

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

In the Matter of Union Electric Company d/b/a)
AmerenUE's Tariffs to Increase its Annual) **Case No. ER-2008-0318**
Revenues for Electric Service)

In the Matter of Public Counsel's Petition to)
Open a Case to Investigate AmerenUE's Plan) **Case No. EO-2009-0126**
to Construct and Finance a Second Unit at the)
Callaway Nuclear Plant Site)

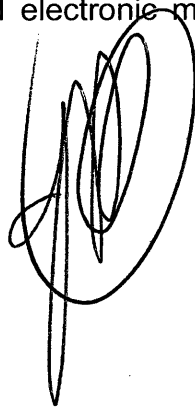
In Re: Union Electric Company's 2008 Utility)
Resource Filing pursuant to 4 CSR 240 -) **Case No. EO-2007-0409**
Chapter 22.)

NOTICE REGARDING EXTERNAL COMMUNICATIONS

Issue Date: November 12, 2008

On November 9, 2008, I received the attached electronic mail message from
Lawrence S. Criscione and sent the following response.

Dated at Jefferson City, Missouri,
on this 12th day of November, 2008.
Davis, Chairman



Gregory, Sheryl

From: Davis, Jeff
Sent: Sunday, November 09, 2008 9:36 PM
To: 'Lawrence Criscione'; Jeanette Oxford
Cc: Commissioners - PSC; Mantle, Lena; Dietrich, Natelle*; Taylor, Michael; William Jones; Marty Gelfand; Will Kraus; Gregory, Sheryl
Subject: RE: Integrity Issues at the Callaway Nuclear Plant

Dear Representative Oxford,

Wess Henderson, the PSC Executive Director, should be more than happy to visit with you about the PSC Staff's response to Mr. Criscione's allegations in this matter. My assistant Sheryl would be happy to facilitate a phone call, meeting or written response. You can reach Wess by calling my office at 573-751-3233.

Please note that I have asked my assistant Sheryl to file a copy of this communication in all Ameren cases that are currently open at the PSC.

Thank you for your consideration in this matter.

Sincerely,

Jeff Davis

From: Lawrence Criscione [mailto:lscriscione@hotmail.com]
Sent: Sunday, November 09, 2008 8:37 PM
To: Jeanette Oxford
Cc: Commissioners - PSC; Mantle, Lena; Dietrich, Natelle*; Taylor, Michael; William Jones; Marty Gelfand; Will Kraus
Subject: RE: Integrity Issues at the Callaway Nuclear Plant

Dear Ms. Oxford,

Thank you for following up with me.

The only other reply I received from my September 29 email was from Representative Will Kraus. Mr. Kraus placed me in contact with his assistant, Casey Exendine, who assisted me in contacting the Missouri Public Service Commission.

The Missouri Public Service Commission never contacted me as part of their investigation, if they conducted one. On October 20, I received an email from Wess Henderson stating "I do not believe there is a need for the Public Service Commission Staff to perform any additional review" of my concerns at Callaway Plant.

I do not know what the exact charter of the Missouri Public Service Commission is, but I am sure that it is appropriate for them to defer to the expertise of the United States Nuclear Regulatory Commission.

Unfortunately, I do not believe the US Nuclear Regulatory Commission is adequately performing its functions. The people of Missouri need a process for ensuring nuclear facilities in their state have proper oversight.

Since leaving Callaway, I have taken a job in Akron, Ohio and am living with relatives in Parma,

11/12/2008

OH. Parma is in Ohio's 10th Congressional District, which is currently represented by Dennis Kucinich. Marty Gelfand is a lawyer on Congressman Kucinich's staff. He once served aboard a nuclear submarine and is knowledgeable about the technology. He has agreed to assist me in addressing my concerns with the US NRC's policies.

Please note that Mr. Gelfand's (and Congressman Kucinich's) concern is with ensuring a proper Safety Culture exists in the nuclear facilities in Ohio and the rest of the nation. He is assisting me in addressing policies of the US NRC. Although incidents at Callaway Plant may be used as case studies by Mr. Gelfand, he is not specifically concerned with the management of Callaway Plant or its parent utility (Ameren). He is concerned about NRC policies that do not adequately hold utilities accountable for deficiencies in their Safety Culture. Thus any concern he has regarding Callaway Plant is of a more general nature, since Callaway is one of our nation's 104 commercial nuclear power plants.

The Shift Manager and Control Room Supervisor unnecessarily (and inexcusably) left the control rods withdrawn on October 21, 2003 to cover up a plant transient. The US NRC knows this happened, but their burden of proof is too great to allow them to directly do anything about it - and, despite past practices in the 1990's, the US NRC is apparently no longer willing to use their regulatory latitude to punish utilities which shamefully flaunt the Safety Culture.

I do not know what you or Mr. Kraus can do to help me regarding my concerns with the US Nuclear Regulatory Commission. However, I do know that you and Mr. Kraus can help me regarding my concerns with the Safety Culture at the Callaway nuclear plant and in Ameren.

As you can see from the lengthy email trail below, members at all levels of Ameren management were aware of my concerns regarding the October 21, 2003 incident but refused to fully investigate it.

In the October 2 email to Representative Kraus I provided several contacts who may be able to assess my claim that the US NRC is not adequately addressing the October 21, 2003 incident. Because of my settlement agreement with Ameren, I am not allowed to discuss the October 21, 2003 with any of these individuals, so I have no idea what they would tell you. I am sure most will not desire to look into the issues. Those that do may tell you I am making a big deal out of nothing, or they may tell you that the US NRC's response to my allegation was grossly inadequate.

I do know that a Missouri State Legislator can ask Tom Voss what he knows concerning the October 21, 2003 incident and why he has not found it worthy of addressing. If they wanted to, the Missouri State Legislature can shame Mr. Voss into ensuring his utility has a proper nuclear Safety Culture. Shaming Mr. Voss into removing corrupt managers at Callaway Plant will cost the taxpayer relatively nothing, yet it will eventually accrue rewards for all concerned parties (rate payers, share holders and employees). The only ones benefitting from cronyism are the cronies.

Attached to this email are two documents. The first attached document was written to explain the October 21, 2003 incident (at Callaway Plant) to individuals who do not have a strong technical background in the operation of nuclear power plants. The second attached document was written to give a short history and explanation of the Safety Culture and why it is important for the US NRC to ensure a strong Safety Culture is maintained at our nation's nuclear power plants. Combined, the two documents are 6 pages.

