear Plant as a result of a leak in a water storage tank. Responses to your specific requests for information are enclosed. We are continuing to collect documents responsive to questions #2 and #8.d and we will provide them in the near future.

If you have any additional questions, please contact me or Rebecca Schmidt, Director of the Office of Congressional Affairs, at (301) 415-1776.

Sincerely,

/RA/

Allison M. Macfarlane

Enclosure:
As stated

Responses to Information Requests from Representative Edward J. Markey
Letter of June 22, 2012

1. **The June 14, 2012 Preliminary Notification of Event or Unusual Occurrence states that the licensee is investigating the cause of the leak and evaluating what repairs need to be completed prior to restarting the unit.**

   a. If that investigation is complete, please provide the results. Have the necessary repairs been made? If not, when will they be performed? How and when will the NRC verify that the repairs have been completed?

On June 12, 2012, leakage from the Safety Injection Refueling Water Tank (SIRWT) exceeded the ASME Code Case limit, which the licensee established as a threshold for tank operability. The licensee declared the tank inoperable and shut down the plant to repair the tank. The licensee drained and inspected the SIRWT. The licensee's inspection revealed several cracks in various locations, some denting and wall thinning in various nozzles, and voids in the sand bed underneath the tank. The licensee repaired the cracks, filled the sand voids, corrected or evaluated the nozzle denting, and implemented compensatory measures. The licensee performed visual inspections of all welds, vacuum box tested welds, video-probe examined all nozzle internals and liquid-penetrant tested nozzle internals. They performed ultrasonic inspections to determine thickness of floor plates and performed a low-frequency electromagnetic technique inspection and a balanced-field electromagnetic technique inspection of the welds and floor plates.

On July 6, 2012, when the licensee commenced refilling the tank, indications of one or more leaks totaling approximately 25 gallons per day remained. This leakage steadily tapered off to current values that are approximately 0.2 gallons per day or less. There is minimal leakage from the catacombs, as confirmed by NRC inspectors after viewing the images from cameras installed in that location. The catacombs are concrete "crawl spaces" for the piping from the bottom of the SIRWT to other areas of the plant. The location and configuration of the SIRWT restricted additional, confirmatory inspections of certain inaccessible portions of the tank; therefore, any specific defects could not be determined by the licensee. It is possible that there is no leak, and the moisture seen is seeping from the sand bed located underneath the tank as a consequence of a previous leak and/or maintenance activities; however, the licensee cannot exclude the possibility that the tank is leaking from a structural defect, and justified that the tank is currently structurally sound using ASME Code Case N-705, "Evaluation Criteria for Temporary Acceptance of Degradation in Moderate Energy Class 2 or 3 Vessels and Tanks," dated October 12, 2006.

The NRC independently evaluated these issues and concluded that the SIRWT structural integrity was acceptable to support startup and safe plant operations. The licensee restarted the plant on July 10, 2012 with compensatory actions in place to ensure safe plant operations. These measures include daily leak monitoring to provide continued assurance of structural integrity of the tank. The licensee documented its commitments to the NRC regarding the SIRWT in a letter, and a Confirmatory Action Letter (CAL) was issued by the NRC to confirm those commitments. The licensee has performed an operability determination of the tank and has concluded that it will shut down the plant prior to the leakage exceeding 38 gallons per day, the licensee's threshold for operability based on the ASME Code Case analysis.

The two NRC resident inspectors were joined by a third resident inspector and an NRC inspector from Region III to monitor the SIRWT repair activities during this time frame. The NRC obtained additional structural and material expertise from region-based inspectors and from headquarters staff. The NRC reviewed documents, evaluations, and calculations, and observed tank testing and repair activities. The NRC has verified that the tank is in compliance with required codes and standards. The NRC resident inspectors will continue to monitor the leakage from the tank and the licensee actions in response to the leakage. The leakage is not being released to the environment.

b. If that investigation is not complete, what is the expected completion date?

The licensee completed the investigation of the direct causes of the tank leakage, but continues to investigate the root cause of the leak. The licensee's initial assessment is that the cracks in the tank nozzles provided a leak path. When completed, the NRC will review the licensee's root cause evaluation to assess the licensee's conclusions and identified actions. Regular monitoring and compensatory actions being conducted by the licensee under the CAL provide continued assurance of structural integrity of the tank. If the leakage exceeds the threshold for plant shutdown, the licensee will shut down the plant to ensure public health and safety is not compromised.

