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Your ref: EA-10-124
Our ref: LTR-RAC-10-82

Date: December 1, 2010

SUBJECT: REPLY TO A NOTICE OF VIOLATION

REFERENCE REPORT: NOTICE OF VIOLATION AND PROPOSED
IMPOSITION OF CIVIL PENALTY - \$17,500 (NRC INSPECTION REPORT
70-1151/2010-010)

Pursuant to the provisions of 10 CFR 2.201, Westinghouse Electric Company LLC "Westinghouse", herein provides a response to your letter of November 3, 2010.

Appendix A provides the replies to the violations of NRC requirements specified in the Notice of Violation and Proposed Imposition of Civil Penalty. Westinghouse has previously submitted the Payment of Civil Penalty in accordance with NUREG/BR-0254. Appendix B provides the additional information specifically requested regarding the Westinghouse extent of condition review, the areas that were determined to be improperly analyzed and the items relied on for safety being utilized to reduce the risk of a chemical exposure.

As Appendix B contains proprietary information, an Application for Withholding is submitted by Westinghouse Electric Company LLC "Westinghouse", pursuant to the provisions of Paragraph (b)(1) of Section 2.390 of the Commission's regulations.

The proprietary material for which withholding is being requested is identified in the proprietary version of the subject report transmitted herein. In conformance with 10 CFR Section 2.390, an Affidavit accompanies this Application for Withholding, setting forth the basis on which the identified proprietary information may be withheld from public disclosure.

Accordingly, it is respectfully requested that the subject information which is proprietary to Westinghouse be withheld from public disclosure in accordance with 10 CFR Section 2.390 of the Commission's regulations.

Should you have any questions or require additional information, please telephone Marc A. Rosser, Manager, Environmental Health and Safety at (803) 647-3174.

Sincerely,

Cary D. Alstadt, Acting Vice President, Nuclear Fuel
Columbia Fuel Fabrication Facility
Westinghouse Electric Company LLC

TE07

Attachments: Appendix A (10 pages) Non-Proprietary Class 3
Appendix B (24 pages) Proprietary Class 2
Appendix B (24 pages Non-Proprietary Class 3

cc: U. S. Nuclear Regulatory Commission
Regional Administrator, Region II
245 Peachtree Center Ave, NE Suite 1200
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U. S. Nuclear Regulatory Commission
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Mail Stop: EBB 2C40M
Attn: Christopher Ryder, Project Manager

AFFIDAVIT

- (1) I am the Acting Manager, Columbia Fuel Fabrication Facility in Nuclear Fuel, Westinghouse Electric Company LLC "Westinghouse", and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with Westinghouse submittals to NRC, and am authorized to apply for its withholding on behalf of Westinghouse.
- (2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations and in conjunction with the Westinghouse "Application for Withholding" accompanying this Affidavit.
- (3) I have personal knowledge of the criteria and procedures utilized by Westinghouse in designating information as a trade secret, privileged or as confidential commercial or financial information.
- (4) Pursuant to the provisions of paragraph (b)(4) of Section 2.390 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.
 - (i) The information sought to be withheld from public disclosure is owned and has been held in confidence by Westinghouse.
 - (ii) The information is of a type customarily held in confidence by Westinghouse and not customarily disclosed to the public. Westinghouse has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitute Westinghouse policy and provide the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

- (a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of Westinghouse's competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.
- (b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, e.g., by optimization or improved marketability.

- (c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.
- (d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.
- (e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.
- (f) It contains patentable ideas, for which patent protection may be desirable.

