



Issue Date: 25 August 2016

Case No.: 2014-ERA-00004

In the Matter of:

SHIH-PING KAO,
Complainant,

v.

AREVA INCORPORATED,
Respondent.

**DECISION AND ORDER
GRANTING RESPONDENT'S MOTION FOR SUMMARY DECISION
AND
ORDER DISMISSING COMPLAINT**

This matter arises under the employee “whistle blower” protection provisions of the Energy Reorganization Act of 1974, U.S. Code, Title 42, § 5851 (ERA) and its implementing regulations at 29 CFR, Part 24. The Complainant filed a complaint on October 24, 2013, alleging that Respondents retaliated against him in violation of the ERA by terminating his employment on July 3, 2013. The complaint was investigated and on April 15, 2014, the Regional Supervisory Investigator, OSHA, Atlanta Regional Office, dismissed the complaint by finding that there was no reasonable cause to believe the Respondent violated the ERA. On May 21, 2014, the Complainant filed objections¹ to the Secretary’s decision and requested a hearing before an Administrative Law Judge by facsimile transmission.

On July 6, 2015, Respondent’s counsel filed a “Motion for Summary Decision” with supporting documents and memorandum. On July 7 and 9, 2015, Respondent’s counsel filed corrections to the Motion for Summary Decision and supporting Memorandum. Respondent’s counsel also filed a supplemental response to Complainant’s counsel’s July 20, 2015 filing on July 27, 2015.

¹ By Order issued July 24, 2014, then presiding Judge K.A. Krantz found that the objections to the Secretary’s findings and request for formal hearing were timely filed and denied Respondent’s Motion to Dismiss for untimely filing. The Respondent appealed the determination as an interlocutory appeal. On September 29, 2014 the Administrative Review Board issued a “Final Decision and Order Denying Interlocutory Review” denying Respondent’s “petition for interlocutory review without prejudice.”

On July 20, 2015, Complainant's counsel timely filed a response to the Motion for Summary Decision with supporting documents and memoranda. Complainant's counsel also filed a supplemental response to Respondent's July 27, 2015 filing on August 21, 2015.

STATUTORY AND REGULATORY FRAMEWORK

The evidence of record establishes that the alleged adverse employment action is based on actions occurring in Charlotte, North Carolina, which is within the jurisdictional area of the U.S. Court of Appeals for the Fourth Circuit. Accordingly, the judicial precedents of the U.S. Court of Appeals for the Fourth Circuit apply.

The ERA, at 42 USC §5851, provides in pertinent part:

(a) Discrimination against employee

- (1) No employer may discharge any employee or otherwise discriminate against any employee with respect to compensation, terms, conditions, or privileges of employment because the employee (or any person acting pursuant to a request of the employee) –
 - (A) notified his employer of an alleged violation of this chapter or the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.);
 - (B) refused to engage in any practice made unlawful by this chapter or the Atomic Energy Act of 1954, if the employee has identified the alleged illegality to the employer;
 - (C) testified before Congress or at any Federal or State proceeding regarding any provision (or proposed provision) of this chapter or the Atomic Energy Act of 1954;
 - (D) commenced, caused to be commenced, or is about to commence or cause to be commenced a proceeding under this chapter or the Atomic Energy Act of 1954, as amended, or a proceeding for the administration or enforcement of any requirement imposed under this chapter or the Atomic Energy Act of 1954;
 - (E) testified or is about to testify in any such proceeding or;
 - (F) assisted or participated or is about to assist or participate in any manner in such a proceeding or in any other manner in such a proceeding or in any other action to carry out the purposes of this chapter or the Atomic Energy Act of 1954, as amended.
- (2) For the purposes of this section, the term “employer” includes –
 - (A) a licensee of the Commission or an agreement State under section 274 of the Atomic Energy Act of 1954 (42 U.S.C. 2011);
 - (B) an applicant for a license from the Commission or such an agreement State;
 - (C) a contractor or subcontractor of such a licensee or applicant; and
 - (D) a contractor or subcontractor of the Department of Energy that is identified by the Department under section 170 d. of the Atomic Energy Act of 1954 (42 U.S.C. 2021(d)), but such term shall not include any contractor or subcontractor covered by Executive Order No. 12344.

(b) Complaint, filing and notification ...

(3) (A) The Secretary shall dismiss a complaint filed under paragraph (1) ... unless the complainant has made a prima facie showing that any behavior described in subparagraphs (A) through (F) of subsection (a)(1) of this section was a contributing factor in the unfavorable personnel action alleged in the complaint.

(B)

- (C) The Secretary may determine that a violation of subsection (a) of this section has occurred only if the complainant has demonstrated that any behavior described in subparagraphs (A) through (F) of subsection (a)(1) of this section was a contributing factor in the unfavorable personnel action alleged in the complaint.
- (D) Relief may not be ordered under paragraph (2) if the employer demonstrates by clear and convincing evidence that it would have taken the same unfavorable personnel action in the absence of such behavior.

(g) Deliberate violations

Subsection (a) of this section shall not apply with respect to any employee who, acting without direction from his or her employer (or the employer's agent), deliberately causes a violation of any requirement of this chapter or the Atomic Energy Act of 1954, as amended. [42 U.S.C. 2011 et seq.].

(h) Nonpreemption

This section may not be construed to expand, diminish, or otherwise affect any right otherwise available to an employee under Federal or State law to redress the employee's discharge or other discriminatory action taken by the employer against the employee.

Implementing federal regulations applicable to the ERA at 29 CFR Part 24 were revised effective January 18, 2011.² The revision related to renumbering and procedural matters which did not change the substantive law related to ERA. The revised regulations are used herein and provide, in pertinent part:

§24.102 Obligations and prohibited acts.

(a) No employer subject to the ... [ERA] or to the Atomic Energy Act of 1954 (AEA) ... may discharge or otherwise retaliate against any employee with respect to the employee's compensation, terms, conditions, or privileges of employment because the employee ... engaged in any of the activities specified in this section.

(c) Under the [ERA] ... it is a violation for any employer to intimidate, threaten, restrain, coerce, blacklist, discharge, discipline, or in any other manner retaliate against any employee because the employee has:

- (1) Notified the employer of an alleged violation of such statute or the AEA of 1954;
- (2) Refused to engage in any practice made unlawful by such statute or the AEA of 1954, if the employee has identified the alleged illegality to the employer; or
- (3) Testified or is about to testify before Congress or at any Federal or State proceeding regarding any provision (or proposed provision) of such statute or the AEA of 1954.

(e) This part shall have no application to any employee who, acting without direction from his or her employer (or the employer's agent) deliberately causes a violation of any requirement of ... [the ERA].

§24.109 Decision and orders of the administrative law judge.

(b)(1) In cases arising under the ERA, a determination that a violation has occurred may only be made if the complainant has demonstrated by a preponderance of the evidence that the protected activity was a contributing factor in the adverse action alleged in the complaint. If the complainant has demonstrated by a preponderance of the evidence that the protected activity was a contributing factor in the adverse action alleged in the complaint, relief may not be ordered if the respondent demonstrates by clear and convincing evidence that it would have taken the same adverse action in the absence of any protected activity.

² Fed. Reg., Vol 76, No. 11, 2808-2826 (Jan. 18, 2011)

To prove unlawful retaliation under the ERA, the Complainant must show by a preponderance of the evidence (1) that he engaged in protected activity, (2) that the employer had knowledge of the protected activity, (3) that he was subjected to an adverse employment action amounting to discharge or discrimination with respect to compensation, terms, conditions, or privileges of employment, and (4) that the protected activity was a contributing factor in the adverse employment action, 42 U.S.C. §5851(b)(3)(C). “If the employee does not prove one of these elements, the entire complaint fails.” *Coryell v. Arkansas Energy Services, LLC.*, No. 12-033, 2013 WL 1934004, *3 (ARB Apr. 25, 2013); *Muino v. U.S. Dept. of Labor*, 325 Fed. Appx. 791 (11th Cir. 2009) unpub; *Bechtel Construction Co. v. Secretary of Labor*, 50 F.3d 926 (11th Cir. 1995)

Protected activity is a contributing factor if “the protected activity, alone or in combination with other factors, affected in some way the outcome of the employer’s decision.” 76 FR 2812 (Jan. 18, 2011) If the complainant’s alleged protected activity constitutes a deliberate violation of the ERA and was done without the direction of the employer, the whistleblower protections provisions of the ERA are inapplicable to the complainant. 42 U.S.C. §5851(e); *Fields v. U.S. Department of Labor*, 173 F.3d 811 (11th Cir. 1999) Relief under the ERA may not be ordered if the respondent demonstrates by clear and convincing evidence that it would have taken the same adverse action in the absence of any protected activity. 42 U.S.C. §5851(b)(3)(C) “‘Clear’ evidence means the employer has presented evidence of unambiguous explanations for the adverse action in question. ‘Convincing’ evidence has been defined as evidence demonstrating that a proposed fact is ‘highly probable.’ ... ‘clear and convincing evidence’ [is] evidence that suggests a fact is ‘highly probable’ and immediately tilts’ the evidentiary scales in one direction.” *Speegle v. Stone & Webster Construction, Inc.*, ARB Case No. 13-074, 2014 WL 1870933, *6 (Apr. 25, 2014) citing *Colorado v. New Mexico*, 467 U.S. 310, 316 (1984).

Pursuant to Federal regulations at 29 CFR §18.72, summary decision must be granted if the moving party establishes that there is no genuine dispute as to any material fact and a party is entitled to a decision as a matter of law. When deliberating on a Motion for Summary Decision, the evidence must be considered in the best light for the non-moving party.

FILED COMPLAINT

The Complainant timely filed his initial 18 page complaint, through his attorney, on Thursday, October 24, 2013. In the extensive complaint he alleges as protected activity (complaint line #s included as reference) –

- On or after May 30, 2013 the Complainant submitted a revised draft U.S. EPR SBLOCA containment analysis report showing a possible design flaw in the U.S. EPR containment cooling system concerning insufficiency of the Low Head Safety Injection heat exchanger to handle a SBLOCA under the assumptions stated in the Final Safety Analysis Report to his immediate supervisor M. Molseed and Quality Assurance Review Engineer G. Henderson. (#64, 65, 66, 98)
- On June 3, 2013 the Complainant reported to his immediate supervisor M. Molseed that that the use of LBLOCA methodology rather than SBLOCA methodology was incorrect

and could lead to potentially false consequences because it violated the principles of conservation of mass and energy and the First Law of Thermodynamics. (#67, 68, 95)

- On June 4, 2013 the Complainant discussed his concerns that the use of LBLOCA methodology rather than SBLOCA methodology was incorrect and could lead to potentially false consequences with his immediate supervisor M. Molseed, PWR Safety Analysis Group Manager K. Higar, and Safety Analysis Group Manager B. Boman. (#73, 98)
- On June 25, 2013 the Complainant again reported his concern that the use of LBLOCA methodology rather than SBLOCA methodology was incorrect and could lead to potentially false consequences to his immediate supervisor M. Molseed. (#78, 80, 95)
- On June 27, 2013 the Complainant raised concerns regarding errors discovered in the RELAP5/MOD2-BW LBLOCA base deck with Quality Assurance Manager J. Hamlen. (#81, 98)
- On June 28, 2013 the Complainant entered a Condition Report (CR) in the WEBCAP issue resolution database to report errors discovered in the RELAP5/MOD2-BW LBLOCA base deck reported to J. Hamlin. (#82, 98)
- On July 3, 2013 the Complainant expressed concerns about the likely design flaw in the U.S. EPR LHSI cooling system and concerns that the LBLOCA base deck error issue was not given a Level 2 priority WEBCAP to PWR Safety Analysis Group Manager K. Higar. (#85, 86, 98)

He reports that his employment was terminated on July 3, 2013.

POSITIONS OF THE PARTIES

Position of Respondent:

Respondent's counsel submits that Respondent is a wholly owned subsidiary of a French company that provides products and services in support of the nuclear power industry in the United States. The Respondent submitted a standard design certification application (DCA) to the U.S. Nuclear Regulatory Commission (NRC) in December 2007 for a pressurized water reactor known as Evolutionary Power Reactor (U.S. EPR) along with a related 19-volume Final Safety Analysis Report (FSAR) related to design and safety analysis of the structures, systems, and components of the pressurized water reactor. Respondent company requested the NRC suspend further review of the DCA on February 25, 2015, such that the DCA remains in the design approval stage of evaluation.

Respondent submits that the Complainant was hired on July 15, 2008 as an advisory engineer within the Respondent's Pressurized Water Reactor Containment Safety Analysis Group working on one aspect of the U.S. EPR project in Marlborough, Massachusetts. The Complainant's duties were to perform loss-of-coolant analyses (LOCA) by running computer simulations to model the reactor coolant system's (RCS) response to a postulated loss of coolant while assigned L. Schor. In May 2010 the Complainant was transferred to the Pressurized Water Reactor (PWR) Containment Safety Analysis Group which was supervised by C. Molseed located in the Respondent's Lynchburg, Virginia facility. The Complainant transferred from the Marlborough, Massachusetts facility to Respondent's offices in Charlotte, North Carolina in May 2010.

Respondent submits that it has established a Differing Technical Opinions (DTO) policy to establish a clear mechanism for discussions where employees express professional differences in technical opinions in an orderly and professional manner as part of Respondent's safety-conscious work environment (SCWE) arising out of the May 14, 1996 NRC Policy Statement for Nuclear Employees Raising Safety Concerns Without Fear of Retaliation. Respondent submits the DTO policy augments the Respondent's Employee Concern Program implemented October 27, 2006 that also addressed differences of opinions employees may have regarding safety and how to raise concerns within the company and with the NRC without fear of retaliation. Respondent submits in revised its SCWE policies in May 2013, prior to the Complainant's discharge, to incorporate the safety culture policy statement issued by the NRC in June 2011.

Respondent submits that it created a web-based corrective action program (WebCAP) to report, record and track significant conditions, adverse quality, near-misses, unsafe conditions, customer and/or regulatory problems and complaints, employee identified areas for improvement, and management designated events and conditions with the CAP. WebCAP provided for identifying, investigating, reporting, tracking and correcting the issues presented. Employees identify unsafe conditions or any condition adverse to quality by filing a Condition Report (CR). Respondent's Quality Assurance Department assigns CRs to a Screening Committee which evaluates the CR and assigns a level of significance number to the CR. The significance levels include levels 1, 2 and 3 which involve non-conformances which could implicate safety concerns. Significant level 4 includes identified issues that could become a non-conformance as well as recommendations for improvement. After a significance level is assigned, an evaluator is appointed to investigate the CR and make recommendations. Significance level 1 CRs require a "root cause analysis." Significance level 2 CRs require an "apparent cause evaluation" and may undergo a "root cause analysis" in some instances. Significant level 3 CRs do not normally require a formal analysis. Respondent submits that under its Employee Discipline Policy an employee may have employment terminated when "the employee's behavior reflects a pattern of unacceptable behavior and an unwillingness to conform to the expectations of the company."

Respondent reports that PWR Containment Safety Analysis Group supervisor C. Molseed identified and listed a number of errors in a new small break loss-of-coolant analysis (SBLOCA) performed by an outside contractor as part of the U.S. EPR DCA that needed to be addressed, including a "large mass error in the RELAP reruns." On June 20, 2011, he submitted a CR into WebCAP on the issues to which the Screening Committee assigned a significance level of 3 and numbered CR 2011-4417. When funding became available to address CR 2011-4417 in September 2012, the Complainant was assigned specific aspects of the CR to perform within a budget of 960 work-hours and a timeframe projected to end in April 2013. C. Molseed provided a "Pre-Job Brief" detailing the scope of the work involved with the assignment, including analysis involving use of computer codes RELAP5-MOD 2/B&W with a transition to GOTHIC. The Complainant was responsible for developing a "Task Plan" to revise the U.S. EPR SBLOCA.

Respondent submits the Complainant reported to C. Molseed at the beginning of February 2013 that he had encountered unexpected results in SBLOCA containment peak pressures and temperatures with no discernable error in the RELAP5-BW mass/energy calculations. In April 2013 another engineer assigned to the problem recommended that a hot leg injection flow switch

be incorporated into the computer model. C. Molseed led a conference call of engineers and the Complainant to address the RELAP5/MOD2-B&W computer run issues and additional issues identified by the Complainant. A new completion schedule was presented to debug the SBLOCA input model and perform a re-analysis. During the week of May 6, 2013, the Complainant worked with engineer J. Klingenfus who identified numerous errors in the RELAP5-B&W input deck that had not been previously identified. Respondent submits that the Complainant provided GOTHIC run results he considered consistent with expectation but that “mitigation action must be taken by the operators to further reduce the RCS pressure and inject more SI coolant in order to stop steaming in the core.” On May 18, 2013 the Complainant reported to C. Molseed that truncation errors discovered by J. Klingenfus in the SBLOCA may also be present in the LBLOCA RELAP5-B7W models and suggested a CR be submitted into WebCAP to reassess the LBLOCA containment results.

Respondent submits that a U.S. EPR SBLOCA Recovery Plan was set forth by C. Molseed on June 3, 2013 with specific assignments, completion dates, and engineers assigned to the project the Complainant had been working from September 2012. The Complainant was initially assigned to complete analysis on a 3-inch Cold Leg Pump Discharge (CLPD) break and a 3-inch Hot Leg Pump Discharge (HLPD) break by June 7, 2013 and analysis on a 6-inch CLPD break by June 13, 2013. Subsequently, the 6-inch CLPD break analysis was reassigned to another engineer.

Respondent submits that the Complainant’s insubordinate behavior towards his supervisor C. Molseed during May and June 2013 and Complainant’s inflexibility and inability to meet task schedules and budgets had a significant adverse effect on business and led to B. Boman, Manager of Nuclear Analyses in Lynchburg, Virginia, to direct Respondent’s Human Relations Department to initiate the termination process for Complainant at 10:48 EST, June 26, 2013. Respondent argues that no alleged protected activity entered into the June 26, 2013 decision to terminate the Complainant and that no alleged protected activity on and after the 10:48 EST, June 26, 2013 contributed to the termination decision. Respondent states the Complainant was informed of the termination decision at approximately 5:00 PM EST, July 3, 2013. Respondent reports that it terminated one employee the same month as Complainant for ignoring supervisor instructions and disrespect in tone and demeanor; and terminated another employee prior to the Complainant for reasons related to poor attitude, work quality and lack of accountability. Respondent submits the manner and reasons for terminating the Complainant was consistent with the other employee terminations. Respondent submits that the Complainant filed a complaint with the NRC after he was terminated so that action did not contribute to the June 26, 2013 decision to terminate the Complainant.

Respondent submits that the Complainant failed to establish a prima facie case and that even if the Complainant does establish a prima facie case at the summary decision level, the Respondent has established by clear and convincing evidence that the Complainant was discharged for reason unrelated to protected activity.

Respondent filed a Reply Brief in response to Complainant’s response to the Motion for Summary Decision. Respondent challenges the accuracy of Complainant’s factual assertions; however, where there are material facts in dispute, the evidence must be considered in the light

most favorable to the non-moving party, thus undermining Respondent's challenge and motion for summary decision.

In the Reply Brief Respondent's counsel states "AREVA does not dispute that [the Complainant] engaged in protected activity. What is in dispute is the causal connection between such protected activity and the termination decision on June 26. More to the point, any protected activity by [the Complainant] does not immunize him from legitimate discharge for his demeanor, unprofessionalism, and insubordination." He argues that there is no direct or circumstantial evidence of retaliation against the Complainant for engaging in protected activity and that Respondent did not deviate from established policy in dealing with the Complainant's inappropriate conduct and subsequent termination.

Position of Complainant:

Complainant's counsel submits that the Complainant engaged in protected activity during the course of his employment of which his immediate supervisor, C. Molseed was aware. He argues that C. Molseed began the termination process with an e-mail to B. Boman at 2:30PM on June 24, 2013 and thereafter "further lobbied" for disciplinary action against the Complainant. He acknowledges that B. Boman directed S. Catanzano of the Human Resources department to "initiate the termination process for Complainant" by e-mail of 10:48 AM, Wednesday, June 26, 2013. He submits that the termination process violated Respondent's Employee Disciplinary Policy and was based, at least in part, by the Complainant's protected activity and actions to ensure a proper safety evaluation involving LOCA and raise nuclear safety concerns.

Complainant submits that the termination took place on July 3, 2013 with B. Boman present by telephone and that the stated reason for the termination was the Complainant's "demeanor, unprofessionalism, disrespect and insubordination" to which the Complainant replied he had followed B. Boman's advice, called C. Molseed's supervisor K. Higar, raised his concerns and was frustrated because no one was willing to listen to his concerns and that he was being terminated because he had raised concerns. Complainant's counsel submits that the termination process in this case was accelerated by B. Boman; failed to comply with company policy by terminating the Complainant's employment on an accelerated timeline; was inconsistent with the manner of discharge taken with Respondent's "comparators"; and in excess when compared to C. Molseed's unprofessionalism and demeanor.

Complainant's counsel submits that the Complainant filed a complaint with the NRC after termination in which the NRC found that the Complainant's concerns "about the ability of the EPR containment design to accommodate the expected accident conditions were reasonable" for a variety of reasons material to the current complaint of retaliation. He continued the argument that the representations of the LOCAs done by the Complainant were reasonable and that supervisor C. Molseed was being unreasonable in the demands he placed on the Complainant in the March to June timeframe; and that the Complainant wanted to escalate his professional disagreement with C. Molseed to a higher common supervisor. He submits that the telephone conversations involving the Complainant and C. Molseed on May 28, 2013 and June 26, 2013 were not acts of insubordination but attempts by the Complainant to follow Respondent's "Differing Technical Opinion Policy."

Complainant's counsel argues "that all of [the Complainant's] alleged acts of insubordination are directly connected to his protected activity ... are manifestations of his protected activity and occurred only after Molseed continuously rejected [the Complainant's] safety concerns. These alleged instances of insubordination are inextricably intertwined with [the Complainant's] protected activity and therefore would not have existed had Molseed not continuously ignored [the Complainant's] concerns. Therefore, [the Complainant's] protected conduct was a factor in AREVA's decision to terminate his employment." He submits that the individual who made the decision to terminate the Complainant's employment, B. Boman, knew of the Complainant's protected activity from his May 2013 "coaching" session with the Complainant and the June 24 and 25, 2013 e-mail exchange with C. Molseed and that the knowledge of the protected activity held by C. Molseed "is imputed to Boman because Molseed affected and had substantial influence on the decision to fire [the Complainant]." He argues that the issue of whether "Boman had no knowledge of the protected conduct, there is a triable issue about whether Boman, the ultimate decision-maker, can be charged with knowledge of [the Complainant's] protected activities."

Complainant's counsel argues that Respondent has not established by clear and convincing evidence that it would have terminated the Complainant's employment absent protected activity because the two comparator examples are distinguishable in that their actions did not involve responses taken due to a reasonable belief that following the supervisor's demand would have significant adverse safety implications and because the conduct relied upon to justify the termination of employment was inextricably intertwined with the Complainant's protected activity, thus having contributed to the termination decision and actions.

SUMMARY DECISION FRAMEWORK

Summary decision is appropriate in a proceeding before an Administrative Law Judge "if the pleadings, affidavits, material obtained by discovery or otherwise, or matters officially noticed show that there is no genuine issue as to any material fact and that a party is entitled to summary decision." 29 C.F.R. § 18.40(d); *see also Williams v. Dallas Indep. Sch. Dist.*, No. 12-024, 2012 WL 6849447 (ARB Dec. 28, 2012). "If the complainant fails to establish an element essential to his case, there can be 'no genuine issue as to a material fact' since a complete failure of proof concerning an essential element of the non-moving party's case necessarily renders all other facts immaterial." *Coates v. Southeast Milk, Inc.*, No. 05-050, 2007 WL 4107740, *3-4 (ARB Jul. 31, 2007)

When an employer "asserts [in a motion for summary decision in an ERA case] legitimate, non-discriminatory reasons for [the employer's decision and action], the employee must point to specific evidence that demonstrates a dispute still exists in spite of the respondent's proffered reasons [for the employer's decision and action]. Specific evidence means evidence that: (1) the respondent's reasons are 'unworthy of credence' or (2) the protected activity was at least a contributing factor even if the respondent's reasons are true." *Hasan v. Enercon Services, Inc.*, No. 10-061, 2011 WL 3307579, *6 (ARB Jul. 28, 2011) If a question still exists as to whether protected activity was or was not one of the reasons for the employer's conduct, a genuine issue of a material fact exists and the employer's request for summary decision must be denied.

For whistleblower complaints, the Administrative Review Board has held that the papers filed by a pro se party must be read liberally and interpreted in a manner that raises the strongest argument suggested therein. *Coates*, supra at *7. In this case, both Parties are represented.

In evaluating whether the Respondent is entitled to a Summary Decision, all facts and reasonable inferences therefrom are considered in the light most favorable to the non-moving Complainant. *Battle v. Seibles Bruce Ins. Co.*, 288 F.3d 596 (4th Cir. 2002) citing *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574 (1986) “However, even when all evidence is viewed in the light most favorable to the nonmoving party, the non-moving party cannot defeat a properly supported summary judgment motion without presenting ‘significant probative evidence.’” *Pueschel v. Peters*, 340 Fed. Appx 858, 860 (4th Cir. 2009), *unpub*, citing *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 249 (1986) When the information submitted for consideration with a Motion for Summary Decision and the reply to the motion demonstrates that there is no genuine issue as to any material fact, the request for summary decision should be granted. Where a genuine question of a material fact remains, the request for summary decision must be denied. 29 CFR §§18.40 and 18.41

The first step of the analysis is to determine whether there is any genuine issue of a material fact. If the pleadings and documents that the parties submitted demonstrate the existence of a genuinely disputed material fact, then summary decision cannot be granted. Denying summary decision because there is a genuine issue of material fact simply indicates that an evidentiary hearing is required to resolve some factual questions and is not an assessment on the merits of any particular claim or defense.” *Johnson v. WellPoint Cos., Inc.*, No. 11-035, 2013 WL 1182309, *7 (ARB Feb. 25, 2013).

As the ARB has earlier explained,

Determining whether there is an issue of material fact requires several steps. First, the ALJ must examine the elements of the complainant’s claims to sift the material facts from the immaterial. Once materiality is determined, the ALJ next must examine the arguments and evidence the parties submitted to determine if there is a genuine dispute as to the material facts. The party moving for summary decision bears the burden of showing that there is no genuine issue of material fact. When reviewing the evidence the parties submitted, the ALJ must view it in the light most favorable to the nonmoving party, the complainant in this case. The moving party must come forward with an initial showing that it is entitled to summary decision. The moving party may prevail on its motion for summary decision by pointing to the absence of evidence for an essential element of the complainant’s claim.

In responding to a motion for summary decision, the nonmoving party may not rest solely upon his allegations, speculation or denials, but must set forth specific facts that could support a finding in his favor. *See* 29 C.F.R. § 18.40(c). If the moving party presented admissible evidence in support of the motion for summary decision, the nonmoving party must also provide admissible evidence to raise a genuine issue of fact.

Williams, supra at *4, quoting *Hasan v. Enercon Servs., Inc.*, No. 10-061, 2011 WL 3307579, *3 (ARB Jul. 28, 2011).

SUMMARY OF RELEVANT EVIDENCE

The Respondent asserts the defense that the alleged protected activity by the Complainant did not contribute to the decision to terminate the Complainant's employment and that the Complainant's employment would have occurred in the absence of the alleged protected activity. Accordingly, the Party submissions are culled for evidence relative to Respondent's affirmative defenses during this summary decision phase of the proceedings.

Termination letter (Ex 23)

B.L. Boman, as Manager of Nuclear Analysis, signed a letter addressed to the Complainant; dated July 3, 2013. In the letter, B. Boman stated:

"Over the course of several weeks, your supervisor, manager, and I have counseled you regarding your demeanor, unprofessionalism, disrespect and insubordination. Management has given you opportunity to make changes based on their counsel and yet your behavior has not improved and has continued to the point of being counterproductive and disruptive. Your misconduct is in contravention to ...

ARVEA Principals of Business Conduct Policy Section 3.9 'Reputation and Image – The Company's reputation is one of its most vital assets. Employees shall neither do nor say anything that could have a harmful effect on the Company's reputation, image, or credibility. Disrespect, rudeness, and disregard for others are unacceptable behaviors of our employees.'

ARVEA Employee Discipline Policy Section 4.1 'AREVA NP promotes a work environment in which all employees are responsible for managing their behavior and conduct in a way that enhances rather than diminishes their performance of assigned duties and responsibilities.' [and]

Section 4.5 'Employees are expected to conduct themselves in the workplace in a manner that is appropriate. In performing the responsibilities of their jobs, employees must:

- Accept responsibility for their conduct.
- Treat employees, customers, and others with respect and dignity.
- Follow the directions of supervision.
- Follow the ethical and professional standards established by the Company, as addressed in Principals of Business Conduct and in the AREVA Values Charter.'

Section 4.8 states 'Discharge may also result from what AREVA NP concludes is a pattern of violations of Company rules showing an unacceptable behavior and an unwillingness to conform the employee's conduct to the expectations of AREVA NP.'

We have considered alternatives to discharge and concluded that none would be effective at changing your behavior to conform to our expectations. It is, therefore, the conclusion of ARVEA management that any further attempts to coach and motivate you will not produce lasting results. Lacking the commitment on your part to change your behavior to conform to the expectations of AREVA and to become a productive employee leaves us no choice but to sever our employment relationship with you effective today, July 3, 2013. ..."

B.L. Boman (Ex 23, 38, 39, 55, 57, 58, 59, 60, 63, 64, 66, 76, 91, 97, 97A, 104, 104A, 109, 110, 112, 128, 129, 151)

On March 24, 2015, B. Boman testified in deposition that he had worked for AREVA for 24 years; has been the Engineering Manager of Nuclear Analysis since March 2008; and reports to M. Carpenter, Vice-President of Engineering and Logistics. He worked as Manager for Safety Analysis from 2006 to 2008; Manager of Thermohydraulics from 2000 to 2006; Supervisor in Performance Analysis from 1992 to 2000, and principal engineer from 1990 to 1992.

B. Boman testified that the parent company, AREVA SAS, had developed a new next generation pressurized water reactor and believed there was a market for such a nuclear power plant in the United States. Respondent employer began the process of modifying the design to meet local climates, 60-hertz alternating current and other modifications, then performing an analysis required by the NRC and submitting the safety analysis report, a report upwards of 20 volumes. An application for approval of the nuclear power plant, with the safety report, was submitted to the NRC in 2008. The NRC began the review process and would send requests for additional information. He stated there were over 500 NRC requests for additional information. He testified that in the fall of 2012 they were analyzing the containment response for SBLOCA, which are postulated NRC-vendor agreed small size breaks in the reactor coolant system piping that would discharge water in a steam form to the containment building causing an increase in pressure and temperature. A LBLOCA would involve a large break in one of the major pipes in the reactor coolant system so that you have a very large opening and a very rapid discharge from the reactor coolant system into the containment building and a very rapid decrease in pressure in the reactor coolant system. The NRC sets methodology for evaluating containment analysis in SBLOCA and LBLOCA which is different from the methodology use to evaluate fuel peak clad temperatures in SBLOCA and LBLOCA. The RELAP5/MOD2-B&W is the methodology used for mass energy releases in containment analysis in SBLOCA and LBLOCA. The S RELAP code is used for core cooling in fuel peak clad temperature calculations in LBLOCA.