Ameren would like to build another unit at Callaway. I would like to see that happen. I am a firm believer that nuclear power is the answer to not only our future energy needs but also to our national security and troubled economy. However, the American public still does not agree with me. The memories of the decades prior to the proper implementation of the Safety Culture still haunt most Americans. The nuclear building boom of the 1970's was not halted by nuclear activists; it was halted by nuclear accidents and incidents. The culture of corruption at Callaway

11/12/2008

Plant has the potential to do more damage to the future viability of nuclear power than all the anti-nuclear activists combined. Superiors, who retaliate against subordinates for attempting to address safety concerns, are a grave liability to the entire commercial power industry and must be removed from their utilities.

Larry

Lawrence S. Criscione

(573) 230-3959

> To: lscriscione@hotmail.com

> Date: Fri, 7 Nov 2008 23:09:26 -0600

> Subject: seeking update

> From: jmo4rep@juno.com

>

> Mr. Criscione,

>

> I was unable to come to the meeting to which I was invited about

> Calloway. Can you update me on what has happened since?

>

> JMO

>

> Jeanette Mott Oxford

> State Representative - 59th MO House District

> 314-771-8882 (home); 314-775-8940 (cell)

> 2910 Lemp, St. Louis, MO 63118

> www.jmo4rep.com

Subject: RE: Integrity Issues at the Callaway Nuclear Plant

Date: Mon, 20 Oct 2008 10:21:58 -0500

From: wess.henderson@psc.mo.gov

To: lscriscione@hotmail.com; lena.mantle@psc.mo.gov; natelle.dietrich@psc.mo.gov;

michael.taylor@psc.mo.gov

CC: Commissioners-PSC@psc.mo.gov

Dear Mr. Criscione, I had one of our Staff engineers review your information and information provided by other parties regarding your claim of Integrity Issues at the Callaway Nuclear Plant. Based on the Staff review of all the information and the fact that the the Nuclear Regulatory Commission (NRC) has closed the review of your allegations, I do not believe there is a need for the Public Service Commission Staff to perform any additional review. Please let me know if you require additional information.

From: Lawrence Criscione [mailto:lscriscione@hotmail.com]

Sent: Tuesday, October 14, 2008 5:06 PM

To: Mantle, Lena; Dietrich, Natelle*; Henderson, Wess

Subject: FW: Integrity Issues at the Callaway Nuclear Plant

Your names were given to me by Mr. Kraus's staff. Do any of you have authority to look into this issue?

Larry Criscione

11/12/2008

(573) 230-3959

From: Iscrizione@hotmail.com
To: will.kraus@house.mo.gov
Subject: RE: Integrity Issues at the Callaway Nuclear Plant
Date: Thu, 2 Oct 2008 00:10:26 -0400

Mr. Kraus,

Thank you for the information. I will call Mr. Leonberger tomorrow. If Mr. Leonberger was not one of the individuals at the PSC whom you forwarded my email to, I would appreciate it if you would pass it on to him so he might see it before I call him.

The concerns I have are difficult to understand if you are not familiar with reactor dynamics.

If you or the PSC would like to investigate this matter, I believe there are several people who can independently assess my claims.

Admiral James Ellis (EllisJO@INPO.org) and Scott Hill (HillSC@INPO.org) could certainly review the data attached to CAR 200701278 and CAR 200702606 and provide a proper assessment of the event. INPO is an industry self-regulating body. Part of their mission is to investigate events in order to learn from past mistakes. Their mission is NOT to punitively regulate their members (Ameren being one of their members) so they may or may not assist you if you desired to contact them.

Admiral Skip Bowman held Admiral Rickover's old post at Naval Reactors before retiring. He is now in charge of the Nuclear Energy Institute. It is NEI's job to promote nuclear power, not to regulate it. However, Admiral Bowman certainly would understand the issue brought forward in CAR 200702606 and certainly understands the importance of integrity in the operation of a nuclear reactor plant. It is doubtful NEI would investigate this issue, but if requested, they could apply pressure to Gary Rainwater (Ameren's CEO) to ensure a proper internal investigation is conducted. A proper internal investigation will address the two numbered items in my original email to you and the other legislators.

Dave Lochbaum (DLochbaum@ucsusa.org) is an employee of the anti-nuclear Union of Concerned Scientists, however he does not espouse their anti-nuclear views. He is a true believer in nuclear power, yet he understands the need for a strong safety culture. In his position he works to ensure our nuclear plants are properly regulated by the US NRC. He could certainly explain the seriousness of the incident documented in CAR 200702606.

Ellis Merschoff (EMERSCHOFF@aol.com) is a former nuclear navy officer who then joined the US Nuclear Regulatory Commission and served as the Regional Administrator for Region IV before retiring in 2005. He is a member of Ameren's Nuclear Safety Review Board. He refused to look into the October 21, 2003 incident when I requested him to in October 2007, but I am sure he would investigate the issue if Ameren asked him to. One of his counterparts on Ameren's Nuclear Safety Review Board, John Franz (franzjfr@aol.com), is also capable of assessing this issue if he wishes to do so. Although both men draw paychecks from Ameren, they are not embedded in the politics at Callaway Plant and they should be able to conduct a proper review of the issue if asked to do so by Ameren's senior leadership.

Professor Larry Stacey (stacey@slu.edu) at St. Louis University used to work at Oak Ridge Laboratory assisting in the production of nuclear weapons. He is a professor of Physics, not Nuclear Engineering, but he undoubtedly understands reactor dynamics and should be able to provide an assessment of the issue in CAR 200702606.

11/12/2008

I am not familiar with the faculty of either of Missouri's two first rate Nuclear Engineering programs. From a review of the specialties listed on their websites, it appears the following professors should be able to provide an assessment of the seriousness of the issue documented in CAR 200702606:

- Professor Kumar at Rolla (Kumar@mst.edu)
- Professor King at Rolla (Kingjc@umr.edu)
- Professor Mueller at Rolla (gmueller@mst.edu)
- Professor Usman at Rolla (Usmans@mst.edu)
- Professor Loyalka at Columbia (LoyalkaS@missouri.edu)
- Professor Glascock at Columbia (GlascockM@missouri.edu)

Finally, Gary Olmstead (gwolmstead@yahoo.com), the Shift Manager at Callaway Plant who wrote CAR 200702606, can explain the issue.

Please pass this information along to anyone who is asked to look into this issue.