There are sound policy reasons behind the Westinghouse system which include the following:

- (a) The use of such information by Westinghouse gives Westinghouse a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Westinghouse competitive position.
 - (b) It is information which may provide Westinghouse's competitors with information on the methods and procedures which Westinghouse uses to fulfill regulatory and licensing obligations. The extent to which such information is available to competitors may diminish the need of Westinghouse competitors to develop such methods and procedures without comparable investment of time and resources.
 - (c) Use by our competitors would put Westinghouse at a competitive disadvantage by reducing our competitor's expenditures of resources by allowing them to build upon or utilize methods and procedures developed by Westinghouse at great expense.
- (iii) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390, it is to be received in confidence by the Commission.
 - (iv) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.
 - (v) The proprietary information sought to be withheld in this submittal is that which is contained in, "Appendix B ", for submittal to the Commission, being transmitted by this correspondence and Application for Withholding Proprietary Information from Public Disclosure. The proprietary information as submitted by Westinghouse is that associated with its Integrated Safety Analyses Process. Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to address similar safety, regulatory and licensing issues without commensurate expenses.

The development of the Integrated Safety Analyses Process described in part by the information is the result of an intensive Westinghouse effort and the expenditure of a considerable sum of money.

In order for competitors of Westinghouse to duplicate this information, similar technical and procedural programs would have to be developed and a significant manpower effort, having the requisite talent and experience, would have to be expended.

The averments of fact set forth in this Affidavit are true and correct to the best of my knowledge, information, and belief:



Cary D. Alstadt, Acting Vice President, Nuclear Fuel
Columbia Fuel Fabrication Facility
Westinghouse Electric Company LLC

Transmitted herewith are proprietary and/or non-proprietary versions of documents furnished to the NRC in connection with requests for generic and/or plant specific review and approval. In order to conform to the requirements of 10 CFR 2.390 of the Commission's regulations concerning the protection of proprietary information so submitted to the NRC, the information which is proprietary in the proprietary versions is contained within brackets, and where the proprietary information has been deleted in the non-proprietary versions, only the brackets remain (the information that was contained within the brackets in the proprietary versions having been deleted). The justification for claiming the information so designated as proprietary is indicated in both versions by means of lower case letters (a) through (f) located as a superscript immediately following the brackets enclosing each item of information being identified as proprietary or in the margin opposite such information. These lower case letters refer to the types of information Westinghouse customarily holds in confidence identified in Sections (4)(ii)(a) through (4)(ii)(f) of the affidavit accompanying this transmittal pursuant to 10 CFR 2.390(b)(1).

COPYRIGHT NOTICE

If any documents transmitted herewith each bear a Westinghouse copyright notice, the NRC is permitted to make the number of copies of the information contained in these reports which are necessary for its internal use in connection with generic and plant specific reviews and approvals as well as the issuance, denial, amendment, transfer, renewal, modification, suspension, revocation, or violation of a license, permit, order, or regulation subject to the requirements of 10 CFR 2.390 regarding restrictions on public disclosure to the extent such information has been identified as proprietary by Westinghouse, copyright protection notwithstanding. With respect to the non-proprietary versions of such documents, the NRC is permitted to make the number of copies beyond those necessary for its internal use which are necessary in order to have one copy available for public viewing in the appropriate docket files in the public document room in Washington, DC and in local public document rooms as may be required by NRC regulations if the number of copies submitted is insufficient for this purpose. Copies made by the NRC must include the copyright notice in all instances and the proprietary notice if the original was identified as proprietary.

APPENDIX A

A.1 WESTINGHOUSE RESPONSE TO NOTICE OF VIOLATION

In the November 3, 2010, Notice of Violation (NOV) for Inspection Report (70-1151/2010-010) a violation of NRC requirements was identified as a Severity Level III problem. NRC described the violation as follows:

During an NRC inspection completed on April 22, 2010, violations of NRC requirements were identified. The particular violations are set forth below:

- A. 10 CFR 70.62(c)(1) states, in part, that each licensee shall conduct and maintain an integrated safety analysis, that is of appropriate detail for the complexity of the process, that identifies: (ii) Chemical hazards of licensed material and hazardous chemicals produced from licensed material; (iv) Potential accident sequences caused by process deviations or other events internal to the facility and credible external events, including natural phenomena; and(v) The consequence and the likelihood of occurrence of each potential accident sequence identified pursuant to paragraph (c)(1)(iv) of this section, and the methods used to determine the consequences and likelihoods.