B. Boman testified that he received an e-mail dated May 28, 2013 from the Complainant requesting a meeting to include C. Molseed and K. Higar to discuss SBLOCA issues. He stated the telephone discussion took place and went into significant analysis of the SBLOCA at that time. The Complainant and C. Molseed disagreed on the approaches to take to the issues and “when and how to transition from RELAPS/MOD2-B&W, which was used to calculate the mass and energy releases, and GOTHIC ... which was used for the containment responses, but would also take over the mass and energy inputs.” His “recollection is that [the Complainant] was advocating running RELAP longer and running RELAP out for 24 hours or more.” A presentation prepared by the Complainant and circulated by e-mail was discussed. He reported that the discussions evaluated available options and came up with a path forward that would include additional people who would help on the project. He was unsure of whether K. Higar or C. Molseed made those employee assignments. He testified that it was “our typical mode of operation when we ran into a problem” to discuss employee skills and availability to assign the right people to help out on the task; that would have been part of the discussion and was an outcome of the meeting, though he did not recall if the discussion and assignment of additional employees was done in his presence. He testified that C. Molseed sent him an e-mail understood to mean C. Molseed had looked at the subset of computer analysis done by the Complainant and thought the behavior of the In-containment Refueling Water Storage Tank (IRWST) did not look right, which he interpreted to mean that the Complainant had deviated from the plan for analysis of the task assigned the Complainant. He reported that what the Complainant had provided C.

Molseed was a set of results from a computer model that were being evaluated. He considered the Complainant to have presented results of a computer run but that it did not represent an analysis since the runs were work in progress at that point in time and were being evaluated.

B. Boman testified that he received a separate e-mail from C. Molseed stating there were issues with the SBLOCA and describing an incident in which the Complainant hung up the telephone during a discussion of Complainant's assigned task. B. Boman testified that the telephone discussion of the Complainant's presentation and path forward with the Complainant, K. Higar and C. Molseed happened as a result of receiving an e-mail from the Complainant and an e-mail from C. Molseed both asking for the meeting. He stated that he had multiple discussions with K. Higar and C. Molseed outside the Complainant's presence over the event because "hanging up on a supervisor is a very unusual event for us and I'm sure we had multiple conversations on it."

In response to a question about taking any informal disciplinary action with the Complainant, B. Boman testified that because of the Complainant's hanging up the telephone on C. Molseed during a technical dialogue in which he understood the Complainant became animated and emotional, he "met with [the Complainant] in the Charlotte office at the end of May 2013 to provide some coaching on how to have constructive conversations."³ He reported during the coaching session with the Complainant –

"I attempted to have a conversation about having conversations ... what we do is very complex. It's technical ... everything that we do is approximation and we all feel passionately about our work and that we're doing the right thing. And in those types of situations, people can have differing viewpoints and it becomes a question of how you can have a constructive conversation; keep it unemotional, come up with items to test the various hypotheses that the individuals have, and basically work through the issue.

We all have the same objective. Our objective is that nuclear safety is first. The quality of our work is right alongside of that and ... we do work to a schedule and we do work to a budget; but nuclear safety and quality take the front seat there.

So it was a coaching session on how to have that conversation, and I tried to provide examples of where we've had difficult conversations in the past. I tried to provide tools that ... I had learned both as a husband and as a supervisor and as a manager in terms of having conversations that don't get personal, but stick to the ... technical issues."

B. Boman testified that each task performed by AREVA has an internal schedule date for completion and that the scheduled completion date of the SBLOCA had been moved several times. He received a 7:04 am e-mail from C. Molseed on June 25, 2013 stating he did not know where his team was "schedule wise ... [and] I don't know if we can trust ... the results if the methodology is causing other cases to fail the containment," which B. Boman interpreted to mean C. Molseed "did not know where we were relative to being on track to have an analysis that was satisfactory" and that he could not trust the computer model results reported by the Complainant. He testified he was concerned on June 25, 2013 that the Complainant was behind in his work.

B. Boman testified that he has the authority to terminate employees without seeking input from others. He stated he discussed his decision to terminate the Complainant's employment with his

³ Ex 91 indicates that the conversation occurred in Charlotte, North Carolina on May 30, 2013.

supervisor, M. Carpenter, on June 25, 2013, out of respect for and his request. He testified that he discussed the Complainant's termination with S. Gearhart⁴ from Human Resources, first by telephone and subsequently either by e-mail or telephone.⁵ He reported that one e-mail noted that D. Lancaster, Head of Human Resources / Employee Relations, had a reservation about terminating the Complainant's employment because a warning had not been issued. He stated that the exchange with S. Gearhart was "so that they could gain an understanding of the situation and [B. Boman] provided them answers to their questions." He stated that he was pushing Human Resources for a much quicker resolution but that he was waiting from June 26, 2013 to July 3, 2013 for Human Resources to complete all their steps in the process. He stated he did not believe that Human Resources could override his decision to terminate the Complainant's employment. In a 6:19 PM, July 2, 2013 e-mail to S. Catanzano of HR, B. Boman stated –

"The situation is that we have an employee whose performance has never been above average, whose current performance has caused us to be late on the US EPR and cost us tens of thousands of dollars, whose refusal to do as directed by his supervisor (insubordination) has led us to being late/over budget, and most importantly whose attitude and lack of respect towards others have demotivated his supervisor and co-workers. He has been replaced on the project and we will spend more money bringing an engineer up to speed to finish his work. I do not have another task to assign him where he can be successful and one in which his supervisor and co-workers can work with him in a collaborative fashion.

Providing him with a disciplinary notice will not solve the problem and will just require his leadership team to syphon additional time and energy away from people and tasks that deserve their time and energy. I would like to terminate him Wednesday July 3rd and request your assistance in fulfilling this request."

B. Boman testified that he received an e-mail while in Paris, France, marked 2:30 pm, June 25, 2013 from C. Molseed stating "my fuse is about to blow" meaning that there was a serious problem that had moved from "constructive technical discussions to something that's not workable." On June 25, 2013, He also received C. Molseed's e-mail which forwarded to him C. Molseed's personnel file notes on the Complainant for the period May 28, 2013 through June 24, 2013 (Ex 60 sent at 2:42 pm) and T. George's notes on the June 24, 2013 conference call (EX 61 sent at 2:54 pm). By e-mail of 5:59 pm, June 25, 2013 he directed C. Molseed to set up a meeting to include S. Gearhart in HR. He testified C. Molseed set the meeting up for July 2nd or 3rd; but he accelerated the process and the meeting was not held. B. Boman testified he accelerated the process because –

"In my judgement we'd arrived at the point where it was no longer helpful to have [the Complainant] on staff with AREVA; and so, the sooner we made the transition the better."

By copy of Complainant's e-mail of 12:26 pm, June 28, 2013, B. Boman was informed that the Complainant had "created CR-2013-5239" following a meeting with J. Hamlin on June 27, 2013.

B. Boman testified that AREVA does have a process that would result in a written disciplinary action notice and a process for performance improvement plans; but that he did not consider giving the Complainant such a written disciplinary notice or place him on a performance improvement plan.

⁴ Also known as S. [Gearhart] Catanzano

⁵ Ex 64 indicates that the initial discussion with S. Gerhart was by telephone prior to an email sent to her by B. Boman at 10:48 am, June 26, 2013 which forwarded Ex 60, 61 and 39.

B. Boman testified that C. Molseed did not have the authority to terminate the Complainant's employment and that C. Molseed did not encourage him to terminate the Complainant's employment. He testified that no one suggested he should terminate the Complainant's employment. B. Boman testified that he decided to terminate the Complainant's employment because –

“We were in a situation where we needed to work through technical issues. We needed to find resolution. Working through that required a common understanding between [C. Molseed, the Complainant and] others that were evaluating the analysis we were performing. And to have that common understanding, we needed to be able to review the results of the analyses.

[C. Molseed] was asking [the Complainant] for information. [The Complainant] was refusing to provide it. He was insulting to [C. Molseed, T. George and] other people; calling into question their expertise, calling into question whether they were telling the truth. And as a result of that, we had a number of broken relationships; and it was my judgement that that was not going to change ...”

B. Boman testified that after he had made the decision to terminate the Complainant's employment he contacted the Complainant's prior supervisor B. Salim⁶ and learned that the Complainant had performed a scalene analysis for the U.S. EPR design certification project and that the particular task assigned the Complainant was well beyond schedule and well beyond budget resulting in B. Salim's “conclusion that [the Complainant] was more of a theorist than an analyst.”

B. Boman testified that he was aware of the Complainant writing a CR late in his employment for three input errors in the RELAPS/MOD2-B&W model he was using for his work. He testified that he had sent an e-mail to J. Hamlin that the issue was not a Level 1 CR because “there was nothing unusual about an engineer finding errors in a computer model input ... the errors that were being cited here were consistent with the hundreds and hundreds of other CRs that we have that meet this ... level of significance.” He reported hearing that the Complainant was advocating for a level 1 status for the CR but was unaware of the Complainant's reasoning.

B. Boman testified that during the July 3, 2013 termination conference telephone call the Complainant asked “is there anything I can do to change your decision; to which I replied, no, this is final” and asked is this related to the condition report; to which I replied, no, this has nothing to do with condition reports, we get hundreds of those.”

B. Boman testified that he had counseled C. Molseed in the past about “making sure he understands the other person's prospective ... [and] his sarcastic wit and making sure that he has situational sensitivity to that.” He reported that C. Molseed had sent his performance notes on the Complainant that he kept on members of his team for use in their annual or semiannual reviews. He reported that he was involved in the termination of employment of M. Rutherford for being unprofessional, rude and/or insubordinate behavior in 2011 or 2012. He stated that –

⁶ EX 78 indicates that B. Boman sent an e-mail to B. Salim on July 2, 2013 4:26 PM asking if he had had problems with the Complainant related to “behavioral issues with [the Complainant] argumentative, not taking direction, insulting.” B. Salim replied on July 8, 2013 11:16 AM that he did not respond sooner because he was on vacation and described the problems he experienced with the Complainant. Thus the information from B. Salim was received after the decision to terminate the Complainant was made and after the Complainant was terminated.

“Annually we’re required to assign ratings to our individuals as part of our performance assessment process ... it’s on a 2 to 5 scale, where 1 is an employee who is not meeting expectations; 2 is an employee who is partially meeting expectations; 3 is an employee [who] has met expectations; 4 is an employee who partially exceeds; and 5 is that they have exceeded ... we have a forced distribution that we’re requested to meet ... I ask managers to get with their supervisors and rate those employees ... historically, I’ve had about 90% agreement with the managers that reported directly to me.” He states it was unusual for an employee to receive a 1 or 5 rating.

B. Boman testified in an NRC investigation on April 9, 2014 that he had a conversation with the Complainant as a direct result of his behavior in hanging up the telephone on his supervisor during a conversation about test results. His conversation with the Complainant addressed “how to communicate, how to work through technical issues ... how to have that conversation and how to have that conversation when you’re having trouble.” He reported that hanging up on a supervisor is not acceptable conduct, though not a terminal offense by itself. He believed the difficulties between the Complainant and his supervisor was related to the Complainant not being cooperative in providing requested information because he did not think he should be questioned by his supervisor and that it was a waste of his time to be questioned by his supervisor, which is not normal behavior between engineers and is not good behavior. B. Boman testified that they “were developing a new methodology, so it was exploratory in nature ... and [the supervisor] was trying to gain understanding of the results that [the Complainant] was producing ... he was ... reviewing the results. He was asking questions about the results. He was asking for additional information. [The Complainant] was not cooperative in terms of producing that information.” B. Boman testified that hanging up on a supervisor was not the Complainant’s first behavioral problem; but the supervisors believed the Complainant had made improvements from the past problem. He stated that “when an engineer is given a task, we expect the engineer to plan out his or her task, schedule it out in hours and schedule progress and then report weekly as to where they were.” He reported the Complainant “had done a nice job” on a previous routine task but “had some difficulty in developing something for the new reactor.”

B. Boman testified he did not have any direct conversations with the Complainant after the telephone hang up and when the Complainant was terminated. He testified that “I was told several weeks later [after the hang up conversation] that there were still issues there, that [the Complainant] had ... continued to behave in this fashion, that ... other engineers [were involved] to help resolve the technical issues and that ... probably one of our most docile and laid-back engineers got upset on the phone call [that involved the Complainant and supervisor] and he had ... walked away and then said ‘I’ve never ... been insulted this much in my life.’ So not only was the relationship between [the supervisor] and [the Complainant] broken, it was now the relationships with his coworkers were being broken by his behavior.” He reported that the engineer coworker involved “is also an expert in the containment analysis methodology so [the Supervisor] brought in [the engineer] so they could look at the results jointly and ask questions and try to gain an understanding of what the computer codes were showing us ... so they had that discussion[with the Complainant on June 24, 2013], but again [the Complainant] ... would make derogatory comments to his coworkers ... tout his own expertise at the expense of others ... [like] you haven’t done this before; you don’t know what you’re doing; you know I’m MIT, I have my Ph.D..” He stated that the supervisor documented the conversation involving the

Complainant's derogatory comments to his supervisor and co-worker by e-mail on June 25, 2013. B. Boman testified "I can't speak for why, for what was behind [the Complainant's] behavior. I do not know ... it was outside the norm. It was unacceptable; and from everything I could judge ... [the supervisor] was doing the right things ... was not telling [the Complainant] what to do ... [and] was asking questions about what the models were showing and trying to gain a better understanding so that we could develop this methodology. ... there are cases where somebody feels like they are being told what to do and that doesn't go well; but that was not what I was observing. So ... with the hang up on [the supervisor and] ... no noticeable change after the coaching session ... [and] being insulting to his teammates" he directed HR to begin the termination process by e-mail on June 26, 2013.

B. Boman testified to the NRC that the Complainant was not warned specifically that his employment could be terminated "probably because it happened as quickly as it did." He stated that the Complainant was counseled on how to communicate, that an individual's perception isn't necessarily the way things are, and given examples where engineers had technical differences and later the physics shows how it actually works. In discussing the appropriateness of termination of employment, B. Boman testified that the Complainant had apologized to his supervisor after the coaching session "and then turned around and within a week he's doing the same type of thing ... there was no evidence in [the Complainant's] behavior that he was going to be receptive to change ... the relationships were broken at that stage and there was no contrition on his part. ... And in situations where people are extremely arrogant, ... not going to be able to change them, and if [the Complainant's] destroying my engineers, [I] don't want that situation to remain. It wasn't healthy and it needed to be fixed." Other experts had been called in to discuss the technical situation in the complex modeling. He stated that the Complainant's behavior crossed the line when he refused to provide requested information to the supervisor because the Complainant considered it a waste of his time. He reported that the engineer put on the Complainant's assignment after the Complainant's termination "is an outstanding engineer and there were still issues to be resolved; but were pragmatic and working through those issues."

B. Boman testified to the NRC that he directed HR to move forward on the Complainant's termination for insubordination, unprofessional conduct and costing the company money. He reported that by the Complainant not participating in the solution, being open, and not doing things, the company was spending extra money and bringing on extra people. He testified that the Complainant never told him that the reason he could not do the assignment was because of safety reasons. He stated the insubordination was the Complainant's refusal to produce requested information and the unprofessional conduct was insulting his teammates.

B. Boman testified that the Complainant had filed a CR before his actual termination date that was classified as a level 3 by the screening team and the Complainant wanted it to be reclassified as level 1. He stated that the CR was evaluated by another engineer and shown to involve three computer model input error that had inconsequential effects on the analysis so level 3 had been the appropriate classification.

B. Boman e-mail exchanges related to decision to terminate Complainant's employment (Ex 39, 55, 58, 59, 60, 63, 64, 66)⁷

May 28, 2013 3:47 PM The Complainant sent an e-mail to C. Molseed and B. Boman stating: "Subject: SBLOCA issues. Importance: High ... I'd like to call an urgent meeting to discuss the SBLOCA issues at your earliest convenience." The Complainant forwarded the message to K. Higar at 4:15 PM inviting him to "this discussion as well."

May 29, 2013 2:46 AM The Complainant sent this e-mail to B. Boman, C. Molseed, K. Higar and J. Kligenfus with a .pdf file titled "US EPR SBLOCA CLPD-3in" and the statement: "Attached is my presentation for today's meeting."

May 30, 2013 3:34 PM The Complainant sent B. Boman an e-mail stating: "I'd like to express my deepest appreciation to you for spending your precious time to coach me and find amenable ways to resolve my conflict with Chris. I will give Chris a call and apologize to him when he returns from DC tomorrow. Have a nice trip back to Lynchburg!"

June 24, 2013 2:30 PM C. Molseed sent an e-mail to B. Boman stating "Keith is out of the office and my fuse is about to blow. I know you are in Paris and unlikely to get this until tomorrow. Is my next step to talk to Susan and get her to explain to [the Complainant] that when his Supervisor asks for a plot or an explanation that ignoring the request is unacceptable. I am really at the end of my rope."

The e-mail forwarded an e-mail chain involving "GOTHIC results for HL 3" SBLOCA" that included - 16 e-mails on June 24, 2013 culminating in the Complainant requesting C. Molseed schedule a conference call with K. Higar on the topic; 3 e-mails on June 21, 2013 on RELAP5 and GOTHIC results and possible design flaws; and 1 e-mail on June 20, 2013 from the Complainant forwarding "GOTHIC containment peak pressure/temperature results for HL 3" SBLOCA cases with CL and HL injections" which started the e-mail chain.

June 24, 2013 5:59 PM On the "Gothic results for HL 3" SBLOCA" e-mail chain B. Boman requested C. Molseed to schedule a meeting between them for 10 minutes and then include the Complainant in the meeting.

June 24, 2013 8:54 PM C. Molseed sent an e-mail to B. Boman reporting he was leaving on Wednesday for a short vacation and would schedule the requested meeting for July 2 or 3, 2013. He additionally stated "Following my e-mail earlier the situation got much worse. I scheduled a call with [the Complainant] and Tom George this afternoon to try and discuss strategy since I will be out for a couple of days and clearly we are not going to meet yet another schedule date. [The Complainant] made it abundantly clear that I was annoying him with my questions on status, results and suggestions on how to proceed. [The Complainant] is content to keep trying to run RELAP rather than attempt alternate solutions. Tom commented after the meeting that he (Tom) has been way too nice to me if I was going to let [the Complainant] act that insubordinate ... Tom clearly was unhappy with how [the Complainant] was acting and commented that he felt insulted by some of [the Complainant's] accusations. At one point Tom even raised his voice, which as you know is not like him. It is clear that [the Complainant] will only accept code results and is unwilling to develop an expectation for an analysis and compare the results to his expectation ... I am concerned that with that mentality [the Complainant] is unable to debug a model or an analysis ... I have tried to be patient and teach him GOTHIC and coach him on how I think analyses should be done. Clearly I have failed."

June 25, 2013 12:57 AM⁸ B. Boman sent C. Molseed and e-mail stating: "Sounds like you and Tom are on

⁷ Ex 74 e-mail from K. Higar to B. Boman and S. Catazano was sent July 3, 2013 6:23 PM, which is after the decision to terminate the Complainant's employment and the Complainant was notified his employment was terminated. Ex 78 e-mail from B. Salim to B. Boman was sent July 8, 2013 11:16 AM, which is after the decision to terminate the Complainant's employment and the Complainant was notified his employment was terminated.

⁸ Review of the e-mail sequential times when compared to the location of the senders reasonably infers that all dates and time are computer generated transmission dates and EST times as occurring in Lynchburg, Virginia.

the same page and y'all (sic) have earned your trust. I was hoping [the Complainant] would be listening – that will ultimately be his loss. I can support a meeting today. Where are we schedule-wise?"

June 25, 2013 7:04 AM C. Molseed sent an e-mail to B. Boman stating: "That is one of the main problems. I don't know where we are schedule wise. I can't get an update that I feel confident in and I try as I might I can't get [the Complainant] to define a strategy other than to try running RELAP longer, which is not a strategy for success in my opinion. At this point I know at least one or two cases are completed. However, I don't know that we can trust the results if the methodology is causing other cases to fail containment. The latest results from [the Complainant's] last attempt at the 6" break were unsuccessful and the containment design pressure was exceeded. I will add that [the Complainant] does not want to refer to them as results since he is not done. I was informed that if I call them results I would be lying. I don't want to be accused of lying ... At this point I don't want to schedule [the Complainant] to participate [in a meeting with B. Boman and himself] until you and I have had a long discussion. I believe a disciplinary notice is required at a minimum."

June 25, 2013 2:42 PM C. Molseed sent B. Boman an e-mail forwarding his personal notes on the Complainant with the following message: "Attached is my personnel file for [the Complainant]. Following Keith's advice I keep a word document for each of my engineers to help me recall good and bad exchanges throughout the year. Tom has agreed to send you his thoughts on the call yesterday as well.

The attachment set forth the following –

"5-28-13 Apparently I need to start documenting the challenges with [the Complainant] as the SBLOCA task is clearly out of control. [The Complainant] has demonstrated again that he does not view the role of supervisor as being a technical lead for his work. Rather the supervisor is viewed as a source of work only. Instructions have consistently been ignored. We both have become frustrated with the way the task has progressed. Our last phone call was terminated when [the Complainant] hung up on me ... The situation was only partially resolved with a phone call with Keith, Bret, [the Complainant] and Chris on 5-29-13.

5-31-13 [Bret provided coaching to the Complainant in Charlotte]. Bret also provided me with some coaching that when [the Complainant] says he 'can't' do something he may mean that he 'can' but doesn't think it is the correct or best thing. My plan is to continue to ask questions until he moves from 'can't' to 'can, but ...' It will be important to get the 'but' statement on the table so we can try to work to a solution.

6-4-13 I revised the SBLOCA plan following a meeting with Keith and asked for feedback from [the Complainant]. Very little feedback was provided and it became clear that [the Complainant] only wants to be responsible for the RELAP portion of the effort. Tom George will be assigned to revamp the GOTHIC model that should have been done months ago but [the Complainant] was too focused on running RELAP.

6/12/13 On Wednesday 6-5-13 J. Link was brought on board to run 6" CLPD break with HL injection which was to free up [the Complainant] to focus on the 3" break. [The Complainant] sent a status update this morning with results from not only the 3" breaks, but also the 6" and 9" breaks. I asked [the Complainant] why he had run the 6" break as we had assigned John Link to work on that ... I never got a satisfactory answer other than [the Complainant] wanted to complete the RELAP runs and John could work on the spreadsheet.

6-14-13 I asked for a status update on the SBLOCA cases running. Instead of a simple answer I got a number of e-mails documenting unrelated cases. I asked why [the Complainant] was still running cases without Hot Leg injection and the response was again to have John Link extract sensible energy so [the Complainant] could focus on documentation. I get the feeling [the Complainant] does not want to do the menial tasks associated with the analysis. He wasn't to run RELAP for 24 hours so he doesn't have to do the transition to GOTHIC and continues to try to justify why S-RELAP should be used.

[C. Molseed set forth an e-mail exchange with the Complainant as] a classic example of [the Complainant] demonstrating reluctance to follow supervisory instructions. He won't transfer the RCS mass/energy himself, he needs/wants someone else to do it. If he doesn't like the analytical approach he will fight it with every bit of his being regardless of the approach being reasonable or acceptable. I had to get Keith involved with [the Complainant] regarding Hot Leg injection operator action. A flurry of e-mails were exchanged during the afternoon and I grew

increasingly frustrated when my questions were not answered directly ... I asked about why the CL injection cases were still being run and the response from [the Complainant] was a question about the GOTHIC model that Tome George is developing.

6-17-13 [The Complainant] ran the 6" CL injection case for a full 24-hours in RELAP. I feel that [the Complainant] does not want to listen to instructions and has convinced himself that he cannot make the transition to GOTHIC. I have tried the Boman approach and asked more questions in an effort to get [the Complainant] to explain his logic to no avail.

6-21-13 Another missed deadline. All week we were on track to have completed RELAP runs today. I received the following e-mail [from the Complainant]: 'The HL 3" RELAP5 extended run crashed this morning and filled up the remaining disk space. Unfortunately, it also killed my CLPD 6" and 9" runs with HL injection, which had been running for the past 3 days. I have to re-run the 6" and 9" cases. This unexpected crash pushes back the expected due date by 3 days.' "It took a protracted e-mail chain to get [the Complainant] to answer my question regarding the surprise 3 day delay. I was finally able to understand that the crash was not causing the additional delay as originally communicated. Instead [the Complainant] does not feel the runs are to a point where he can make the transition. I explained that shouldn't have been a sudden realization and I needed to know well in advance of the due date to be able to inform the project of the delays. In addition it appears one of the cases is still failing design limits. I asked Tome to look at using the PRV in GOTHIC to reduce the RCS pressure such that we ensure adequate cooling of the IRWST.

6-24-13 Friday I sent an e-mail to [the Complainant] that stated I didn't understand his results and asked multiple questions and requested plots of the run ... [the Complainant] says the solution to the HL-break may be to cool the MHSI injection. He did not respond to my requests for additional plots or provide alternate solutions. My expectation is that an Advisory Engineer will provide possible solutions. [The Complainant] also has a habit of pushing tasks off to other engineers. Tom asked a question ... [and the Complainant] redirected Tom to verify the flow with Lisa. I finally had to send him an e-mail that clearly laid out my frustration with his manner of ignoring my requests and requests of others working to support his failing analysis. [e-mail content to Complainant -] '... I am getting very frustrated. I feel like you are ignoring my requests and that I often have to ask the same question or request a plot two or three times. I want you to understand that while something may seem obvious to you it will not be as obvious to the others, myself included, who are not dedicated 100% to this analysis.' ... [the Complainant] sent the following response ... 'Please schedule a conference call for this, before wasting time on trying things won't work.'

Tom and I had a very contentious phone call with [the Complainant] in the afternoon. [The Complainant] was very rude to both Tom and me and insubordinate throughout the call ... [the Complainant] stated at one point during the call that I was not helping him solve the analytical problem rather I was annoying him. My concern is that after nearly nine months of work and 1200 man-hours [the Complainant] is not going to complete the task. When pressed to explain why RELAP was providing the response it was [the Complainant] got very defensive and consistently asked both Tom and I how many SBLOCA analysis we had performed. The underlying message I got was 'leave me the heck alone, you don't know what you are doing.' Tom unsuccessfully attempted to redirect the conversation to the fact that it wasn't really SBLOCA phenomena as much as general Thermodynamics. [The Complainant] again commented that Engineers can't rely on gut feelings, if he were to do that he would be wrong 99% of the time. He doesn't like comments or questions that include statements or implications that the engineer 'feel it should look like' that. ... [The Complainant has the expectation that the code and model have been verified and therefore everything works fine. He again asked Tom how he can have expectations of how the SBLOCA will proceed if he hasn't run a lot of them. {The Complainant} commented that he had been running them since 1980 and asked Tom where he was in 1980. He closed that particular exchange with 'You are wasting my time.' ... [The Complainant] countered [a question from T. George] with his view that comparing our expectations of results to the analytical results provided by the computer code is bad engineering. I feel that [the Complainant] only believes the results of the code and is not capable of identifying when the results from the code are incorrect. This is a fundamental problem that has to be addressed.

E-mail was sent to Bret to document my frustration and pursue disciplinary action for the unprofessional behavior exhibited on the phone call."

June 25, 2013 2:54 PM T. George sent B. Boman an e-mail stating "Chris asked me to send my notes to you regarding the phone call he and I had with [the Complainant] yesterday and those notes are attached. I've tried to neaten them up a bit because I originally wrote them as reminders to myself, rather than a description of events for someone else. As I mentioned to Chris, I do not have a lot of confidence in my own ability to adequately communicate this kind of episode in writing, so if there is any question about what I've written please feel free to ask me about it."

Attached notes from June 24, 2013 phone call regarding the SBLOCA (C. Molseed and T. George in conference room, Complainant on telephone) –

Purpose of meeting was to craft a problem status and develop plan to get acceptable results for SBLOCA. When T. George joined the conversation 10 minutes late the discussion concerned the 6-inch hot leg break. The Complainant had reported "the results were 80 psig" which exceeds the acceptance criteria of 62 psig. The discussion went well for another 20 minutes when the Complainant became defensive about the "Fort Calhoun" approach where the RELAP run is stopped and it is assumed conditions stay constant for the duration of the event and C. Molseed pointed out that decay heat should be decreasing. From that point "any technical question about the input used in the analysis, or any other question about the evolution of the event, the Complainant seemed to take as a personal affront." The discussion decayed rapidly when the "mixing efficiency and whether RELAP was capturing the phenomenon or should be capturing it. [The Complainant] became very defensive and very offensive. He insinuated that either Chris or I, or both, were challenging him at a personal level by questioning the results he produced." After stating they were trying to "understand what was going on in the analysis ... [the Complainant] then presumed to tell me that my job was to produce results with the computer code and he did so in a manner that was intentionally demeaning and insulting. In essence he said I wasn't smart enough to question either him or the results of RELAP, and that I should accept whatever he and the code said the results were ... I did have to raise my voice in order to stop him because I wasn't about to allow him to continue to insult me like that. The incident didn't last longer than a few seconds." Things flared up again when the Complainant was asked why there wasn't enough LHSI flow to stop steaming at the RCS 160 psi he reported. The Complainant "got very angry and defensive ... that caused him to be abusive and condescending and to retaliate for what he perceived as an insult. He asked several time how many SBLOCAs I've run ... He accused both me and Chris of wasting his time because we were asking him questions. He was very dismissive and arrogant ... [the Complainant] proceeded to tell me that if I said the case failed the acceptance criterion that I was a liar, and that in turn angered me a great deal ... I will not have my professional integrity impugned and particularly in such a derogatory and insulting manner ... I feel [the Complainant's] behavior was singularly unwarranted and abusive towards both Chris and me. The rapidity at which the conversation devolved from a technical discussion to [the Complainant] lashing out in a personal attack cannot be tolerated in a professional organization in my opinion. [The Complainant] certainly demonstrated a complete lack of respect for either of us, and not only on a technical level, but on a personal level. [The Complainant] showed a lack of respect and civility towards me as a colleague and a lack of respect for Chris' role in the position of supervisor." By the end of the meeting the Complainant "was so worked up and so defensive and accusatory that anything that was said by Chris or I seemed inflammatory." He accused either C. Molseed or T. George of "wasting his time." "Some other things [the Complainant said which raised my eyebrows: 'You can't go by your expectations, you have to accept what the code tells you. If you can find somebody else to do the work go ahead. Chris should not be explaining the analysis to project management; they have to talk to me. [and] I've told you everything you need to know. I can't help it if you're not able to understand. ... To paraphrase [the Complainant's] position, he said that he is really smart, very experienced, and had made no errors in his input. Further Chris and I were unqualified to ask him any questions about anything he had done or any of the results, and he was insulted that we had the audacity to ask him anything because that was a waste of his time."

June 26, 2013 10:48 AM B. Boman sent an e-mail to S. Catazano stating "as per our discussions, please initiate the termination process for [the Complainant]. His continued insubordination and offensive behavior is having a significant adverse effect on his team and supervisor. Because of his behavior and inflexibility he has not been able to meet task schedules and budgets and thus has had a significant adverse effect on the business." He attached the June 25, 2013 2:42 PM e-mail from C. Molseed; the June 25, 2013 2:54 PM e-mail from T. George; and the May 30, 2013 3:34 PM e-mail from the Complainant.

June 26, 2013 12:19 PM B. Boman sent an e-mail to S. Catazano in response to her request for the

content of his May 30, 2013 meeting with the Complainant. He replied “The purpose of the meeting was to: (1) Try to understand where the hard spots were in communication; (2) Give him the supervisor’s perspective on what and how he was communicating; (3) Provide him coaching on how to have a productive, unemotional technical conversation; (4) Clarify that his role was not to be independent of the supervisor’s direction (the document reviewer is required to be independent of the preparer, but the preparer does not need to be independent of the supervisor); (5) Tell him that hanging up on Chris was unacceptable. I fly back on Friday.”