2. When were the effects of the leak into the Control Room and Auxiliary Building first observed by the licensee? How was it decided that the leak did not warrant further inspection or repair? After the NRC's June 30, 2011 inspection, what steps did the licensee take to address the leak? What actions did the NRC take to follow up on the status of the leak? When did NRC staff first receive information regarding the source of the leak into the Control Room and Auxiliary Building? Please provide copies of all documentation related to the discovery, monitoring, or remediation of the leak.

The licensee first noted leakage related to the auxiliary building first in 1986 due to defects from SIRWT nozzles G and H. The licensee replaced these nozzles in 1988. In 1990, a 6-inch crack in the M nozzle resulted in a 25 gallon per hour leakage into the auxiliary building. This crack was also repaired.

On May 18, 2011, the licensee observed leakage into the control room (the licensee's estimate was 0.08 gallons per day) during the night shift after heavy rainfall and notified the NRC the following morning. The licensee initially attributed the leakage to roof leaks due to the rain, but investigated other sources for the leak. The leakage was from a seam along the ventilation duct in the far left corner of the control room and did not impinge on main control room equipment. The reported extent of leakage and location in the control room was consistent with NRC inspector observations in the control room the next morning after receiving the report of leakage. The leak did not contact safety related equipment. Simultaneous to the control room leak, the licensee noted leakage into the auxiliary building, which was not near safety equipment. The leakage was reported to the NRC as streaming down a wall high above the floor in a room in the auxiliary building. An NRC inspector walkdown of the area the next morning did not identify any leakage. Additionally, based on the location of the wall and surrounding equipment, the inspectors did not identify any potential impacts to safety related equipment. The resident inspectors inspected the control room ceiling, walls, and panels, observed that the licensee had installed collection devices to contain the leakage, and concluded that the leaks did not impact control room equipment. In response to the leaks, the licensee and resident inspectors inspected the catacomb area. Because of the absence of any evidence of degraded equipment, the inspectors concluded there was no impact to operability of any plant equipment.

Around May 20, 2011, the NRC was informed that the licensee inspected the area outside the SIRWT and did not identify any leaks. Shortly thereafter, the licensee inspected the catacombs and discovered dry boric acid deposits. An NRC inspector, performing independent inspections, entered the catacombs area on June 2, 2011, and determined that the licensee had not been performing ASME code-required inspections in this area. The NRC subsequently issued an inspection finding of very low safety significance (Green). When the licensee completed the ASME code-required inspections, which the NRC reviewed, the safety related piping had no wastage; however, there was some slight leakage from a flange. All piping remained operable. Later that month, the licensee reported that it repaired the auxiliary building roof and noted that the small amount of control room leakage had stopped. The cessation of leakage was confirmed by inspectors, who routinely tour the control room. However, a small amount of leakage continued into the catacombs.

During the summer of 2011, the inspectors were aware there was very low leakage (on the order of 0.04 to 0.1 gallons per day) in the catacombs. This was based on NRC inspector observations in the catacombs area on June 2, 2011 and periodic discussions with the licensee on the status of their efforts to collect and identify the source of the existing leakage. The leakage did not enter the control room (as verified by routine inspector tours) and it was captured in a container in the catacombs. The licensee collected the leakage in catch basins and disposed of it as liquid radioactive waste. Since the leaks were from the walls/ceiling of the catacombs area, the source could not be visually determined. Over the summer and fall, the licensee analyzed samples for radioactive isotopes. The licensee informed the residents that although radioisotopes were present, they had not determined if the source was the SIRWT, associated piping, or residual contamination from prior leaks. In the summer of 2011, the licensee informed inspectors that an outside expert was reviewing the data, but the licensee had not reached a conclusion in relation to the source of the catacomb leak. Based on the low leak rate, the inspectors concluded that there was no impact on the SIRWT and operability of other components. There was no control room leakage.

In February 2012, NRC inspectors observed a meeting where the licensee discussed adding inspection and possible repair work of the SIRWT to the spring 2012 outage schedule. At that point, the new Operations Manager questioned whether or not an operability evaluation had been done on the tank. The licensee wrote a new condition report to determine tank operability as site operations gathered information through isotopic analysis that supported the SIRWT as the leak source. The licensee concluded that the tank remained operable, but required monitoring to ensure the leakage values stayed below 1 gallon per day (a conservative critical flaw size leakage value). The leakage at that time was approximately 0.08 gallons per day. The NRC concluded the licensee's assessment was reasonable.