Contrary to the above, prior to January 24, 2010, the licensee failed to conduct and maintain an integrated safety analysis that identified potential consequences and likelihood of an accident sequence involving a chemical hazard. Specifically, the licensee failed to identify that an overflow in the Q-Tank area could lead to an intermediate consequence event involving excessive concentrations of airborne ammonia.

- B. 10 CFR 70.61 (c)(4)(i) states, in part, that the risk of each credible intermediate consequence event must be limited. Engineered controls, administrative controls, or both shall be applied to the extent needed so that, upon implementation of such controls, the event is unlikely or its consequences are less than those in paragraphs (c)(1)-(4) of this section. Intermediate consequence events are those internally and externally initiated events that are not high consequence events that result in an acute chemical exposure to an individual from licensed material or hazardous chemicals produced from licensed material that could lead to irreversible or other serious, long-lasting health effects to a worker.

Table 4.3, "Risk Evaluation Table," of the license application defines an intermediate consequence event as, "Greater than or equal to Emergency Response Planning Guidelines (ERPG)-2 chemical exposures to a worker." The American Industrial Hygiene Association defines ERPG-2 levels for airborne concentration of ammonia as greater than 150 parts per million. 10 CFR 70.61(e) states, in part, that each engineered or administrative control or control system necessary to comply with paragraphs (b), (c), or (d) of this section shall be designated as an item relied on for safety.

Contrary to the above, prior to January 24, 2010, the licensee failed to designate engineered or administrative controls or control systems as items relied on for safety,

when necessary to comply with paragraph 10 CFR 70.61(c). Specifically, the licensee failed to implement items relied on for safety for the quarantine tank system to reduce the risk of an event which results in an acute chemical exposure which could lead to irreversible or serious long-lasting health effects to a worker.

A.1.a ACKNOWLEDGEMENT OF THE VIOLATION

Westinghouse acknowledges the violation as identified in the Notice of Violation, dated November 3, 2010.

A.1.b REASON FOR THE VIOLATION

Westinghouse previously transmitted to the NRC correspondence LTR-RAC-10-16, Dated February 23, 2010 which documented the apparent cause of the violation. The Apparent Cause Analysis (ACA) was also transmitted to the NRC by correspondence LTR-RAC-10-28, dated April 6, 2010. The ACA determined the apparent cause as: "ISA process permitted use of organizational beliefs or assumptions without validation." As stated in NRC SPECIAL INSPECTION REPORT NO. 70-1151/2010-001, dated August 12, 2010, "The NRC agrees with this apparent cause and it is in agreement with one of the NRC's root causes: inadequate risk assessment system."

A.1.c CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED

The corrective actions identified by the ACA process included procedure revisions, completion of extent of condition reviews, and updating of Integrated Safety Analysis (ISAs) to include designation of Items Relied On For Safety (IROFS). These actions were previously identified and transmitted to the NRC in correspondence LTR-RAC-10-16, dated February 23, 2010.

In order to complete the extent of condition review, a comprehensive consequence based evaluation was performed by a third party contractor to provide a calculational basis for high and intermediate consequence events pertaining to chemical hazards affiliated with licensed materials (Tetra-Tech NUS Incorporated, Evaluation of Potential Chemical Spills at the Columbia Fuel Fabrication Facility, August 4, 2010). This information as well as published NRC guidance (NUREG/CR-6410) was utilized by Westinghouse Process Hazards Analysis (PHA) teams to re-evaluate the accident sequences used to develop the ISA for several areas of the Columbia Plant. Sequences were revalidated for accident initiators (e.g., low flow, high flow, high pressure, low pressure) as well as the potential consequence for proper consequence binning in accordance with license application requirements. This comprehensive review resulted in changes to several process area ISAs and the designation of IROFS for these accident sequences. Appendix B provides the resulting information from the various ISAs, including the IROFS selected to prevent and/or mitigate the accident sequences, to ensure that the performance requirements of 10 CFR 70.61 are satisfied. Additional monitoring equipment for use by emergency responders for those chemicals with potential for significant impact to facility workers was also obtained and placed in service.