July 2, 2013 6:19 PM B. Boman sent an e-mail to S. Catazano in response to information about C. Molseed’s conversation with the Complainant and item “3” in the June 26, 2013 12:19 PM e-mail. He replied “(1) Chris did not explicitly state if you do not reply to my requests, there will be consequences. Chris did make multiple requests of [the Complainant] that [the Complainant] did not respond to and Chris did inform [the Complainant] that he was frustrated ‘I am very frustrated. I feel like you are ignoring my requests and that I often have to ask the same question or request a plot two or three times. I want you to understand that while something may seem obvious to you it will not be obvious to the others, myself included, who are not dedicated 100% to this analysis.’ (2) Relative to item number 3 below ‘Provide him coaching on how to have a productive unemotional technical conversation. I recall directing him to show respect, avoid ‘you’, avoid ‘always, never’, listen, etc. The situation is that we have an employee whose performance has never been above average, whose current performance has caused us to be late on the US EPR and cost us tens of thousands of dollars, whose refusal to do as directed by his supervisor (insubordination) has led us to being late/over budget, and most importantly whose attitude and lack of respect toward others have demotivated his supervisor and co-workers. He has been replaced on the project and we will spend more money bringing an engineer up to speed to finish his work. I do not have another task to assign him where he can be successful and one in which his supervisor and co-workers can work with him in a collaborative fashion. Providing him with a disciplinary notice will not solve the problem and will just require his leadership team to syphon additional time and energy away from people and tasks that deserve their time and energy. I would like to terminate him Wednesday July 3rd and request your assistance in fulfilling this request.”

S.M. (Gearhart) Catazano (Ex 64, 66, 74, 85, 99, 99A, 109, 144)

On March 25, 2015, S. Catazano testified that her maiden name is Gearhart and that she began work for AREVA in September 2011 as a “HR Business Partner” in the Lynchburg, Virginia facility and was responsible to advocate for employees, support supervisors and manager, help coach, and develop employees. She was promoted to her current position in October 2014.

S. Catazano testified that she has never met the Complainant. She reported that Department Manager B. Boman called her about being disrespectful to people in the groups, having issues after coaching, and not following his supervisor’s direction. During the telephone call they talked about a meeting involving the direct supervisor and another employee in which some of the behavior left the other employee and supervisor feeling disrespected, prior coaching of the Complainant about some of his behaviors, and that B. Boman would like to move to termination. She reported that follow-on e-mails provided additional information, including details on the coaching B. Boman gave the Complainant in May 2013; statements from C. Molseed and T. George concerning the conference call where the Complainant was disrespectful; notes for the Complainant’s second level manager K. Higar; e-mail from Complainant thanking B. Boman for the coaching session; supervisory notes from C. Molseed; and answers to follow-up questions to B. Boman. She testified that she discussed alternatives to termination with B. Boman and he “felt because he had just met with [the Complainant] and coached him, a month prior not even, and that this had happened again and to the level in which other people were to a point uncomfortable in having technical discussion ... he felt it was detrimental to the organization and his department ... [and] didn’t think the behavior would change because it rose to that level right after coaching ... [and alternative discipline such as a disciplinary action notice] would only prolong this and affect negatively on the department.”

S. Catazano testified that once the information was collected she consulted with ER Compliance to go over the termination. HR Compliance goes over specific details of the incident or situation and may ask probing questions to ensure everyone is treated fairly and consistently. She reported HR Compliance asked if there was a written warning in this case; but there was not. She testified that "There was coaching, which is a verbal warning, really, saying the behavior is this and it needs to change." She stated she was aware that B. Boman's complaints concerning the Complainant was "that he wouldn't follow the supervisor's direction and they had to ask him for technical outputs or things numerous times and ... he basically was insubordinate when his supervisor was providing direction ... [the complainant] would say things like 'Don't waste my time' ... and treat people like they were not competent in their roles." She reported that B. Boman "felt very strongly that the disrespect that his team was feeling, that, in his mind, there was no question that it needed to be a termination ... that it had escalated to a point where it should be an immediate termination." She stated that B. Boman never complained about the Complainant's technical ability. She stated as part of her involvement, she reviewed the Complainant's file for any discipline actions and for performance evaluations. There was a disciplinary entry for downloading Skype onto his computer but nothing of note in the performance evaluations. She stated she had no authority to override a termination decision by a manager.

S. Catazano testified that the termination of the Complainant was based on the information surrounding his 2013 behavior and that she did not see any safety concerns raised in the information she reviewed. She reported that AREVA also issues a termination letter in termination cases and that a templet for the termination letter is provided as a guideline; but HR does not draft the termination letter.

S. Catazano testified that AREVA has a safety-conscious work environment policy that permits employees to raise safety concerns up to anyone in the chain-of-command, with the Quality Director, to the CEO, to the Compliance Director, to their HR person, by e-mail and by using an anonymous telephone number. The employee could also lodge a safety concern through a CR.

S. Catazano testified that she was an HR Business Partner during the termination of employment of T. Dodson. She was consulted during the termination process. The termination involved insubordination for disregarding direction from his supervisor several times; his tone and demeanor were disrespectful; and a time he hung up the telephone on his supervisor. She vaguely remembered T. Dodson being visibly angry and frustrated; not attending meetings he was supposed to be at; and failing to revise or fix a submission to his supervisor. She reported that T. Dodson's supervisor had approached her approximately two months before the termination for guidance. She referred the supervisor to company policies and back to her manager in the course of several discussions. She reported that the supervisor gave T. Dodson a verbal warning, but not a written warning or written disciplinary action. She reported that AREVA has "the general guideline [that] the supervisor should take notes when meeting with their employees, whether it is discipline or recognition." She reported that T. Dodson's employment was terminated in July 2013.

S. Catazano testified that she was involved in the termination process for S. Jones. The termination was more related to his attitude towards work performance, which was a very laid-back attitude, and he fell asleep in an intimate meeting with a customer and was very negative to the point where the customer requested AREVA have S. Jones leave. She stated she became involved right after the event where the customer asked for S. Jones to be removed and that termination was within a week or two thereafter. She reported S. Jones had about five years of employment with AREVA and possibly one other work attitude event recorded. She testified that S. Jones was not placed on a performance improvement plan prior to termination; though his supervisor had verbally counselled him prior to the event where the customer asked for his removal.

M. Carpenter (Ex 69, 98, 98A, 105, 105A)

On March 26, 2015, M. Carpenter testified in deposition that at the time involved with the Complainant's termination of employment he was B. Boman's supervisor as the Vice-President of Design Engineering and that following a slight modification of the group, he is still B. Boman's supervisor but now as Vice-President of Engineering and Licensing. He has been with AREVA since June 1985 and has been at the Vice-President level since August 2008.

M. Carpenter testified he was aware of the general work the Complainant was doing in 2013, but was not involved in making the assignment. He thought the Complainant's work was related to resolving some issues that had been identified in a CR from the 2011 timeframe, which he believed was still open on March 26, 2015; but that he could not speak to the details of the assignment or who identified the issues. He stated that he became aware that the Complainant had some concerns about the SBLOCA; but did not recall when he learned of that concern, whether before or after the decision to terminate the employment. He was aware that the Complainant filed a CR by March 26, 2015, but did not recall if he was aware of that fact at the time of the Complainant's termination. He reported that all CRs would have to be closed "on the project in order to close the project and obtain our certification."

M. Carpenter identified Ex 69 as two pages from a logbook that he maintains "where I occasionally write notes of meetings and other such things that I do to keep track of what I need to do next." Page one dated "June 24, 2013" has nothing to do with the Complainant. He reported that the only entries related to the Complainant involves the "third line and the fourth lines start with 'W/Boman' implying a discussion with Bret Boman. The next line says, '[the Complainant], Bret wants to terminate.'" He reported the entries were made on June 25, 2013 before he started his trip to Paris, France, that day.

M. Carpenter testified that he needed to be aware of decisions to terminate and would have to approve termination decisions made at B. Boman's level. He understood the grounds for the Complainant's termination involved "how [the Complainant] had behaved in certain meetings with his peers and his supervisors ... it had something to do with raising of the voice and hanging up on whoever he was talking to." He was not told the topics of the conversations where the Complainant raised his voice or hung up the telephone. He reported his only discussion with B. Boman on terminating the Complainant was on June 25, 2013; before B. Boman had talked to the HR department and before he departed for Paris that afternoon. He

reported that the AREVA personnel action form (PAF) has a place for the manager to sign and a place for someone at his level to sign, though that level signature is not always required.

M. Carpenter testified that when AREVA does a reduction-in-force (RIF), he is not involved in selecting the employees to lay off by name or job title, but would be involved in determining the number of employees to lay off. He reported that there was a substantial change in workload in the June/July 2013 timeframe and the need to reduce the company's workforce level was identified. He stated the engineering department "went through the process of having each department rank their people; and then through that process and some ... rough planning on how many people we thought we really needed for the work we thought we were going to have in the future. We came up with the number of people for each department that we needed to be at the 'right size.'" The decision as to which employee would be actually let go was made at the manager level of B. Boman. There were no voluntary separation packages in the engineering department during the 2013 RIF. During the 2014 RIF voluntary separation packages were offered and there were volunteers to leave, so the actual involuntary RIF in engineering in 2014 was a very, very small reduction.

*T. George (Ex 42, 43, 63, 83, 94)*⁹

T. George provided a written declaration on July 2, 2015, in which he stated he is a nuclear engineer who has worked for AREVA a number of years and that he knows the Complainant from having worked together on several projects. He reported "one of [his] areas of expertise is working with GOTHIC computer code which is used in containment analysis when responding to various postulated loss of coolant accidents." He stated he was asked in June 2013 to assist the Complainant with the SBLOCA project that the Complainant had been working on for nine months and was continuing to encounter problems with his analysis. He stated that on June 24, 2013 he participated in a telephone conference with the Complainant and C. Molseed, the joint supervisor, at C. Molseed's request and after a series of e-mails at been exchanged that morning. He reported that EX 63 is a copy of the statement he prepared shortly after the telephone conference call with the Complainant; that it accurately recorded the discussions that occurred; and that he forwarded the statement to B. Boman on June 25, 2013. He stated that he "was shocked at not only [the Complainant's] rudeness, but the arrogance in the way he treated [C.] Molseed and me. He called us both liars. As my contemporaneous notes indicate, [the Complainant] kept saying that neither of us had any business questioning him and we were wasting his time. All we were doing was to understand issues so we could help move the analysis forward in a positive manner." He stated "I have worked at AREVA for a long time. I have had numerous conversations with other engineers where we have disagreed about technical matters. Never in all my time at AREVA have I ever participated in a conversation with another AREVA engineer like the one with [the Complainant] that occurred on June 24, 2013." He reported that he gave sworn testimony when interviewed by the NRC in April 2014.

⁹ EX 24 e-mail from the Complainant to C. Molseed with copy to T. George and other engineers related to the "Transition from RELAP5 SBLOCA to LBLOCA RCS model in GOTHIC" was sent Wednesday, June 26, 2013 at 11:24 AM, which is after the decision was made to terminate the Complainant's employment. In the e-mail the Complainant states "After Monday's conference call, I think it is best for me to explain the fundamental problem of making arbitrary transition from RELAP5 SBLOCA model to LBLOCA model in GOTHIC using the attached T-s diagram. ... It appears to me that some of the AREVA engineers doing critical safety analysis work have forgotten the basic thermodynamic principals."

EX 42 contains e-mails which indicate that the Complainant sent a computer link to “my RELAP5 runs for the 9” case” related to the EPR SBLOCA to T. George at 3:14 PM, Friday, June 7, 2013. T. George responded by e-mail at 3:34PM, June 7, 2013, that he had “done some chasing of the SI flow rates to use in the GOTHIC model” He referenced tables found in a specific reference source document and noted that values set forth in Tables 4-33 and 4-34 were conservative degraded curves and Table 4-34a was a “best estimate.” He reported that “Lisa” had faced the same problem in her earlier SBLOCA work and had “generated her own degradation factor to apply to Table 4-34a data.” He reported that “I will put the degraded values she calculated into the 3” break GOTHIC model.” The Complainant responded by e-mail at 3:38 PM, June 7, 2013, by forwarding “the Excel spreadsheets for the degraded simultaneous SI flows, which I generated for my calc” regarding the EPR SBLOCA.

EX 43 is the Saturday, 2:18 PM, June 8, 2013 e-mail from T. George to the Complainant and supervisor C. Molseed, regarding the US ERP SBLOCA, in which T. George stated –

“I’ve completed the GOTHIC model changes. I had to change the decay heat model because it assumed reactor trip coincident with break. I’ve put in a more generalized decay heat model that use the time of reactor trip and also changes the fission fraction multiplier from 1.2 to 1.1 at 1000 seconds post trip.

I still need a few things from RELAP output to do the GOTHIC run:

- Mass and energy release rates up until the time of transition.
- Time of SI initiation for S1 pump heat addition.
- Time of reactor trip for decay heat addition.
- The last two major edits before transition so an energy rate can be determined.

I’m not sure where the correct RELAP deck is located or the correct transition time.”

EX 63 is a 2:54 PM, Tuesday, June 25, 2013 e-mail from T. George to B. Boman with a copy to C. Molseed and K. Higar by which T. George sent a typed copy of the notes he took during the June 24, 2013 conference call involving the Complainant. His notes reflect that he and C. Molseed were together in a conference room and that the Complainant participated from another location by telephone. The purpose of the conference was “to craft a problem status statement and develop a plan to get acceptable results for SBLOCA” the Complainant was conducting. T. George arrived for the conference 10 minutes late and while C. Molseed and the Complainant were discussing the 6 inch hot leg break, what cases had been run and the results of those runs which were 80 psig which exceeded the acceptance criteria of 62 psig. After about 20 minutes he asked the Complainant about the “Fort Calhoun approach” and the Complainant became a bit defensive when C. Molseed “pointed out that decay heat should be decreasing.” T. George noted that “from that point on in the discussion, any technical question about input used in the analysis, or any question about the evolution of the event, [the Complainant] seemed to take as a personal affront” and the discussion began to deteriorate. When the discussion “turned to mixing efficiency and whether RELAP was capturing phenomenon or should be capturing it ... the discussion decayed rapidly. [The Complainant] became both very defensive and very offensive. He insinuated that either [C. Molseed] or I, or both, were challenging him at a personal level by questioning the results he produced” which they were trying to understand. T. George recorded that the Complainant “then presumed to tell me that my job was to produce results with computer code ... in a manner that was intentionally demeaning and insulting ... he said I wasn’t smart enough to question either him or the results of RELAP and that I should accept whatever he and

the code said the results were.” He reported that he raised his voice “in order to stop [the Complainant] because I wasn’t about to allow him to continue to insult me like that” and after a few seconds C. Molseed intervened to calm thing down. T. George recorded that thing went downhill quickly soon thereafter when he asked the Complainant why there wasn’t enough LHSI flow to stop steaming when the PRVs were used to depressurize the RCS. He recorded the Complainant “got very angry and defensive at the question ... that caused him to be abusive and condescending and to retaliate for what he perceived as an insult. He asked me several time how many SBLOCAs I’ve run, and said things along the lines that he doesn’t like when I talk about my gut feelings ... He accused both me and [C. Molseed] of wasting his time because we were asking him questions. He was very dismissive and arrogant.” T. George recorded that when he explained he asked questions to understand the Complainant’s computer model and to modify his GOTHIC computer model, “that only angered him more and he repeated his question about how many LOCAs have I run and he state he has been running LOCA since 1980 and asked me what I was doing in 1980” as a means of expressing his superiority with words that “were both counterproductive and childish.” When the Complainant raised the issue of questioning his results, he was told his results were not being questioned but that the results failed the acceptance criteria, following which the Complainant called T. George a liar “if I said the case failed the acceptance criterion.” T. George stated the Complainant’s “behavior was singularly unwarranted and abusive towards both [C. Molseed] and me. The rapidity at which the conversation devolved from a technical discussion to [the Complainant] lashing out in a personal attack cannot be tolerated in a professional organization in my opinion. [The Complainant] certainly demonstrated a complete lack of respect for either of us, and not only at a technical level, but on a personal level. He showed a lack of respect and civility towards me as a colleague and a lack of respect for [C. Molseed’s] role in the position of supervisor.” He reported two subsequent flare-ups by the Complainant when the Complainant began talking about the 3-inch break case and the results of 95 psia results. He recorded the Complainant stating “You can’t go by expectations; you have to accept what the code tells you. If you can find somebody else to do the work, go ahead. [C. Molseed] should not be explaining the analysis to project management; they have to talk to me. I’ve told you everything you need to know; I can’t help it if you’re not able to understand.” T. George summarized the conference call as the Complainant “was unwilling to answer any questions to describe the transient phenomena and resented any attempt to understand what was going on. To paraphrase his position, he said that he is really smart, very experienced, and had made no errors in his input. Further, that [C. Molseed] and I were unqualified to ask him any questions about anything he had done or any of the results, and he was insulted that we had the audacity to ask him anything, because that was a waste of his time.”

On April 9, 2014, T. George testified in deposition before the NRC that in October 2012 he was building a GOTHIC LOCA for Bellefonte and did not deal with the Complainant much until May or June of 2013, though they attended staff meetings and talked from time to time on the telephone. Prior to May or June of 2013 he did not really work with the Complainant on any specific task. He testified that up until May 2013 his interactions with the Complainant lead him to believe the Complainant was “very intelligent, knows LOCA very well ... for the most part, professional in my interactions up to that point with him ... we really didn’t have a lot of interaction on any specific tasks, no more so than I would [with] anybody who was outside the containment group.” He reported that in May 2013 he knew from staff meetings that the Complainant had been working on SBLOCA for some time, that there were difficulties, that it

was way over budget, and that it was way past the due date. He testified that in the May 2013 timeframe he was asked to help the Complainant with modifying the GOTHIC computer model and “making sure he got the inputs correct and that sort of thing” and the Complainant “was quite eager to let me take on as much of the GOTHIC work as I wanted.” He testified that from the staff meetings he recalled “there were issues with the problems that RELAP was having and the run time that RELAP was taking to get through ... we’re talking days for a single case to run [and] in my experience, typically a long RELAP run takes maybe four hours, eight hours, and these cases were running for days.” As to delays and over budget, he stated that “you go into the work expecting it to take a certain amount of time; and this is typical of safety analysis ... you lay out a plan, you get into the work and technical issues arise that you didn’t foresee and we have to find solutions. [From the staff meetings] I never got the impression that there was anything that [the Complainant] was doing that was wrong. It was simply there were technical issues that came up, there were problems that the code was having.” He stated that when an analysis is done, a certain part of it is done in RELAP computer model and then there is a point of transition into GOTHIC computer model and there is a question of when is the appropriate time to do the transition and when is RELAP starting to give results where the code is starting to fail. T. George testified that the RELAP computer model generated mass and energy results which would be put into the GOTHIC computer model to calculate containment response. He stated that project management had concern over the money being spent and he knew it was over budget and way behind, so he became involved as a team player.

T. George testified he was getting results in GOTHIC that did not look good, the Complainant was getting RELAP results above the acceptance criteria, and project management was asking questions; so a phone conference was scheduled to determine where we were, what we were going to do, how long it was going to take, and how much it would cost. The telephone conference call was the last week of June and “was a disaster.” He reported he and the Complainant exchanged e-mails prior to the conference call that were typical engineer interaction with no problems on a personal level. During the conference call we were trying to understand what kind of problems there were and what to do to solve the technical issues but it very quickly became a personal issue with the Complainant. T. George stated he asked “some very basic technical questions” involving when did trips in the code occur and the Complainant responded with “how long have you been running LOCAs ... and it just quickly evolved into some sort of personal ... issues ... [and] his response was completely out of proportion to what had preceded it ... it seemed [the Complainant] was taking any question asked as a personal insult and he took it as us challenging the work he had done.” He stated that he was trying to understand what had happened and come up with a success path and the Complainant “just seemed very reluctant to share any of that with us.” He reported that before the conference call he and the Complainant discussed several issues and he had asked the Complainant for a computer plot that was not received. He asked the Complainant during the conference call if he had generated the requested plot and the Complainant responded “no, why should I?” He described the Complainant’s attitude as “there’s nothing that you can learn from a plot like that; so I’m not going to give it to you.” T. George testified that he and C. Molseed were trying to ask questions and the Complainant “just didn’t want to give us any information and he took it personally for some reason.” He testified that the Complainant reported psig results running 6-inch break cases and was told that the reported psig was above acceptance criteria to which the Complainant stated “if you say that this case fails acceptance criteria you’re a liar.”

T. George testified that the conference call was almost an hour long and he got no printed results at all from the Complainant. He stated he was running GOTHIC models that were dependent on the mass and energy results the Complainant generated from RELAP model runs. He reported part of the Complainant's position was due to "I know what I'm doing is right and you're in no position to question what I'm doing ... you guys ... don't have the credentials to question me." The Complainant did not want to provide what was in the analyses he had run. T. George testified that "absolutely never" did the Complainant characterize the issues as a safety concern; "at no time did he ever raise the issue of safety, none. In my opinion [the Complainant's] entire objection and all his anger and his response was purely personal. He viewed it as a personal attack on his ability. It had nothing to do with nuclear safety." T. George testified that C. Molseed asked him to send him an e-mail with his take on the conference call; but that he preferred not to make a written report because his writings could be misconstrued and would talk to human resources or whoever, including the NRC. He stated he agreed to write down some notes in case someone wanted to talk about the conference call and that he did so as soon as he got back to his office. T. George reported that on the day after the conference call he was asked to send a copy of his notes to [redacted name believed to be B. Boman]. He spent some time trying to flesh out his notes to communicate what had transpired and then sent the notes to three people [names redacted]. After sending the notes out his involvement basically ended, except for attorneys asking if he still stood by his notes. He reported that about a week later the Complainant shot-gunned an e-mail that was a temperature entropy diagram and technical things he considered saying to people "apparently some of our engineers that had forgotten their basic thermodynamics kind of thing" which "kinda angered me" but to which he chose not to respond. He testified about a month later he was told the Complainant was no longer with the company; but that he did not ask or talk about it. He testified that he had no involvement with a condition report (CR) that the Complainant had written up.

T. George testified that during the telephone conference call the Complainant was giving some results but would not discuss what went into the RELAP model or what the code was doing. He was "not really being helpful in getting anyone to understand where we come up with a better solution, a better technique or ... where we can bring someone in who also knows ... RELAP BW, the specific code version he [was] doing to see ... is the code behaving the way it should behave ... his attitude was ... I'm an expert; I'm and authority. These are the results, end of story." He reported that other than the conference call, the Complainant had been cordial and civil.

K.E. Higar (Ex 74, 92, 101, 106, 106A)¹⁰

K. Higar made a written declaration on July 2, 2015, in which he stated that he has been employed by AREVA for 13 years and that he is a nuclear engineer in a management position. He reported that during his employment AREVA "has implemented a variety of policies and programs to emphasize the safety conscious work environment (SCWE) and implement the

¹⁰ EX 73 and 116 are an e-mail string begun by the Complainant regarding his creation of CR-2013-5239 on June 28, 2013 and his subsequent disagreement of the CR being classified by the screening committee on July 2, 2013 as a Significance Level 3 concern. These matters all occurred after the decision to terminate the Complainant's employment had been made. K. Higar's deposition testimony related to rating employees for reduction in force is not relevant to the Motion for Summary Decision and is not summarized or considered.

Nuclear Safety Employee Concerns Program. He reported that part of his job responsibilities as a manager was to ensure the safety program was fully implemented and employees trained on the importance of safety, promoting SCWE and encouraging a “questioning” attitude in everyone. He also addressed ARVEA’s Employee Concern Program to bring issues of concerns to managers without fear of retaliation, and the Differing Technical Opinions (DTO) policy designed to address situations where there are differences of opinions between professionals where safety is paramount and the goal is to reach the right result in a professional and respectful manner. He stated the DTO “reflects the company’s express commitment to ensuring a SCWE and encouraging employees to feel free to raise their concerns without fear of retaliation. He stated that AREVA uses a WebCAP as the NRC required Corrective Action Program where employees can raise “safety concerns and conditions adverse to quality” as Condition Reports (CR), so they can be addressed in a uniform manner. He reported that every year thousands of CRs are filed. He stated he had “never heard of any employee claiming to have been threatened, intimidated or retaliated against for raising a safety concern [and] such action, if it occurred, would not be tolerated and would likely lead to immediate termination.”

K. Higar stated on May 28, 2013 he was made aware that during a telephone call between the Complainant and C. Molseed, the Complainant “abruptly hung up the phone on Molseed.” He received e-mails from both the Complainant and C. Molseed requesting a conference call. During the over hour long conference call on May 29, 2013, both the Complainant and C. Molseed explained their position regarding technical issues and “it was agreed that [the Complainant] would continue to work with Molseed on the SBLOCA project and they would be given additional resources in the form of assistance from other AREVA engineers so as to move the analysis forward. [They were asked] to work together to develop a SBLOCA recovery plan that would give us a chance to complete this project that was already overdue and over budget.” He received the proposed recovery plan on June 4, 2013.

K. Higar stated he went on vacation on June 24, 2013 and received a telephone call from B. Boman while on vacation “to let me know that he had made the decision to terminate the employment of [the Complainant] due to new unprofessional behavior by [the Complainant].”

K. Higar reported that he was part of the Screening Committee on July 2, 2013 that reviewed the Complainant’s June 28, 2013, CR-2013-5239 and determined that it should be assigned a Significance Level 3 because it involved input errors. After receiving an e-mail from the Complainant expressing concerns that a higher Significance Level had not been assigned, he had a telephone discussion with the Complainant. He identified EX 74 as “an e-mail that I prepared shortly after my call with [the Complainant] so that I would have a record of what was said on the call since he had been so critical of his supervisor” that “accurately reflects what was said by [the Complainant] in that call.” He declared “Prior to July 1, 2013, I was fully aware that [the Complainant] was to be fired for his repeated unprofessional behavior with Molseed. My conversation with [the Complainant] on July 2 confirmed for me that [B.] Boman made the right decision to terminate [the Complainant]. {The Complainant’s} behavior was completely unprofessional and unacceptable, and he gave no indication that he planned to change any time soon.”

EX 74 is the Wednesday, July 3, 6:23 PM, e-mail from K. Higar to S. Catanzano of human resources, and B. Boman regarding his “phone call on 7/3 with [the Complainant], in which K. Higar stated –

“While I was in a meeting this morning, [the Complainant] called and asked to talk about his U.S. EPR concerns. I called him back and the following documents the main points of our conversation.

- [The Complainant] wrote Condition Report 2013-5239 on four issues in the Large Break LOCA Containment analyses. There was a screening phone call yesterday. He disagreed with the Screening team’s assignment of a Significance Level 3 to the CR. His concern was it would not get sufficient attention. {Please refer to my email [EX 73] ... that documented my conversation with him on this topic}
- Based on his SBLOCA work, [the Complainant] believes that the U.S. EPR has a significant design flaw because it does not have a heat exchanger on the MHSI system. This assertion is based on his preliminary SBLOCA work that appears to have some design input errors (currently being QA reviewed). I asked him if he had performed the studies his Supervisor ([C.] Molseed) had requested of him, and his response was no. [The Complainant] stated that performing those studies would be a waste of his time. As an aside, I know [C. Molseed] was trying to understand why the analysis showed some unusual behavior, and [the Complainant] did not provide the information requested by [C. Molseed], nor did he run the studies.
- [The Complainant] went on to state that [C. Molseed and T. George] have not run SBLOCA scenarios; thus, they cannot tell him what to do. [The Complainant] continued to say that a Supervisor who has not performed the SBLOCA analysis cannot question his technical expertise, and thus, [the Complainant] decides what the appropriate technical direction should be, not [C. Molseed]. I reminded [the Complainant] that he works for [C. Molseed] who works for me, and that I expected him to be responsive to his Supervisor’s requests. [The Complainant] became agitated by this statement, and stated this is not the military and it is a 2-way conversation. [The Complainant] went on to state that it is an engineer’s job to perform the engineering and that [C. Molseed] is a Supervisor and should not be meddling in engineering tasks. [The Complainant] then tells me that from his perspective [C. Molseed] is not competent and that [C. Molseed] has no business trying to direct him. I simply told [the Complainant] that [C. Molseed] is technically competent and it is [C. Molseed’s] job to be involved technically.
- I tried to address the issue of being non-responsive to his Supervisor’s requests. There were numerous emails from [C. Molseed] requesting very specific information to help everyone understand some questionable results. I told [the Complainant] that I did not see any emails where the requested information was shared with the team, and his response was that he provided the requested responses to [C. Molseed] in phone calls. {As a follow-up, I asked [C. Molseed] if [the Complainant] provided the requested information in the phone calls, and [C. Molseed] stated no. The gist of the phone calls was more resistance by [the Complainant] to provide the requested information. [C. Molseed] stated that none of the requested information was provided.}

On March 24, 2015, K. Higar testified in deposition as a designated agent of AREVA, that he has been employed by AREVA for 13 years, is an Engineering Manager I, and is a second level supervisor of the Complainant, who is directly supervised by C. Molseed. He reported that “RELAP is a thermohydraulics code that is utilized to calculate primary systems, secondary systems for nuclear power plant for safety analyses from non-LOCA, which encompasses significant number of different events, all the way through small break and large break LOCA analyses ... GOTHIC is a general purpose thermohydraulics code, primarily developed for the purposes of calculating pressure and temperature responses in an enclosed environment. In this case for a nuclear power plant, it is the containment structure.”

K. Higar testified that, from late 2012 until his employment was terminated, the Complainant was tasked “to analyze and to define a methodology for the small break LOCA containment

analyses.” He stated the Complainant expressed the opinion that “it was inappropriate to apply the large break LOCA approach to a small break LOCA event” in multiple emails and discussions. He reported that he had a meeting with the Complainant and C. Molseed at their request in which it was agreed that the large break approach was not appropriate; that the task was to define the approach to be developed for a small break LOCA application; and that other engineers with experience related to LOCA and containment analyses were brought in to assist. Those engineers included J. Klingenfus, T. George and L. Gerken. Subsequent to the meeting, he was aware that the Complainant was taking an approach that wasn’t part of the work plan that identified a need for development of a different approach to small break LOCA analyses. He stated that “when we do analyses, we look at those with a critical eye to make sure the response, the system response, makes sense to us in terms of what we would expect given the event we are analyzing. So in this case, I believe [C. Molseed] saw something that looked odd to him from his background experience that he wanted to investigate further” involving the IRWST on May 28, 2013. In the May 28, 2013 email from C. Molseed, he understood that the Complainant had not transitioned from RELAP to GOTHIC as originally discussed.

On March 24, 2015, K. Higar testified in his individual capacity that he had worked for AREVA for 13 years in positions including principal engineer, project engineer and in a supervisory position. As a supervisor his current job responsibilities included “resource management for the safety analysis organization, which includes Westinghouse, CE and B&W plant designs for non-LOCA, as well as containment analyses for those plants as well as the [2011] addition of the U.S. EPR ... [and] ensuring training of folks, management of resources, approval of technical documents.” He stated that during the spring of 2013, “we met weekly on staff meetings ... I got weekly updates on project status, performance based on budget schedules, technical challenges, [and] that kind of stuff. ... We were missing budgets and schedules and having significant technical challenges on the particular task that [the Complainant] was working.” He reported that “as projects progress, if they progress well, there is no need of escalation. When projects aren’t performing well, there is escalation and, of course, the focus is on how to recover the task. In most cases it’s just a matter of redefining the scope and moving forward.” He stated that there was a point where the Complainant’s task was not moving forward when C. Molseed was providing guidance to the Complainant and the Complainant was not taking direction or responding to requests for information and C. Molseed had become frustrated by the Complainant’s reluctance to provide requested information. He testified that “it progressed from there to issues of unacceptable behavior regarding the way phone calls were handled.” He reported one telephone conversation where the Complainant had called C. Molseed and another co-worker liars, and had hung up the telephone on C. Molseed. He reported seeing some emails from the Complainant that he considered unprofessional. K. Higar testified that at one point he counseled the Complainant “regarding being respectful to his supervisor ... [and] about the importance of us working together to solve this problem” following his refusal to cooperate and provide C. Molseed with requested information. He stated the Complainant’s response “went along the lines that [the Complainant] did not think we were qualified to provide him guidance ... that [C. Molseed] was not technically qualified;” to which he coached the Complainant “on the fact that [C. Molseed] had participated in many NRC meetings and actually defended the U.S. EPR containment analysis to the NRC.” He stated that during the coaching sessions he did not warn the Complainant his employment could be terminated if he continued to behave in this manner.