In summary, from May 2011 through April 2012 (when the plant was shut down for refueling), the leakage from the SIRWT remained low (licensee data indicate the average value was about 0.08 gallons per day with a maximum of 0.11 gallons per day). While there was some leakage, (possible rainwater or SIRWT leakage) into the control room in May 2011, leakage did not recur after roof repairs. There was no impact to control room equipment. The inspectors inspected the leaks and reviewed the licensee evaluations and, with assistance from NRC regional staff, determined safety related equipment remained operable. The licensee added the SIRWT repair to its outage plan.

During the refueling outage in the spring of 2012, the licensee drained and entered the SIRWT and sealed a nozzle with visible deformation below the tank bottom. Following the filling of the tank, the licensee observed a leak of approximately 3-5 gallons per day. NRC inspectors were notified of this fact during routine meetings with the licensee. The leakage was from a different location under the tank than before the outage. Coming out of the refueling outage, cameras were set up in the catacomb area, which the inspectors used to periodically monitor the leakage. On a couple of occasions, the inspectors climbed into the ceiling area outside the control room and, although the licensee had set up metal collection trays under some ceiling cracks, it did not appear that there was any active leakage. Shortly after the tank refill, the licensee noted leakage into the control room from a similar location that had last been observed in summer 2011 (described above), again of minor magnitude and not impacting any equipment. The NRC confirmed this information. Additionally, the licensee had noted some leakage near the center of the control room since the tank refill following the outage and had set up a metal tray in the ceiling to collect that leakage. The licensee did not report any impact to equipment. Inspectors periodically observed these areas and noted that the leakage had stopped a few days after it was first identified.

A possible cause of this observed leakage from the SIRWT after the refueling outage is that repair activities either created a new leak or aggravated an existing leak. The inspectors became aware of the leakage as the licensee filled the SIRWT. The licensee performed an ASME Code Case analysis. The NRC staff, including experts in the Region and Headquarters, independently reviewed this evaluation. The NRC concluded the licensee assessed the leak consistent with ASME code and, therefore, concluded that the structural integrity of the tank was acceptable for safe operations. The inspectors continued to monitor potential leak locations and licensee efforts to collect and measure the leakage. The plant was shut down on June 12, 2012, when the licensee approached the leakage limit. The tank repairs and regulatory actions for the June 12, 2012, outage are discussed in response to question #1.

The NRC inspectors have monitored this issue since its identification in May 2011, and continue to ensure that plant operations do not pose a threat to public health and safety or safe plant operation.

The above information is preliminary and the best available information to date. The NRC Office of Investigations has an ongoing investigation into this matter.

The NRC has collected the documents requested regarding discovery, monitoring, and remediation of the leak, and is providing them to you under a separate cover letter.

3. Was the leaking water ever tested for radioactivity? If so, when and what were the results of the test(s)? If it has not been tested, why not?

The leaking water has been regularly tested for radioactivity in accordance with NRC requirements to assist in determining the source of the leak and for personnel protection. This included the performance of isotopic analyses of the water. The analysis of the leakage performed by the licensee confirmed that there were extremely low levels of radioactivity in the water. The radioactivity levels of tritium detected from the leakage ranged from 0.025 micro curie per ml to 0.28 micro curie per ml and the levels of Niobium-95, Niobium-97, Cobalt-58, Cobalt-60 and Cesium-137 each remained below 0.005 micro curie per ml. As such, the radioactivity from the leakage has had essentially no effect on pre-existing safe dose levels in the vicinity of the catch basins. The licensee continues to monitor radioactivity levels in the leakage. The leakage is contained and there are no releases to the environment.

4. Please describe the nature of the "catch basin(s)" that is/was being used to collect the leaking water? Was this basin affixed with radioactive waste designators? Where was it located? How closely is this "catch basin" located to stations where employees of the facility sit or are stationed?

During May 2011, the licensee constructed a collection rig using a split section of yellow sleeve that drained into a tygon tube to collect the leakage from the control room. The tygon tube drained to a 1-liter bottle. In addition, a larger piece of split yellow sleeve was placed under the duct insulation. This sleeve drained to a 5 gallon bucket via a funnel and tygon hose. The bucket had a radiological sign posted on it. Collection apparatuses in the control room were removed when the leakage stopped shortly after its initial identification in May 2011. Various collection devices and arrangements were reported as used in the catacombs area by the licensee between May 2011 and the refueling outage in spring 2012.