Non-Chemical related accident sequences were also reviewed for inherent organizational beliefs or assumptions without validation. Radiological and Environmental consequence criteria in the ISA are based on actual field measured values, or formal calculations which were reviewed by

NRC during the ISA review and approval process. Criticality Safety discipline accident sequences are likewise based on fully developed and recently revalidated Criticality Safety Evaluations as part of the June 2009 project required by a previous license condition. This project resulted in an entirely new criticality safety basis for the Columbia Plant which is documented in the various ISAs. Fire Safety criteria are based on the applicable NFPA codes, and CFFF has taken a conservative approach to fire safety with several fire related IROFS identified for events that did not exceed the 10 CFR 70.61 high or intermediate consequence criteria, but have a potential to result in a significant industrial hazard from a fire or explosion scenario.

A.1.d ACTIONS TO PREVENT RECURRENCE

In addition to the specific procedural guidance already put into place for any new or revised PHAs, the consequence calculations provide a conservative technical basis for utilization by the PHA teams. Utilization of such conservative technical bases will ensure that the consequences of events that have the potential to exceed the high or intermediate performance requirements in accordance with the license application requirements are properly binned, and IROFS selected as necessary for chemical related accident sequences.

A.1.e DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Westinghouse has completed all necessary actions to restore compliance. The revised ISA summaries will be transmitted to NRC as part of the annual update in accordance with 10 CFR 70.72(d)(3) by the end of January 2011.

A.2 WESTINGHOUSE RESPONSE TO NOTICE OF VIOLATION

In the November 3, 2010, Notice of Violation (NOV) for Inspection Report (70-1151/2010-010) a violation of NRC requirements was identified 70-1151/2010-010-02 (Part II.A). This is a Severity Level IV Violation. NRC described the violation as listed below:

- A. Safety Condition No. S-1 of Special Nuclear Material License No. 1107 requires that material be used in accordance with statements, representations, and conditions in the license application dated June 27, 2007, or as revised, pursuant to 10 CFR 70.32 or 10 CFR 70.72 and the supplements thereto.

Section 6.1.8, "Criticality Accident Alarm System (CAAS)," of the license application states, in part, that if the CAAS is out-of-service, within one hour the [Columbia Fuel Fabrication Facility] will suspend movement and processing of fissile material in the coverage area until the process is brought to a safe shutdown condition. Contrary to the above, on January 24, 2010, the licensee failed to suspend movement and processing of fissile material in the coverage area of CAAS 15, within one hour of CAAS 15 being out-of-service from 11:21 p.m. on January 23, 2010 through 5:37 a.m. on January 24, 2010.

A.2.a ACKNOWLEDGEMENT OF THE VIOLATION

Westinghouse acknowledges the violation as identified in the Notice of Violation, dated November 3, 2010.

A.2.b REASON FOR THE VIOLATION

Westinghouse performed a Root Cause Analysis (RCA) of this violation which was previously transmitted to the NRC in letter LTR-RAC-10-27, dated April 6, 2010. As stated in NRC SPECIAL INSPECTION REPORT NO. 70-1151/2010-001, dated August 12, 2010, "The RCA performed on the criticality accident alarm system activation identified the following causal factors: 1) root cause - inadequate system design and response training for Columbia Fuel Fabrication Facility outside criticality alarm; and 2) contributing cause - lack of performance management process for IC and Emergency Director Positions. The NRC reviewed these causal factors and is in agreement with the licensee's assessment."

A.2.c CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED

Corrective actions taken by Westinghouse were provided in LTR-RAC-10-67, dated September 29, 2010 and submitted to the NRC. These included replacement of the UPS system which led to the failure.