K. Higar testified that it's good policy or practice for supervisors to keep notes on interaction with direct report engineers as they work during the year to have the notes to reflect on in terms of their performance. He stated "it's a general practice that I request from all of my supervisors to do" and that he recommended C. Molseed also keep notes on his interaction with his direct reports.

K. Higar testified that he was aware that the Complainant had filed one condition report in late June 2013, in which "he thought there were major errors that would cause a significant adverse effect on the result" and that it should be classified at Significance Level 1. He reported he was part of the Screening Committee that met "to determine the significance level of the CR and then to assign resources to the follow-on activities." The CR was classified at Significance Level 3; only the Complainant thought it should be at level 1. He reported that technical experts / engineers were consulted as to whether the errors reported in the CR were significant and the determination was "that it wasn't errors that were going to cause safety significance; that they were similar to other CRs that we process." He reported B. Boman's opinion was that the CR was not at Significance Level 1. He reported that J. Link was assigned to evaluate the CR and "if I remember correctly, Mr. Link fixed the errors, re-ran some cases and looked at explicit results and the effect of the error on those results" and the CR was closed.

K. Higar testified that B. Boman made the decision to terminate the Complainant's employment. He stated that after the decision to terminate had been made B. Boman asked him on Thursday, the last week of June 2013, "whether or not I had any reservations regarding the decision he had made" to which he answered "I did not." He testified that "given the behaviors and the feedback I received from my supervisor, as well as what I had witnessed myself, and feedback from [B. Boman] in terms of his experience, I agreed with the decision" to terminate the Complainant's employment. He reported that he has had to deal with personnel in his supervisory chain that were rude or insubordinate or unprofessional, and in one case issued a "disciplinary action notice;" though he was unaware of any employee being terminated for such conduct.

K. Higar testified that at some point when the task assigned to the Complainant was behind schedule or budget or having technical difficulties, T. George was brought in and assigned to investigate the transition in terms of going from RELAP to GOTHIC." He stated that he had counseled C. Molseed several times about keeping his sarcasm directed upwards toward management and management related activities under wraps.

C. Molseed (Ex 60, 75, 90, 102, 102A, 102B, 107, 107A, 143)

C. Molseed made a written declaration on July 2, 2015, in which he stated he has worked for AREVA for 17 years and is an Advisory Engineer as a supervisor since May 16, 2007. He reported B. Salim was his original supervisor until he moved on and K. Higar became his supervisor in December 2011. He reported he is fully familiar with AREVA's policies and programs designed to emphasize the safety conscious work environment (SCWE), including the Nuclear Safety Employee Concern Program. He is also familiar with the Differing Technical Opinions policy designed to address differences of opinions between professionals. He stated that during his employment with AREVA he had never heard of any employee, except the

Complainant, “who has claimed to have been threatened, intimidated, or retaliated against for raising a safety concern.”

C. Molseed stated that AREVA has established a Corrective Action Program, required by MRC regulations, known as WebCAP in which all employees are trained. WebCAP is a system by which safety and conditions adverse to quality can be raised and addressed in a uniform manner. He reported that on June 20, 2011 he filed CR 2011-4417 “which focused on errors that had been identified and needed to be addressed in the small break loss of coolant analysis (SBLOCA) which was part of the U.S. EPR project. The original work had been performed by a contractor for AREVA, and we realized that it needed reanalysis and a significant amount of work. CR 2011-4417 was assigned a Significance Level 3.” Due to lack of funding, CR 2011-4417 was not addressed for 15 months. In September 2012 the Complainant was assigned to CR 2011-4417 where “his only assigned work was to help AREVA develop an effective model that would accurately address a postulated SBLOCA event.” A team of engineers brainstormed was assembled in October 2012 to outline all known issues, potential alternatives and concepts. C. Molseed stated “this SBLOCA assignment and tasks performed by my working group requires strong problem-solving skills, a questioning attitude and a positive attitude toward team work. We must consider all factors that might explain why a problem exists and/or explore alternatives that might be an effective way to address the problem, especially when analytical results do not match what we expect based on years of experience working in this area. ... Our approach to problem-solving is to be open and questioning in order to understand what might be creating the problem as well as to question our assumptions. Once a problem is clearly identified and understood, then we look at what factors could be contributing to the issue and how the result might be mitigated. This requires a high level of cooperation and exploration into various alternatives and modeling techniques to determine the resulting impact.”

C. Molseed declared that the Complainant abruptly hung up the telephone on him on May 28, 2013 and both he and the Complainant requested a conference call with K. Higar and B. Boman. The requested conference call occurred about 3:30 PM on May 29, 2013 and lasted about an hour. During the conference call it was agreed that the Complainant would continue to work on the SBLOCA project and additional resources, in the form of additional engineers, would be assigned to move the project forward. He stated that at this point “I began to create a contemporaneous record of my interactions with [the Complainant] at the suggestion of [K. Higar], my supervisor.” He identified EX 60 as “the record I created on my interactions with [the Complainant] ... [which were] made contemporaneously or shortly after the events described occurred ... [and] accurately reflects my recollection of the events as they occurred.” It is specifically noted that EX 60, also in EX 143, is summarized above in the “June 25, 2013, 2:42 PM” e-mail entry related to the summary of evidence involving B. Boman.

On March 23, 2015, C. Molseed testified in deposition as a designated agent of AREVA that he supervised the Complainant as one of his engineers starting in the 2010/2011 timeframe. The Complainant was an Advisory Engineer with duties to “perform complex analyses within the group, specifically, we were looking at containment analysis ... the containment response to an accident. [The Complainant] would be responsible for running a variety of computer codes to complete that task; work as part of a team on a variety of tasks as an advisory engineer; [and] he may be asked to lead a team of engineers.” He testified that at or around a meeting on

September 18, 2012 U.S. EPR WebCAP CR 2011-4417 was discussed during regular group meeting, a budget of 960 hours was assigned and a schedule completion date of April 30, 2013 was assigned. He reported the Complainant expressed an interest in working on the CR 2011-4417 task and it was assigned to him around September 18, 2012. He was not sure of the number of hours assigned by the task plan to the QA independent reviewer. He reported that the Complainant “had previously done small break LOCA, or SBLOCA, under the direction of [L. Shore] to calculate the peak cladding temperature for the U.S. EPR, so he had familiarity with small break LOCA.” The Complainant’s task “was to analyze for the U.S. EPR the containment small break LOCA analysis, to correct issues that were identified in a WebCAP or condition report 2011-4417 ... We wanted [the Complainant] to reanalyze that event and address those errors and produce a calculation documenting his analysis.” He reported that WebCAP and CR are used interchangeably and “is a mechanism we have at AREVA for documenting or identifying an issue that we believe is either incorrect or an error that has been made ... a process for investigating or evaluating that error, and then providing corrective actions.” He stated he believed there was a good chance of success with the Complainant working on the project and that “the desired outcome was a completed calculation file that included small break LOCA analyses for determining the containment pressure and temperature response for the U.S. EPR ... that he would complete the analyses, document his results, then we would update the final safety analysis report that was presented to the NRC as part of the design certification.” He reported the task was a priority because there was an outstanding CR but it was not a critical path and “was not driving the submittal or approval of the U.S. EPR project design certification by the NRC.” He reported that “a design certification is a big deal, and it means that a utility can go and build one of the reactors once it’s certified.”

C. Molseed testified that PDA is the annual personnel appraisal and that the Complainant received a PDA for 2012 in January 2013. He reported that he has a face-to-face meeting with his direct reports and then sends them a copy of their PDA for review in case “I’ve neglected to include something they think is important, and we will amend it and add that.” The PDA is created with an on-line tool so he would not usually see a printed copy of a PDA. He reported that he was involved in the Complainant’s PDA for the 2011 year because part of the year he worked for a difference supervisor. He did not think a PDA was issued for 2013 because the Complainant was terminated in 2013. He reported that for 2012 the Complainant had problems with time management and meeting schedules and “was obviously expending his budgets completely or going over budget” so improving overall profitability was an area being looked at in general terms.

C. Molseed testified that in 2013 there were numerous complaints concerning the Complainant. He testified that in 2013 the Complainant “was tasked with continuing the small break LOCA analysis and we were over budget. We were late in delivering and there were periods where I didn’t think we were working together to get a solution. There were periods where he was unprofessional in his behavior towards myself and other engineers. He was not listening to directions. He was not seeking expert advice when he was in a challenging situation. There was a period where he hung up the phone on a phone call [for which] he received direct coaching from management on that. And then there was another phone call where he was extremely rude to myself and another engineer ... I would repeatedly ask for additional information and it would take two or three times to get – I’d have to ask for something multiple times to get that

information; and I didn't feel like he was getting a solution in his tasks and he was refusing to get help." He reported that there were several times that additional budget had to be requested before the scheduled completion date in April 2013 and also when still working on the task in June and July 2013. He estimated that at least an additional 300 man-hours was provided over the original budget. He stated that had expert advice been requested earlier in the task project and they had worked better as a team, there would have been a better chance of recovery and success. He testified that "when I found out we were struggling, I offered some ideas, areas to explore, and [the Complainant] refused to explore a lot of them." He reported the Complainant "had an approach where he felt he had run one of the codes, RELAP, for the entire duration of the event [and] he was unable or unwilling to develop a transition methodology to another code, GOTHIC. RELAP takes an extended period of time to run, so if we had developed an acceptable transition methodology, I think we could have saved ourselves a fair amount of time and come to completion."

C. Molseed testified that AREVA has methodologies for analyzing for peak clad temperature approved by the NRC which is different than the methodology NRC approved for containment analysis. He stated the small break LOCA for peak clad temperature is a specific approved methodology and that AREVA does not have a specific small break LOCA for containment analysis, so that would be addressed in NRC review and certification by issuing a technical report in that regard, which is part of the normal course of business in design certification.

C. Molseed testified that J. Klingenfus is an advisory engineer with experience with RELAP5/MOD 2 B&W, and is considered a subject matter expert in LOCA. He stated that the Complainant was called to a meeting with him and J. Klingenfus "at the beginning of May [2013] to do a complete and thorough review of the model he was using. We ... went through the model and identified errors and areas that we could improve the model. So, J. Klingenfus was acting in an advisory capacity." He reported that the Complainant responded to some of the errors identified and provided information by e-mail of May 9, 2013, from a new run which indicated that the "RCS matched the steam generator pressure during the first 200 seconds, then the RCS depressurized faster, and the LHSI came on sooner than before, and the LLFW was shut off in the new calculation." He stated that in a May 16, 2013 e-mail the Complainant indicated he had run the GOTHIC containment code for a 6-inch break and the peak containment pressure of 102 psi was reached at 9,812 seconds into the computer run and that he was going to make another run with the LHSI injecting into the hot leg at 3,600 seconds. He testified that he was concerned that the reported 102 psi exceeded the acceptance criteria for the containment structure and was in excess of the design pressure of the building. He reported looking at the pressure plot and pressure plateau and directed the Complainant to stop making runs and to talk to J. Klingenfus to come up with a solution for the release rate for mass and energy that was needed to keep from exceeding the psi acceptance criteria. The runs had to stop and a review of the model done "to make sure we understood the phenomenon and then discuss the opportunities we had for making changes either to the model or to the approach we were using."

C. Molseed testified that sometime in April the task completion had been extended to a new June 2013 deadline. He reported on May 28, 2013 there was a phone call with the Complainant where they discussed the small break LOCA analysis, the hot leg injection, low head safety injection and how to eventually transition to GOTHIC. He stated the Complainant became very frustrated

and abruptly terminated the call prematurely. He reported the event to B. Boman and sought his advice on how to handle the situation. B. Boman met with the Complainant and offered some coaching to him. C. Molseed reported that shortly thereafter B. Boman provided him a little bit of coaching to help smooth communications with the Complainant, such as asking additional questions when the Complainant says he can't do something. He reported that the Complainant subsequently apologized for hanging up the phone earlier.

C. Molseed testified that "RELAP is a computer program ... a general system code we use for modeling a reactor coolant system and its transient response ... it is used for multiple transients – large break LOCA, small break LOCA, non-LOCA; it depends on the application of the model. ... GOTHIC is another computer program. It is used to analyze building response ... for analyzing LOCA events, steam line break events, high energy line break events, so anything where we want to see the behavior of a particular room or structure." He reported that part of the original task and scope of the Complainant's work to get to a point to transition from RELAP to GOTHIC analysis. He testified that as of June 26, 2013, "we were trying to get [the Complainant] to define when we could make the transition from a RELAP only calculation to a GOTHIC calculation, where GOTHIC could be calculating the mass and energy releases. We were looking for a point where we had reached a steady state condition in RELAP and that we could then calculate a transition methodology for using a GOTHIC only approach, and then develop the rate equations necessary to continue that calculation to a logical end. ... it became apparent that [the Complainant] was not willing to make a transition, that he felt he needed to run RELAP for the entire duration and generate the mass and energies exclusively in RELAP. ... he was very reluctant to [develop a transition methodology to GOTHIC]." He reported that in an effort to recover the task schedule, T. George was brought in to make modifications to GOTHIC model for small break LOCA relative to the U.S. ERP.

On March 23, 2015 C. Molseed testified in his individual capacity that he has worked for AREVA for 17 years and is the Supervisor of Containment Analysis where his responsibilities include: "supervise the work performed by my team; to manage the team; make sure they are continuously on chargeable or billable work; monitor schedule and budget performance on each of those tasks; perform performance appraisals during the year; offer guidance ... do technical work as well ... so I would be performing engineering calculations and/or evaluations throughout the year." He reported the EPR project started in 2006 and the "Containment Analysis Group is a group that analyzes the pressure and temperature response to postulated pipe breaks inside of the containment. We are analyzing for LOCA ... We do main steam line breaks. We analyze high energy line breaks for wall differential calculations. We look at the temperature response of the sump or the in-containment refueling water storage tank (IRWST) [and support] a variety of other engineering calculations within the EPR design project."

C. Molseed testified that the Containment Analysis Group currently consists of three engineers but had 6 to 20 engineers throughout the EPR project, with an ebb and flow of borrowed engineers depending on the workload at the time. He stated he reports to K. Higar, who reports to B. Boman, who reports to M. Carpenter in the United States. He reported that the Complainant came to work for him in a swap of resources with L. Shore who was the Complainant's prior supervisor. He reported that he and L. Shore prepared the Complainant's performance evaluation for the year the Complainant worked for both supervisors and that the

evaluation addressed concerns involving the Complainant's "performance on both schedule and budget, and that was very critical."

C. Molseed identified EX 13 as CR 2011-4417, which he wrote because the operating plant side of the business had identified large mass errors in some of their calculations and examination of the RELAP models that AREVA used identified some mass errors and a couple of other errors in small break LOCA work previously done. He stated that CR 2011-4417 was specific and addressed the small break LOCA analysis that would have been documented in chapter 6 of the Final Safety Analysis Report (FSAR) "that the NRC reviews and approves when they are doing design certification and granting the operating license of a plant." The error was that the GOTHIC model for containment analysis retained some energy dissipation rates over a period of time from a prior large break LOCA analysis rather than a calculated specific rate of stored energy dissipation over time from small break LOCA analysis. He reported that they did not typically do small break LOCA containment response for operating plants since they have systems in place that make it very obvious that small break LOCA is not a limiting factor.

C. Molseed testified that the Complainant's main assigned task from mid-September 2012 was CR 2011-4417, though he may have had additional small review tasks during the period assigned CR 2011-4417. The scheduled completion date was originally April 2013. He held weekly group meetings where he "always asked for updates." The Complainant provided updates routinely and participated in the group meetings by telephone from his location. He stated he used the Complainant's updates to track the Complainant's progress and make sure they were consistent with the number of hours spent. He stated that before the April 2013 deadline, the Complainant reported "he had spent a certain portion of the budget, but that we were not that far in" so that would need to "look more carefully at where we are and then apprise the project [manager] of that and request additional time and funding." He stated that as the supervisor he would work with the Complainant "identifying how much additional time and budget he needed ... prepare a project change notice, contact the project manager [B. Vance], the engineering manager for the project, and negotiate that extension." He reported G. Uyeda was the engineering manager for the U.S. EPR project and would have to approve the extension before final approval by the project manager. He stated that the Complainant had requested an additional 228 hours by e-mail on April 29, 2013, which he thought was excessive for what had to be done at that time and that the Complainant "was stuck in the mud and just continuing to run and rerun computer codes in the hopes he would get a different result ... [when] it would have been appropriate for him to stop; think about where he was struggling; reach out to me or to a subject matter expert like [J.] Klingenfus; present his challenges; and try and come up with an alternative approach." He reported that G. Uyeda questioned whether the Complainant was the right person to be doing the task and that there were several discussions concerning the project challenges and formulating a recovery plan. He reported that he defended the Complainant's ability to perform the task and "most of our discussion was about getting additional resources to help him." C. Molseed testified that "there was a time late in the project that I realized that [the Complainant] was not going to be able to finish it and that maybe we needed to identify another resource to pick up and take over ... we needed to start with a new engineering resource."

C. Molseed testified that the Complainant reported his May 9, 2013 6-inch break LOCA results at 102 psi which exceeded the acceptance criteria of 100 psi. He reported "the safety implication

is that the liner for the containment building is qualified at a certain pressure, in this case it was around 77 psi. So if we have pressure that is in excess of that, there's a potential for the liner to buckle and some leakage to occur." He reported that J. Klingenfus identified a number of errors in the RELAP model the Complainant was using that needed to be addressed, including a truncation error of clad oxide thickness where the last number of the thickness was truncated and the RELAP model envisioned the oxide thickness as a very large oxide layer instead of a very small oxide layer. The May 18, 2013 e-mail from the Complainant had corrected for the identified error. C. Molseed testified that the truncation errors would be in other RELAP models and that it was a topic that was going to be addressed in a CR after he solicited and received input on other identified errors and concerns to place in a consolidated CR in order to avoid future confusion and cross-referencing of CRs. He stated that the Complainant subsequently submitted a CR on the truncation error issue. He reported he was part of the screening group on the Complainant's CR and that it was assigned a Significance Level 3, though the Complainant thought it should be higher. At Significance Level 3 there would be a detailed evaluation which would be reviewed before being approved by Quality Assurance; a level 2 or 1 may require a Vice-President approval.

C. Molseed testified that subsequent to the May 2013 telephone conversation where the Complainant hung up the telephone on him, there was a telephonic meeting with the Complainant from B. Boman's office about the transition from RELAP to GOTHIC, the Complainant's desire to keep running RELAP, and the general approach that was being used on the Complainant's assigned task. "In general, we wanted [the Complainant] to run RELAP for as long as you needed the system code to calculate the mass and energy releases ... then, when we had a quiescent, quasi-steady state reactor coolant system, to develop an approach to transition to GOTHIC." Based on that telephone call he was not sure that the Complainant understood the idea about transitioning to GOTHIC and that he still wanted to continue running RELAP.

C. Molseed testified that RELAP was run on a UNIX workstation with a finite amount of disc storage. When the storage is full there is nowhere for RELAP to continue writing to file so the code terminates and writes a restart dump at that point. Later storage space can be freed up on the computer and the program will commence from the restart point and there is not a need to restart the program from the beginning. He had extended conversation with the Complainant about the program crash of June 21, 2013 and why he needed three days to recover rather than one day. The additional information he supplied did not appear to be related to the crash. He reported that "every time we have a delay, I have got to go to the project [manager] and explain why we had the delay and what the ramifications of that delay are." He stated that in his June 24, 2013 e-mail to the Complainant he was asking the Complainant to send him the plot of the pressurizer level versus time so he could understand the point in time the reactor coolant system would not be emitting steam out of the pipe break and would be spilling water in a liquid phase out the break "to help us determine when we would need to make an operator action ... so that we could discuss that with the plant operating group and ensure that we were making the appropriate action." He reported that the Complainant's return comment that "opening PRV is not in the EOP for small break LOCA" is correct in general terms. He testified "We were actually going to be defining a new set of actions for operators if in the small break LOCA we

were to open the PRV. So he was correct in saying there's no action in there currently for a small break LOCA; but that didn't mean we couldn't create new actions if necessary."

C. Molseed testified that his 2:30 PM, June 24, 2013 e-mail to B. Boman was expressing frustration with the Complainant – 'there were numerous occasions where I was asking [the Complainant] for information [and] not getting the information that I'd requested; asked him to contact individuals [and] I would follow-up with those individuals later and find out he had not contacted them. ... It was apparent to me that I was making, what I thought were reasonable requests for [the Complainant] and he was not following through on those requests. ... I had the feeling [the Complainant] was just ignoring [the requests] ... It was pretty evident that [the Complainant] wasn't doing what he was asked."

C. Molseed testified that he kept a Word document on each of his engineers on how things were going – their big successes and areas where they had challenges or didn't meet schedules, so that when it came time to do annual personnel evaluations it was easier to go back and re-create the year. Subsequently, S. Catanzano from human resources requested the personnel notes on the Complainant. He reported that B. Boman requested information on the times when the Complainant had been uncooperative or unprofessional; but did not ask for an opinion on whether the Complainant's employment should be terminated. He stated that in the May 24, 2013 telephone call with the Complainant and T. George, the Complainant "made it abundantly clear that I was annoying him with my questions on status, results and suggestions on how to proceed ... [by actually saying] 'You're annoying me.'"

C. Molseed testified that by his e-mail of 7:04 AM, June 25, 2013 to B. Boman he reported that he did not know where they were schedule-wise because "it was very hard to get [the Complainant] to nail down exactly where we were; which cases had been completed; or even if we had a plan in place that we felt was going to be successful. [The Complainant] was very reluctant to venture down the path of exploring the pressurized relief valve as a possible mitigation strategy. We had some challenges with the load head safety injection modeling that needed to be vetted that he had not done – he passed those things off onto another engineer ... I really wasn't sure that we had a model in place to where you are ready to complete the project." He reported his impression questioning computer calculation results if the methodology is causing other cases to fail containment to mean "if we had a case that was causing the containment pressure to exceed the acceptance criterion, it meant that the model we were using may have some issues that needed to be debugged and worked out; and if we've got issues in one case, they exist in the other cases."

C. Molseed testified that, as a supervisor, he was not really trained on disciplinary matters, which was outside his purview and for managers to decide. He understood that disciplinary measure included a formal written discipline, time off without pay to drive the concern home, and then termination. In the Complainant's case, B. Boman was the manager to investigate and make a decision on what needed to be done.

C. Molseed testified that there was a point in time where the EPR group was merged into the installed base organization after one of the project slow-downs and he went from working for B. Salim to K. Higar, and it may have been at that time, as one of K. Higar's expectations as his

manager, that he began keeping personnel notes on each of his engineers by year. He stated the Complainant's personnel notes were "considerably longer" than those of other engineers and that he sent the notes on the Complainant to B. Boman on June 25, 2013. He reported that K. Higar keeps a personnel note file on him and has open discussions on areas which can be improved.

C. Molseed e-mail exchanges that are relevant through June 25, 2013 (EX 14, 15, 16, 17, 33, 34, 35, 36, 37, 38, 41, 44, 45, 46, 47, 48, 49, 50, 52, 54, 55, 57, 58, 59, 60, 72, 108, 120, 121, 122, 125, 126, 127, 130, 131, 132, 133, 134, 135, 136, 138, 139, 140, 141, 142, 148)

Sep. 18, 2012 7:45 AM C. Molseed sent the Complainant an e-mail stating: We have received funding and authorization to start the U.S. EPR SBLOCA analysis that you had expressed interest in working. I would like to hold a pre-job brief to discuss the scope of work so you can develop a task plan for the task."

Sep. 18, 2012 10:00 AM C. Molseed sent the Complainant pre-job brief notes on the task for "U.S. EPR WebCAP 2011-4417 (SBLOCA), PCN 12-2340-15, with a budget of 960 man-hours and completion date of April 30, 2013. "The scope of work entails a revision of the U.S. EPR SBLOCA Analyses (32-7000770-000) to correct issues identified during development of the Water Retention analysis" documented in WebCAP 2011-4417, "at a minimum the reanalysis will include the existing SBLOCA analyses presented in the U.S. EPR FSAR." The work included evaluating the LOOP trip in RELAP, identified large mass error at later times in the modeling, incorrect bias conditions in GOTHIC, lack of specific rates of sensible heat contribution for SBLOCA used in GOTHIC modeling, and failure to model extended manual cooldown confirmed with PCT SBLOCA and modeling. Likely error situations involved no existing methodology for SBLOCA containment analysis; SBLOCA may require extended RELAP5 analyses or modifications to GOTHIC to complete; specific issues in WebCAP 2011-4417 need to be addressed; and specific attention to stored heat dissipation needs to be considered since the LBLOCA approach may not be appropriate. Modification to RELAP model specifically focused on the EM SBLOCA method must be considered and dispositioned or incorporated. Extended RELAP runs are not suggested. Blowdown heat transfer transition must be considered. Include a section that addresses input model differences between LBLOCA and SBLOCA. "The two deliverables for the task are a revision to the existing SBLOCA analysis and a revision or evaluation of the EQ profiles."

Sep. 24, 2012 3:29 PM The Complainant submitted his "Task Plan for U.S. EPR WebCAP 2011-4417" in a manner consistent with the scope of work set forth on September 18, 2012. The Process set forth provided "The starting point for this analysis will be re-analyzing the SBLOCA input decks in 32-7000770-000 ... and 32-7007968-004 ... They will be compared with previous RELAP5-BW decks developed for the single-node GOTHIC model in 32-9054992-000 ... since the mass/energy errors had not occurred in 32-9054992-000. The SBLOCA cases in 32-7000770-000 will be re-evaluated with the revised RELAP5-BW decks. The results will be used to update EQ profiles in 51-9031348-004."

Sep. 18, 2012 4:08 PM The Complainant sent C. Molseed a link to "ANP-10291P, Small break LOCA and Non-LOCA Sensitivity Studies and Methodology Technical Report" and included comments on four "major modeling differences" between S-RELAP5 SBLOCA deck computer modeling and RELAP5-B&W LOCA deck computer modeling.

Sep. 19, 2012 2:43 PM The Complainant suggested running the 6-inch break cases in both S-RELAP5 and RELAP5-B&W computer models and comparing the M&E results to determine which was the more conservative modeling program, if there was a mass error not exceeding 1%.

Oct. 22, 2013 7:57 AM In response to reminder from J. Klingenfus, C. Molseed sent an e-mail to the Complainant, J. Klingenfus, K. Higar, N. Bobolea, and R. Shaw, which contained a PowerPoint presentation for the "SBLOCA Containment Brainstorming Session." The PowerPoint addressed SBLOCA background; Ft. Calhoun EQ Profile which was a worst-case inside containment composite profile, the objective of the SBLOCA; regulatory requirements of the SBLOCA; principal SBLOCA phenomena; SBLOCA model considerations for mass & energy releases; SBLOCA model considerations for containment; analytical requirements. The PowerPoint also provided for discussion of GOTHIC and RELAP models in B&W plants.

Feb. 5, 2013 4:39 PM The Complainant sent C. Molseed the results of EPR SBLOCA for 3-inch, 6-inch and 9-inch cases. He reported the 6-inch and 9-inch cases ran 10,000 seconds and the 3-inch ran 86,400 seconds. He reported unexpected results in the 6-inch case where peak pressure was 107.3 psia and peak temperature was 350.1 F due to a higher break back pressure and steam flow rate during the cooldown phase commenced at 1,800 seconds; “however, I could not find anything wrong with my RELAP5-BW mass/energy calculations.”

Feb. 6, 2013 11:06 AM The Complainant sent C. Molseed the comparison plot for the RCS average temperature for the 3-inch, 6-inch and 9-inch case runs.

Feb. 6, 2013 11:13 AM The Complainant notified C. Molseed that he planned “to run two more cases: CLPD 5-in and 7-in break. The trend should show the validity of 6-in case.”

Feb. 6, 2013 1:05 PM C. Molseed told the Complainant: “I don’t think we should be running additional cases until we have a complete understanding of what is driving the 6-in case. Your e-mail below implies that the 6-in case is valid and we exceed the building design pressure. What did you find in exploring the RELAP case that makes you believe the 6-in results?”

Feb. 6, 2013 3:56 PM The Complainant replied to C. Molseed: “I have not yet found anything wrong with my RELAP5 M&E calculations for the 3, 6, and 9-in breaks. I believe additional cases would either invalidate or validate the 6-in results.”

Feb. 6, 2013 4:13 PM The Complainant advised C. Molseed: “We can also use S-RELAP5 to validate the RELAP5-BW MER calculations, since S-RELAP5 has been accepted by the NRC for EPR SBLOCA analysis.”

Feb. 6, 2013 4:59 PM C. Molseed advised the Complainant: “I really don’t want to keep running codes. I want you to evaluate the results from the RELAP5-BW case and demonstrate that the core and SG behaviors are correct. I don’t believe the results and feel that there is something in the code or the model that is not behaving as expected. I haven’t had a chance to load up XMGR myself and generate plots, but until we have a clear idea of why it is acting the way it is I don’t want to spend time running more cases.”

Feb. 6, 2013 5:24 PM The Complainant replied to C. Molseed; “It would be great if you can find something wrong with the RELAP5 6-in case using XGMR, because I could not find anything wrong with the results.”

Feb. 13, 2013 5:52 PM The Complainant sent C. Molseed a status report as of February 8, 2013 on the U.S. EPR WebCAP 2011-4417 (SBLOCA) as well as containment dome P/T results for the first 24 hours. He reported he was running the CLPD 9-inch and 6-inch break cases with HL injection switchover after 60 minutes. He reported spending 556 man-hours with 336 (36%) budgeted hours remaining. He reported the project was less than 50% complete and requested a one-month extension beyond the April 30 deadline.

March 1, 2013 9:30 AM U. Graydon, as the EPR DC Project Engineering Manager notified C. Molseed, K. Higar and B. Boman (copy to the Complainant) that there would be a meeting Monday, March 4, 2013 to discuss CR 2011-4417 to “get a status update on whether adding HLI to RELAPBW models provides a success path forward.” He noted from meeting earlier with C. Molseed that “After fixing the error noted in the CR, the analysis is now currently failing containment pressure limits. The analysis is moving forward with incorporating HLI to see if additional flow will rectify the situation.” He stated that the additional work will result in a 4-week slippage and additional budget would be required. He stated “Originally thought that CR would not affect FSAR. This is probably not the case now. Estimated completion is ~ 7/15 to be confirmed via revised PCN.” He directed C. Richey to determine if D1-D4 milestones would be affected by the slippage and impact the FSAR.

March 4, 2013 2:26 PM U. Graydon provided B. Boman, C. Molseed and the Complainant with an e-mail summarizing the meeting on “CR 2011-4417 Status Update.” He noted “recent results of modeling HLI flo shows a success path. Current results, although higher than what is currently noted in the FSAR, meet regulatory requirements.” He directed C. Molseed and the Complainant to provide information needed to revise the PCN by

noon March 6, 2013. He directed: "In order to optimize schedule, [the Complainant] will work to provide 3 and 6" CLPS breaks to QA review early and then finish documenting remaining break scenarios. Target is to have all cases documented in 4 weeks and QA (since some will be done in parallel) finish work after that (est. completion ~4/5). This would close the issue out in time to support Rev. 5 FSAR update and leave time to revise any potential RAI impacts, if identified ... Plan is to confirm that CLPS remains limiting by either dispositioning the other break scenarios (and/or sizes) or doing minimal calculations. As a result, the full matrix of calculations will NOT be updated and some cases will be REMOVED from the FSAR in order to meet Rev 5 dates. This is a technically viable solution path but need to understand Licensing risks involved, if any."