Currently, the primary leak collection apparatus has been stainless steel drip trays that were positioned in the following locations: a) at the bottom of the catacombs, b) just outside the catacombs to collect possible leakage from the ceiling outside the catacombs, and c) in the ceiling above a hallway outside the control room. Additionally, a tray was set up near the center of the control room in the ceiling area shortly after tank refill following the refueling outage, but has since been removed as leakage was only observed for a brief period. This tray was positioned where the operators walked in front of the panel. The catacombs are not normally accessed. The drip trays outside the catacombs are not immediately adjacent to where the operators normally sit, but are in areas through which operators move during the day, such as a hallway outside the control room. On contact dose reading of the catch basins are less than 0.5 millirem per hour.

All the drip trays drain to a common tank installed specifically for this purpose in the auxiliary building. When the tank is full, it is drained to the radioactive waste system. The hoses used to route the leakage are outfitted with radioactive waste designators.

5. How was the collected water disposed of each day prior to the June 12, 2012, reactor shut down?

The water leakage that was collected from the SIRWT was treated as liquid radiological waste and was handled per the liquid radiological waste disposal procedures.

6. Entergy spokesperson Mark Savage has stated that they will "Shut the reactor down – which we've done, unload the water from the tank, find the leak, repair the leak, fill it up again and start the reactor back up." Has the water been disposed of yet? If so, how? If not, when will it be disposed of and how?

Water that leaked from the SIRWT was treated as liquid radiological waste and was handled per the liquid radiological waste disposal procedures. The water that was drained from the tank was moved to several on-site locations:

- Clean waste receiver tanks (located in containment)
- Spent fuel pool tilt pit (located adjacent to the spent fuel pool)

- Temporary tank (located in a radiologically controlled area outside plant structures but within the protected area)
- Temporary liquid tanker trucks (located in a radiologically controlled area outside plant structures but within the protected area)

The licensee has transferred the water back to the SIRWT from those locations.

7. It has been reported that water was observed leaking in the control room. Have inspections been performed to determine if leaks are present in areas not immediately visible, for example, behind walls, into electrical panels, etc.? If yes, what was inspected and what were the results of those inspections? If no such additional inspections occurred, why not?

A leakage of approximately 0.08 gallons per day existed in the control room for several days during May 2011. The leakage was noted to be coming from a seam along the ventilation duct in the far left corner of the control room and did not impinge on any equipment. The NRC and licensee inspected the ceiling area in the control room and verified that the electric panels were not impacted. The licensee and NRC inspectors also inspected the adjacent hallway, auxiliary building area, and D bus area. Leaks were found in the nearby bathroom and auxiliary building (catacombs). The licensee performed several inspections and surveys of the areas around the SIRWT to determine if it was the source of the leak. The resident inspectors inspected the control room ceiling, walls, and electrical panels, and did not identify any additional leaks that impacted control room equipment. The licensee repaired the auxiliary building roof on May 27, 2011, and noted that the control room leakage stopped.

Upon refill of the SIRWT following the refueling outage, on a daily tour, the inspectors noted installation of a drip tray to catch a leak in the ceiling areas near the center of the control room (which has been previously discussed in response to question #2). The licensee reported that this leak did not drip onto any equipment. The inspectors monitored this tray for signs of leakage and noted that there was no active leakage. This tray was subsequently removed.

In addition, there was a brief leak into the control room that occurred on Friday June 29, 2012. The leak did not originate in the SIRWT, but was a result of maintenance activities outside the tank. The leak was not radioactive. The seepage occurred as a result of tank repair activities that involved using water to cool a drill needed for repairs. The water for the drill seeped into the control room though an opening in the concrete located around a pipe in the SIRWT at the rate of several drops per minute. Although the licensee had established catch basins in the catacombs, these basins were not positioned correctly. The leak was contained as soon as it was detected by the control room personnel.

The NRC resident inspectors, branch chief, and an additional inspector who had been monitoring the tank repair were onsite when this leak occurred. The water from the leak dripped onto safety related equipment and was on the order of several drops per minute. The NRC examined the location of the leak and its possible impact on plant equipment. The NRC notified the plant that a thorough evaluation of control room equipment was required to ensure that there was no safety impact from the leak. The NRC independently evaluated the impact of the leak on electric cables and sensing modules, and determined that there was no impact on plant safety. The NRC also reviewed the licensee's evaluation and confirmed that there was no adverse impact due to the leak.