A.2.d ACTIONS TO PREVENT RECURRENCE

The actions to prevent recurrence include both interim short term and longer term activities. The longer term corrective action involves design modifications to interconnect the outside CAAS to the main system so that reliance on human intervention should an alarm be received to initiate a plant evacuation is not required. Westinghouse management is also addressing the staffing and lack of a performance management process for IC and Emergency Director Positions as described

in the previously submitted RCA. The shorter term action to prevent recurrence involved the specific training revisions for the plant population, HP staff, the ICs and Emergency Directors on the proper response to an outside CAAS alarm in the current configuration. Focused training was also provided to the Conversion control room personnel and the outside CAAS alarm in the conversion control room was relabeled to avoid confusion with the process related gamma alarms. In addition to the proper response training, the UPS system preventive maintenance was modified to provide for early detection of failures, additional alarm horns were installed, and specific training was provided to maintenance staff on the CAAS UPS system.

A.2.e DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Westinghouse has completed all necessary actions to restore compliance. In addition, a modification to connect the outside criticality alarm system with the main system is currently scheduled to be completed by June 2011. Westinghouse management is also addressing the staffing and lack of a performance management process for IC and Emergency Director Positions as described in the previously submitted RCA. This action is in progress, with the scheduled completion date being tracked and monitored by Westinghouse Management utilizing the Corrective Action Process.

A.3 WESTINGHOUSE RESPONSE TO NOTICE OF VIOLATION

In the November 3, 2010, Notice of Violation (NOV) for Inspection Report (70-1151/2010-010) a violation of NRC requirements 70-1151/2010-010-03 (Part II.B) was identified. This is a Severity Level IV Violation. NRC described the violation as listed below:

- B. Safety Condition No. S-1 of Special Nuclear Material License No. 1107 requires that material be used in accordance with statements, representations, and conditions in the license application dated June 27, 2007, or as revised, pursuant to 10 CFR 70.32 or 10 CFR 70.72 and the supplements thereto.

Section 3.4.1, "Procedure Structure," of the license application, states in part, that operations to assure safe, compliant activities involving nuclear material are conducted in accordance with approved procedures.

Contrary to the above, on and before January 24, 2010, the licensee failed to develop and/or implement alarm procedures to assure safe operations of the quarantine tank system in response to installed process alarms.

A.3.a ACKNOWLEDGEMENT OF THE VIOLATION

Westinghouse acknowledges the violations as identified in the Notice of Violation, dated November 3, 2010.

A.3.b REASON FOR THE VIOLATION

As the Integrated Safety Analysis deficiency previously discussed did not adequately address the hazard nor the need for IROFS, the implementation process failed to establish procedural requirements for an abnormal response situation and none was specifically confirmed in place previous to the event.

A.3.c CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED

Corrective actions taken by Westinghouse were provided in LTR-RAC-10-67, dated September 29, 2010 and submitted to the NRC. This includes the development of the appropriate procedures to deal with installed process alarms where the resulting abnormal condition has the potential to result in significant chemical related consequences within two process areas of the Columbia Plant.

A.3.d ACTIONS TO PREVENT RECURRENCE

With the revised ISA implementation Westinghouse completed the development of the appropriate procedures to deal with installed process alarms, where the resulting abnormal condition has the potential to result in significant chemical related consequences within two

process areas of the Columbia Plant. The actions taken to address the inadequate ISA violation are also applicable here, as the procedurally required implementation process ensures the appropriate controls are in place in the field and will preclude a repeat of this situation. ISAs are reviewed and updated annually in accordance with 10 CFR 70.72 and regulatory significant procedures are reviewed on a schedule consistent with periodic reviews required by the SNM 1107 License Application for any needed updates or revisions.

A.3.e DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Westinghouse has completed all necessary actions to restore compliance.