Thank you, again, for your assistance.

Larry Criscione
(573) 230-3959

Subject: Integrity Issues at the Callaway Nuclear Plant

Date: Wed, 1 Oct 2008 19:54:54 -0500

From: Will.Kraus@house.mo.gov

To: lscriscione@hotmail.com

Dear Mr. Criscione,

Thank you for taking the time to contact me with your concerns for the nuclear power plant in Callaway County, Missouri.

I have contacted the Missouri Public Service Commission and have forwarded them your e-mail to make sure they are aware of the situation. If you would like to contact the PSC directly you can call Bob Leonberger, the safety and engineering supervisor, at (573) 751-1459.

My door is always open,
Will Kraus

From: Lawrence Criscione [<mailto:lscriscione@hotmail.com>]

Sent: Monday, September 29, 2008 11:24 PM

To: Walt Bivins; Rodney Schad; Jeff Grisamore; Jason Holsman; Jim Lembke; Jeanette Oxford; Martin Rucker; sue.schoenehl@house.mo.gov; Tom Shively; Kevin Threlkeld; Ed Emery; Will Kraus; Tony George; Sara Lampe; Mike Parson; Shane Schoeller; trent.skagss@house.mo.gov; Joe Smith; Jim Viebrock; Gina Walsh; Billy Wright; Jake Zimmerman

Cc: chairman@nrc.gov; cmrlyons@nrc.gov; cmrsvinicki@nrc.gov; Houlihan Bill; Llona Weiss; Roy Caniano; Vince Gaddy; Wess Henderson; US Nuclear Regulatory Commission Region 4 Allegations; ighotline@hq.doe.gov

Subject: Integrity Issues at the Callaway Nuclear Plant

Honorable Representatives,

I was a Shift Engineer at Ameren's nuclear power plant in Callaway County, Missouri from July 2002 until November 2007. All of you are either on the Special Committee on Utilities or the Special Committee on Energy and Environment, so I believe the matter below may be of concern to you.

The email trail below concerns an incident which occurred at the Callaway nuclear plant on October 21, 2003. As

11/12/2008

can be seen in the emails below, all levels of Ameren management were aware of this issue: Adam Heflin (Site Vice President in 2007, now Senior VP of Nuclear), Fadi Diya (Plant Director in 2007, now Site Vice President), John Franz and Ellis Merschoff (members of Ameren's Nuclear Safety Review Board), Gary Hughes and Les Kanuckel (Quality Assurance), Tim Steele and Dave Hollabaugh (Employee Concerns Program), Dave Neterer (Operations Manager in 2007, now Plant Director) and Tom Voss (Senior Vice President of Generation). The email to Adam Heflin on November 13, best describes the issue.

On October 21, 2003, Callaway Plant was shutting down due to a problem with a safety-related piece of electrical equipment. By the plant's Technical Specifications, a plant shutdown needed to be started by 7:21 am and completed by 1:21 pm.

At 10:13 am the reactor inadvertently shut down due to a 3°F temperature spike which occurred when the main turbine was manually tripped. For unexplained reasons, the Shift Manager and/or Control Room Supervisor did not order the insertion of the control rods for nearly two hours.

The control rods are the most common method used for controlling the nuclear fission reaction during a reactor shutdown. The control rods are made of neutron absorbing metals which stop the nuclear chain reaction. Another way to definitively stop the nuclear chain reaction is to add boric acid to the primary coolant. No boric acid was added during the 100 minute time frame between when the reactor shutdown and the control rods were inserted.

In February 2007, I was reviewing data from the nine most recent reactor shutdowns as part of an engineering study (CAR 200701278) to support a revision to the reactor shutdown procedure. When I came across the October 21, 2003 data, I was confused by the long delay between the time of the reactor shutdown and the time of the insertion of the control rods. After attempting to address my concerns internally at Callaway Plant, I brought my concerns to the attention of the Senior Resident Inspector (Michael Peck) assigned to Callaway Plant by the United States Nuclear Regulatory Commission. Mr. Peck forwarded my concerns to the regional headquarters where they were documented as Allegation RIV-2007-A-0028. My specific concerns were:

- it appeared to me that the Shift Manager intentionally delayed inserting the control banks to cover up an inadvertent reactor shutdown
- I believed that, because of internal politics (friendships), Callaway Plant would not adequately investigate the incident

In February 2007, I spoke with several Shift Managers (Greg Bradley, Steve Ganz, J.R. Weekley and Gary Olmstead) regarding the 100 minute delay between the reactor shutdown and the time of the control rod insertion. All of these Shift Managers told me they could not think of any reason for the delay.

In March 2007, Gary Olmstead, a Shift Manager who attended the Reactivity Management Review Committee meeting when CAR 200701278 was presented, documented his concerns regarding the October 21, 2003 shutdown in an internal Callaway Action Request (CAR 200702606).

In August 2007, the US NRC closed Allegation RIV-2007-A-0028. In their closure documentation, they refused to speculate on the crew's motivation for delaying insertion of the control rods because there was no procedural time limit to accomplish this task. I find this reasoning inane. I believe any nuclear engineering professor will tell you that the most important task following an inadvertent reactor shutdown is to ensure the reactor remains shutdown by inserting the control rods. It amazes me that the US Nuclear Regulatory Commission would be willing to turn a blind eye to such negligent behavior.

In September 2007, CAR 200702606 (internal investigation of the October 21, 2003 incident) was closed. The closure of this document did not adequately address the reason for the two hour delay in inserting the control rods.

At 10:13 am on October 21, 2003, the Electrical Maintenance division at Callaway Plant was actively attempting to repair safety related inverter NN11. At Callaway Plant (and in the commercial nuclear industry at large) it is

accepted practice to delay shutting down the reactor if repair actions may be successful. When the reactor shutdown at 10:13 am, the upper management at Callaway Plant was expecting the reactor to remain critical while repair activities were being conducted (the reactor did not legally need to be shutdown until 1:21 pm, so more than 3 hours of repair time remained). It is my allegation that the Shift Manager hid the inadvertent reactor shutdown from the plant's upper management by leaving the control rods withdrawn until 12:04 pm. This allegation has never been investigated.

In Action 5 to CAR 200702606, the Shift Manager during the October 21, 2003 incident documented the reasons why the control rods were left withdrawn. None of his reasons "hold water".

