

As reported by reporter Christine Legere in the Dec. 6, 2016 Cape Cod Times,

<http://www.capecodtimes.com/news/20161206/nrc-email-pilgrim-plant-overwhelmed>

Acronyms defined (not part of the email):

ANO - Arkansas Nuclear One
CA - Corrective Action
CA - Corrective Action
CAP - Corrective Action Plan
CAPR - Corrective Action to Prevent Recurrence
CR - Condition Report or Contractor Report
CRS - Condition Report Summary? (Could be typo of CRs)
ECP - Employee Concerns Program
EDG - Emergency Diesel Generator
IC - Isolation Condenser or Indicating Controller
NRC - Nuclear Regulatory Commission
NRR - Office of Nuclear Reactor Regulation (at the NRC)
OD - Operability Determination
OPS - Operational Protection Systems
PIR - Problem Identification and Resolution
RHR - Residual Heat Removal
RP - Recovery Plan (or Reactor Project or Radiation Protection)
RV - Relief Valve
SR - Safety Related or Surveillance Requirement
SRV - Safety Relief Valve
TPIP - Targeted Performance Improvement Plan
UNSAT - Unsatisfactory

From: "Cline, Leonard" <Leonard.Cline@nrc.gov> **Date:** December 6, 2016 8:57:16 AM EST
To: "Weil, Jenny" <Jenny.Weil@nrc.gov>, "Tifft, Doug" <Doug.Tifft@nrc.gov>, "Draxton, Mark" <Mark.Draxton@nrc.gov>, "Sheehan, Neil" <Neil.Sheehan@nrc.gov>, Diane Turco <tturco@comcast.net>, "Venkataraman, Booma" <Booma.Venkataraman@nrc.gov>, "Guzman, Richard" <Richard.Guzman@nrc.gov>

Subject: FW: Pilgrim 95003 Phase C Update 12/5/16

From: Jackson, Donald

Sent: Monday, December 05, 2016 9:58 PM

To: Dorman, Dan <Dan.Dorman@nrc.gov>; Lew, David <David.Lew@nrc.gov>; Lorson, Raymond <Raymond.Lorson@nrc.gov>; Yerokun, Jimi <Jimi.Yerokun@nrc.gov>; Scott, Michael <Michael.Scott@nrc.gov>; Pelton, David <David.Pelton@nrc.gov>; Burritt, Arthur <Arthur.Burritt@nrc.gov>

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Subject: Re: Pilgrim 95003 Phase C Update 12/5/16

Folks,

I will clean this up tomorrow....I left Chaff in there from last week. In

general, if you read the updates later in the paragraphs it provides better info...the issues are all in play.

Don Jackson Chief-Operations Branch USNRC Region I
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On: 05 December 2016 19:10, "Jackson, Donald" <Donald.Jackson@nrc.gov> wrote:

Folks,

The following is a brief (or maybe not so brief) update of inspection activities associated with the ongoing Pilgrim 95003 Phase C

Activities:

- The Safety Culture Group conducted additional focus groups today, bringing the total number of people interviewed so far to over 130. This group plans to conduct 1 on 1 chance interviews in plant next week to validate observations from the group discussions
- The Operations NRC inspector observed pre-job briefings and maintenance and operations evolutions in plant
 - 1 · Many Engineering discussions over the status of the EDGs
 - 2 · Many team field activity observations Issues/PDs:
- (Update) The station performed an apparent cause evaluation for an 'A' EDG issue that occurred in September of this year, which involved oil leakage from the 'A' EDG blower gear box relief valve fitting. We are still inspecting this issue, but items that we are currently following include:
 - o Pilgrim only performed a visual inspection of the gear box following the event, even though there are indications that the gear box was potentially run with little or no oil. There are two bearings and a pump in this gear box. We provided this issue as an operability concern to the control room this afternoon. The initial operability determination was "operable" based on the fact that they ran the 'A' EDG successfully

this morning. The NRC Engineering, Maintenance, and Programs group lead does not now have an immediate operability concern, but numerous questions are still being addressed by Pilgrim

- o The 50.59 that was performed to install this type of gear box appears to be inadequate, in that it did not account for a new failure mode (i.e., introduction of a relief valve to the gear box)

- o Inadequate causal evaluation of the issue (Pilgrim classified the cause as “indeterminate” and missed similar operating experience from North Anna)

- o Questions on the pre-startup checks for the EDG were resolved by Carey and Erin, as they walked down pre-start up checks with Non Licensed Operators

- o Missed reportability call is likely

- o The team further questioned the extent of condition of this issue related to the same gear box on the ‘B’ EDG. We believe that there is a current operability question on the ‘B’ EDG related to the same relief valve failure mechanism and leakage. The Pilgrim Systems Engineering Manager stated to the team that the site did not want to remove the EDG from service to investigate this concern as it would result in unavailability time that could place the EDG in Maintenance Rule A.1. Later in the day the Engineering Director and Site VP tried to backtrack on this statement, but the team believes that it was a genuine thought by this senior station manager and is an insight on Safety Culture. Pilgrim is conducting an inspection of this ‘B’ EDG Gear Box this evening.