A.4 WESTINGHOUSE RESPONSE TO NOTICE OF VIOLATION

In the November 3, 2010, Notice of Violation (NOV) for Inspection Report (70-1151/2010-010) a violation of NRC requirements 70-1151/2010-010-03 was identified. This is a Severity Level IV Problem.. NRC described the associated violations as listed below:

- C. Safety Condition No. S-2 of Special Nuclear Material License No. 1107 requires, that the licensee shall maintain and execute the response measures in Chapters 1.0 through 10.0 of its "Site Emergency Plan for the Columbia Fuel Fabrication Facility," dated October 1, 2008; or as further revised by the license consistent with 10 CFR 70.32(i).

Section 7.1 of the Site Emergency Plan states, in part, that written implementing procedures will be established containing detailed instructions on emergency response and statements of responsibility based on the policy established in this Site Emergency Plan. These procedures will clearly define duties, responsibilities, action levels, and actions to be taken by each functional group or individual in response to emergency conditions.

Site Emergency Plan Procedure (SEP) — 002, Section 6.1 states, in part, that the Incident Commander shall perform a size-up of the incident scene and determine the resources needed. Section 6.5 of SEP-002 states, in part, that the Incident Commander working with the Emergency Director shall decide on the classification of the event based on guidelines in Section 6.1, 6.2 and 6.3. Section 6.1.1 of SEP-002 defines a Local Response Event as any emergency event causing deviation from normal operations which can be managed within the confines of the plant site and control of the situation can be achieved in less than 15 minutes (less than 24 hours for powder/liquid spill). Included as an example is a controlled release of toxic gas or hazardous material where the source of the release can be isolated and there is no threat of escalation.

Contrary to the above, on January 24, 2010, following a spill of approximately 200 gallons of ammoniated waste water with maximum airborne concentration measured of 256 parts per million, the Incident Commander failed to classify the spill as a Local Response Event in accordance with Section 6.1.1 of SEP-002.

- D. Safety Condition No. S-2 of Special Nuclear Material License No. 1107 states, that the licensee shall maintain and execute the response measures in Chapters 1.0 through 10.0 of its "Site Emergency Plan for the Columbia Fuel Fabrication Facility," dated October 1, 2008; or as further revised by the license consistent with 10CFR 70.32(i).

Section 7.1 of the Site Emergency Plan states, in part, that written implementing procedures will be established containing detailed instructions on emergency response and statements of responsibility based on the policy established in this Site Emergency Plan. These procedures will clearly define duties, responsibilities, action levels, and actions to be taken by each functional group or individual in response to emergency conditions.

Site Emergency Plan Procedure (SEP) — 001, Section 6.1.3 states, in part, that the Incident Commander shall immediately conduct a size up of the incident scene and

initiate correct controlled form(s) as listed in Section 7.2. Controlled Form SEPF-001 -8, "Hazardous Materials Release," Section 2.0 states, in part, that the Incident Commander activates Blue Light Visual Warning System, instruct Security to announce all personnel in the area evacuate, and communicate with the Emergency Director.

Contrary to the above, on January 24, 2010, the Incident Commander failed to: 1) activate the Blue Light Visual Warning System; 2) instruct Security to announce all personnel in the area evacuate; and 3) communicate with the Emergency Director in response to the ammonia airborne concentrations that were measured inside the conversion area as required by procedures.

- E. Safety Condition No. S-2 of Special Nuclear Material License No. 1107 states, that the licensee shall maintain and execute the response measures in Chapters 1.0 through 10.0 of its "Site Emergency Plan for the Columbia Fuel Fabrication Facility," dated October 1, 2008; or as further revised by the license consistent with 10 CFR 70.32(i).

Section 7.1 of the Site Emergency Plan states, in part, that written implementing procedures will be established containing detailed instructions on emergency response and statements of responsibility based on the policy established in this Site Emergency Plan. These procedures will clearly define duties, responsibilities, action levels, and actions to be taken by each functional group or individual in response to emergency conditions.