In August 2007, I wrote my US Senator (Richard Durbin) to request his assistance in ensuring the US NRC properly investigate Allegation RIV-2007-A-0028. Mr. Durbin declined to assist me, but my concerns were documented by the US NRC as Allegation RIV-2007-A-0096. Despite my request that I be informed of the progress of RIV-2007-A-0096, the US NRC has never updated me on its status. Since I have not been interviewed by the NRC since November 2007, I assume RIV-2007-A-0096 is no longer being investigated.

Since 1966, two commercial nuclear reactors have melted down in the United States. The most recent one (Three Mile Island in 1979) was caused by equipment malfunctions and procedural deficiencies which the control room operators noted to plant management in the months prior to the accident. A strong Safety Culture and a strong Corrective Action Process are crucial to ensuring safe operation of nuclear reactors. Individuals, who intentionally cover up mistakes, should not be allowed to maintain Senior Reactor Operator licenses.

In 1986 the #4 reactor at Chernobyl had a nuclear criticality accident which resulted in an explosion that distributed nuclear fallout over large parts of Europe. In the hours prior to the accident, the operating crew lost control of the reactor plant and it inadvertently lowered in power due to the buildup of the fission product Xenon. The reactor operators pulled out too many of the control rods to accommodate for the build up of Xenon. With too many control rods withdrawn, when the Xenon decayed, the reactor overpowered and exploded. Although US reactors have an inherently safer design, a fundamental tenet of reactor safety is that conservative actions are taken to control the nuclear reaction, especially low in the power range. Any nuclear engineering professor will tell you that it is unacceptable to rely solely on Xenon to maintain a reactor subcritical. Although a US reactor, shutdown by Xenon with the control rods fully withdrawn, should not explode as the Soviet reactor did, it is still a dangerous way to operate.

The Tatum plant was inappropriately managed by Ameren for several years before it disastrously failed in 2005. Missouri cannot afford Callaway Plant to be managed in a similar fashion. The individuals in responsible positions at Callaway Plant must be of the highest integrity. An allegation that the Operations Manager (now Plant Director) and a Shift Manager (now the Operations Training Manager) jeopardized reactor safety to cover up an inadvertent reactor shutdown must be properly investigated.

I do not know why the US NRC has refused to properly investigate the October 21, 2003 shutdown. I would like the assistance of members of the Missouri legislature in ensuring the US NRC properly investigates allegations in Missouri. If possible, I would like you to assist me in getting the following answers from the US Nuclear Regulatory Commission:

1. When a reactor shuts down due to a temperature transient, what are acceptable activities which might prevent the insertion of the control rods for 100 minutes? Were any of these activities in progress on October 21, 2003?
2. Has the response to Action 5 of CAR 200702606 been investigated by the US NRC? In his response, the Shift Manager states several activities which delayed the insertion of the control rods. Given the actual amount of work required by these activities, is it reasonable that these activities should have prevented the delay of the insertion of the control rods?

If you have any questions regarding this incident, you can reach me at (573) 230-3959. If you desire an independent assessment of this issue, I would suggest you contact the industry sponsored Institute of Nuclear Power Operations (INPO), the Nuclear Energy Institute (NEI) or any nuclear engineering or physics professor at

any of our state's many fine public and private universities.

I was a Submarine Warfare Officer in our nation's nuclear submarine force and I have worked in the commercial nuclear power industry for over 8 years. I am a firm believer that nuclear power is the answer to our nation's energy needs. However, I am also aware of the dangers inherent to nuclear energy and I understand the need for strict government regulation. I appreciate your efforts in ensuring our government regulators ensure the necessary safety culture exists in our nation's commercial nuclear power plants.

Very respectfully,

Lawrence S. Criscione, PE

From: LSCriscione@hotmail.com

To: aheflin@ameren.com

CC: franzjfr@aol.com; emerschhoff@aol.com; golmstead@ameren.com; fdiya@ameren.com; ghughes@ameren.com; lkanuckel@ameren.com; wjessop@ameren.com; tsteele@ameren.com

Subject: Allegation RIV-2007-A-0028

Date: Tue, 13 Nov 2007 12:19:40 -0600

Adam,

Allegation RIV-2007-A-0028 is the issue I wish to speak with you about before departing Callaway. As you can see from the email trail below, I have unsuccessfully attempted to get this issue addressed at several levels of the Ameren organization, the US Nuclear Regulatory Commission and the staffs of members of congress.

On October 21, 2003 Callaway Plant was shutting down due to the expiration of a Technical Specification Limiting Condition of Operation for a failed safety related instrument bus inverter (NN11). Condition A of the LCO expired at 0721, leaving the crew six hours (until 1321) to either have the inverter restored or be in MODE 3. While in Condition B of the LCO (6 hours to shut down to MODE 3 and 36 hours to cool down to MODE 5), the NRC has allowed plants to remain critical as long as repairs to the equipment are progressing and they do not exceed the 6 hour limit. In the past (and still today) Callaway Plant has made use of this custom; while in the 6 hour window, the plant is placed in a condition where it can be readily shutdown but, as long as repair of the equipment appears possible prior to the expiration of the 6 hour window, the plant remains ! cri! tical. This is what the expectation of the Plant Manager was on October 21, 2003.

Around 0938 on October 21, 2003 a secondary plant transient caused the crew to lose control of Reactor Coolant System temperature. RCS temperature dropped 10°F during the transient and exceeded the Minimum Temperature for Critical Operation for about 14 minutes. During this time, the crew tripped the turbine to mitigate the RCS temperature transient. Temperature rose 4°F over the next couple of minutes, resulting in an inadvertent reactor shutdown due to the negative reactivity inserted by the temperature rise. eDNA data indicates the plant shutdown around 1025.

Up until this point, I have no concerns with the crew's actions. Although their response to the temperature transient may not have been as timely as a more experienced crew's, their actions were appropriate nonetheless. However, for inexplicable reasons they did not document the transient in the Callaway Action Request System and failed to insert the control banks when they recognized the reactor had shutdown.

11/12/2008

I believe the crew did not document the temperature transient because the Shift Manager, and possibly the Operations Manager, did not wish to draw attention to the event. There were some in Operations at the time (and, to some extent, currently) who viewed the documentation of operator errors in the CAR System negatively. Although they recognized it was an expectation that such errors should be documented, they did not recognize the true value of documenting and analyzing mistakes. They did not recognize that documented mistakes were an opportunity from which the organization could learn valuable lessons; they instead viewed documented mistakes as instruments to bring unwanted scrutiny of the crew (and of the Operations Department) by upper management.