- o The licensee analyzed oil from both the ‘A’ and ‘B’ EDG Blower gear boxes and determined that no component degradation occurred. o The licensee removed the ‘B’ EDG Gear Box RV, and determined that adequate thread engagement existed, and a common mode failure was unlikely. The reset and reinstalled the RV

- o The licensee also ‘staked’ the threads on the ‘B’ EDG Gear Box RV to prevent recurrence of the failure.....However, it appears that the licensee did not perform a 50.59 screening for this modification to SR equipment which is an additional example of 50.59 process performance deficiencies.

- (Update) We are observing evidence of some weaknesses in the use of Subject Matter Experts (SMEs) as a CAPR in the corrective action program area. Specifically, the roles and responsibilities of the SMEs do not appear to be clearly defined (i.e., we are hearing different things from station personnel, the lead CAP SME, and the support CAP SMEs about what their role is). At this point, we do not know if this extends to the other areas or

not. The PIR Group is developing examples to support the teams belief that the CAPRs for the Root Cause for the Corrective Action Program may not be fully effective. The plant has completed 123 of 134 corrective actions in this area, yet we have identified CAP problems through this week. Preliminarily, CAPRs 1 and 2 involving the use of SMEs and Use of Performance Indicators appear to be ineffective.

- (No Change) The Engineering, Maintenance, and Programs group is looking at several examples where well established programs have not been followed. There was a circuit breaker replacement (swap) involving 52 circuit breakers covering a wide variety of plant equipment that was not screened under 50.59 as the licensee believed that they were exact, "like for like" replacements. The NRC has determined that lugs used inside of the breakers were a different size, and should have been evaluated accordingly. Other items that may also support this issue (though the mods are very dated):

- o The EDG gearbox issue described above

- o During a walkdown, an inspector noted that the EDG exhaust didn't appear to be missile-protected. The exhaust was moved as part of a modification

- o Plant Computer modification that impacted the heat balance calculation

- (No Change) The Engineering, Maintenance, and Programs group is looking into several examples of corrective actions that may not have been properly addressed. One involves a 2011 Internal Flooding issue that was raised, and has not yet been fully addressed.

- (No Change) The Engineering, Maintenance, and Programs group is inspecting an issue associated with lack of clearance between grating/ pipe supports and the primary containment liner. The design requires 1/16 " clearance and in some cases there is no clearance. The licensee wrote and closed 4 CRS without properly evaluating the issue or reviewing extent of condition. We did brief a 10CFR50 AppB Criterion XVI performance deficiency that we are developing

- (Update) We receive a revised Root Cause Evaluation for the 95001 SRV sample on Monday. The teams preliminary review of the document appears to provide an inadequate Root Cause Evaluation and corrective actions that will not prevent recurrence. Essentially, this revised root cause blames Operations Management and an inadequate post trip review. The inspector believes that these may be contributing causes, but the root cause is more aligned to a failure to properly implement the corrective action process. Frank Arner reviewed Doug Dodson's work and has aligned with Doug's view that the Root Cause is not adequate. However, there is a possibility, when you evaluate all of the corrective actions

taken to date on the issue, that they have taken adequate corrective actions. Doug believes that the Root Cause is an inadequate Operability Determination for the 2013 SRV Failure, and poor corrective actions for what they did put in the CAP. Since ODs and CAP are issues that have had recent actions, we think that they may have taken adequate corrective action. That being said, it is likely that the licensee did not adequately complete the 95001 in that they got the Root Cause wrong.

- (New) Pilgrim has a longstanding (30+Years) issue where the 'B' RHR Heat Exchanger bottom flange has been leaking. They have conducted three non-code furminite repairs over the years. The last injection was 2007, and the leakage has reinitiated at 30 drops per minute. Entergy cannot find the paperwork for the first injection, and does not know the type or the amount of material injected. This appears to be a non-code repair of a code system that either needed to be resolved at the next outage, or code relief provided by the NRC. Neither has been done. Additionally, there is current leakage (120 drops/min at 50 psig) outside of the drywell that has not been appropriately evaluated. More to follow on this issue.