March 4, 2013 6:09 PM The Complainant sent the preliminary GOTHIC peak containment dome P/T comparisons for the CLPD 6-inch break cases to C. Molseed, B. Boman, K. Higar and G. Uyeda.

April 22, 2013 3:38 PM The Complainant reported his U.S. EPR SBLOCA Project status being 66% complete with expenditure of 916 man-hours, which left a revised budget of 48 man-hours remaining for the project. He reported the revised CLPD calculations for 6-inch and 9-inch breaks encountered code errors at 10,000 seconds and would take another month to complete at the current rate. He reported "working on an alternative energy balance method to extrapolate the results to 24 hours."

April 23, 2013 8:20 AM C. Molseed notified the Complainant and other engineers and supervisors that a meeting was being held "to get an update on the 6" CLPD break for the U.S. EPR and discuss potential solutions for the analysis. [The Complainant] has reported that with the corrected amount of MHSI injection the 6" break does not depressurize to the point where LHSI injection begins. [The Complainant] indicated that the model is demonstrating reflux cooling and serious oscillatory behaviors. Preliminary hand calculations produce containment pressure results that exceed the building pressure."

April 28, 2013 10:53 AM C. Molseed told the Complainant he needed "a budget and schedule estimate for finishing the SBLOCA work. The EPR project is meeting Tuesday to approve the PCNs."

April 29, 2013 4:57 PM The Complainant replied "we need additional 228 man-hours to debug the SBLOCA input model and perform the re-analyses. This pushes the estimated time for completion of project further out to July 1st."

April 30, 2013 10:52 AM C. Molseed notified the Complainant that he was approved to travel to Lynchburg, Virginia, for a week of meetings; that he required the Complainant's brief summary to the budget comments attached to the e-mail; and that he was "still working to make sure that [J. Klingenfus and P. Salim] will be available to assist with the implementation of the primary depressurization model from SGTR."

May 3, 2013 8:26 AM C. Molseed sent e-mail to the Complainant and J. Klingenfus that the purpose of the next "U.S. EPR SBLOCA Analysis Review" was to compare results from the U.S. EPR SBLOCA 6-inch break with the S-RELAP 6-inch PCT results and expected plant behavior; review the RELAP5-BW model to ensure appropriate model adjustments have been included; identify concerns with the model and/or results; and develop a closure plan for the SBLOCA analysis. The Complainant was directed to "bring nodalization diagrams and results you would like to present." C. Molseed additional meetings "during the rest of the week."

May 9, 2013 10:28 AM The Complainant forwarded to C. Molseed and J. Klingenfus the "new" CLPD 6-inch results compared with old RELAP5 calculations indicating the RCS pressure matched the SG (steam generator) pressure in first 200 second, depressurization was much faster and the LHSI came on much sooner than before.

May 16, 2013 10:27 AM¹¹ The Complainant advised C. Molseed of revised CLPD 6-inch GOTHIC results indicating containment peak pressure of 102 psi was reached at 9,812 seconds and that he would next run a case with LISI HL injection at 3,600 seconds and forwarded the analysis.

¹¹ EX 130 indicates the transmittal time as May 16, 2013 10:26 AM which is earlier than set forth in other copies of the same e-mail.

May 16, 2013 10:37 AM C. Molseed responded that 102 psi is not an acceptable pressure and release rates needed to be mitigated before 102 psi. He asked what was driving the pressure plot to plateau at 500 seconds and suddenly take off again at 2,000 second and what was the resolution of the superheating issue he was to discuss with J. Klingenfus ? He stated "I don't want to keep running cases if we don't have the model in a good place."

May 16, 2013 10:45 AM The Complainant replied that the containment plateau between 500 and 2,000 seconds was due to initial wall condensation which reached saturation at 2,000 seconds and pressure started to rise again. He reported J. Klingenfus states the superheat in S-RELAP5 was the result of non-conservative accumulator injection assumption which caused large unrealistic steam condensation in the RCS.

May 16, 2013 1:18 PM The Complainant reported to C. Molseed that "I don't see any problem in the RELAP5 and GOTHIC models. The GOTHIC results are consistent with what we expect in the break-even point for the SBLOCA 6-inch scenario. Mitigation action must be taken by the operators to further reduce the RCS pressure and inject more SI coolant in order to stop the steaming in the core."

May 18, 2013 11:28PM¹² The Complainant sent an e-mail to C. Molseed on "SBLOCA/LBLOCA RELAP5 input errors". He reported "The US EPR SBLOCA RELAP5-BW input errors that John discovered last week – EM fuel pin model errors (truncated outside 80 columns) and the LLFW errors in the SG model, are also present in the LBLOCA RELAP5-BW models used in 32-910144-000, 'U.S. EPR LOCA Containment P&T Sensitivity Studies using Multimode GOTHIC Model.' These errors have a negative impact on the containment pressure/temperature analysis. That is, in the CLPD 6-inch SBLOCA case, fixing these errors resulted in an increase in mass and energy releases, and the peak containment pressure calculated by GOTHIC increased by several psi. It is not clear what kind of impact these errors would have in the LBLOCA containment P/T analyses. However, a WebCap should be written to re-assess the LBLOCA containment P/T results in 32-910144-000."

May 18, 2013 1:27 PM C. Molseed replied to Complainant's e-mail on RELAP5 input errors that "I will be drafting a WebCAP to address these. I would prefer to have one WebCAP to address all of the issues so if you have any others that you are aware of please let me know as soon as possible.

May 20, 2013 1:59 PM The Complainant forwarded to C. Molseed a report of results from a GOTHIC model run the previous weekend that he had reported to G. Henderson.

May 28, 2013 8:41 AM The Complainant forwarded the results of his GOTHIC CLPD 3-inch P/T calculations to C. Molseed and notified him that he had a doctor's appointment in the morning.

May 28, 2013 9:00 AM C. Molseed notified the Complainant that "the IRWST behavior doesn't make a lot of sense to me" and that he had asked G. Henderson to look at that issue. He directed the Complainant to call him when he arrived in the afternoon.

May 28, 2013 3:47 PM The Complainant sent an e-mail to C. Molseed and B. Boman stating; "I'd like to call an urgent meeting to discuss the SBLOCA issues at your earliest convenience." He subsequently invited K. Higar to participate in the meeting.

May 28, 2013 3:51 PM C. Molseed sent an e-mail to K. Higar and B. Boman stating: "We need to discuss the SBLOCA analysis. [The Complainant] sent me an e-mail with his results. I did not like the behavior of the IRWST and asked [G. Henderson] to look at it. I was able to confirm with [the Complainant] that he did not transition from RELAP to GOTHIC as we had originally discussed, instead he ran RELAP for the full 24-hour transient duration. I called him this afternoon at 3:30 to discuss the issue and he got very frustrated with me asking about not transitioning to GOTHIC based M&E once the RCS refilled and eventually declared that he could not continue to work on the task and hung up on me. I think we need to consider an alternative strategy for completing the SBLOCA."

May 28, 2013 5:26 PM C. Molseed sent an e-mail to B. Boman and K. Higar notifying them that the

¹² EX 126 is the same e-mail as EX 127, except it reflects a time of May 18, 2013 at 11:27 PM

Complainant “would like us to discuss the [U.S. EPR] SBLOCA issues at your earliest convenience ... we have reached a point where [the Complainant] feels my directions on the task are totally wrong and we need mediation to identify a recovery plan for the SBLOCA analysis.” He suggested calling the Complainant from B. Boman’s office.

May 29, 2013 2:46 AM The Complainant e-mailed a .pdf file captioned “US EPR SBLOCA CLPD-3in Results” to C. Molseed, B. Boman and K. Higar with the comment “Attached is my presentation for today’s meeting.”

June 3, 2013 4:26 PM C. Molseed sent an e-mail to the Complainant and T. George summarizing the “U.S. EPR SBLOCA Analysis Recovery Plan” discussed earlier that morning. He stated the scope of the U.S. EPR SBLOCA included the 3-inch CLPD break, 3-inch HL break; 3-inch HL break w/out rupture foils, 6-inch CLPD break, and 9-inch CLPD break which were originally analyzed in the FSAR. He recorded that a 3-inch CLPD break was completed using RELAP5/MOD 2-B&W to produce mass and energy releases for 24 hours and required iterations with GOTHIC to develop IRWST temperature for ECCS injection; but did not include LHSI transition to HL injection after meeting the HL pressure less than 286 psia criteria for the P16 permissive.

C. Molseed noted that “criteria for a transition from RELAP5/MOD2-B&E (sic) based on M&E to GOTHIC M&E are different than those used for LBLOCA and should cover the spectrum of break sizes and phenomena. For transition to occur the transient must have evolved to a quasi-steady state condition where a simple GOTHIC model can accurately predict the release. The RCS pressure should either be in equilibrium, with the containment atmosphere similar to a LBLOCA or if the break is small enough to refill the RCS the pressures should be nearly constant with liquid only release.”

C. Molseed set the following project milestones –

- 3-inch CLPD break – the Complainant was to complete the RELAP5 case run restarted that morning due to a computer crash June 1 at 10:00 AM. The plan was to run the case until P16 was validated. He noted ECCS ramp rate and HL injection temperature need to be finalized. June 7, 2013 was set to complete the code run to P16 by the Complainant. G. Henderson was to provide QA.
- 3-inch CLPD break – T. George was to benchmark a GOTHIC model for simplified M&E generation, post-HL injection to the Complainant’s 24-hour RELAP5 run. He stated considerations for ECCS injection and a pressure control boundary would have to be incorporated in the GOTHIC model so that the RCS volume does not fill and pressurize to a level to cause failure. The task was to be completed by June 12, 2013. G. Henderson was to provide QA.
- 3-inch HL break – the Complainant was to complete the RELAP5 case run started that morning and evaluate the results in light of the break in HL and ECCS spillage following switch to HL injection. The task was to be completed by June 7, 2013. G. Henderson was to provide QA.
- 3-inch CLPD – T. George was to complete GOTHIC modification on the task by June 17, 2013.
- 6-inch CLPD break – the Complainant was tasked with running a RELAP5 case for a 6-inch break following completion of the 3-inch break with HL injection. He noted that modification to the RELAP5 code deck the week of May 6 seemed to resolve depressurization issues with LHSI injection but the extent of improvement would not be known until the RELAP analysis was completed. The task was to be completed by June 13, 2013. N. Bobolea was to provide QA.
- 6-inch CLPD break – T. George was tasked to complete modification of the GOTHIC model to evaluate the 6-inch CLPD break in light of RCS pressure at the time of transition to HL injection. The task was to be completed by June 24, 2013. N. Bobolea was to provide QA.

- 9-inch CLPD break – G. Henderson was to complete minor modifications to the GOTHIC model for the 9-inch CLPD break since the 9-inch CLPD RELAP5 analysis without modifications for HL injection behaved similar to a LBLOCA in RELAP5 analysis. The task was to be completed by June 19, 2013. N. Bobolea or J. Abdelghany were to provide QA.

June 3, 2013 4:53 PM The Complainant reported to C. Molseed that he had completed all RELAP5 “calculations up to P16 (HL injection)” for 3-inch, 6-inch, 9-inch and 3-inch HL CLPD breaks. He noted “critical paths” required transition from RELAP5 to GOTHIC at P16 by T. George in developing a SBLOCA for the RCS model in GOTHIC and developing an Excel spreadsheet for RCS coolant mass/energy and stored metal energy from RELAP5 to GOTHIC. He asked if T. George had estimated on how long it would take to complete those tasks.

June 5, 2013 9:44 AM The Complainant advised C. Molseed that he would be out of the office in the afternoon for a dental appointment.

June 5, 2013 9:44 AM C. Molseed requested the Complainant provide “a brief update on the RELAP runs for the 3” breaks and documentation.”

June 5, 2013 9:45 AM The Complainant reported to C. Molseed “The CLPD 3” with HL injection run has not yet reached the P16 condition, current simulation time is at 6720 seconds. I expect it will reach P16 at around 7200 seconds this afternoon. [G. Henderson] has not yet complete reviewing the CLPD 3” with CL injection documentation ... please confirm with him.

June 5, 2013 11:05 AM C. Molseed asked the Complainant if the documentation for the 9-inch case he had earlier reported completed was with G. Henderson or did it need updated calculations before someone could start the spreadsheet for GOTHIC inputs.

June 5, 2013 11:11 AM The Complainant reported to C. Molseed that the CLPD 9-inch case with CL injection was completed to 4 hours and included changes from J. Klingenfus. He reported the documents G. Henderson was reviewing had not been updated. He stated the CLPD 9-inch case with HL injection still needed to be run.

June 5, 2013 11:12 AM C. Molseed advised the Complainant his notes reflected that the CLPD 9-inch with HL injection need not be run since it behaved similar to a LBLOCA and had reached atmospheric pressure at around 3000 seconds. The GOTHIC spreadsheet data was to be adjusted for sensible heat and the volume of the RCS would be increased. He asked the Complainant “Is that not the case ?”

June 12, 2013 8:58 AM The Complainant reported to C. Molseed that “All my CLPD (3”, 6”, 9”) and 3” HL cases have succeeded transitioning into the HL injection mode using the conservative assumption that LHSI temperature > 120F. I am currently working on documenting the CLPD 6” CL-injection case and will send it to [G. Henderson] for review this afternoon.”

June 12, 2013 9:21 AM C. Molseed notified he had earlier asked J. Link to start the 6” CLPD with HL injection and asked the Complainant if he should stop that effort by J. Link. He also asked the Complainant to call him to ensure they were talking about the same cases.

June 14, 2013 10:27 AM C. Molseed asked the Complainant for a “brief summary of where the RELAP5 cases are at the moment” and wanted “to know if we have reached the end of any of the RELAP runs and can start to develop the sensible energy inputs and begin GOTHIC analysis.”

June 14, 2013 11:49 AM The Complainant listed six specific case runs completed for the times noted without reaching containment pressure (<80 psia”); the 3-inch CLPD break running for CL and HL injection for 24 hours; and the 6-inch CLPD CL injection stopped at 12,600 seconds due to code failure.

June 14, 2013 1:07 PM C. Molseed asked the Complainant why cases were still being reported without

1:14 PM HL injection and were the cases at a point to transition to GOTHIC which didn't require being at containment pressure but could be completed when at a quasi-steady state in RELAP5. He noted the June 12, 2013 plots seemed to indicate they were near the point of transition to GOTHIC. He followed-up with an e-mail stating T. George was debugging the GOTHIC model and if the RELAP5 cases were done, a spreadsheet for sensible heat inputs should be developed.

June 14, 2013 1:13 PM The Complainant informed C. Molseed that the cases reported in the 11:49 AM e-mail "are for determining the P16 condition. They have not yet reached the quasi steady-state condition."

June 14, 2013 1:16 PM¹³ C. Molseed replied that if the case runs were for determining the P16 set point the cases did not need to run once HL injection was initiated. He asked "Why are CL injection cases still running and why were they run past the time that hot Leg injection was initiated?"

June 14, 2013 1:19 PM The Complainant reported "none of the HL injection cases have reached quasi-steady state conditions." He suggested J. Link "calculate the sensible mass and energy for these cases so I can concentrate on working on the documentation."

June 14, 2013 2:23 PM The Complainant informed C. Molseed that "The only case I am running with
2:27 PM CL inject right now is the CLPD 9 (inch) case which did not require HL-
2:43 PM injection last time." He subsequently added that that the 3-inch case run did not need HL injection either. "The only case which required HL injection was the CLPD 6 in case. Why do I still need to run all cases with HL injection? This would save me a ton of time, if I don't need to run them and document the results."

June 14, 2013 3:41 PM C. Molseed advised the Complainant "As we discussed with [T. George] previously, we don't have detailed EOP that would allow the plant operators not to initiate Hot Leg injection under specific criteria. When P16 becomes true we must model hot leg injection as that is what the operators would do. Certainly for the hot leg break cases not modeling it would be beneficial so we have to model the action and accept the negative consequences of it. By modeling it in the CLPD cases you have shown it helps to depressurize the RCS which will increase the amount of LHSI available and suppress steam releases at the break. This is why I am confused that we had cases w/o hot leg injection still running."

June 14, 2013 3:48 PM The Complainant replied to C. Molseed "Determination for EOP is outside the scope of FSAR analysis. We can do in after DC. For the sake of EPR project, I suggest we do not need to worry about the EOP and should forget about the HL injection cases for the CLPD 9 [inch] and HL 3 [inch] cases, unless [J.] Klingenfus' fixes yield unexpected results. Attached are the GOTHIC8 P/T results for the CLPD 9 [inch] and HL 3 [inch] cases which I completed in March 2013. As shown, the containment peak P/T were well below the design limit."

June 14, 2013 3:48 PM C. Molseed requested the Complainant send him "the plots of the 6-inch break" to see how the transient has evolved since the June 12, 2013 results seemed to indicate it was approaching a steady-state condition. He stated T. George had completed the 3-inch CLPD case sensibility energy calculation. He asked the Complainant for which cases should J. Link be requested to develop sensible heat inputs.

June 14, 2013 3:53 PM C. Molseed replied to the Complainant "You are correct that the EOP scope is outside DC. Therefore we must model hot leg injection as we do not have criteria to indicate that the operators can choose not to initiate. I recognize our analysis would be easier if we didn't model it and we get acceptable results without it; but if modeling it makes the event worse we are obligated to model it. Until we know otherwise that is how the transient will progress and our analyses should be consistent."

June 14, 2013 3:57 PM The Complainant replied to C. Molseed "I understand we only need to provide analysis for the worse case scenario. We should let the owners group to determine the EOP. It is not our responsibility [to] develop full range of EOP for the utilities." [K. Higar inserted himself into the issue of SBLOCA analyses and providing for EOP operator actions to the Complainant with copies to C. Molseed explaining why the

¹³ EX 139 reflects a time of 1:15 PM which is earlier than other exhibits for this entry.

HL injection analyses were needed unless the results were bounded by previously run cases without HL injection and asked for additional information, which the Complainant provided later the same day.]

June 14, 2013 4:07 PM The Complainant forwarded the plots for the 6-inch CLPD break with HL injection for the first 7,200 seconds where “the RCS pressure was about 150 psia.”

June 14, 2013 4:27 PM C. Molseed asked the Complainant why there was a need to continue running RELAP5 since the steaming rate dropped to near zero at 4,500 seconds, the ECCS appeared to refill the RCS, and the RCS began re-pressurizing a little after 5,000 seconds. He noted that specific factors could be accounted for in the GOTHIC model.

June 14, 2013 4:32 PM The Complainant questioned “RCS refilled ? At what time ? Does the new GOTHIC RCS model show the behaviors you describe ?” He agreed that the RCS mass/energy and stored energy at 4,500 could be transferred to the GOTHIC model “if the model is ready.”

June 14, 2013 4:39 PM C. Molseed advised the Complainant “If the transition criteria we discussed in the SBLOCA plan have been met, then we should terminate the RELAP run and focus our time and energy on developing the sensible energy inputs in anticipation of the GOTHIC model and documenting the case. I want to understand if there is a reason why we need to keep running RELAP.”

June 14, 2013 4:44 PM The Complainant replied “I’d be more than happy to stop running RELAP and focus on documentation.” He suggested J. Link would “be the best person to do the mass/energy transfer calculations.”

June 14, 2013 4:56 PM C. Molseed directed the Complainant “If you agree [that] we can stop the RELAP cases as they have met the transition criteria then please do so and focus on the documentation ... You should plan on doing both the spreadsheet calculation and documentation of the RELAP cases ... please sent me a summary of your work plan for next week. If I can get [J. Link] we will split that work between the two of you and adjust the plan accordingly.”

June 14, 2013 5:03 PM The Complainant asked C. Molseed “Can you be more specific [on] what are the transition criteria again ?”

June 14, 2013 5:10 PM C. Molseed replied by sending the Complainant the excerpt of the June 3, 2013 e-mail regarding the transition from RELAP based M&E to GOTHIC based M&E criteria for the SBLOCA cases.

June 14, 2013 5:18 PM The Complainant reported to C. Molseed that using the reported criteria the RCS pressure had not reached containment pressure in the 6-inch CLPD with HL injection RELAP run. He included a SBLOCA CLPD 6-inch (HL/CL-Injection) graph from June 12, 2013

June 20, 2013 3:36 PM The Complainant forwarded to C. Molseed the GOTHIC containment P/T results for HL 3-inch break cases with CL and HL injection. He reported peak P/T was not reached in either case and that the CL injection case was more conservative than the HL injection case. He reported the plan to extend the 3-inch SBLOCA with CL injection by three hours and expected results that weekend.

June 21, 2013 9:00 AM The Complainant informed C. Molseed that the 3-inch RELAP5 with HL run crashed over the weekend and also killed his 6-inch and 9-inch CLPD with HL injection case runs that had been running for three days. He reported the crash would push completion date back 3 days.

June 21, 2013 9:11 AM C. Molseed provided suggestions to the Complainant on how to preserve some of his failed test run and restart. He noted his concern with the 3-inch HL break and desire to “understand the phenomena better. He stated “I understood on Tuesday that we were going to only run these cases for 3-4 hours and apply the FCS approach. If I am not understanding the situation please let me know what will be driving the extended delay.”

June 21, 2013 9:29 AM The Complainant replied that the FCS assumptions require the RCS blowdown

to containment pressure and steaming terminated. He stated the RCS pressure was 162 psai and steam mass flow rate was about 10 lbm/s at 9,000 seconds into the CLPD 6-inch case. He stated he ran the GOTHIC model for CLPD 6-inch break with HL injection and the RCS pressure increased beyond 100 psai after 10 hours. He reported that he still had another 3,000 seconds to run the CLPD 6-inch and 9-inch break cases.

June 21, 2013 9:31 AM C. Molseed asked the Complainant status as of the 9:29 e-mail related to a proposed 3-day delay.

June 21, 2013 9:33 AM The Complainant replied "it would take about 3 days to complete the 3,000 second RELAP5 runs."

June 21, 2013 9:45 AM C. Molseed advised the Complainant that he expected that the crashed runs could be restarted from the point of the crash and be behind schedule one day at the worst. He asked the Complainant for reasoning for a 3-day delay so he would be prepared for the question from the program manager.

June 21, 2013 10:14 AM The Complainant acknowledged he could restart his runs from the point of the computer crash and that a 9,000 second run was not sufficient to obtain expected P/T results using FCS methodology in GOTHIC for the 3-inch SBLOCA with HL injection.

June 21, 2013 10:20 AM C. Molseed advised the Complainant he would have additional questions in the afternoon; that the results from the 3-inch SBLOCA HL case did not match expectations; and that "we need to look at a few more plots to understand what is happening in the RCS."

June 21, 2013 4:17 PM C. Molseed advised the Complainant that when he looked at the GOTHIC model results for the 3-inch SBLOCA with HL injection the plots did not match. He explained his rationale for the statement and asked for 8 specific plots to have sufficient information to determine what was happening in the RCS. He considered the dramatic loss of IRWST inventory resulting in IRWST temperature excursion or RCS containment pressure excursion in the GOTHIC model run. He asked for GOTHIC plots of water level at various node to understand where the water was allocated un the GOTHIC model. He asked what was the Complainant's strategy to address a containment pressure approaching 100 psi at 10 hours in another one of his runs and that additional plots from that case run "would be helpful to understand what is happening."

June 21, 2013 5:32 PM The Complainant provided C. Molseed and others a link to the GOTHIC and RELAP5 graphic output information for the 3-inch SBLOCA with HL injection. He reported the IRWST liquid temperature exceeded 239F at 16,800 seconds into the run so the IRWST level dropped due to boil-off. He acknowledged that high RCS pressure limited the HL injection flow rate and that the HL injection and SI flow rates reached pressure equilibrium at about 280 psia. He reported that runs beyond 24 hours exceeded allowable data space for RELAP5.

June 21, 2013 5:46 PM The Complainant stated to C. Molseed that if G. Henderson did not find flaws in his calculations, "I think the HL 3" SBLOCA results show a design flaw in the EPR IRWST; that is, we may need cooling for MHSI injection flows as well."

June 24, 2013 8:22 AM C. Molseed advised the Complainant that he wanted to cover all possible analytical solutions for the 3-inch SBLOCA with HL injection before "we start suggesting major design changes, such as adding large heat exchanger to the MHSI system." He noted previous discussion of using the PSVR to depressurize the RCS and postulated that there may not be enough flow through the mini-line back to the IRWST between the time of the ECCS signal and time of HL injection. He asked the Complainant 3 specific questions involving operator action for the SGTR, areas of analysis that were overly conservative, and review of the GOTHIC model for LHSI recirculation back to the sump.

June 24, 2013 8:40 AM The Complainant replied that the RCS was refilled solid at 3.5 hours into the 3-inch SBLOCA with and without HL injection so opening the PSVR would be the same as increasing the break size to 4 inches. He reported starting the re-run of the 3-inch SBLOCA with HL injection case using the OIRWST liquid and HX outlet temperatures from GOTHIC for a best estimate of resulting P/T.

June 24, 2013 9:54 AM C. Molseed advised the Complainant there were 3 PRVs that could be used to depressurize the RCS and that opening a PRV would increase the flow of LHSI to help maintain IRWST temperature. He directed the Complainant to “explore the effect of the PVR” on his reported 3-inch SBLOCA with HL injection” and to look at “32-9017755-07 and see if the calculation has any information on what the LHSI recirculation to the IRWST at the higher RCS flow rate is. He was told to call S. Jones if the calculation did not have the needed information. He stated that there are 4 mini-flow lines back to the IRWST, one mini-line is always open, and opening a second mini-line could be considered if that would provide enough cooling and flow.

June 24, 2013 11:19 AM The Complainant replied “Please schedule a conference call for this before wasting time on things that won’t work.”

June 24, 2013 11:54 AM C. Molseed advised the Complainant that he would try to set up a conference call “later today.” He asked the Complainant to explain why he thought PSV and LHSI cooling would not work and to provide alternate solutions to the problem because “installation of a heat exchanger on the MHSI system is both cost prohibitive and unlikely to go through Design Review Board without first exhausting all possible solutions.” He stated that based on conversations with P. Salim utilizing the PSVs could increase the vent area by nearly 7.5 inches.

June 24, 2013 11:56 AM The Complainant replied – “I already explained to you that opening the PRV or PORV is like simulating a 4”, 5” or 6” break, which makes no sense after the RCS has gone solid.”

June 24, 2013 11:59 AM C. Molseed stated to the Complainant that the RCS did not go solid for 2.5 hours based on the Complainant’s case runs and that Operator action for the PRV use is on the order of 35 minutes. He directed the Complainant to provide “a plot of PRZ level vs. time so I can get a better feeling of how long we have to depressurize the RCS.”

June 24, 2013 12:02 PM The Complainant replied “I recall opening the PRV is not in the EOP for SBLOCA. Please provide the EOP procedure for mitigating SBLOCA.”

June 24, 2013 12:35 PM P. Salim reported to the Complainant and C. Molseed that “PSRV cycling is a provision specific to SGTR to equilibrate the RCS secondary pressures” and that if there is a real issue for containment analysis, as it appears, there would be a need to interact with Engineering Integration Ops group to explore the possibilities for a long-term SBLOCA event with containment overpressure concerns.

June 24, 2013 12:36 PM The Complainant stated to C. Molseed “Therefore there is no EOP provision for cycling PSRV for SBLOCA?”

This e-mail started the following exchange involving team members –

12:43 PM T. George – “the fact there isn’t anything in the EOPs right now isn’t much of an obstacle ... based on what I saw in the preliminary GOTHIC case, we will only need to lift the PRV once in order to get adequate LHSI flow. Once LHSI is established, re-pressurization should not occur.”

12:49 PM The Complainant told T. George he should “run a RELAP5 case to verify your PRV assumptions. Again we are venturing outside of FSAR scope. I need to stay focused on finishing up my GOTHIC SBLOCA P/T analysis. For any time spent outside of FSAR analysis would only add to the delay.”

1:25 PM T. George responded that “if the results of the analysis indicate a design change is required to add a cooler to the MHSI at this stage of the DC process, then we’re already beyond expected FSAR scope ... So, I’ll ask again, have the RELAP containment analysis curves during simultaneous injection been compared to the PCT analysis curves during simultaneous injection ?”

1:37 PM The Complainant told T. George to “check with Lisa for details, she did the comparisons for me for the CLPD 6” SBLOCA case.”

June 24, 2013 12:49 PM The Complainant copied C. Molseed on his e-mail to T. George stating: “I

suggest you run a RELAP case to verify your PRV assumptions. Again we are venturing outside of FSAR scope. I need to stay focused on finishing up my GOTHIC SBLOCA P/T analysis. For any time I spent outside of FSAR analysis would only add to the delay.”

June 24, 2013 1:54 PM C. Molseed told the Complainant comparison of the RELAP containment analysis curves with the PCT analysis curves related to GOTHIC results for the SBLOCA 3-inch with HL injection “is something that I want you to verify and include in your document. It should be straight forward and if [T. George] has the question now, another reader may have the same question later. I am getting very frustrated. I feel like you are ignoring my requests and that I often have to ask the same question or request a plot two or three times. I want you to understand that while something may seem obvious to you it will not be as obvious to the others, myself included, who are not dedicated 100% to this analysis.”

June 24, 2013 2:11 PM C. Molseed and the Complainant were advised by P. Salim that “In SBLOCA analysis we conservatively don’t model the containment back pressure effect – atmospheric pressure is used to maximize the break flow. Intuitively, in a depressurization event (other than SGTR) the operator would refrain from lifting the PRVs, mostly because of lessons learned from TMI. However, the EOPs are symptom based, so the operator can respond accordingly to mitigate high containment pressure by relying on the LHSIs. But that would have to be discussed with Ops.

C. Molseed responded at 2:16 PM that he “took action and called [M.] Bonfiglio already. I will report back once he returns my call.”

June 24, 2013 2:15 PM The Complainant requested C. Molseed include K. Higar in the conference call.

June 24, 2013 2:19 PM C. Molseed advised the Complainant that K. Higar and B. Boman were not available for the conference call and that he and T. George would call the Complainant from the conference room at 3:00 PM.

June 24, 2013 2:29 PM The Complainant told C. Molseed “I don’t see the purpose of this call without Kieth or Bret.”

June 24, 2013 2:30 PM C. Molseed sent an e-mail to B. Boman stating: “[K. Higar] is out of the office and my fuse is about to blow. I know you are in Paris and unlikely to get this until tomorrow. Is my next step to talk to [S. Catazano] and get her to explain to [the Complainant] that when his Supervisor asks for a plot, or an explanation that ignoring the request is unacceptable. I am nearly at the end of my rope.”

This e-mail started the following exchange –

5:59 PM B. Boman told C. Molseed to “see if you can schedule a meeting with the three of us. With you and I scheduled to talk ten minutes before so we can be on the same page. [The Complainant] should be meeting your requests.”

8:54 PM C. Molseed replied he would “schedule a meeting for July 2nd or 3rd ... [and] following my e-mail earlier the situation got much worse. I scheduled a call with [the Complainant] and [T. George] this afternoon to try and discuss strategy since I will be out of the office for a couple of days and clearly we are not going to meet yet another schedule date. [The Complainant] made it abundantly clear that I was annoying him with my questions on status, results and suggestions on how to proceed. [The Complainant] is content to keep running RELAP rather than attempt alternate solutions. [T. George] commented to me after the meeting that he [T. George] has been way too nice to me if I was going to let [the Complainant] act that insubordinate. I asked [T. George] to document his feelings about the call afterwards because I have a feeling we may need them. [T. George] was clearly unhappy with how [the Complainant] was acting and commented he felt insulted by some of [the Complainant’s] accusations. At one point [T. George] even raised his voice, which as you know is not like him. I would encourage you to speak with [T. George] as I think he can provide some additional insight. It is clear that [the Complainant] will only accept code results and is unwilling to develop an expectation for an analysis and compare the results with his expectations. He made the comment to us this afternoon that doing so was not engineering as his expectations are wrong 99% of the time. I am concerned that with that mentality [the Complainant] is unable to debug a model or an

analysis. As you know I acquired [the Complainant] from [L. Schor] who was unable to work with him. [J. Klingenfus] has tried and had a few choice comments on [the Complainant's] abilities. I have tried to be patient with him and teach him GOTHIC and coach him on how I think analyses should be done. Clearly I have failed."