I have been told by Dave Neterer the temperature transient, which was severe enough to result in a Letdown isolation, was not documented because "our standards were different then". This is not true. Although it is true that "our standards were different then", it is not true that a secondary plant transient severe enough to result in a Letdown isolation did not meet "our standards". The event certainly met Duff Bottorff's standards; he documented it in CAR 200308555 38 days later after Mr. Lantz refused to. The event certainly met the CAR Screening Committee's standards; they screened it as an Adverse Condition (however, in the tradition of "Midwest Nice", they did not question why it was 38 days old and being documented by an Engineering Department trainer vice the operating crew). The truth is, this event was not documented because Dave Lantz, and possibly Dave Neterer, wanted to cover it up. Although attempting to cover up a secondary plant transient by not documenting it in the Corrective Action Process is something an organization trusted with the operation of a nuclear power plant cannot allow of its leaders, it is not a concern which rises to the level of needing to be addressed by United States senators. However, the operating crew intentionally delaying the insertion of the Control Banks to cover up the transient, and then the organization and the Nuclear Regulatory Commission refusing to adequately address the issue once it has been uncovered, is a matter which demands the attention of our elected officials.

By 1025 on October 21, 2003 the reactor had inadvertently shutdown. The Control Banks were not inserted until 1204. In Action 5 of CAR 200702606, Dave Lantz states that he recognized the reactor shutdown shortly after it occurred. Regardless of whether or not the shutdown was immediately recognized, it was certainly recognized when the Source Range Nuclear Instruments energized at 1125 (causing a Main Control Board annunciator). In Action 5, Dave Lantz gives several reasons for the 100 minute delay in inserting the Control Banks; none of the reasons are viable. He mentions the confusion which was occurring in the Control Room due to the secondary plant transient and indication problems with one of the steam line drains handswitches; this distraction occurred prior to the 100 minute delay. He mentions responding to the loss of Letdown; Letdown was restored by 1018. He mentions performance of OTO-NN-00001 in response to a loss of NN11 which occurred earlier in the day while troubleshooting; the procedure was merely awaiting the final close out steps and there were no control room steps being performed during the time the rods were withdrawn.

None of Mr. Lantz's excuses provided in Action 5 of CAR 200702606 explain the delay in inserting the Control Banks. Mr. Lantz's crew intentionally delayed inserting the Control Banks to cover up the fact that the reactor inadvertently shutdown as a result of the plant response to the earlier secondary plant transient. The Control Banks were not inserted until 1204. This was around the time the organization expected the shutdown to occur had the attempts to repair NN11 not been successful.

Like you and I, Dave Lantz served in the nuclear navy. He was a highly trained reactor operator aboard a nuclear powered naval vessel. His exemplary knowledge of nuclear power earned him a position as a prototype instructor in the Navy's nuclear power training pipeline. He is well aware of the high standards of integrity that our nuclear navy inherited from Admiral Rickover. He understands that events are never to be covered up. He also is aware of the extreme importance Admiral Rickover placed upon conservatively controlling reactivity. He understands that the most important task for any nuclear watchstander is to ensure the reactor plant is actively controlled. On October 21, 2003 he undoubtedly recognized that his most important duty upon realizing the reactor had shut down was to ensure the reactor stayed shutdown by actively inserting negative reactivity through either insertion of the control banks or borating until adequate Shutdown Margin was calculated.

Mr. Lantz has been a Senior Reactor Operator at Callaway Plant for over a decade. He was promoted to Shift Manager relatively early due to the regard which Operations management held his performance as an Operating Supervisor. As a Shift Manager he was consistently ranked above most of his peers on his Performance Appraisals. Recently, he has been promoted to be the Superintendent of Operations Training in recognition of his abilities.

I find it hard to believe that an individual with Mr. Lantz's background and ability would not recognize the importance of promptly inserting the Control Banks to actively shutdown the reactor plant on October 21, 2003. I have had no dealings with Mr. Lantz which lead me to question his abilities; I only question his integrity.

As you can see from the email trail below, you are not the first person I have approached with this issue. Although Quality Assurance and representatives of Mr. Diya have supposedly looked into this issue, I have yet to be interviewed (other than during the statement of my initial allegations to Mr. Hollabaugh in the presence of Quality Assurance). No one investigating this matter from Callaway Plant have asked to see my evidence of why I am convinced Mr. Lantz intentionally left the Control Banks withdrawn on October 21, 2003 to cover up a plant transient.

Equally disturbing as Mr. Lantz's actions on October 21, 2003 are the actions taken by Operations in 2007 to suppress investigation of this issue. From the beginning, CAR 200701278 and CAR 200702606 have been marginalized by the Operations Department. I was placed on a Performance Improvement Plan after attempting to address the inadequate response to CAR 200701278 with Mr. Naslund earlier this year. I have had two very heated discussions with Dave Neterer regarding access to the Main Control Room key card records for October 21, 2003; the first discussion started off with him asking me "Are you trying to get me fired?" Jim Milligan deleted the actions I had drafted for CAR 200702606 (originally Action 4 but eventually sent out as Actions 5 and 6) and closed the CAR without speaking to me about it in August 2007. I was sternly counseled by Operations that I was taking a step backward on my Performance Improvement Plan when I re-opened CAR 200702606 to send my actions.

By our arbitration agreement last Friday (November 9, 2007) Ameren has fairly financially compensated me for the improper retaliation against me which occurred this summer for pursuing an answer to the events of October 21, 2003. However, Ameren has not yet adequately resolved all the issues surrounding the event. The personnel who originally covered up the transient in 2003, and those who wish to impede its investigation still, remain in important leadership positions in the company.

Regardless of the Nuclear Regulatory Commission's actions (or inaction) on this event, you and the individuals copied on this email have a duty to ensure the cover up of the October 21, 2003 inadvertent shutdown is properly investigated and resolved. Individuals willing to jeopardize the proper shutdown of the reactor plant to cover up their mistakes and individuals willing to jeopardize the careers of those who would properly investigate the issue cannot be allowed to retain leadership positions at a utility trusted with safely operating a nuclear reactor.

I am meeting with you afternooon. If necessary, I can still be available for interview after my separation from Ameren if the company ever decides to properly investigate the events of October 21, 2003 and the retaliation against me this summer. I can be reached at this email address or at (573) 230-3959.