The licensee inspected the ceiling in the control room for possible leaks and identified minor hairline cracks in several locations. The licensee has evaluated these cracks in accordance with its operability determination process. The licensee installed some temporary berms in the catacombs to provide additional assurance there would be no leakage in the control room. Additional inspections were performed in other areas above the control room and there were no safety concerns identified. The licensee performed an assessment and determined that the control room remained operable. The NRC has concluded the control room concrete support structure continues to perform its safety function.

On July 8, 2012, the licensee identified water seepage through a hairline crack in the west wall of the control room. A drop was observed forming every few minutes. The leak did not impinge on any plant equipment. Subsequent investigation by the licensee revealed a roof area above this section of the control room, west of the SIRWT, had an accumulation of approximately 35 gallons of water. The water was pumped out and no further leakage has been seen in the area. Inspectors performed a walk down of the roof area, and the licensee continues to periodically monitor this section of the roof for leakage. The source of the accumulated water is unknown, but may have been from the "squeezing" of previously existing water from under the SIRWT as it was being filled. The inspectors reviewed the licensee's operability evaluation and concluded there was no impact to any equipment.

The NRC issued a Confirmatory Action Letter to Entergy stating that Entergy must repair cracking of the concrete support structure around the ceiling of the control room, which could lead to water intrusion, prior to the plant's restart from the 2013 refueling outage.

8. Ms. Garde informed me that on April 5, 2012, Palisades' executives and NRC officials received a briefing on the results of a Safety Culture assessment that was performed by an outside consultant. Ms. Garde shared several alarming findings of this assessment, including:

- **74% of respondents said they do not believe that they can openly challenge decisions made by management.**
- **Only 65% of respondents feel that management wanted concerns reported.**
- **32% of respondents believe that management tolerates harassment and retaliation for raising concerns.**

a. Please provide a copy of the final Safety Culture assessment report entitled "Palisades Nuclear Power Plant Safety Culture Assessment 2012" and dated April 18, 2012.

The NRC requested that the licensee provide a summary of results from the Safety Culture Assessment, which is attached.

b. Please provide a copy of the presentation entitled "Palisades Nuclear Power Plant Safety Culture Assessment Results," dated April 5, 2012, and any other information from and about that assessment.

The NRC does not have a copy of the licensee's presentation related to the assessment results.

c. What action is the NRC taking in response to this Safety Culture assessment? How is the NRC ensuring that Palisades is taking appropriate actions in responding to the problems identified in the Safety Culture assessment?

The NRC resident inspectors have reviewed the complete Safety Culture Assessment report. We have informed the licensee that there will be a public meeting this summer to discuss the licensee's plan and progress in addressing its safety culture issues. In addition, the NRC will conduct a supplemental inspection that will include our assessment of Palisades' safety culture. The supplemental inspection will have a safety culture expert from headquarters assigned to the team. The NRC will review this new information to determine if additional actions are required. Since the safety culture assessment will be performed on an ongoing basis, the resident inspectors are in a position to directly observe management and worker behaviors during routine inspection activities. This includes frequent interaction with workers. The inspectors have been and continue to watch for signs of degradation of safety culture. The inspectors have been actively following up on previous NRC-identified issues relating to safety culture (substantive cross cutting issues). Inspectors from the regional office who have been on site (for a recently completed supplemental inspection and for SIRWT repairs) have also been in a position to assess employee behaviors.

d. What action did Entergy take in response to the safety culture findings?

Licensee actions to address the safety culture issues are being provided under a separate cover letter.

Attachment: Executive Summary

EXECUTIVE SUMMARY

This report describes the results of an independent assessment of the existing Safety Culture and Safety Conscious Work Environment at the Palisades Nuclear Power Plant. The population addressed in the assessment included all Entergy Employees at the Palisades Nuclear Power Plant and long term contractors based at Palisades. The assessment was conducted during January and February, 2012. The primary objective of the assessment was to provide information regarding the status of the safety culture components at Palisades as recently described by the U.S. Nuclear Regulatory Commission (NRC). The assessment was conducted using the same methodology that aligns with the current U.S. NRC procedures for independent safety culture assessment. Positive observations and areas in need of attention with respect to the components are presented. Conclusions regarding the results of the information collected on the safety culture components are also presented to facilitate the identification of improvement strategies.