- (New) The ECP Manager has not completed the Entergy qualification program. This seems strange for a Column 4 plant where Safety Culture is a fundamental problem area.

Common Causal Insights:

- (No Change) The Safety Culture Group is hearing that people are happy and working to improve the site (Exception- Security). The observation of actual performance however is somewhat disjointed.

It appears that many staff across the site may not have the standards to know what "good" actually is. There is a lot of positive energy, but no one seems to know what to do with it, to improve performance, leading to procedural non-compliances, poor maintenance, poor engineering practices, and equipment reliability problems. Example- Jeff Josey questioned operability of 'A' EDG Wednesday around 10 AM with a well-developed set of questions, and a direct statement questioning operability. By 4pm, we were aware that the Shift Manager was not made aware of this challenge, and no CR was written. The NRC then approached the Shift Manager with the Operability challenge. We are still waiting for the answers to our operability questions (but as mentioned previously, we don't think there is now an immediate concern). Additionally, while observing an IC surveillance, the worker stated that this test would take him much longer since the NRC was watching. In fact, the channel that we watched took 2.5 hours to complete, and the other 3 Channels took 2 hours total to complete when we were not observing.

- (Update) We became aware today that corrective actions associated with the Recovery Plan are being “kicked back” to the organization by the external contracted review folks after completion by Pilgrim because the closure actions do not match the required actions. In several cases that we have reviewed, station management then changes the recovery action on the CA to match what was actually done, such that the external contracted review group agrees with issue closure. We are capturing examples of this to prove our point. The licensee was in disbelief when we mentioned this issue. One example that we found today is that the Recovery Plan calls for all Supervisors and above to have a “Targeted Performance Improvement Plan” which is tailored to the individual, have milestones, and due dates for specific actions. Apparently the plans are not tailored to the individual and are nearly all the same, and we found that some folks just recently found out that they were on a TPIP, and were surprised. It does not appear that they met the spirit of the recovery action.

- (No Change) Overall, we are beginning to see a picture where the people seem to be willing and happy/excited about change, but actions seem to be marginalized during implementation. Some of this marginalization seems to be due to not understanding what the end state should look like, and frankly some of it seems to be due to a lack of resources across many groups. We will be probing this further, as it is a key to making a recommendation whether or not the plan will be effective/ sustainable.

- (New) A licensee oversight contractor informed me that the licensee is actively working a further revision to the Recovery Plan to address the issues that we have found in the last week. They plan to present this to the NRC later this week. I will likely need to discuss this with NRR to figure out the rules on reviewing this.

Level of Cooperation:

- In general, the licensee is being responsive, but very disjointed in their ability to populate meetings and answer questions, staffing problems seem to impact how fast the licensee can respond. For example- We attempted to conduct a safety culture focus group with Security and no one showed up, because the security supervisor “forgot” he needed to support it. The plant seems overwhelmed by just trying to run the station. An RP person wrote a CR last evening that the NRC inspection was significantly impacting getting her work done, and that we should spread out requests over the whole 3 weeks....seemed very frustrated. We have been very clear that we are flexible, and that we are sensitive to impact on plant activities.

· The licensee engineering group appears unprepared to address all of the questions being posed by the team. I am couching this by questioning their overall Engineering Acumen.

My thoughts:

The team is really struggling to figure out what all of this means. The licensee staff seems to say the right things, and they are genuinely energized about improving. We believe that there are some incremental improvements that look bigger than they actually are to the licensee staff. The corrective actions in the recovery plan seem to have been hastily developed and implemented, and some have been circumvented as they were deemed too hard to complete. We are observing current indications of a safety culture problem that a bunch of talking probably won't fix. We did see a paired supervisory observation that uncovered procedure usage problems that were not directly identified by the workers supervisor. If the 95001 SRV review is truly UNSAT after almost 2 years, my confidence will not be very high, and I reiterate we received a revision dated 4 days ago. The dance associated with EDG operability this week is also disturbing on many levels- Poor Engineering Expertise, no communication with the shift manager, Poor original corrective action, and a Senior Manager stating a reluctance to assure operability due to a negative impact on maintenance rule status. Carey, Frank, and I met early on Sunday, and discussed several "themes" that we plan to further develop, namely: Safety Culture, Ineffective CAP, Conduct of Operations/OPS Standards, Engineering Acumen, and Work Management. The challenge will be to determine if Corrective Actions already taken in all of these areas has been effective or not. On the plus side, we have not identified performance deficiencies at the same rate as ANO, and the team believes that procedures are in good shape.

Very Respectfully

Don Jackson- Team Lead