Very respectfully,

Larry Criscione

From: Criscione, Larry S.

Sent: Thursday, November 01, 2007 2:00 AM

To: 'EMERSCHOFF@aol.com'

Cc: Franzjfr@aol.com; Voss, Thomas R

Subject: RE: FW: CAR 200702606, CAR 200701278 and CAR 200704911

Mr. Merschoff,

Thank you for your prompt response.

I have already attempted to address this concern with my immediate supervision at Callaway (Operations management), with the Employee Concerns Program, with the Quality Assurance organization and with the Plant Manager.

I have also attempted to address this concern with Region IV of the US NRC. My original Allegation (RIV-2007-A-0028) was closed without a proper investigation. Following a letter to my US Senator (Richard Durbin, IL) the NRC has supposedly re-opened the investigation. I have not yet been interviewed by the NRC (either during the original investigation or since it has been re-opened).

I agree that you and Mr. Franz are not part of the formal process to investigate this concern. I believe it is in the best interest of the company for you, Mr. Franz and Mr. Voss to meet with me to discuss this issue, but I must concede that you are the better judge of this than I.

I appreciate your response and I thank you for your advice.

V/r,

Larry Criscione

From: EMERSCHOFF@aol.com [mailto:EMERSCHOFF@aol.com]

Sent: Tuesday, October 30, 2007 4:21 PM

To: Criscione, Larry S.

Cc: Franzjfr@aol.com; Voss, Thomas R

Subject: Re: FW: CAR 200702606, CAR 200701278 and CAR 200704911

Mr. Criscione,

Thank you for coming forward with this issue. Your belief that a "cover-up" has occurred needs to be addressed. You have several options relative to getting your concern into a formal process for resolution. I encourage you to use any and all of them as necessary.

First, I encourage you to work with your management to assure the event is understood and appropriate action has been taken. Considering the management changes that have occurred since 2003, you have many managers in responsible positions that were not involved and can address the issue objectively.

Second, you can take the issue to the Employee Concerns Program. I understand a new Employee Concerns Coordinator is being selected. This will provide an opportunity to bring a fresh set of eyes on your concern.

Third, The NRC has the ability to look objectively at issues such as this by engineers from the Regional Office or Headquarters, and professional investigators from The NRC Office of Investigations (OI). These OI investigators are often former US Secret Service Agents or US Naval Investigative Service Agents and are very good at investigating allegations of wrongdoing.

Fourth, If you have concerns that the NRC has not taken your concerns seriously, you can contact the Office of the Inspector General. This is an organization that reports to Congress and has the responsibility of assuring that the NRC employees meet their Federal mandate of assuring public health and safety. The OIG's phone number is

on the NRC Form posted in various locations in the plant, or can be obtained from the NRC's web site at www.NRC.GOV.

Finally, Mr. Franz and I are not part of the formal processes that I have described which are available for resolution of your concerns. The NRC expects the person with the concerns and the facts to come forward in order for the issue to be investigated if the problem is not being addressed by the licensee. Waiting for the next NSRB meeting to discuss this issue with Mr. Franz and me is not in the best interest of you or the plant.

Regards,
Ellis W. Merschoff, PE
President, CGE, LLC

From: Criscione, Larry S.
Sent: Tuesday, October 30, 2007 2:14 PM
To: 'emerschoff@aol.com'
Cc: 'franzjfr@aol.com'; Voss, Thomas R
Subject: FW: CAR 200702606, CAR 200701278 and CAR 200704911
Mr. Merschoff,

At 0100 on October 21, 2003 Callaway Plant commenced a down power from 100% power due to the failure of inverter NN11. The plant was 17 hours and 39 minutes into the 24 hour LCO for T/S 3.8.7.A.
At 0721 the 6 hour shut down Limiting Condition for Operation of T/S 3.8.7.B was entered. The plant was at 38% power and the LCO required either NN11 to be restored or the plant to be shutdown to MODE 3 by 1321. The LCO also required the plant to be cooled down to MODE 5 in 36 hours if NN11 was not restored.
At 0938 with the plant around 8% power a temperature transient occurred due to the opening of the Main Turbine and MSR drains per an inappropriate procedure step. It is my opinion this transient was caused by a procedure error and not a procedure use error on the part of the Operating crew.
Over the next 25 minutes, temperature fell nearly 10°F resulting in a Letdown Isolation on low Pressurizer Level and operation of the reactor below the Minimum Temperature for Criticality.
The Letdown Isolation occurred at around 1000 and restoration commenced around 1010. Letdown flow was completely restored by 1015.
At 1013 the crew declared MODE 2 and the main turbine was tripped.
Upon tripping the main turbine, a 7°F temperature rise occurred as steam pressure built up to the Steam Pressure setpoint of the condenser steam dumps. The negative reactivity inserted by this temperature rise immediately resulted in a negative startup rate (approximately -1/6 dpm). By 1023 reactor power was past the Point of Adding Heat and startup rate was approximately -1/3 dpm.
The Shift Manager has stated in Action 5 to CAR 200702606 that he recognized the reactor shutdown shortly after tripping the turbine.
Around 1204 the crew began inserting the control banks. Between the time of the inadvertent shutdown and the initiation of control rod insertion 100 minutes later, no boration or any other deliberate insertion of negative reactivity occurred.
At 1255 the Shutdown Margin calculation was completed and MODE 3 was declared.
The operating crew never documented the RCS temperature transient or the inadvertent shutdown in the Corrective Action Process. A Callaway Action Request was written 38 days after the event by an Engineering Department trainer to document the temperature transient (CAR 200308555).
I came across the inadvertent shutdown and apparent cover up while analyzing data for CAR 200701278 in February 2007. As you can see from the email trail below, I have unsuccessfully attempted to address this issue via several avenues.
I brought this issue to the attention of Mr. Franz via email two weeks ago and have not received a response. If possible, I would like to discuss the October 21, 2003 transient and apparent cover up with you and Mr. Franz. As you can see from the email trail below, I am not bringing this issue to you as my first choice; you and Mr. Franz are my last resort internal to the company.
You may contact me at work regarding this issue via this email address or at (573) 676-6113.
I would appreciate a response as to whether or not you intend to look into this matter.
Thank you,
Lawrence S. Criscione, PE

From: Criscione, Larry S.
Sent: Friday, October 19, 2007 8:47 AM
To: 'franzjfr@aol.com'
Subject: CAR 200702606, CAR 200701278 and CAR 200704911
Mr. Franz,

I am sorry I was unable to meet with you yesterday; I was out sick.
I appreciate the advice you gave me on this issue. Be assured, I am not bringing this issue to you as my first

course of action.