June 25, 2013 - June 25, 2013 at 12:57 AM B. Boman told C. Molseed he could support a meeting on the 25th and asked "where are we schedule-wise?" He stated "Sounds like you and [T. George] are on the same page and y'all have earned your trust. I was hoping [the Complainant] would be listening – that will ultimately be his loss."

7:04 AM C. Molseed replied to B. Boman "That is one of the main problems. I don't know where we are schedule wise. I can't get an update that I feel confident in and try as I might, I can't get [the Complainant] to define a strategy other than to try running RELAP longer, which is not a strategy for success in my opinion. At this point I know at least one or two cases are completed. However, I don't know that we can trust the results if the methodology is causing other cases to fail containment. The latest results from [the Complainant's] last attempt at the 6" break were unsuccessful and the containment design pressure was exceeded. I will add that [the Complainant] does not want to refer to them as results since he is not done. I was informed that if I called them results I would be lying. I don't want to be accused of lying. I'll be available for a call after 8:00 EST. I believe a disciplinary notice is required at a minimum.

June 25, 2013 2:42 PM C. Molseed forwarded his personal notes on the Complainant to B. Boman as noted in the e-mail section under B. Boman herein.

J. Klingenfus (Ex 51, 53, 72)

On April 9, 2014, J. Klingenfus testified in deposition that he has worked for AREVA for a long time and currently works in the LOCA safety analysis methods area, similar to work he has been doing his entire career. He stated that he knew the Complainant only through questions regarding the use of RELAP5/MOD2-B&W code. The RELAP5 issues involved "how to model things in RELAP if there was potentially a code error or there was something incorrect in [the Complainant's] modeling." The initial interaction with the Complainant was April 23, 2013. He testified that on a few occasions the Complainant would question if there was a code error and he would tell the Complainant where to look to see if there was a problem with input data. He reported that he addressed each question by the Complainant and that "there were no errors identified in the code." There were no errors in the code but "there were some problems with his input file, absolutely."

J. Klingenfus testified that "RELAP is a computer code. It takes a considerable amount of input to model the entirety of the reactor coolant system. [The Complainant] was attempting to do what I would describe as mass and energy releases from the reactor coolant system into containment so that he could then use that to calculate containment pressure. So in order to model the reactor coolant system, you need to follow methodologies which are prescribed for doing that. ... One of my previous technical roles was working with this methodology that [the Complainant] should have been using for the EPR design. [The Complainant] was not ... as familiar with those methodologies as he probably needed to be, relative to understanding if his input model was good or not." He reported there were "probably closer to half a dozen" identified issues within the work the Complainant was doing, though he could not say if the errors were created by the Complainant or inherent in the model he began with. He testified "While there were some critical errors there, none of them were significant from a safety perspective, at least in my opinion." He reported that the more significant errors were captured in a WebCAP that the Complainant prepared, which was "part of what he would do as a result of

his job. When you find an error, you want to open a WebCAP to identify them so they can be corrected and everything associated with that extent of condition and severity.” The Complainant may have begun drafting the WebCAP in May but it may not have been opened until June. He testified that he had discussed the error with an individual in AREVA¹⁴ who responded that “well, we’re going to have to write a WebCAP to identify [the errors] and address them appropriately.”

J. Klingenfus testified that he “didn’t have a conflict with [the Complainant] personally. There were several occasions where he tended to be very confident in what his belief was of what he was seeing. In some cases it was maybe not well focused. And then upon showing him, in the case of some of these errors that he thought was a code error, I showed him that it was not a code error; that it was a problem with his input or something that he had done. So there were times when he was pretty confident that he knew the right answer; but he, you know, in a number of cases he didn’t.”

On May 7, 2013, at 5:36PM, J. Klingenfus sent an e-mail to C. Molseed stating: “[The Complainant] plotted MFW flow for one of the two MFW junctions. I told him he did not plot both of the MFW junctions and that I gave him the other 2 junction numbers. He came back and told me that the other two junctions that I said had MFW flow were really control variables. I ‘informed’ him that if we would look at the ‘blanked-blank’ output file he could learn a lot. I again informed him that I gave him the junctions in question for the additional subcooled liquid flow that I observed in the output. Then another plot shows up and oh look we have more MFW flow. He said the model is wrong. Duh! No kidding. I told him it was his job to figure out what was wrong and fix it. Not getting very far very fast – but you probably already know that.”

L. Gerken (Ex 31, 93, 123)

On July 2, 2015, L. Gerken made a written declaration that she is a nuclear engineer who has worked at AREVA for a number of years and was currently a nuclear engineer IV in the W&CE LOCA Safety Analysis Group for AREVA. She reported that in April 2013 she “was asked to review some of [the Complainant’s] calculations he had performed in connection with his SBLOCA analysis ... Based on my review, I told [the Complainant] he had not modeled the switch of the LHSI flow from the cold leg to the hot leg as part of his analysis in the same way we had done in prior modeling. In particular, I noticed [the Complainant] had not used the flow rate provided by the system design analyses. When I pointed these issues out to him and suggested that he might need to model the way the system was designed, he was not responsive to my suggestions. It was clear to me that while [the Complainant] was having problems with his analysis and had been asked to consult with me, [the Complainant] believed that he had correctly modeled the situation and seemed uninterested in any of my suggestions. In general, he seemed resistant to others opinions and having collaborative discussions.”

On April 9, 2014, L. Gerken testified in deposition that she was “brought in to consult and do some comparisons with the results that [the Complainant] was seeing and the results that I was seeing ... [because the Complainant] was having difficulty with some of the cases and the results and asked if I had performed similar analyses.” L. Gerken testified to having completed model

¹⁴ The individual’s name was redacted; but from content it appears the individual was C. Molseed.

runs under circumstances similar to the Complainant's work and the Complainant's cases for "the pressure and temperature or safety injection weren't coming out as expected; but my results for a similar scenario were showing that the systems had actuated and that we had no problem. ... the question was, well, why wasn't [the Complainant] seeing something similar to what I was seeing. And so it went back to a lot of the [model he was making or adapting]. And so I was helping compare some of the things that I already had in my model to what he had in his model to see where the differences were." L. Gerken testified that the Complainant "was not understanding this particular process" and she was pointing out potential issues and problems to him. She testified that the Complainant "was asking for guidance; so I wasn't officially reviewing or providing inputs. [The Complainant] was just bouncing ideas and cases off of me and I'm saying well this is ... not what I saw ... I would expect the safety injection to come on to this; have you modeled this? So I wasn't officially assigned to the project, more as just a resource." She stated that the Complainant was not receptive to her guidance. As an example, she testified "so the EPR has a low-head safety injection system, and at a certain point in the event you take it from injecting into the cold leg to injecting also in the hot leg. There is a specific fraction of what goes into the hot leg and what goes into the cold leg when that happens, and I specifically modelled that – and it's pressure dependent, so I had gone in and done that. This is the way the system is designed. ... [the Complainant] went off and did some analyses and I looked at them and compared them and [the Complainant] had neglected to account for that ... those fractions depend on pressure and that's important to model it as the system was designed. So that was just once instance, I think, where [the Complainant] was not receptive." L. Gerken testified that she reported the Complainant's response and was told the response was unacceptable.¹⁵

L. Gerken testified that she was aware of the friction that was going on with the Complainant with his supervisor "but it seemed to be more rooted in the analysis and, you know, just being resistant to other ... technical opinions. [The Complainant] was convinced that he had done it correctly and that this was how it was going to be. And there were other people involved who were, you know, of technical competence. And it didn't seem like [the Complainant] was considering those people's inputs. ... it seemed very closed minded. This is what I'm getting, I've done this ... this is how it's going to be, as opposed to trying to listen to other people and understand why [the Complainant's] results might not have been acceptable; or not acceptable but physical."

April 16, 2013 8:57 AM L. Gerken sent the Complainant a copy of her RELAP analysis and curve for a 6.5-inch break with HL injection at 1800 seconds.

April 16, 2013 9:00 AM The Complainant sent L. Gerken his results of EPR SBOLCA break pressure for 3, 6 and 9-inch breaks.

April 16, 2013 9:11 AM The Complainant asked L. Gerken "What permissive did you use to switch to HL injection at 1,800 seconds" when P16 allows us to switch at 60-minutes seconds.

April 16, 2013 9:12 AM L. Gerken replied that there was no permissive since the pressure was well below the permissive criteria.

¹⁵ The deposition transcript redacted all names, though the record tends to indicate that L. Gerken made her report to C. Molseed.

April 16, 2013 10:39 AM The Complainant advised L. Gerken that “the 60-min delay time is a requirement on this DCR. I don’t think I can initiate HL-injection before 60 minutes. I believe this is how [C. Molseed] understands it as well.”

April 16, 2013 11:18 AM L. Gerken advised the Complainant that the DCR only changes the P16 permissive so there is no time requirement on P16 itself, though the EOPs will likely prevent the operator from doing the switch to HL-injection for a certain time after the event. She reported her analysis with 30 minutes to HL-injection was just an assumption on her part and it did not change the pressure response. She reported that she had spoken to C. Molseed who “believes the pressure difference we are seeing is due to RELAP vs. S-RELAP5 and the lump cold leg vs. 4 cold leg models.”

April 16, 2013 11:21 AM The Complainant asked L. Gerken to “Please check with [C. Molseed] on the 60-min time-delay requirement again. Because he told me to apply 60-min time delay to HL injection.”

April 16, 2013 11:25 AM L. Gerken forwarded to the Complainant her question to and response from C. Molseed stating that the 60-minute time delay was “from the start of the event not from the time P16 is true.”

Complainant (Ex 95, 95A, 96, 96A, 111, 114)¹⁶

On March 18, 2013, the Complainant testified by deposition that he worked for AREVA in Boston, Massachusetts where his supervisor was L. Schor advised him that he had an option to transfer to Charlotte, North Carolina. He transferred to Charlotte, North Carolina to be close to his wife. AREVA cooperated in the move to Charlotte. He testified that his employment with AREVA began in July 2008 and ended on July 3, 2013. He stated that he formed the Nuclear Safety Analysis Corporation as of July 25, 2013 as a consulting company in which he was the registered agent, sole shareholder and sole employee.

The Complainant testified that he asked to transfer to C. Molseed’s after having “successfully completed the scaling analysis, U.S. EPR containment scaling analysis; and I liked the work I did for containment safety analysis; and I wanted to continue the work in safety-related problems associated with ... U.S. EPR containment.” He testified that he refused to sign the original version of the annual performance evaluation prepared by L. Schor for the period November 17, 2009 to March 15, 2010 because it was critical of him for being overdue by one week on the scaling analysis he performed. He stated he had reported to B. Salim, the manager for U.S. EPR’s safety analysis, that he “had some difficulties working with [L.] Schor ... [because] she’s very insistent on certain things; and so, I would like to have more freedom to do what I believe – what I’m trained to do without much directions. Because of my background and experience, I

¹⁶ EX 22 and 27 contain Complainant’s arguments in the case and are not considered as facts during deliberations on the Motion for Summary Decision, though relevant underlying assertions of fact are set forth in other exhibits and thus considered during deliberations on the Motion for Summary Decision. EX 28 reflects the Complainant’s objections and non-response to all written interrogatories except number 21, the response to which is included in other exhibits summarized herein. The Complainant’s relevant e-mails are summarized in the section under B. Boman and C. Molseed and not further repeated or separately cited in the summary of the Complainant’s statements. EX 56 involves the Complainant’s response to requests for admissions concerning the NRC investigation and time period after his termination of employment and is not further considered in deliberations on the Motion for Summary Decision. EX 61 involves the Complainant’s expenses associated with his travel from May 5, 2013 through May 10, 2013 to AREVA’s offices in Lynchburg, Virginia for meetings and is cumulative with other relevant evidence summarized herein. Statements made by the Complainant after termination are not relevant to the issues presented in the Motion for Summary Decision and are not otherwise summarized herein.

have a certain way of doing things. ... her style is more old-school ... I'm your manager; you do what I say. ... I respect her knowledge very much, just not her style of management.”

The Complainant testified that he reported to C. Molseed in September 2012 and was assigned to work on CR 2011-4417 which resulted from a water retention analysis performed by J. Tone. The CR 2011-4417 was authored by C. Molseed in June 2011 and addressed four issues; the fourth issue being “the GOTHIC model retained some of the LBLOCA sensible heat contribution rather than calculate specific rate for the SBLOCA.” There had been 4,416 other condition reports created in 2011 before CR 2011-4417. He reported reviewing CR 2011-4417 in AREVA's online information; but not in print form. The Complainant testified that when he was assigned to work on CR 2011-4417, C. Molseed told him around September 18, 2012 that “this was a high-priority, highly-visible task.” He reported receiving a follow-up e-mail from C. Molseed after the meeting on September 18, 2012 (EX 15) in which C. Molseed described the task to be performed as a result of their meeting and included under “Error Likely Situations ... specific attention to the stored energy dissipation need to be considered as the LBLOCA approach may not be appropriate.” The e-mail also set forth a budget of 960 man-hours and a deadline which sounded reasonable at the time. He then developed and submitted a task plan he submitted by e-mail to C. Molseed (EX 16).

The Complainant testified that the assignment to work on the SBLOCA analysis under CR 2011-4417 was his only project from September 2012 to July 2013. He affirmed that it was his responsibility to analyze and address safety concerns and to develop an analysis and improvements to a model that was not working. He reported consulting with several engineers during the September 2012 to January 2013 timeframe, including N. Bobolea. He testified that the task assignment “stated that there was a large mass errors associated with the previous small-break LOCA analysis [and my] job was to correct that large mass error.” He reported running the same case J. Tone “did for a ... cold leg pump discharge 6-inch case; and I found out mass error was as much as minus 50 percent; that is, the amount of mass released in containment was underestimated by 50 percent” and discussing with N. Bobolea in an e-mail exchange “the mass errors for the small-break LOCA analysis that I discovered – well, uncovered, which is part of the task. The task stated that there [were] large mass errors associated with the previous small-break LOCA analysis. My job was to correct that large mass error.” The time period involved was somewhere in November 2012 and January and subtask assignment 1.2 in EX 16 was to “prepare SBLOCA long term mass energy report. That's when I was determining what was the problem in the previous engineer's calculations; that is, what was the large mass error really entailed ... I was fixing that and addressing that.”

The Complainant reviewed EX 17, the e-mail exchange he had with C. Molseed on February 5 and 6, 2013 concerning the 6-inch SBLOCA RELAP5 model runs and his inability “to find anything wrong with my RELPA5-BW mass/energy release calculations. He explained that in the e-mail exchange with C. Molseed he was not disagreeing with C. Molseed to stop running codes and evaluate the RELAP5 BW case and demonstrate the core and SG behaviors are correct; he “was asking for help.” He acknowledged the run involved the same coding problem considered in his May 2013 meeting with J. Klingenfus and that his reports and work was all part of his job.

The Complainant testified that he was trained on AREVA's policy #0406 for "The Nuclear Safety Issue Indication and Reporting Program" (EX 18) and understood that it stated "Retaliation or discrimination against any individual reporting a concern is strictly prohibited and will not be tolerated." He stated he had seen AREVA's "Safety Conscious Work Environment" policy (EX 19) and agreed that it expanded on some of the policies in EX 18 and "makes very clear that management expects employees to bring safety concerns forward ... prohibits retaliation or discrimination against any individual reporting a concern is strictly prohibited and will not be tolerated ... [and] retaliation of any kind against individuals voicing safety concerns or otherwise engaging in protected activity ... is a violation of federal law and shall result in disciplinary action, up to and including termination."

The Complainant testified that he had filed CRs while working for L. Schor and C. Molseed during his five years working for AREVA. He stated that "There's a difference between CR and safety concerns. Safety concerns are not CR. CR is safety issues." He testified that none of the earlier CRs that he had filed raised safety concerns, "they all related to calculation errors."

The Complainant testified that he is familiar with, and trained on, AREVA's policy 0242 "Employee Concerns Program" (EX 20) which encourages employees to bring forward any concerns that they have and they feel isn't being properly addressed. He stated "I never had the opportunity to file my concerns. I raised my concern through my chain of command through Mr. Molseed, through Mr. Higar, and through Mr. Boman" during the June 28th to July 3rd timeframe, "or even before that." He stated he understood that through the policy "AREVA is making it clear, once again, that retaliation or discrimination against any individual reporting a concern is strictly prohibited and will not be tolerated."

The Complainant testified that he is familiar with, and trained on, AREVA's procedure for "Differing Technical Opinions" (EX 21) which contemplates that there are going to be differences of opinion among people who work at AREVA and encourages the people to engage in conversations in a professional and courteous manner.

The Complainant testified that he prepared EX 22 after a January 2014 meeting on direction by P. Jefferson to write down what he thought were the reasons behind AREVA's firing him. He stated that reason #1, dealing with pressure to complete the analysis in order to meet the NRC deadline by April 2013, was not due to an NRC order to complete by April 2013 but was the NRC estimate on how long it would take to address the issue. He acknowledged that the deadline had been moved back to July 2013. He stated that "If we miss our deadline, [the NRC] won't be able to review [AREVA's] application." He stated that reason #2, about AREVA's attempt to hide software qualification assurance issues, dealt with the screening committee assigning a significance level 3 as opposed to level 2 to the CR he wrote concerning sample errors in the LBLOCA deck as an attempt to hide the software qualification issue by giving it a level 3 severity. He testified that the software issues with the input deck had been identified by J. Klingenfus and were addressed with him by J. Klingenfus and C. Molseed during a May 2013 meeting in Lynchburg, Virginia. He testified that reason #3, alleging AREVA being under a direct order from French headquarters to complete the design certification application before June 2013, was based on a weekly conference call with C. Molseed in the January/February 2013 timeframe where it was stated "that open issues must be completed by June of 2013." He stated

that reason #4, alleging that firing him was an attempt to protect AREVA's reputation, would not make potential design errors and flaws in the containment safety analysis and safety systems go away because it would be reported to the NRC and essentially was an allegation he had no way of knowing what AREVA was thinking.

The Complainant testified that he discussed his termination letter (EX 23) over the telephone on July 3, 2013 and received the letter by certified mail the following Monday. He stated that AREVA did not give him any other reasons for his termination other than those stated in the termination letter. He stated that he didn't agree with the contents of the letter. He acknowledged the termination letter set forth the he was "fired because of your demeanor, unprofessionalism, disrespect, and insubordination." He stated that if he is raising a safety concern he would still "have to follow company policy" in what he says and does.

With respect to the e-mail he sent to numerous engineers at 11:24 AM, Wednesday, June 26, 2013 containing the statement "It appears to me that some of the AREVA engineers doing critical safety analysis work have forgotten the basic thermodynamic principals" (EX 24), the Complainant testified: "First of all, I sent this email to so many individuals. They're all, one way or another, involved with this project – in this project. And I was – I had intentions soliciting inputs, comments, from these individuals. And if they disagree with my statement, I would like them to raise their voice or respond to this email. My intention was feedback back from Mr. Molseed and all other individuals listed in this email. I wanted them to come back to me saying, 'No, Ping; you're wrong; I disagree with you.' But no one responded. ... I basically challenge them, and say, 'Look some of the AREVA engineers doing critical safety analysis work had forgotten the basic thermodynamic principals.' This is a very, very serious accusation – a statement – very serious statement to a group of senior engineers doing safety analysis and that will impact many people. I was referring ... to anyone who disagree with me; and I didn't say anybody. I didn't point out any one individual. It could be all of them. It could be none of them. ... What I'm saying is that the request by Mr. Molseed for me to transition from small-break LOCA condition at 140 psia to a large-break LOCA containment condition at 16 psai violates the first law of thermodynamics of conservation of energy."

The Complainant testified that he called the NRC at 6:42 PM on July 3, 2013 and forwarded a copy of his 11:24 AM, Wednesday, June 26, 2013 (EX 24) to the NRC on July 8, 2013. He stated that that was the first time he made a complaint to the NRC. He testified that "Even before [the 11:24 AM, June 26, 2013 e-mail] I was raising my concerns over my chain of command to – first through Mr. Molseed and then to Mr. Higar and then to Mr. Boman and was ready to raise it above Mr. Boman to Mr. Tom French. That was my next level of escalation." He stated that he attempted to arrange a meeting with T. French on or about July 2, 2013.

The Complainant testified that on May 3, 2013, C. Molseed proposed a meeting the following week in Lynchburg, Virginia, for the Complainant, C. Molseed and J. Klingenfus, who was the guru of RELAP5/MOD 3-BW code, to look at the small-break LOCA deck he was using for small-break LOCA analyses using RELAP5/MOD 2-BW. He stated the proposed meeting was precipitated by his recommending to C. Molseed that the RELAP5/MOD 2-BW model be validated against the S-RELAP5 6-inch PCT case, which would take about a month's time to do the calculations. He testified that the meeting and getting J. Klingenfus was an option to the

recommended validation process made by C. Molseed. He stated that C. Molseed understood the problem with the analysis and that C. Molseed was trying to get him to consider mitigation actions by the operators to further reduce the RCS pressure and inject more SI coolant in order to stop steaming at the core. The Complainant acknowledged that C. Molseed's consideration of operator interaction was "one of the options that we could use" but such action "was not part of the test plan, the emergency operating procedure. It was not in there." He testified that G. Henderson was his reviewer, who would review his calculations, and he was also brought in to address the model problem on May 15, 2013. The Complainant testified that issues involved with the model used and being discussed in the May 2013 meeting involved "what they are trying to cover up was the release of the results [of] containment peak pressure results which show temperature – pressure exceeding the containment design limit."

The Complainant testified that on May 18, 2013 he suggested a CR be filed to address model input errors, which have nothing to do with the laws of thermodynamics. He agreed that the issues to be addressed in the CR were not safety concerns. He acknowledged receiving an e-mail from C. Molseed on May 20, 2013 in which C. Molseed said he preferred to write just one CR to cover all the issues involved and that he would draft the CR. The Complainant testified that he filed a CR later that raised the same issues.

The Complainant testified that he had a conversation with C. Molseed on May 28, 2013, where C. Molseed wanted him "to make a transition from the small-break LOCA analysis approach that I was using to large-break LOCA analysis approach ... into GOTHIC model at one-hour into the accident scenario." He reported that the approach would work on a computer but it was not possible according to the laws of physics. He stated that C. Molseed "was making an unacceptable instruction for me to follow. As an engineer I could not accept that kind of instruction." He stated that the May 28, 2013 conversation did not go well "because I refused to follow his instruction; and he insisted on me making that transition ... based on his gut feeling that the result is incorrect, that the result of containment failing is unacceptable to Mr. Molseed. ... I had doubt on his technical competency." The Complainant testified that the May 28, 2013 conversation took about an hour and got "to the point that we both insist on our own approach; that is, Mr. Molseed wanted me to transition to GOTHIC and I refused to follow his instruction. ... I told Mr. Molseed that I would like to make a call to Mr. Boman to make appointment so that both of us can discuss our differences with Mr. Boman." He did not recall if he raised his voice during the conference call but was sure that C. Molseed had raised his voice during the conference call. He testified "the reason I had to hang up the phone was that Mr. Molseed repeated ... his demand that I need to make a transition from small-break LOCA; that is, the RELAP5 small-break LOCA calculation, to large break LOCA to GOTHIC large-break LOCA calculation. He repeated it at least a dozen times. I asked him to hang up so I could call Mr. Boman. He refused to hang up the phone; and after five minutes, I just decided to hang up phone myself. ... if he was right ... I will do what he tells me to do. But in this case, he's making an unreasonable and unacceptable demand that I, as an engineer, professional engineer, it will be impossible for me to do ... without compromising my integrity." He reported that on the next Wednesday Mr. Boman "showed up in my office without first notifying me that he was coming to see me." He stated the meeting with B. Boman lasted about an hour, during which time he tried to explain the differences between his and C. Molseed's approach to small-break LOCA analysis; B. Boman coached him on how you can have differences with your supervisor but need

to be able to do this in a way that is not combative and unprofessional; and he expressed his regret on hanging up the phone on C. Molseed in the manner done. He stated that he better understood how to interact with his supervisor after meeting with B. Boman and that his “first reaction is that I should call him and apologize for hanging up on him.” He stated that the problem during the conversation with C. Molseed was technical in nature and that aspect was not discussed with B. Boman, though he agreed to arrange a meeting in his office in Lynchburg for the Complainant to cover the technical concerns with K. Higar and C. Molseed.

The Complainant testified that he traveled to Lynchburg, Virginia, the week after the May 30, 2013 meeting¹⁷ with B. Boman and met with K. Higar, C. Molseed and B. Boman. The meeting lasted several hours and the Complainant “explained that the large-break methodology, meaning GOTHIC, is more like a boiling pot, a simulating boiling pot, where you boil a pot of hot water for tea with the lid open ... [which was] basically the essence of the large-break LOCA model that Mr. Molseed wanted me to which transition to ... [with] a small-break, you never get down to the situation where ... you reach a pressure equilibrium with the environment, the environment being the containment. A small-break is more like a pressure cooker ... it’s more like you have a small hole on the pressure cooker; but it’s still pressurized; it’s still very hot.” He stated “Mr. Boman understood the differences between small-break and large-break ... [and] he came up with a compromise ... [of] asking [K.] Higar to assign another engineer, in this case it’s Mr. Thomas George, to come up with an intermediate model ... done in GOTHIC.” The Complainant identified EX 41 as the June 3, 2013 e-mail from C. Molseed summarizing the results of the meeting with B. Boman, K. Higar and C. Molseed. The Complainant testified that the tasks of running the 3-inch CLPD break in RELAP5; the 3-inch hot leg break analysis; and 6-inch CLPD break were assigned to him. The 3-inch CLPD run in GOTHIC was assigned to T. George. He testified that he questioned the time allotted for T. George to develop a new intermediate methodology in GOTHIC, validate the model, and run the 3-inch CLPD in the new intermediate model suggested by B. Boman.

The Complainant identified EX 42 as a June 14, 2013 e-mail from C. Molseed asking for a status report on the agreed June 3, 2013 RELAP5 work and development of sensible energy inputs to begin GOTHIC analysis. He testified that “my task was to perform reanalysis of previous calculations, small-break LOCA calculation, and the previous small-break LOCA calculations only had cold leg injection ... I had to ... rerun the previous engineer’s calculation cases so I ... could document the differences before and after I correct the mass errors in his calculation.” In reference to EX 44, the Complainant stated that C. Molseed was confused by stating “We don’t have to be at the containment pressure to [transition to GOTHIC], we can be in quasi steady-state in RELAP and make the transition.” He explained that even though the 6-inch CLPD break reaches steady-state, it was at a much higher energy level at 140 psia while the containment pressure was at 60 psia. “There’s a big energy difference between the two pressure ... but, basically he’s asking something that’s not possible to do without violating conservation of energy ... Transition can be made when we reach a pressure equilibrium ... we cannot make a transition when the pressure is not in equilibrium.” He stated he replied by e-mail to C. Molseed essentially that “I disagreed that we have reached the transition criteria.”

¹⁷ EX 41 established that the meeting was held the morning of June 3, 2013.

The Complainant testified that P16 is “permissive P16 which states that when the RCS pressure falls below 289.4 psia, the operators are permitted to use hot leg injection ... that was not part of an EOP ... it was meant for operating reactor to a normal heat-up / cool-down operation” when temperature was also below P17, the permissive temperature of 240F. With respect to EX 45 the Complainant testified that he disagreed with C. Molseed’s position that “when P16 becomes true we must model hot leg injection as that is what the operators would do ... we have to model the action and accept the negative consequences of it.” He stated he disagreed because C. Molseed “was overstepping our responsibilities. It’s not ... within our responsibility, nor our authority to make changes to EOP ... and my test conditions set for small-break LOCA did not call for use of hot leg injection ... this is up to the design engineer to make that decision; it’s not up to me or Chris Molseed to make that decision.” The Complainant acknowledged that supervisor K. Higar then advised him and C. Molseed on June 14, 2016, that “once the P16 permissive is reached and it has been more than 60 minutes following RX trip, the operators will initiate hot leg. This operator [action is] required for further analyses to ensure acceptable results. Since the operators do not know what size the LOCA is, they will, based on current guidance, initiate HL injection when P16 is satisfied and it has been more than 60 minutes.” The Complainant testified that K. Hagar’s comment “was his own opinion. It was not written anywhere in the emergency operating procedures.”

With respect to EX 47 e-mail chain from June 20, 2013 to June 24, 2013 concerning the “GOTHIC results for HL 3” SBLOCA”, the Complainant testified that his 5:46 PM, June 21, 2013 e-mail is where he “raised a safety concern here. The results show a possible – show a design flaw in the EPR IRWST. That was my safety concern. So I raised my safety concern right here that I suggested we may need additional coolant; and I also mentioned to Mr. Molseed and Mr. Higar at different time ... that we need to get French design engineers involved in this because I had a safety concern.” He stated he understood C. Molseed’s response to the e-mail was for him model the case to use the pressurizer relief valve to reduce the containment pressure in the RCS and to look at a calculation for information on what the LHSI recirculation to the IRWST is at higher RCS pressure and if the information was not there to contact S. Jones. The Complainant testified that his response was to request a conference call “before wasting time on trying things [that] won’t work.” He testified that he did not do the two things asked because “I could not without violating the initial assumptions for my analysis.” With respect to using the PRV, he stated “I didn’t do it because we already made the assumption that we would not credit PRV in our analysis and to implement that would cause further delay to my project. So as I was saying, a waste of my time. First of all, we have to change the assumption, and I don’t – I will not think NRC will let us change our initial assumption at this stage of time. ... Secondly, I had to test the – my logic against plant data and make sure the flow is correct ... [since] due to the event that happened at Three Mile Island, operators would refrain from lifting the PRV.” He testified that he wanted a conference call to include both K. Higar and B. Boman because they were decision makers and “I could not really afford discussion [with just C. Molseed and T. George, and G. Henderson] that we just took – we’ve already taken care of” because “my delivery date is supposed to be June 30th. I was running out of time.”

On May 28, 2015, the Complainant testified that he received classroom training and self-directed reading as training on the U.E. EPR plant system, structures and components and was aware that the U.S. EPR had recirculating steam generators. He stated that safety permissives are set points

that operators cannot violate; they are the guidelines for the safe operation of the plant. He stated that to his knowledge “the emergency operating procedures are based on the FSAR analysis reports in the plan specific ... we’ll call it operating specs, design specs. He reported that at the time he was terminated the FSAR was being processed and revised.

The Complainant testified that in September 2012 he was assigned to work on a project contained in CR 2011-4417. “The specific task was to correct the errors identified in a previous SBLOCA calculation.” He reported that the September 18, 2012, pre-job brief e-mail set forth in EX 15 accurately describes the parameters of the work he was assigned to do on CR 2011-4417; and the task plan he developed in EX 16 laid out what he would be doing on the task. He stated that he received the October 22, 2012, e-mail and attachment set forth in EX 72 on the “SBLOCA Containment Brainstorm” session held on October 19, 2012 and that he participated in the brainstorm session with other engineers. The session addressed the issues he was going to be addressing in CR 2011-4417 and included discussion of principal SBLOCA phenomena listed in EX 72 page 8.