The safety culture components important for the existence of a healthy safety culture within a nuclear facility have been identified (INSAG-15, 2002; INPO Principles for a Strong Nuclear Safety Culture, 2004; U.S. NRC Inspection Manual 0305, 2006). The U.S. NRC has defined these components to include:

- **Human Performance**
  1. **Decision-Making**
  2. **Resources**
  3. **Work Control**
  4. **Work Practices**
- **Problem Identification and Resolution**
  1. **Corrective Action Program**
  2. **Operating Experience**
  3. **Self and Independent Assessments**
- **Safety Conscious Work Environment**
  1. **Environment for Raising Concerns**
  2. **Preventing, Detecting, Mitigating Perceptions of Retaliation**
- **Other Safety Culture Components**
  1. **Accountability**
  2. **Continuous Learning Environment**
  3. **Organizational Change Management**
  4. **Safety Policies**

Performance attributes are associated with each of the safety culture components. Particular behaviors and attitudes have been identified to evaluate the extent to which the organization has attained these attributes.

Most of the methodology used in this assessment was based upon work originally developed with the support of the U.S. NRC to assess the influence of organization and management on safety performance. The methodology entails collecting a variety of information that is largely based upon the perceptions of the individuals in an organization, as well as conducting structured observations of individuals performing work activities. Perceptions are often reality when it comes to influencing behavior and understanding basic assumptions. Therefore, the data collected regarding individuals' perceptions are critical to this type of assessment.

The results of this assessment have been presented in the U.S. NRC framework for evaluating the components important to safety culture. In the context of that framework, the Assessment Team identified that there are positive observations and areas in need of attention within each of the 4 primary areas of safety culture and specific examples are presented for each component in each of the areas. In addition, areas for improvement are identified in the Conclusion Section of the report and are based upon the information collected for each component of the safety culture areas.

In general:

Human Performance

The Team noted that important decision making processes are governed by corporate procedures and appear to be consistent with industry practices. However, several events have occurred in recent Palisades history in which deviation from those processes contributed to the occurrence or severity of an event. Standards and expectations with respect to work practices and work control need to be more clearly communicated and reinforced. Formality and consistency in the implementation of human error prevention techniques needs to be implemented.

The Team believes that there is a lack of confidence and trust by the majority of employees (both staff and management) at the Plant in all levels of management to be open, to make the right decisions, and to really mean what they say. This is indicated by perceptions around the decisions that have been made, the mixed messages and lack of adherence to expectations by management and supervision, and in the repeated emphasis of production over safety exhibited through decisions around resources.

Problem Identification and Resolution

Individuals across the organization indicated their willingness to raise and escalate issues. The CR process is perceived by Plant personnel as easily accessible and well used by employees at all levels. However, the value of the process to create a learning organization is not being fully realized. Senior leadership provides weak oversight of the process and management engagement with the process is limited to high level issues, with no regular forum to assess the health of the program. Operating experience needs to be better integrated into a learning process and a stronger independent oversight organization that management will listen to is needed to help identify areas for performance improvement.

There is a lack in the belief that Palisades Management really wants problems or concerns reported or that the issues will be addressed. The way that CAP is currently being implemented is not perceived as a value added process for the Plant. The relationship of the CAP to performance improvement and the role it plays in the development of a learning organization is not understood or recognized by most individuals.

Safety Conscious Work Environment

The results of this assessment do indicate that the Palisades Plant has issues with respect to a safety conscious work environment. While the majority of employees believe that management says that retaliation would not be tolerated, there is also a widespread perception of fear and punishment across the Plant. The Team believes that an Area for Improvement must be identified for the perception that the majority of employees believe that they cannot challenge management decisions, that helpful criticism is not encouraged, and that they cannot approach management with concerns.

The absence of a dominant constructive cultural style at the Plant indicates that management has not been successful in communicating and reinforcing the values and attitudes that are important for enhancing safety culture. Further evaluation and understanding of why there is such pervasiveness and consistency across the Plant around these issues is critical in moving forward for effective progress to be made for ensuring a healthy safety culture.

Other Safety Culture Components

Examples of a lack of accountability at all levels at the Plant were evident. Many individuals in management and supervision do not consistently exhibit desired behaviors and are not challenged by their managers or peers. Inconsistent implementation of standards and expectations in work activities are common and may be facilitated by ineffective communication around the change management process. Significant management oversight and attention is needed to communicate the standards and expectations and implement the appropriate and consistent performance management to hold individuals accountable.

The Team believes that a contributing factor to the accountability issue is that there are too many expectations and standards identified without a clear prioritization of which ones are most important. Additionally, the negative perceptions around the communication process at the Plant must be improved in order for any messages to be heard, understood, and implemented to achieve the desired performance.