The October 1, 2007 email to Fadi Diya below essentially explains the issue.

I first came across it in mid-February 2007. During the remainder of February, I attempted to get Operations to pay attention to it. Co-incidentally in late February the company tried to force me to work unpaid overtime. Part of the discussions revolving around the unpaid overtime issue pertained to the amount of unauthorized (by my supervisor) time I had spent researching and writing CAR 200701278. At this point, I took the issue I had uncovered while researching CAR 200701278 to the NRC as Allegation RIV-2007-A-0028.

I am a Professional Engineer and as such I have an obligation to my employer to first address issues internally. I attempted to do this in February 2007 and have continued to do so. In May 2007 I met with Dave Hollabaugh on this issue. I have also met with Dr. Hughes, Les Kanuckel and Fadi Diya as well as multiple meetings with Operations.

I have been disappointed with the Nuclear Regulatory Commissions' handling of this issue and addressed it in a letter to Senator Richard Durbin (I am an Illinois resident) on August 16, 2007. I am meeting with Senator Durbin's office on October 26, 2007.

Like me, you draw a paycheck from Ameren. Although certain employees at Ameren wish to cover up this problem, it is in the interest of the share holders that it be addressed. You are my last hope internal to the company. I do not know how much help Senator Durbin's staff will be.

As a professional engineer I have an obligation to the public. People in responsible positions at a commercial nuclear plant intentionally delaying the insertion of the control banks to cover up a transient is serious business; refusing to investigate the matter is equally serious. After you and Senator Durbin, my remaining re-course is public action groups and the press. I prefer to avoid that route if possible.

I have additional data I can send you on this matter (e.g. correspondence with the NRC and Senator Durbin).

Very respectfully,

Larry Criscione

From: Criscione, Larry S.

Sent: Wednesday, October 17, 2007 12:27 PM

To: Belsky, Luanna M.

Subject: FW: CAR 200704911

Luanna,

If possible, could you please schedule a time for me to meet with Mr. Franz. I am the Shift Engineer today and can be reached at 68459 (this is not the same number as in Outlook).

Thank you,

Larry Criscione

-----Original Message-----

From: Hollabaugh, David S.

Sent: Wednesday, October 17, 2007 12:14 PM

To: Criscione, Larry S.; Mclaughlin, Sharon S.

Subject: Re: CAR 200704911

Larry - I am offsite on business until Friday, when NSRB will be gone, so I can't really help you. You might check with Sharon. Dave

From: Hughes, Gary A.

Sent: Wednesday, October 17, 2007 11:41 AM

To: Criscione, Larry S.

Subject: RE: CAR 200704911

Talk to L Belsky. She is the keeper of the schedule for Mr Frantz.

From: Criscione, Larry S.

Sent: Wednesday, October 17, 2007 10:59 AM

To: Hollabaugh, David S.

Cc: Mclaughlin, Sharon S.; Kanuckel, Leslie H.; Hughes, Gary A.

Subject: CAR 200704911

Mr. Hollabaugh,

I was hoping to speak with Mr. Franz regarding the October 21, 2003 incident of leaving the control banks withdrawn for 100 minutes following an unplanned shutdown.

I am unable to find his contact information in Outlook (or that of any of the NSRB members). I would appreciate any assistance you might provide me in obtaining a meeting with Mr. Franz or Mr. Merschoff.

Thank you,

11/12/2008

Larry Criscione

From: Criscione, Larry S.

Sent: Monday, October 01, 2007 9:21 AM

To: Diya, Fadi M.

Cc: Olmstead, Gary W.; Kanuckel, Leslie H.; Mclaughlin, Sharon S.; Hollabaugh, David S.; Hughes, Gary A.; Cunningham, James L.

Subject: CAR 200702606

Fadi,

CAR 200702606 has been closed. I would like to meet with you at your convenience to discuss this CAR. It was written by Gary Olmstead in March.

I would have liked to see the Corrective Action Program handle this CAR differently, but quite frankly I believe the real issue is beyond the Corrective Action Process. For this reason, I can accept the closure of CAR 200702606 (CAR 200704911 has been more appropriately assigned, is still InProcess and addresses some of the same issues). This is an issue I would like to personally discuss with you, however. I have discussed CAR 200702606 several times with my supervisors in Operations since March.

On May 14, 2007 I met in Dave Hollabaugh's office with Dave, Sharon McLaughlin and Quality Assurance. I believe Jim Cunningham, Dr. Hughes and Les Kanuckel were all present but I am not certain. Sharon McLaughlin took notes and should be able to tell you who was present. Regardless of their presence at the meeting, I have discussed this issue separately at some point with Jim, Gary and Les.

The May 14, 2007 meeting concerned CAR 200704911 and a QA Audit which was in progress on Operations. At the meeting I expressed my concern that on October 21, 2003 the Operating Crew intentionally left the control banks withdrawn to cover up the fact that the reactor inadvertently shutdown on them shortly after tripping the turbine.

In their responses to Actions 5 & 6 of CAR 200702606, the Shift Manager and Control Room Supervisor both claim the following:

1. They were aware the reactor would go subcritical when the turbine was tripped.
2. The shutdown was not inadvertent and there was no intention to maintain MODE 2.
3. The Control Banks were not immediately inserted due to higher priority activities.

Regarding item 1: Although I am not convinced the control room staff recognized that the reactor would go subcritical upon tripping the turbine, I have no means to refute the claim that they did recognize it and will have to accept them at their word.

Regarding item 2: It has been my experience at Callaway Plant that if there is any hope that Tech Spec required equipment might be restored prior to the expiration of the Completion Time for the Limiting Condition for Operation, then the plant will remain in the LCO until just prior to the expiration of the Completion Time. Based on this experience, I believe that Plant Management expected the reactor to remain critical until the time limit for LCO 3.8.7.B was within an hour of expiring (around noon). Shutting down the reactor was the right course of action given the circumstances (the 10°F temperature excursion which brought the reactor below the Minimum Temperature for Criticality). Although the control room staff did not attempt to maintain the reactor critical after the temperature transient (a correct response to the plant conditions), they did not actively shutdown the reactor (continuation of the correct response). They allowed the reactor to passively shutdown on temperature and Xenon but took no active action (increasing boron concentration or inserting rods) for 100 minutes. As a result of their inaction, they inserted the control banks at about the time Plant Management was expecting them to. I believe this was not a co-incidence. I believe insertion of the Control Banks was intentionally delayed to avoid having to explain to Plant Management why the reactor was not maintained critical while repairs to inverter NN11 were still in progress.