The Complainant testified that he spoke weekly with his supervisor C. Molseed during the weekly team meeting. He stated C. Molseed was the supervisor for the containment group whom he found to be generally knowledgeable. He testified that he believed in July 2013 that “I personally know I know a lot about SBLOCA because I performed SBLOCA analysis many times – for a long time in my career ... I couldn’t say anything about Mr. Molseed’s experience in SBLOCA ... I did one time ask him how many SBLOCA cases he personally performed; and his reply was nothing – none.” He stated he had conducted SBLOCA analyses “on and off over the span of 20 years.” The Complainant testified that the “U.S. EPR was the first new design since Three Mile Island. So it’s not possible for anybody to have the opportunity to perform a containment analysis for a new design” other than at AERVA. He reported that in an academic setting he had worked on a number of conceptual reactor designs as a research scientist.” He stated that prior to September 18, 2012 he had worked with S-RELAP5 version computer code while with L. Schor’s group and was exposed to the RELAP5/MOD2 BW version computer code since transferring into C. Molseed’s containment group, though the first time he ever used RELAP5/MOD2 BW was when he came to work for C. Molseed. He stated that he has not used the RELAP5/MOD2 BW computer code since his employment was terminated.

The Complainant testified he had read the documentation of the specific modification made by AREVA on the public version of RELAP5/MOD2 as part of the process of developing RELAP5/MOD 2-BW and had read the topical reports and benchmarks on RELAP5/MOD2-BW that the NRC reviewed when it gave approval for the use of that code for SBLOCA applications for plants. He reported that J. Klingenfus was part of the October 2012 brainstorming session and is considered the guru of RELAP5/MOD2-BW. He stated J. Klingenfus routinely conducted training on how to use and run RELAP5/MOD2-BW. He testified that he met with J. Klingenfus in the early May 2013 with C. Molseed and J. Klingenfus identified numerous model and input errors that needed to be corrected. There were many lines of code impacted. He acknowledged that the problems found by J. Klingenfus had not been identified by him over the prior 6 months of working on the project because “my job [was] to use the models already QA’d and not to debug the model itself ... it wasn’t part of my job [to identify the errors; but] once it’s identified, yes, I do have the responsibility to implement the changes and modifications.” He stated that he

stayed the week in Lynchburg and had corrected all the errors J. Klingenfus had identified in the RELAP5/MOD2-BW before he left Lynchburg.

The Complainant testified that while he worked for AREVA he had asked L. Gerken “to produce the 6-1/2-inch small break LOCA analysis she performed using S RELAP5 to compare against my calculation using RELAP5/MOD2-BW version ... I asked her to provide the low-head pump safety injection curves that she used in her SBLOCA model and what kind of assumptions she applied in obtaining those curves; and her response was the curve she used was based on the best estimate pump suction curve ... the pump curve ... [for] high-head safety injection pump and as well as low-head safety injection pump curves. ... [The assumption] that I used was based on a condition that I obtained by running GOTHIC.” He stated “I agreed that in her cases, her assumption was valid under her cases; but in my cases, those curves were not conservative.” He stated that he had not used GOTHIC modeling before coming to AREVA and that C. Molseed personally training him on using GOTHIC. He reported T. George “had much more experience using GOTHIC than I, specifically main steam line break.”

The Complainant testified that it is not possible to set a GOTHIC model with a simple reactor coolant system that preserves energy and mass content from the RELAP5 model and properly transfer the energy to containment in the case of a SBLOCA. He stated that C. Molseed’s objective during the June 24, 2013, telephone call, with T. George present, was to make an arbitrary transition to use the GOTHIC model code. He testified that during the telephone call C. Molseed has as “his objective to make this transition ... an abrupt transition, a certain time ... [C. Molseed] believed that when RCS reached a steady-state you will be able to transition. ... however, that steady-state in this particular case was 146 psi – 147 psia, while the containment pressure was at 60 psia ... nevertheless, [C. Molseed] believed that I should be able to make the transition.” He testified C. Molseed “didn’t have any experience working on small break LOCA.” He denied calling T. George a liar during the June 24, 2013 telephone conference and stated “I called Mr. Molseed a liar.” He did not recall using the word “annoying” to C. Molseed though he may have conveyed that “because he kept bringing up using the pressurizer safety valve to depressurize RCS pressure down to containment pressure and this we discussed before that it is not viable option ... the valve of the pressurizer was not safety grade equipment so we could not use it during accident conditions.” When asked if during the June 24, 2013 telephone conference he told C. Molseed he had no business questioning him about the results he got for his SBLOCA analysis, he replied “I didn’t say it was not his business, no.” He denied telling T. George in wasn’t his business to question his results. He testified that C. Molseed used the term “gut feeling” many times prior to the June 24, 2013 telephone conversation to which he responds “as an engineer, professional engineer, we cannot rely on our own gut feelings. We have to base our conclusion on the calculations; this is a qualified approved code results. And I mention to Mr. Molseed that if I were based on my own gut feelings, I will be wrong 99 percent of the time. ... I question [C. Molseed’s] expectation on small break LOCA because I asked him [during the June 24, 2013, telephone conference] what kind of experience he had with SBLOCA and he said none ... and [when he said none] I responded that he had no basis to question the results of my SBLOCA calculation.” He testified that he told both C. Molseed and T. George that they were wasting his time with the June 24, 2013 telephone call.” He did not recall telling C. Molseed or T. George during the June 24, 2013 telephone call that he had told them everything they needed to know and he could not help them if they weren’t able to understand it. He testified “I recall

that I questioned their judgement on my results.” He agreed that the June 24, 2013 telephone conversation was a heated conversation and stated he did not speak with C. Molseed the rest of the week by telephone.

The Complainant testified that EX 24 is a diagram he prepared on June 26, 2013 to try and explain that “arbitrary transition from small break LOCA condition to large break LOCA condition violates the first law of thermodynamics, conservation of energy.” He testified that C. Molseed had given him instruction or directive to make this abrupt transition “in late January or early February¹⁸ ... [but] my job was perform Small break LOCA analysis, document the results; well first of all to correct the error identified in the CR and then document the results.” He stated T. George had the task to develop a method for the abrupt transition. He stated that it was discussed in B. Boman’s office in early June timeframe that the criteria for transition from RELAP5/MOD2-BW to GOTHIC was going to be different than those used for the large break LOCA. He testified that “when we say steady-state, we really mean quasi-steady- state, because steady-state usually will mean the initial condition ... quasi-steady-state means you almost at steady-state.”

The Complainant testified that on the afternoon of June 3, 2013, C. Molseed developed a timeline for the SBLOCA recovery plan. The Complainant was to complete the 3-inch CLPD case and the 3-inch-HL case by the June 7, 2013, milestone. He was to complete the 6-inch CLPD case by the June 14, 2013, milestone. He stated T. George was to develop the GOTHIC transition model. He agreed that five additional people were brought into the project as a result of the May 29, 2013 meeting. He agreed that for each of the 3, 6 and 9 inch break cases he was specifically directed by C. Molseed to run HL injection cases. He stated that “I was given a task and I followed my task plan; and they want to deviate from that task plan.”

The Complainant identified EX 72 as the June 28, 2013 e-mail he sent J. Hamlin, with copies to C. Molseed, K. Higar and B. Boman, telling them he had created CR 2013-5239 documenting the errors J. Klingenfus had identified in May 2013 “applicable to the large break LOCA input model.” He stated that he filed the CR on June 28, 2013, “because I was ready to complete my SBLOCA analysis work, and I felt the need to go back work – rework my large break LOCA analysis or calculations.” He stated that the CR was for large break LOCA and should not be confused with a small break LOCA. He stated that he filed the CR two days after he had sent a June 26, 2013 e-mail (EX 24) in hopes to “get some feedback” but no one responded. The Complainant testified that he was trained on the procedures used in screening a CR and assigning a significance level and that he disagreed with assigning significance level 3 to CR 2013-5239. The Complainant testified that after the significance level 3 was assigned by the screening committee, he had one conversation with K. Higar in which he said the assigned work “to use pressurized PSV to depressurize RCS , that effort was a waste of time ... [that C. Molseed] had no right to reject the results” of his LOCA RELAP5 computer runs ... [and] I recall I mentioned that Mr. Molseed should not overstep his supervisory authority to overrule my engineering approach or methodology ... In the industry, you respect a person – engineer, a senior engineer’s experience and background. That’s the point I was trying to make. ... I mentioned I had doubts on Mr. Molseed’s qualification and experience.”

¹⁸ Complainant subsequently agreed that the conversation took place on May 29, 2013, with him participating by telephone.

The Complainant testified “During the course of my work on this project, and based on the results I seen after I correct the errors – and my results still showed containment failing in small break LOCA. My task is to perform assessment of design that’s supposedly ready for assessment. And my primary task was to run the test and document the results and test to show whether or not this design meets the design criteria within the design limit. And before I started the test, I lay out the test plan and procedure and method, which were approved by Mr. Molseed. I was following my process, my procedure, test procedure, and produce the results. And Mr. Molseed have seen the negative results. Not something he expected. He wanted me to go back to change my methodology, my test parameters that were given that I’m not supposed to change, in order to produce a favorable result. ... I cannot change [the non-credited use of PSV] ... if [the NRC] change it, yes I could use it.”

In response to the question “do you consider calling a supervisor a liar a professional thing to do; the Complainant testified “If my supervisor order me to do something that violates the basic principal and laws of thermodynamics, I would say no. If he calls my results wrong without – based on his own gut feelings, then he’s lying.”

On December 31, 2013, the Complainant testified by deposition before the NRC. He acknowledged that “this whole issue a concern of the methodology he was using.”¹⁹ The Complainant testified that “The methodology is, questions the use of containment analysis method for small break LOCA versus large break LOCA methodology for the EPR design. And, during my work for this project, and I was more or less forced by the management to use a large break LOCA approach instead of the small break LOCA approach, which I, according to my engineering training and experience, that’s a violation of the thermodynamic principle due to underlying phenomena of the small break LOCA versus the large break LOCA. ... I was never told I could use the large break LOCA. I proposed to use a small break LOCA methodology started by a consultant who was working on the small break LOCA analysis, and I was assigned a job to complete his work and basically carry out his methodology and to the end of the required simulation. No [I did not reach a compromise that sometime in the future I would switch methodology]; I was basically overruled by [redacted name] and he wanted to ... sometime during the analysis, would switch to large break LOCA.” He stated he transmitted his progress and results by e-mail, draft reports, and basically weekly telephone calls.

When being examined on the contents of EX 74, a July 3, 2013 e-mail from K. Higar to S. Catanzaro and B. Boman, the Complainant confirmed statement #1 concerning his disagreement with CR 2013-5239 being assigned a significance level 3 was correct as stated in his September 17, 2013 deposition testimony. With respect to statement #2 concerning Complainant’s belief that U.S. EPR has a significant design flaw because it does not have a heat exchanger on the Medium Head Safety Injection (MSHI) system and his supervisor’s comment’s that the model runs seemed to have some design input errors that were being currently QA’d and Complainant’s response that it would be a waste of time to perform studies of unusual behavior, the Complainant testified that “he basically proposed me to use the large break LOCA methodology ... I stated clearly the reason that the large break LOCA methodology would not work and he refused to listen. He insist on pursuing his own methodology, the large break LOCA

¹⁹ The NRC examiner stated the issue was based on review of the Complainant’s “previous testimony on September 17” which has not been submitted for consideration in this Motion for Summary Decision.

methodology, and so I – that’s the reason I refused to do it. And I already showed him ... [that based] on first law of thermodynamics why it will not work, why it violates the engineering principle; but he refused to listen and continued to pursuing the large break LOCA methodology. That was the reason I refused to do it.” With respect to statement #3 concerning supervisor’s not being qualified to question his technical expertise or qualified to direct his work, the Complainant testified “I should be responsible for AREVA and AREVA should be responsible for public safety, as well as NRC’s regulatory compliance, and so the notion that I report to a person and I must follow his or her direction exclusively is really absurd. ... so I got a little agitated, but I didn’t raise my voice. I just raised my – my opposition to their management style.” He stated that he followed company guidelines and policies to raise his disagreement through the chain of command “and just kept getting pushback ... [in the form of] I disagree with you, your approach, or your method, work it out, work with [another person].” He stated on individual (name redacted) disagreed with him and another individual (name redacted) “was ambivalent ... he didn’t understand the difference between small break and large break ... I tried to spend an hour in my office explaining my concerns [and] I got nothing from him.” In response to statement #4 concerning being non-responsive to supervisor’s request for specific information, the Complainant testified he reported results by e-mail and distributed drafts to individuals no further identified due to redaction of names.

With respect to C. Molseed’s e-mail of June 25, 2013 (EX 60, 114) concerning the June 24, 2013 telephone conversation with C. Molseed and T. George, the Complainant testified “That was the conversation that I was really upset.” He stated that T. George “was developing a methodology based on large break LOCA that can be modified to incorporate small break LOCA. He asked to help with nothing. He [was] basically using [C. Molseed’s] approach, so he wasn’t helping me at all. On contrary, he needed my help. That was the reason on the call that he need help from me to help him develop the large break LOCA. With respect to hanging up the telephone during the May 28, 2013 conference call with C. Molseed and T. George, the Complainant testified: “I was polite to him and I was never upset with him. And we came into a large impasse because he insist on me using the large break LOCA and I insist on refusing to do that. And, he won’t listen to me. I won’t follow his direction, instruction, so I told him I need to ask this to [B. Boman]. I say, I think, at least a dozen time ... he kept saying ‘So when are you going to switch to large break LOCA?’ He kept saying that for about a dozen times; I say, ‘I’m sorry, I’m going to call [B. Boman,]’ so I hang up on him. I told him at least a dozen, maybe six times, that I need to call [B. Boman] to resolve this impasse ... because our conversation came to an impasse, that we’re not going anywhere, so there’s no reason to carry out any further conversation ... so I ended up hanging on him and I called [B. Boman] right after that and we arranged a conference call on the second day.”

With respect to the June 24, 2013 telephone call with C. Molseed and T. George, the Complainant testified he did not tell them to “leave me the heck alone. You don’t know what you are doing” though that was C. Molseed’s impression. He testified that “I was so frustrated at that point, and I asked [C. Molseed], how can you reject my results on his own gut feeling? ... neither of them ever ran a small break LOCA, so that’s my response to [C. Molseed].” In response to the report the Complainant accused C. Molseed and T. George of wasting his time because they were asking questions that only angered him more, the Complainant testified “Yes, that was because they reject my explanations and results. That’s why I got so frustrated. I kept

telling, explaining things over and over and over and over again, I don't know how many times. They kept coming back with the same questions. So, to a point, I just can't take it, couldn't take it anymore."

On July 17, 2015, the Complainant made a written declaration stating his educational and work history. He stated –

"On September 18, 2012, Mr. Molseed, my supervisor, gave me an assignment to work on closing U.S. EPR WebCAP 2011-4417 (SBLOCA), and he budgeted 960 hours for this task. My task was to correct the errors identified in CR 2011-4417, which related to the U.S. EPR SBLOCA containment issues. It was essential for AREVA to close this CR before it could move forward with its application for U.S. EPR design certification. Molseed and I drafted the Task Plan for the U.S. EPR WebCAP 2011-4417, and after exchanging a few drafts, had a final copy of the Task Plan on September 24, 2013. This final copy is identified as exhibit 16. Molseed inserted the Approach and Methodology and Error-Likely Situation portion of the Task Plan ...

GOTHIC is a safety analysis code for analyzing containment pressure and temperature responses following a loss of coolant accident (LOCA) based on conservation of mass, energy, and momentum equations.

During my task, I re-analyzed the existing SBLOCA analysis using a methodology which already existed and was clearly defined in the two of AREVA's previous analyses.

In both of AREVA'S existing SBLOCA analyses, the SBLOCA analysis was the same: The mass and energy release was calculated by the RELAP5/MOD2-BW code, and the GOTHIC code was used for calculating the pressure and temperature response in the containment. Neither of the two previous SBLOCA analyses mentioned transition from RELAP5/MOD2-B&W to GOTHIC for the long-term LOCA mass and energy calculation.

On September 19, 2012, at the time Molseed assigned me the U.S. EPR SBLOCA analysis, I suggested benchmarking the RELAP5/MOD2-B&W SBLOCA model against the S-RELAP5 SBLOCA model. In a new budget estimate, on April 29, 2013, I sent a request to Mr. Molseed to allow me to use 228 man-hours to perform a benchmark test. Mr. Molseed disagreed with my recommendation to perform the benchmark test and engage in validation and verification processes.

Klingenfus, Molseed and I met in Lynchburg on April 29, 2013 to perform a line-by-line debugging of the RELAP5/MOD2-B&W SBLOCA input deck compared against the original LBLOCA input deck created in 2007. Virtually all the errors in the SBLOCA input deck identified by Klingenfus were carried over from the original LBLOCA model created in 2007. On May 20, 2013, I raised concerns to Molseed about these input errors because they impact reactor core fuel temperature responses and they could have underestimated the peak containment pressure and temperature following a LOCA, and therefore they would have significant safety considerations. I was very concerned that these input errors Klingenfus and I discovered would impact all the U.S. EPR LOCA analysis since 2007, and I strongly urged Molseed on May 18, 2013 to create a condition report so that the previous LBLOCA containment analyses could be re-assessed as soon as possible. Mr. Molseed explained that he would personally draft the condition report to address the input errors. However, over a month passed and he did not create the condition report.

On May 16, 2013, I produced another set of results for GOTHIC containment pressure/temperature responses to Mr. Molseed, which showed that the containment had failed the design limits. Approximately ten minutes later, Mr. Molseed responded to my email and rejected my results. Reporting my results showing containment failure to the NRC would have postponed AREVA's application for U.S. EPR design certification, at the minimum, or disqualified it, at the maximum.

In April 2013, AREVA tasked [L. Gerken]. Another AVERNA engineer, with running some of the same calculations as me to compare her results against mine. I questioned Gerken's SBLOCA analysis,

specifically that she applied the Hot-Leg Injection switchover at 1800 seconds (20 minutes) instead of 60-minute delay time allowed by P-16 Permissive. Gerken was unaware of the changes AREVA had made to its model. A change request on P-16 (AREVA Change Request No. 113-9114524-001, Modification of the P16 Temporization for Hot Leg Injection) was approved, which permits operators to apply MSHI/LHSI injection switchover to both Cold Leg and Hot Leg after 60 minutes from the start of SBLOCA.

After waiting over a month for Mr. Molseed to create a condition report to address the input errors ... I was very concerned that Mr. Molseed was ignoring my safety concerns ...

Given my fears of safety concerns, I consulted with Mr. Hamlin about the input errors and he encouraged me to file a condition report myself. On June 28, 2013, I filed the condition report addressing the input errors. The issues I raised in my condition report were directly related to the U.S. EPR LBLOCA analysis task I previously performed, which would have impact on the U.S. EPR Design Certification.

When I created the condition report and on the July 2, 2013 screening call, I recommended that it be screened at a Level 1 issue. ...

Molseed repeatedly instructed me to transition the mass and energy release calculation from RELAP5/MOD2BW calculation to a simplified GOTHIC boiling-pot model after 3600 seconds following SBLOCA. However this methodology is approved by the NRC only for LBLOCA analysis, and not for the SBLOCA analysis. The transition from SBLOCA analysis to LBLOCA is only applicable when the reactor coolant system pressure has depressurized to the containment pressure and the loop-seal clears after 1800 seconds following a LBLOCA, which was not the case with the calculations I was working on.

I pushed back against Mr. Molseed's instructions to make a transition from SBLOCA analysis to the LBLOCA analysis and use unapproved methodologies to close the CR assigned to me. I did so because I feared that Mr. Molseed was trying to misuse my work to push forward AREVA's U.S. EPR design certification application. I repeatedly raised the issue of Molseed's inappropriate instructions to various individuals in my supervisory chain at AREVA, because I believed that the inaccurate results presented a serious safety concern ...

The transition Molseed requested was using the LBLOCA methodology ... Molseed wanted I to transition the mass and energy release calculation from the RELAP5/MOD2-BW calculation to the GOTHIC boiling-point model after 1800 seconds. However, this methodology is only approved by the NRC for LBLOCA analysis, and not for SBLOCA analysis.

After the termination of my employment

In June 2013, Molseed created a Recovery Plan to guide efforts to complete the U.S. EPR SBLOCA analysis. However, Molseed's recovery plan was an attempt to stop me from completing his SBLOCA analyses which resulted in containment failure or showed pressure still increasing at the end of the twenty-four hour run.

On several occasion, Molseed pressured me again and again to apply the transition criteria and terminate [the] RELAP5 runs. Molseed's insistence on this transition worried me and made me believe that Molseed's intention was to stop me from finishing my calculations, because once my conclusions were final, AREVA would have had to report containment failure to the NRC, which would have resulted a delay in its application for U.S. EPR design certification. Because of these fears, I did not yield to Molseed's requests and produced a plot showing why the transition criteria were not met."

*R. Harris (Ex 100, 145)*²⁰

On March 25, 2015, R. Harris testified in deposition that he will have worked for AREVA for 8 years in May 2015 and is the Human Resources Operations Director. He testified that the supervisor for whom an employee is working at the time annual calendar-year performance evaluations are due, is responsible for the preparation of the evaluation even if the employee had worked for a different supervisor during the reporting period. It is typical, though not mandatory, that supervisors maintain their own separate personal file on their employees. It is the direct supervisor who drafts performance objective for each performance year. The supervisor is required to meet with reporting employees when delivering the annual performance evaluation, there is no requirement for signatures since it is an electronic document.

R. Harris testified that AREVA does have an employee discipline policy. He reported that there is no progressive discipline policy. If a supervisor meets with an employee to counsel the employee, the supervisor should document the event in the separate personal file the supervisor may keep on reporting employees. He reported that there is only one discipline policy for AREVA and that it has four methods of discipline – verbal, written discipline notice, suspension without pay and termination. He stated that the power of supervisors to use each of the four methods of discipline depends on the business group in which the supervisor works.

R. Harris testified that it is not necessary for a supervisor to consult with Human Resources Department if the discipline is verbal in nature; they are required to consult with Human Resources if a written discipline notice is involved. Supervisors should consult with Human Resources if suspension without pay is involved or in terminations, though it is not required. He testified that when a supervisor tells an employee they are engaging in behavior that is inappropriate or insubordinate and that they could be disciplined if the behavior continues, that is considered as “coaching” by the supervisor and not part of the discipline policy. There is not policy on “coaching.”

M.V. Parece (EX 89)

M. Parece made a written declaration on June 29, 2015, that he has worked for AREVA since October 1982 and is now the Vice President for Products and Technology, N.A., for AREVA. He stated “I am familiar with Condition Report 2011-4417, which is a Condition Report (CR) filed internally within AREVA’s Corrective Action Policy by [C.] Molseed. This CR relates to issues identified in the small break loss of coolant analysis (SBLOCA) containment heat removal analysis that had been performed by a third party vendor. CR 2011-4417 was assigned a Level 3 significance which is the lowest technical classification that can be assigned to what are considered routine technical issues. The issues raised by CR 2011-4417 were not considered a major safety concern for the purposes of the U.S. EPR project. By January 2013, AREVA had at least 300 employees working on the U.S. EPR project responding to various request for additional information (RAI) from the NRC. While many of these employees worked on the U.S. EPR project part-time, the total number of hours spent on the project in this timeframe

²⁰ EX 145 are notes R. Harris took during the termination meeting with the Complainant on July 3, 2013 and are after the termination decision was made. Therefore the matters set forth in EX 145 are not relevant to the Motion for Summary Decision.

equaled approximately 100 full-time employees. The new target goal for obtaining NRC approval was June 2015.” He stated that none of twenty significant issues the NRC wanted to address in August 2013 that were related to the U.S. EPR project related “to the work [the Complainant] had been performing in connection with the SBLOCA containment analysis related to CR 2011-4417.”

N. Bolobea (EX 154)

On July 1, 2015, N. Bolobea testified by deposition as to his educational and work history. He stated he began work for AREVA in May 2009 as a safety analysis engineer and “deal with performing nuclear safety analysis calculations mainly with emphasis on heat transfer and fluid flow related to different applications, different codes and method applications for problems that customers have.” He stated he received introductory training on the U.S. EPR design shortly after starting with AREVA. He stated he did not know the Complainant personally and did not recall working with the Complainant; though he might have had a telephone call with the Complainant, “but I cannot be 100 percent state that.”

N. Bolobea testified that he became aware of the “specific technical problem” involving the U.S. EPR design certification that the Complainant had worked on when C. Molseed requested his assistance in July or August 2013. He stated the request was made because he was “one of the most experienced users of GOTHIC in our [Nuclear analysis] department.” He had received the standard two day training on the U.S. EPR design prior to 2013 and had worked on evaluating software common cause failures on non-safety systems evaluations of the U.S. EPR for a substantial portion of 2014.

N. Bolobea testified that C. Molseed “specifically asked me to ... try to find an approach which we can use to adequately model the mass and energy releases in RELAP code for the U.S. EPR model and subsequently to try to define a number of criteria that we can use to understand when would have been acceptable for those mass and energy releases calculated, to be transitioned to the GOTHIC code for the evaluation of containment analysis. He reported it was the work the Complainant had been doing. He stated he began the work in August 2013 and ended in November 2013 when funding ended. He stated that during the August to November 2013 timeframe he was able to bring much insight into the problem of transition from RELAP to GOTHIC, though when the assignment stopped he had “no completed the mass and energy releases calculation, nor [have I] been able to provide clear criteria that we would be using to transition that information into GOTHIC analysis itself. He reported looking at different ways of modeling specific things such as different operator actions that would have been available for the transients being evaluated and different combinations of modeling approaches. He stated some approaches showed benefits but “others not so much.”

N. Bolobea testified that he did not use the Complainant’s materials in his work and that he may have been on some e-mail chains prior to July 2013 “related to the challenges associated with the errors that were generated in the mass and energy releases calculations, but I have not been involved.” He reported trying “to shed some light on understanding what the specific concept ... of mass errors in the calculations we were performing” means or should be, but not necessarily as what should be done about it. He reported that “a mass error ... in simulation calculations we

perform with the RELAP series code ... is the difference between the total mass of the system, as calculated by the continuity equation, and the total mass of the system, as calculated from the water property functions of the code.”

N. Bolobea testified that he was invited and attended a meeting called by C. Molseed in October 2012 to brainstorm small break LOCA containment but did not recall what was discussed. He stated that the AREVA GOTHIC methodology used for the U.S. ERP containment LOCA analysis “is the same methodology that we use for other containment analyses and addresses large break LOCA only.

N. Bolobea testified that he was not aware of Complainant’s concern that mass and energy release calculations being transitioned from RELAP5 to GOTHIC from a pressurized state would violate the rule of thermodynamics related to conservation of energy. He testified that he would not have such a concern because “fundamentally we have codes that we use to simulate phenomenas. The phenomenas we simulate are very complex phenomenas. The codes that we have are very complex codes. It is the duty of the analyst to understand the codes, the phenomena, the range of application of the codes and their limitations. ... I do not believe that the first principle [of thermodynamics] has been violated by any of the predictions that our codes have shown for that specific phenomena, which is itself a challenging phenomena to simulate, but the codes are still able to predict that reasonably.” He reported that he did not use the same RELAP5 small break LOCA model used by the Complainant. He stated he did explore the option of using the pressurizer PSRVs to depressurize the RCS in his mass and energy release calculations. It was one of the options explored. He reported that it had not been decided yet whether to credit using the pressurizer PSRVs to depressurize the RCS and that such a decision would likely be made by the safety analysis group and the operations group “because our models will say yes, it may or may not be appropriate to use those specific modeling assumptions; but our operations group will be able to validate or shed light on yes, it is acceptable or not acceptable from a plant operation safety standpoint to actually perform that action.” He stated that the decision had not been made yet because funding ended before calculations were complete.

N. Bolobea testified that he was trained in RELAP5 several years earlier and on multiple occasions with AREVA in-house training over the past 4 to 5 years. He stated that he was in a group of people who met regularly with their mentor, N. Nithianandan, who was “one of our most senior experts on the code.” During the meetings the group “spend[s] time understanding specific code features and everything from how you model things to the code architecture, structures, everything that’s underneath the hood.” He stated that he did not bring his August 2013 to November 2013 project to the group or mentor.

N. Bolobea testified that during the August 2013 to November 2013 timeframe he looked at the effect of different operator actions in his analyses. “One of the operator actions related to opening of the PSRVs either as one valve, two valve, three valves, staggered opening, on time, or on different criteria. Other operator actions related to secondary side plant transient response, mainly the start of the automatic system. Since its automatic, it starts automatically, but later on the operator has the ability to dial a different set point to which the system will drive the secondary [side] pressure.” He reported that the operator responses are initiated in the RELAP5

model but “since the mass and energy releases from the RELAP model were not integrated into the GOTHIC model there are actually no results that one can report in terms of containment response.” He testified that the results of the RELAP5 model runs “depends on the outcome that you are looking for. It depends what specific target you have in mind ... if you are looking to see what is the effect of the operator actions on the mass and energy releases magnitude, that is one thing. If you want to look at what is the effect on the timing of certain safety feature actuations, that is a separate item of interest. If you are looking to see if your primary side pressure as a result of this action can be reduced to levels which would allow for other safety injection systems to operate, that is a different item. It depends on what you are looking for and what is your interest in performing the analysis.” He stated he understood his August 2013 analysis “was to try to understand the phenomena and the modeling options that would allow adequate criteria for transition between S RELAP5 and the GOTHIC model.” He reported that his review of different operator actions “allowed me to understand the phenomena and the possible modeling options, but I will not say that it allowed me to define the criteria that one could use to actually execute this transition.”

DISCUSSION

The Respondent has filed for summary decision on the grounds that clear and convincing evidence establishes that it would have terminated the Complainant when it did even in the absence of protected activity. For the purposes of this “Motion for Summary Decision” it will be assumed that the Complainant has established a prima facie case under the ERA.

I. Decision to terminate the Complainant’s employment was made the morning of June 25, 2013.

B. Boman testified that as Engineering Manager of Nuclear Analysis he made the determination to terminate Complainant’s employment on the morning of June 25, 2013 and he discussed the action with M. Carpenter, the Vice-President of Engineering and Logistics. Subsequent to that discussion he communicated his decision to terminate the Complainant’s employment to S. (Gearhart) Catazano, in the HR department, first by telephone and then by e-mail.

M. Carpenter testified that he discussed B. Boman’s desire to terminate the Complainant’s employment by telephone on June 25, 2013, before B. Boman started his trip to Paris, France. The basis for the termination was the Complainant’s behavior during a June 24, 2013 telephone conference call with his immediate supervisor (C. Molseed) and peer co-worker (T. George). He reported he was aware that B. Boman discussed the termination with the Human Resources department before he started his trip to Paris the afternoon of June 25, 2013.

The follow-on e-mail sent by B. Boman to S. (Gearhart) Catazano was sent at 10:48 AM, Wednesday, June 26, 2013. The initial June 26, 2013 telephone conversation between B. Boman and S. (Gearhart) Catazano included the May 30, 2013 counseling session B. Boman had with the Complainant regarding his disruptive behaviors and the subsequent behavioral problems and disrespect shown by the Complainant during a June 24, 2013 telephone conference call with his immediate supervisor (C. Molseed) and a peer co-worker (T. George). B. Boman subsequently sent an e-mail to S. (Gearhart) Catazano at 12:19 PM, June 26, 2013 detailing his May 30, 2013 meeting with the Complainant. Another e-mail was sent by B. Boman on July 2, 2013 answering

further questions about supervisor C. Molseed's conversation with Complainant during the June 24, 2013 telephone conference call.

There is no evidence contradicting the foregoing events.

After deliberation on the evidence of record, in a light most favorable to the Complainant, this presiding Judge finds that B. Boman was the individual who made the decision to terminate the Complainant; that he made the decision to terminate the Complainant's employment on the morning of June 25, 2013; and that he initiated the termination process on the morning of June 25, 2013.

II. None of the Complainant's actions after the morning of June 25, 2013 contributed to the adverse employment action of termination of employment.

In order to establish a prima facie case and be entitled to relief under the ERA, the Complainant must establish that activity protected by the ERA was a contributing factor to the adverse employment action suffered by the Complainant. Here the adverse employment action was the termination of Complainant's employment. While the Complainant was not notified of the decision to terminate his employment until July 3, 2013, the decision to terminate the Complainant's employment was made and initiated the morning of June 25, 2013. Therefore, none of the Complainant's alleged actions after the June 25, 2013 termination decision was made influenced or were contributing factors in the June 25, 2013 termination decision.