Site Emergency Plan Procedure (SEP) — 001, Section 6.1.3 states, in part, that the Incident Commander shall immediately conduct a size up of the incident scene and initiate correct controlled form(s) as listed in Section 7.2. Controlled Form SEPF-001 -5, "Criticality Accident," Section 2.0 states, in part, that the Incident Commander activate Blue Light Visual Warning System, instruct Security to announce the criticality alarm has been activated all personnel evacuate immediately, and communicate with the Emergency Director and identify any systems that may need to be shutdown or isolated.

Contrary to the above, on January 23, 2010, the Incident Commander failed to: 1) activate the Blue Light Visual Warning System; 2) instruct Security to announce all personnel in the area evacuate; and 3) communicate with the Emergency Director, in response to the activation of the criticality accident alarm system, number 15.

A.4.a ACKNOWLEDGEMENT OF THE VIOLATION

Westinghouse acknowledges the violations as identified in the Notice of Violation, dated November 3, 2010.

A.4.b REASON FOR THE VIOLATION

Westinghouse determined in the ACA no clearly defined criteria existed for determining what incidental spills were and what larger spills that would require emergency response. Westinghouse also identified that there did not exist a performance management process for ICs.

A.4.c CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED

Corrective actions taken by Westinghouse were provided in LTR-RAC-10-67, dated September 29, 2010 and submitted to the NRC.

A.4.d ACTIONS TO PREVENT RECURRENCE

The actions noted for the CAAS system violation in the previous section are also applicable to the third cited violation of this Severity Level IV problem. With the implementation of the newly revised ISAs, specific response checklists for use by the ICs have been developed based on specific quantities of chemical bearing solutions which pose a significant chemical related risk to facility workers. Monitoring instrumentation has been procured and methods established for use by the HP staff and ICs to quickly ascertain the safety significance of spill related events. Where applicable, preventive equipment and procedural guidance have been identified as IROFS to ensure the full suite of management measures are applied to ensure the equipment is available and reliable. (See Appendix B).

A.4.e DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Westinghouse has completed all necessary actions to restore compliance. In addition, a modification to connect the outside criticality alarm system with the main system is currently scheduled to be completed by June 2011. The engineering modifications to the Q-Tank system discussed with NRC at the pre-decisional enforcement conference (EA-10-124, October 15, 2010) will further reduce the probability of a process upset that results in a significant event. These modifications are in progress with the scheduled completion date being tracked and monitored by Westinghouse Management to ensure timely completion.

APPENDIX B (Non-Proprietary)

ISA 3 Conversion (Aqueous Ammonia and HF) Also envelope ISA 11 (Scrap Uranium Processing)

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- ERPG-1: The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour without experiencing other than mild transient adverse health effects or perceiving a clearly defined, objectionable odor.
- ERPG-2: The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour without experiencing or developing irreversible or other serious health effects or symptoms which could impair an individual's ability to take protective action.
- ERPG-3: The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour without experiencing or developing life-threatening health effects.

The following is from NUREG/CR-6410. ERPG-1, 2, and 3 values are valid for an exposure time of one hour. No information is available on how to extrapolate them to different exposure times. One simple basis for extrapolation is that the hazard levels correspond to constant dosage. If the hazard level for one hour is C(1), that for an exposure time t_e is given by

$$C(t_e) = C(1)/t_e \quad \text{where } t_e \text{ is in hours.}$$

This equation is an expression of Haber's law (USEPA 1987).

An alternative approach which may be adopted involves a more cautious extrapolation for small exposure times could be used:

:

$$\begin{aligned} C(t_e) &= C(1)/t_e \quad (\text{for } t_e > 1/3 \text{ hr}) \\ C(t_e) &= C(1)[2 + 1/(3t_e)] \quad \text{for } 1/12 \leq t_e \leq 1/3 \text{ hr} \quad (5.107) \\ C(t_e) &= 6C(1) \quad \text{for } t_e < 1/12 \text{ hr} \end{aligned}$$

There is no general extrapolation that is valid for all toxic chemicals. The validity of these equations must be assessed on a case-by-case basis. For HF, however, there have been experiments on rodents that support the use of Haber's law down to an exposure time of as little as two minutes.

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