Regarding item 3: I have talked to several Senior Reactor Operators and Reactor Operators regarding this event. None of them (other than the two involved) would have allowed anything to delay them in inserting the Control Banks. The "higher priority activities" which prevented the crew from promptly inserting control banks on October 21, 2003 were: the final steps of OTO-NN-00001 (page 5 of OTO-NN-00001, Rev. 006), the final step of OTO-BG-00001 (VERIFY pressurizer level being maintained at program level in automatic) and the four I&C surveillance on the Power Range Nuclear Instruments (the last of which was performed while inserting the control banks which begs the question why these surveillances delayed the insertion of the control banks).

I did not take notes at the May 14 meeting and have copied Dave, Sharon, Jim, Gary and Les to ensure I have not misstated any facts concerning this meeting. I copied Gary Olmstead because he is the Originator of CAR 200702606. Although Gary has accepted the closure of CAR 200702606, it is my understanding he does not believe this issue has, as yet, been satisfactorily resolved.

11/12/2008

V/r,
Larry Criscione

From: Criscione, Larry S.
Sent: Monday, May 14, 2007 5:39 AM
To: Hollabaugh, David S.; Cunningham, James L.
Subject: RE: QA Audit and CARS 200704911
Dave and Jim,

Please let me know when you have time to meet today.

I have some concerns with CARS 200704911 which I intend to address with the NRC on Friday. Although the company has been made aware of all the issues in CARS 200704911 on several occasions, I want to ensure the company understands the importance of these issue before I meet with the regulators.

Thanks,
Larry Criscione

From: Kanuckel, Leslie H.
Sent: Friday, May 11, 2007 11:11 AM
To: Criscione, Larry S.
Cc: Cunningham, James L.; Hollabaugh, David S.
Subject: RE: QA Audit and CARS 200704911
I'll let you, Jim, and Dave work out a time. Les

From: Criscione, Larry S.
Sent: Friday, May 11, 2007 11:04 AM
To: Kanuckel, Leslie H.
Cc: Cunningham, James L.; Hollabaugh, David S.
Subject: RE: QA Audit and CARS 200704911

I'll take whatever you can give me on Monday.

From: Kanuckel, Leslie H.
Sent: Friday, May 11, 2007 11:00 AM
To: Criscione, Larry S.
Cc: Cunningham, James L.; Hollabaugh, David S.
Subject: RE: QA Audit and CARS 200704911

Larry, I am willing to meet with you but I can't support a 3 hour meeting. If you want to meet at 0900-1000 or 1000-1100 on Monday, I can support that. If this meeting would be to pass on info that you have put together as part of your audit preparations and that you still want factored into the audit, that is Jim Cunningham's job as an Audit Team Leader. I have full confidence that Jim would consider this info objectively and I wouldn't need to be involved in the specifics at this point. Let me know what you want to do. Les

From: Criscione, Larry S.
Sent: Friday, May 11, 2007 9:46 AM
To: Kanuckel, Leslie H.
Cc: Cunningham, James L.; Hollabaugh, David S.
Subject: QA Audit and CARS 200704911

Les,

I was informed by Jim Milligan today that I am no longer available to assist Jim Cunningham with the QA Audit on Operations. The reason given was that I am needed to assist in working down the Operations Corrective Action backlog.

I believe the real reason is related to our discussion last week concerning CARS 200704911 – that Operations is not really interested in identifying adverse trends.

I have two CARS which I was planning to discuss with Jim Cunningham during the audit next week. I would like

11/12/2008

to set up a time on Monday when I can meet with you, Jim Cunningham and Dave Hollabaugh. I will need approximately three hours. This is a separate from topic from the one Dave Hollabaugh and I have already made plans to meet about on Monday.

Thank you,
Larry Criscione

From: Cunningham, James L.

Sent: Sunday, May 06, 2007 6:26 AM

To: Criscione, Larry S.

Subject: RE: CARS 200703391

Larry, attached is the verification plan that I want you to use to guide reviews. See you May 14-16.

Thanks,
Jim Cunningham

From: Criscione, Larry S.

Sent: Sunday, May 06, 2007 6:21 AM

To: Cunningham, James L.

Cc: Milligan, James W.

Subject: RE: CARS 200703391

Jim,

Thanks for the review. The Late Entries were added by Keith Duncan and I did verify they were present. Several weeks ago I was told you needed me to participate during the week of May 14. As far as I know, I am working for you on May 14, 15 and 16. Jim Milligan agreed to this prior to the outage and has not told me anything to the contrary since that time.

I am attending LOCT with Steve Kochert's crew on May 10, 11 and 12 in order to be free to support the QA audit during the following week. I am working nights through May 9 so I am unavailable prior to May 14.

Somewhere in my inbox I have a schedule for the audit which you sent me. If you could forward me the latest schedule for the week of May 14 I would appreciate it.

Thanks,
Larry

From: Cunningham, James L.

Sent: Saturday, May 05, 2007 6:11 AM

To: Criscione, Larry S.

Subject: RE: CARS 200703391

Larry, did we actually make the changes that you reference in the CAR response? If so, great job and I concur with your response. Changing the subject, are you still going to be able to participate in the Ops Audit for a couple of days between May 7-18?

Corrective Actions:

The following have ammended (←misspelled) the logs:

- CAR 200703391 resolution to be more specific for Log entries; PEM01A, SI PMP A stopped due to no indicated discharge pressure. Job 05515515.485 in progress.
 - CAR 200703391 resolution to be more specific for Log entries; It was determined that the MCB discharge pressure indication was isolated due to manual isolation closed to support COMS and ESFAS testing. PEM01A, SI PMP A started to support Job 05515515.485 .
 - CAR 200703391 resolution to be more specific for Log entries; PEM01A, SI PMP A stopped no leak-by observed, Job 05515515.485 complete SAT.
-

From: Criscione, Larry S.

Sent: Saturday, May 05, 2007 1:21 AM

To: Cunningham, James L.

Subject: CARS 200703391

Jim,
Please review the response for CARS 200703391 and let me know of any comments.
Thank you,
Larry Criscione

11/12/2008