Accordingly, after deliberation on the evidence of record, in a light most favorable to the Complainant, this presiding Judge finds that only the alleged protected activity occurring before the morning of June 25, 2013 may be considered in determining whether Respondent established by clear and convincing evidence that it would have terminated the Complainant on June 25, 2013 even in the absence of such protected activity.

III. The Complainant's alleged protected action of reporting a possible design flaw in the U.S. EPR containment cooling system concerning insufficiency of the LHSI heat exchanger to handle a SBLOCA on June 21, 2013²¹ and alleged protected actions made on June 3 and 4, 2013, of reporting that the use of LBLOCA methodology rather than SBLOCA methodology could lead to false consequences, all occurred prior to the termination decision.²²

For the purposes of the Motion for Summary Decision the Respondent submits that it should be presumed that the Complainant has established a prima facie case under the ERA.

²¹ The Complainant alleged in his written complaint that the report of a possible design flaw was "on or about" May 30, 2013; however, the Complainant's deposition testimony and e-mail exhibits demonstrate the initial report of a possible design flaw occurred in Complainant's 5:46 PM, June 21, 2013 e-mail to C. Molseed and concerned the U.S. ERP IRWST design in relation to the LHSI recirculation.

²² The Complainant alleges he made the same report concerning the use of LBLOCA methodology rather than SBLOCA methodology leading to false consequences on June 25, 2013. However, EX 24 is the relevant e-mail report by Complainant which was sent at 2:57 PM, Wednesday, June 26, 2013, after the decision to terminate Complainant's employment had been made and the termination process initiated. Likewise, his allegations involving protected activity on June 27, 2013; June 28, 2013; and July 3, 2013 could not have been contributing factors to the June 25, 2013 termination decision.

The Complainant alleged that protected activity of reporting a possible design flaw in the U.S. EPR containment cooling system concerning insufficiency of the LHSI heat exchanger to handle a SBLOCA was made on or about May 30, 2013. E-mails from C. Molseed to the Complainant on June 24, 2013 at 8:22 AM and 11:54 AM, indicate that the Complainant's immediate supervisor was aware that the Complainant had reported that based on his RELAP5 computer modeling results the LHSI heat exchanger was not sufficient to respond to a SBLOCA in a manner that would keep the RCS pressure from exceeding the design pressure of the containment vessel and that the Complainant had recommended that additional heat exchanger for cooling be added to the MHSI.

The Complainant testified in deposition to meeting with his supervisor, B. Boman and K. Higar on May 30, 2013 to discuss the SBLOCA computer modeling results, GOTHIC modeling and transitioning from RELAP5 to GOTHIC computer modeling. The Complainant testified that it was in his 5:46 PM, June 21, 2013 e-mail in which he first raised a safety concern of a possible design flaw in the U.S. ERP IRWST and the need for additional coolant and involvement of French engineers. C. Molseed testified that he shared the same concern over safety implications from the Complainant's May 9, 2013 report of results involving a 6" SBLOCA RELAP5 computer modeling run which indicated resulting pressure from the SBLOCA exceeded the design pressure for the containment building.

There were no e-mails on June 3 or 4, 2013 expressing the Complainant's concern that the use of LBLOCA methodology rather than SBLOCA methodology could lead to false consequences; however, the Complainant's testimony indicates that such concerns were implicitly addressed during the May 29, 2013 telephone conversation with his immediate supervisor. Additionally, since Respondent does not contest this matter for the purposes of the Motion for Summary Decision, it is accepted for the purposes of the Motion for Summary Decision that the Complainant actually made his concern known prior to the June 25, 2013 termination decision being made.

The remaining allegations of protected activity made by the Complainant in his written complaint involve events after the June 25, 2013 determination decision was made and thus could not have contributed to or impacted the June 25, 2013 termination decision.

After deliberation on the evidence of record, in a light most favorable to the Complainant, this presiding Judge finds that the Complainant's alleged protected action of reporting a possible design flaw in the U.S. EPR containment cooling system concerning insufficiency of the LHSI heat exchanger to handle a SBLOCA on June 21, 2013 and alleged protected actions made on June 3 and 4, 2013, of reporting that the use of LBLOCA methodology rather than SBLOCA methodology could lead to false consequences, all occurred prior to the June 25, 2013 termination decision .

IV. The Respondent has established by clear and convincing evidence that the Complainant's actions on May 30, 2013 and June 3 and 4, 2013 did not contribute to his termination of employment.

In evaluating whether the same adverse action would be taken absent protected activity the basis for employment policies and decisions are not required to be judged but the must be assesses as to whether they are so powerful and clear that termination would have occurred apart from the protected activity. See *Franchini v. Argonne National Laboratory*, ARB No. 11-006, ALJ No. 2009-ERA-14 (ARB Sept. 26, 2012) Federal courts have consistently held that an employee's insubordination towards supervisors and coworkers, even when engaged in protected activity, is justification for termination. See *Ma v. American Electric Power, Inc.*, 123 F.Supp.3d 955 (DC WDMI 2015) aff'd 2016 WL 2641232 (6th Cir. May 10, 2016) unpub; *American Nuclear Resources, Inc. v. U.S. Dept. of Labor*, 134 F.3d 1292 (6th Cir. 1998); *Kahn v. U.S. Sec'y of Labor*, 64 F.3d 271 (7th Cir. 1995); *Durham v. Brock*, 794 F.2d 1037 (5th Cir. 1986); *Smith v. Duke Energy Carolinas, LLC*, ARB No. 14-027, ALJ No. 2009-ERA-7 (ARB Feb. 25, 2015) Depending on the circumstances surrounding outbursts by an employee towards a supervisor, the outbursts may constitute insubordinate conduct and an indication of a refusal by the employee to complete the task involved. Additionally, the proximity in time between the outburst and termination of employment action may demonstrate that the termination was for the outburst and not protected activity. See *Speegle v. Stone & Webster Construction, Inc.*, ARB No. 14-079, ALJ No. 2005-ERA-6 (ARB Dec. 15, 2014)

Where the supervisor-employee relationship has been severely damaged prior to protected activity occurring, such damaged relationship is a factor in determining if the employer has established by clear and convincing evidence that it would have taken the adverse employment action absent protected activity. See *Chen v. Dana-Farber Cancer Institute*, ARB No. 09-058, ALJ No. 2006-ERA 9 (ARB Mar. 31, 2011) Moreover, protected activity does not shield an under-performing worker from discipline. See *Formella v. U.S. Sec'y of Labor*, 628 F.3d 381 (7th Cir. 2010)

When the evidence is viewed in a light most favorable to the Complainant, the following is evident –

The Complainant began work for AREVA at its Boston, Massachusetts location in July 2008 working on containment scaling analysis for the U.S. ERP. His immediate supervisor was L. Schor. He subsequently transferred to Charlotte, North Carolina and reported to C. Molseed in Lynchburg, Virginia as an Advisory Engineer in the later part of 2011.

The Complainant testified that he refused to sign his annual performance evaluation from L. Schor for the period ending March 15, 2010 because it was critical of him for his scaling analysis being overdue. He also stated that he had difficulties working with L. Schor because she was very insistent on certain things and that she was old-school style of management and that he “would like to have more freedom to do what I believe – what I’m trained to do without much direction. Because of my background and experience, I have a certain way of doing things.” The Complainant’s annual performance appraisal delivered in 2012, for portions of 2011, noted the Complainant had problems with time management, meeting schedules and expending all or exceeding budgets.

Following a meeting on September 18, 2012 the Complainant was assigned to work on SBLOCA analysis issues identified in CR 2011-4417 that had been submitted by C. Molseed on June 20,

2011. The Complainant developed a task plan for the assignment that he submitted to C. Molseed for approval on September 24, 2012. The task plan was budgeted for 960 man-hours and the anticipated completion date of April 30, 2013 was set. The Complainant testified that the 960 man-hours and anticipated completion date seemed appropriate at the time. The Complainant's work assignment from September 18, 2012 until his last day on July 3, 2013 involved U.S. EPR containment SBLOCA re-analysis; correcting errors noted in the CR 2011-4417; and producing calculations documenting the Complainant's analysis to determine containment temperature and pressure response of the U.S. EPR design and for incorporation in updating the final safety report to be submitted to the NRC as part of the design certification process.

A team of engineers, including the Complainant, assembled on or about October 19, 2012 to brainstorm the issues, potential alternatives and concepts involving the re-analysis involved with CR 2011-4417. The Complainant provided weekly updates on his progress by telephone to C. Molseed during scheduled weekly group meetings and in direct e-mail reports. On February 6, 2013, the Complainant had reported that he could find nothing wrong with his RELAP5 mass/energy calculations and could not explain the unexpected results in the 6" SBLOCA computer model analysis. He was told later that same day not to run further RELAP5 simulations but to evaluate the results and demonstrate the behaviors shown in the RELAP runs were correct; to which the Complainant reiterated, he could find nothing wrong with the 6" LOCA RELAP5 results. On February 13, 2016 the Complainant advised C. Molseed that he had expended 556 man-hours on the CR 2011-4417 assignment and that the project was less than 50% complete; he requested a 1 month extension in the completion date.

U. Graydon, as U.S. EPR DC Project Manager, held a meeting on March 4, 2013 to discuss the progress on CR 2011-4417 since fixing an error noted in CR 2011-4417 was resulting in simulations showing containment pressure limit failure. As a result of the meeting, simulations incorporating HLI were to be run to determine if that would correct the simulation containment pressure limit failure and the Complainant was to work on 3" and 6" CLPS breaks and have all cases documented and to QA within 4 weeks. The Complainant reported on April 22, 2013 that he had expended 916 man-hours of the initial task allocation and that it would take another month to complete calculations due to error codes encountered in the 6" and 9" CLPD break calculations. On April 29, 2013 the Complainant stated a need for an additional 228 man-hours to debug the SBLOCA input model and perform re-analyses.

The Complainant was directed to travel to Lynchburg, Virginia to meet with C. Molseed and work with J. Klingenfus mid-May 2013. The meeting was a "U.S. EPR SBLOCA Analysis Review" and resulted in J. Klingenfus identifying input errors in the SBLOCA computer modeling used by the Complainant and the Complainant understanding that C. Molseed wanted him to incorporate operator actions of introducing more SI coolant to stop steaming at the core to further reduce RCS pressure. The Complainant testified that he had not identified the errors found by J. Klingenfus because it was not his job to debug the computer model but use the model QA'd; though if he was aware of an input error he had the responsibility to implement the changes and modifications. The Complainant testified that he corrected all the errors identified by J. Klingenfus before he left Lynchburg, Virginia. The Complainant acknowledged that the actions of operators was an option that could be used to input more coolant into the system but

he considered the options as not being part of the test plan and being an effort to cover up simulation results showing RCS peak pressure results exceeding RCS design limits. Subsequently, the Complainant reported on May 16, 2013 that he did not see any problems with the RELAP5 and GOTHIC modeling and that the operators would have to take further action to introduce SI coolant in order to stop steaming in the core and further reduce RCS pressure. On May 18, 2013 the Complainant reported to C. Molseed that the same input errors identified in the SBLOCA model were present in the LBLOCA model.

The Complainant and C. Molseed had a telephone conversation on May 28, 2013 concerning the Complainant's SBLOCA analysis, HL injection, LHS injection, and eventual transition to GOTHIC. The Complainant testified his belief that transitioning from SBLOCA and LBLOCA analysis to GOTHIC analysis at 1-hour into the break accident would work on a computer but violate the laws of physics and that as an engineer he could not accept the instruction from C. Molseed to make such a transitional analysis. The Complainant testified that he doubted C. Molseed's technical competency and refused to follow the instruction given by C. Molseed. He testified that the conversation did not go well because C. Molseed was making an unreasonable and unacceptable demand that would be impossible for him to do without compromising his integrity as a professional engineer and he refused to follow C. Molseed's instructions. The Complainant testified that the conversation got to a point that each insisted on their own approach and he told C. Molseed that he wanted to discuss the matter with B. Boman. He testified that he hung up the telephone on C. Molseed because C. Molseed would not hang up so he could call B. Boman.

B. Boman was advised of the May 28, 2013 telephone call events. On May 30, 2013, B. Boman made an unannounced visit to the Complainant in his Charlotte, North Carolina office and provided direct coaching to the Complainant on the impropriety of hanging up on his immediate supervisor and how to better express himself in a way that is not combative or unprofessional. The Complainant testified that the coaching session took about an hour and that he better understood how to interact with his supervisor after meeting with B. Boman. The Complainant testified that the technical disagreement with C. Molseed was not discussed during the coaching session and that he sent an apology to C. Molseed for hanging up the telephone on him as his first reaction from meeting with B. Boman. B. Boman subsequently provided coaching to C. Molseed on how to listen and use follow-on questions to better understand his subordinate engineers.

At the request of the Complainant and C. Molseed, a telephone conference call was held on May 29, 2013 with the Complainant, C. Molseed, and K. Higar over the technical concerns involving the reported behavior of the IRWST expressed during the May 28, 2013 telephone call between the Complainant and C. Molseed. This resulted in the understanding that the Complainant was to work with C. Molseed on developing a SBLOCA recovery plan for the project and that other AREVA assets would be called in for assisting in moving the recovery plan forward. At that point the CR 2011-4417 project was considered by management to be overdue and over budget. The "U.S. EPR SBLOCA Analysis Recovery Plan" was completed the morning of June 3, 2013 and formalized in an e-mail later that afternoon. Detailed steps and reasoning for transition from RELAP5 computer modeling to GOTHIC computer modeling was set forth by C. Molseed. The Complainant's task and that of other engineers for the GOTHIC computer modeling and quality

assurance were set out. The Complainant was to complete his RELAP5 run of the 3” break LOCA analysis for both cold leg and hot leg by June 7, 2013. After the 3’ break LOCA analysis was complete, the Complainant was to complete a RELAP5 run for a 6” CLPD break by June 13, 2013.

On June 14, 2013 the Complainant had yet to run 3” break HL runs or 9” break HL runs as set forth in the June 3, 2013 recovery plan. He questioned C. Molseed to why he still had to run HL injection cases and objected to running HL injection cases until the EOP was revised and provided for operators to initiate HL injection. C. Molseed advised the Complainant that the runs had to be made in order to demonstrate such action would help depressurize the RCS and if modeling showed the condition became worse with HL injection it would have to be reported. The Complainant “pushed back” against C. Molseed by stating “I understand we only need to provide analysis for the worse-case scenario. We should let the owners group to determine the EOP. It’s not our responsibility [to] develop full range of EOP for the utilities.” When C. Molseed then asked Complainant why he was still running RELAP5 analysis if transition criteria was met, the Complainant stated “I’d be more than happy to stop running RELAP and focus on documentation”; but he continued running RELAP modeling. The Complainant shortly thereafter asked C. Molseed what was the specific criteria for transition and was referred to the June 3, 2013 recovery plan. The Complainant testified that he disagreed with C. Molseed’s actions because C. Molseed “was overstepping our responsibilities. It’s not ... within our responsibility, nor our authority to make changes to EOP ... and my test conditions for small-break LOCA did not call for use of hot leg injection ... it is up to the design engineer to make that decision; it’s not up to me or Chris Molseed to make that decision.” He testified that supervisor K. Higar’s comments concerning the need for analysis of hot leg injection by operators to ensure acceptable results “was his own opinion. It was not written anywhere in the emergency operating procedures.”

The Complainant testified that his June 20-23, 2013 e-mail chain showed his concern over a possible design flaw in the U.S. ERP IRWST suggesting a need for additional coolant. The Complainant testified he understood that C. Molseed wanted him to model the IRWST issue with operators initiating use of 1 to 4 of the PRVs and to calculate for information on LHSI recirculation to the IRWST at higher RCS pressures. The Complainant testified that he did not do either of the tasks from C. Molseed because “I could not without violating the initial assumptions for my analysis” which was not to credit PRV in the analysis and to do so would only cause more delay. His response on the morning of June 24, 2013 was to request a conference call “before wasting time on trying things [that] won’t work.” C. Molseed confirmed the Complainant had not completed the task assigned when he testified that the Complainant failed to send him the plot of PRVs pressurizer levels versus time to understand the point where the RCS would be at solid state and not emitting steam out of the pipe break and it was evident the Complainant was not doing what was asked. Numerous e-mails were exchanged involving the Complainant, C. Molseed, T. George and P. Salim between 8:22 AM and 2:29 PM, June 24, 2013 when the Complainant stated that “I don’t see the purpose of this [conference] call without Keith [Higar] or Bret [Boman].”

The Complainant participated in a conference call with C. Molseed and T. George at 3:00 PM, June 24, 2013. The Complainant testified that the conversation involved the use of PRVs to

bring down RCS pressure and transitioning to GOTHIC when RCS reached steady-state. The Complainant testified he was frustrated during the telephone call and that “I questioned [C. Molseed’s] expectation on small break LOCA because I asked him what kind of experience he had with SBLOCA and he said none ... and I responded that he had no basis to question the results of my SBLOCA calculation.” He testified that he called C. Molseed a liar, not T. George; though he questioned both their judgements on his results. He stated that the telephone call was heated and he may have conveyed the impression he was annoyed with C. Molseed and wanted to be left alone. He testified that he accused C. Molseed and T. George of wasting his time “because they reject my explanations and results. That’s why I got so frustrated. I kept telling, explaining things over and over and over again, I don’t know how many times. They kept coming back with the same questions. So, to a point, I just can’t take it, couldn’t take it anymore.” He testified that he did not speak with C. Molseed the rest of the week after the telephone call. T. George confirmed that during the hour-long telephone call the Complainant had called C. Molseed a liar, though he stated his belief he was also called a liar; the Complainant stated that neither one of them had any business questioning him; and that the Complainant stated we were wasting his time. T. George stated the Complainant became defensive at the point C. Molseed pointed out that decay heat should be decreasing and that the conversation began deteriorating. He reported that when the conversation turned to mixing efficiency and whether RELAP was capturing the event, the conversation decayed rapidly and the Complainant became very defensive and very offensive. T. George testified that the June 24, 2013 telephone conference was a disaster and that when asked the Complainant stated he had not generated a requested plot and “why should I.” T. George testified that the Complainant gave some results for his RELAP case runs but would not discuss what went into the RELAP model or what the code was doing or answer any questions to describe the transient phenomena. C. Molseed confirmed the impression that the Complainant was annoyed during the June 24, 2013 telephone conversation by the questions asked; that the Complainant had not completed tasks requested or forwarded requested plots; and that the Complainant was unwilling to develop an expectation for an analysis and compare his results with the expectation and that doing so was not engineering.

Complainant’s third level supervisor, B. Boman, was contacted by the Complainant’s first level supervisor, C. Molseed, by e-mail of 2:30 PM, June 24, 2013, for guidance on whether to contact Human Resources to talk to the Complainant about repeatedly ignoring requests from his supervisor for plots and explanations. By e-mail of 8:54 PM, June 24, 2013, C. Molseed notified B. Boman that the situation with the Complainant had become much worse based on the 3:00 PM, June 24, 2013 conference call with the Complainant and T. George. C. Molseed reported that the schedule involving the Complainant would be again exceeded; the Complainant was annoyed by questions involving status, results and suggestions on how to proceed; the Complainant acted in an insubordinate manner; the Complainant was unwilling to develop expectations for analysis; and that he had clearly failed in trying to coach the Complainant on how analysis should be done. C. Molseed noted L. Schor had trouble working with the Complainant, J. Klingenfus had tried to work with the Complainant and questioned the Complainant’s abilities; and that T. George was on the June 24 conference call with the Complainant and felt insulted by some of the Complainant’s accusations. Shortly after midnight on June 25, 2013, B. Boman asked C. Molseed where the department stood schedule-wise, to which C. Molseed reported, at 8:45 AM, that he did not know because he could not get the

Complainant to define a strategy other than rerunning RELAP5 analyses and he did not know if he could trust the results of the one or two completed runs because other reruns were failing containment pressures. He added that the Complainant told him he would be lying if he called the analyses results. He recommended the Complainant be given a disciplinary notice at the minimum.

B. Bowman testified that as of his June 25, 2013, decision to terminate the Complainant the situation was the company was working through technical issues; the Complainant refused to provide requested information on the technical issues; the Complainant was insulting his immediate supervisor C. Molseed and peer engineer T. George; the Complainant's performance had never been above average; the Complainant's performance on the CR 2011-4417 assignment was causing the company to be late on the U.S. EPR and costing the company tens of thousands of dollars; and the Complainant was insubordinate to his supervisor by refusing work requests; the Complainant was late and over budget; and the Complainant's attitude and lack of respect towards others had demotivated his supervisor and co-workers. B. Boman reported he did not have another task for the Complainant to perform where he could be successful and work in a collaborative fashion with supervisors and peers. He reported that the Complainant had been replaced on the project and that giving him a disciplinary notice would require the leadership team to syphon additional time and energy from people and tasks that deserve the time and energy. He pushed for termination to occur quickly because "we'd arrived at the point where it was no longer helpful to have [the Complainant] on staff with AREVA." P. Salim's comments to B. Boman that the Complainant was well beyond budget and well beyond schedule when the Complainant worked for him was received by B. Boman after the decision to terminate was made and therefore was not considered in the termination decision. B. Boman testified that there was no noticeable improvement in the Complainant's ability to communicate with his superiors and make derogatory comments about his peers after the May 30, 2013 coaching session. He considered that the Complainant had apologized to C. Molseed following the May 30, 2013 coaching session and then turned around and went back to his behavior, indicating he was not receptive to change or lacked the ability to change. He considered the Complainant to have crossed the line when he refused to provide requested information to his supervisor because he considered it a waste of his time. B. Boman testified that the basis for the Complainant's termination was insubordination, unprofessional conduct and cost to the company. He stated the unprofessional conduct was related to the Complainant insulting co-workers.

S. [Gearhart] Catazano testified in a manner consistent with B. Boman as to the Complainant's termination decision and proceedings. She obtained statements from C. Molseed, T. George, K. Higar and B. Boman supporting the reasons for the Complainant's termination. She also obtained numerous e-mails, including the Complainant's apology to C. Molseed after the coaching session with B. Boman. She reported taking the information supporting termination to HR Compliance to go over the specific details of the incident, ask probing questions, and to ensure everyone is treated fairly and consistently. She reported that no safety related information was involved with the termination request for the Complainant. S. Catazano testified that she was involved with the termination of T. Dodson for insubordination for disregarding direction from his supervisor, disrespectful tone and demeanor, and hanging up a telephone on his supervisor. In that case the supervisor had given T. Dodson a verbal warning two months prior to his termination. She testified she was involved in the termination of S. Jones for his laid-back

attitude towards work performance and that S. Jones was verbally counseled prior to a customer asking S. Jones be removed for falling asleep in an intimate meeting with the customer and his negative attitude. She noted the termination took a week or two to complete after the customer complaint.

After deliberation on the evidence of record, in a light most favorable to the Complainant, this presiding Judge finds that the Complainant engaged in insubordinate conduct towards his immediate supervisor, C. Molseed in refusing to perform assigned tasks and providing his supervisor with analytical data required to evaluate loss of coolant accidents and effects of operator intervention techniques on the reactor cooling system and pressurized containment criteria; the Complainant was disrespectful toward his immediate supervisor C. Molseed and peer co-worker T. George during a 3:00-4:00 PM, June 24, 2013 telephone conference call; the Complainant engaged in unacceptable performance in failing to complete assigned tasks on time and within budget despite the availability of technical assistance from other engineers; the Complainant failed to modify his behavior towards his immediate supervisor and technical peer engineers after personal coaching by his third line supervisor B. Boman; and that the Respondent has established by clear and convincing evidence that it would have terminated the Complainant's employment on June 25, 2013, in the absence of the Complainant's alleged protected activity on June 3, 4, and 21, 2013.

V. Pursuant to 42 U.S.C. §5851(b)(3)(D), the Complainant may not be granted relief under the ERA.

The statutory provision of the ERA at 42 U.S.C. §5851(b)(3)(D), provides that "relief may not be ordered under [the ERA] if the employer demonstrates by clear and convincing evidence that it would have taken the same unfavorable personnel action in the absence of such behavior.

As set forth above, the Respondent has established that it would have taken the same action of terminating the Complainant even if the alleged protected activity had not occurred. Accordingly, the Complainant is precluded by federal law from receiving any benefits under the ERA based on the complaint filed October 24, 2013 and the complaint must be dismissed.

FINDINGS OF FACT AND CONCLUSIONS OF LAW

After deliberation on the Motion and Response filed, as well as the attached documentation, administrative file, and argument of the Parties, this presiding Judge enters the following –

1. The Complainant's third level supervisor, B. Boman was the individual who made the decision to terminate the Complainant.
2. B. Boman made the decision to terminate the Complainant's employment on the morning of June 25, 2013.
3. B. Boman initiated the termination process on the morning of June 25, 2013.
4. Only that alleged protected activity occurring before the morning of June 25, 2013 may be considered in determining whether Respondent established by clear and convincing

evidence that it would have terminated the Complainant on June 25, 2013 even in the absence of such protected activity.

5. The Complainant's alleged protected actions made on June 3 and 4, 2013, by reporting that the use of LBLOCA methodology rather than SBLOCA methodology could lead to false consequences and his alleged protected activity on June 21, 2013 of reporting a possible design flaw in the U.S. EPR containment cooling system concerning insufficiency of the LHSI heat exchanger to handle a SBLOCA, all occurred prior to B. Boman's June 25, 2013 termination decision.
6. The Complainant engaged in a pattern of insubordinate conduct towards his immediate supervisor, C. Molseed in refusing to perform assigned tasks and providing his supervisor with analytical data required to evaluate loss of coolant accidents and effects of operator intervention techniques on the reactor cooling system and pressurized containment criteria.
7. The Complainant was disrespectful toward his immediate supervisor C. Molseed and peer co-worker T. George during a 3:00-4:00 PM, June 24, 2013 telephone conference call.
8. The Complainant engaged in unacceptable performance by failing to complete assigned tasks on time and within budget despite the availability of technical assistance from other engineers.
9. The Complainant failed to modify his behavior towards his immediate supervisor and peer engineers after personal coaching by his third line supervisor B. Boman on May 30, 2013.
10. The Respondent has established by clear and convincing evidence that it would have terminated the Complainant's employment on June 25, 2015, even in the absence of the Complainant's alleged protected activity on June 3, 4 and 21, 2013.
11. The Complainant is precluded by federal law from receiving any benefits under the ERA based on the complaint filed October 24, 2013 and the complaint must be dismissed.

ORDER

The complaint filed by the Complainant under the provisions of the ERA on October 24, 2013, **is hereby DISMISSED.**

ALAN L. BERGSTROM
Administrative Law Judge

ALB/jcb
Newport News, Virginia

NOTICE OF APPEAL RIGHTS: This Decision and Order will become the final order of the Secretary of Labor unless a written petition for review is filed with the Administrative Review Board ("the Board") within 10 business days of the date of this decision. The Board's address is: Administrative Review Board, U.S. Department of Labor, Suite S-5220, 200 Constitution Avenue, NW, Washington DC 20210, for traditional paper filing. Alternatively, the Board offers an Electronic File and Service Request (EFSR) system. The EFSR for electronic filing (eFile) permits the submission of forms and documents to the Board through the Internet instead of using postal mail and fax. The EFSR portal allows parties to file new appeals electronically, receive electronic service of Board issuances, file briefs and motions electronically, and check the status of existing appeals via a web-based interface accessible 24 hours every day. No paper copies need be filed.

An e-Filer must register as a user, by filing an online registration form. To register, the e-Filer must have a valid e-mail address. The Board must validate the e-Filer before he or she may file any e-Filed document. After the Board has accepted an e-Filing, it is handled just as it would be had it been filed in a more traditional manner. e-Filers will also have access to electronic service (eService), which is simply a way to receive documents, issued by the Board, through the Internet instead of mailing paper notices/documents.

Information regarding registration for access to the EFSR system, as well as a step by step user guide and FAQs can be found at: <https://dol-appeals.entellitrak.com>. If you have any questions or comments, please contact: Boards-EFSR-Help@dol.gov

The date of the postmark, facsimile transmittal, or e-filing will be considered to be the date of filing. If the petition is filed in person, by hand-delivery or other means, the petition is considered filed upon receipt. The petition for review must specifically identify the findings, conclusions or orders to which exception is taken. Any exception not specifically urged ordinarily will be deemed to have been waived by the parties.

At the same time that you file your petition with the Board, you must serve a copy of the petition on (1) all parties, (2) the Chief Administrative Law Judge, U.S. Dept. of Labor, Office of Administrative Law Judges, 800 K Street, NW, Suite 400-North, Washington, DC 20001-8001, (3) the Assistant Secretary, Occupational Safety and Health Administration, and (4) the Associate Solicitor, Division of Fair Labor Standards. Addresses for the parties, the Assistant Secretary for OSHA, and the Associate Solicitor are found on the service sheet accompanying this Decision and Order.

If filing paper copies, you must file an original and four copies of the petition for review with the Board, together with one copy of this decision. In addition, within 30 calendar days of filing the petition for review you must file with the Board an original and four copies of a supporting legal brief of points and authorities, not to exceed thirty double-spaced typed pages, and you may file an appendix (one copy only) consisting of relevant excerpts of the record of the proceedings from which the appeal is taken, upon which you rely in support of your petition for review. If you e-File your petition and opening brief, only one copy need be uploaded.

Any response in opposition to a petition for review must be filed with the Board within 30 calendar days from the date of filing of the petitioning party's supporting legal brief of points and authorities. The response in opposition to the petition for review must include an original and four copies of the responding party's legal brief of points and authorities in opposition to the petition, not to exceed thirty double-spaced typed pages, and may include an appendix (one copy only) consisting of relevant excerpts of the record of the proceedings from which appeal has been taken, upon which the responding party relies. If you e-File your responsive brief, only one copy need be uploaded.

Upon receipt of a legal brief filed in opposition to a petition for review, the petitioning party may file a reply brief (original and four copies), not to exceed ten double-spaced typed pages, within such time period as may be ordered by the Board. If you e-File your reply brief, only one copy need be uploaded.

If a timely petition for review is not filed, or the Board denies review, this Decision and Order will become the final order of the Secretary of Labor. *See* 29 C.F.R. §§ 24.109(e) and 24.110.

Acronym Reference

CLPD	Cold Leg Pump Discharge
CLPS	Cold Leg Pump Suction
CR	Condition Report
DCA	Design Certification Application
DCR	Design Change Request
DTO	Differing Technical Opinions policy
ECP	Employee Concern Program
EOP	Emergency Operating Procedures
EPR	Evolutionary Power Reactor
FSAR	Final Safety Analysis Report
HLI	Hot Leg Injection
HLPD	Hot Leg Pump Discharge
IRWST	In-containment Refueling Water Storage Tank
LBLOCA	Large Break Loss-of-Coolant Accident
LHSI	Low-Head Safety Injection
LLFW	Low Load Feed Water
LOC	Loss-of-Coolant
LOCA	Loss-of-Coolant Accident
LTOP	Low Temperature / Over Pressure
M&E	Mass and Energy
MHSI	Medium Head Safety Injection system
NRC	Nuclear Regulatory Commission
P16	Permissive 16 – operators are permitted to use HL injection when the RCS pressure falls below 289.4 psia
PAF	Personnel Action Form
PRV	Pressurizer Relief Valve
PSIA	Pounds per Square Inch Absolute - measures from a vacuum where gage pressure measures from one atmosphere of pressure at 14.7 psia
PSVR	Preliminary Safety Validation Report
PZR	Pressurizer
QA	Quality Assurance
RAI	Request for Additional Information
RCS	Reactor Coolant System
RIF	Reduction-in-force
SBLOCA	Small Break Loss-of-Coolant Accident
SCWE	Safety-Conscious Work Environments
WebCAP	Web-based Corrective Action Program