



CB&I
4171 Essen Lane
Baton Rouge, LA 70809
Tel: +1 225 987 7557
Fax: +1 225 987 3662
www.CBI.com

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December 20, 2013

Mr. Michael C. Cheek, Acting Director
Division of Construction Inspection & Operational Programs
U.S. Nuclear Regulatory Commission
11545 Rockville Pike, TWFN 7 D24
Rockville, MD 20852-2738

Subject: Update to CB&I Response Letter Dated May 17, 2013, to April 18, 2013, NRC Letter Regarding Chilled Work Environment at CB&I Lake Charles Fabrication Facility

References: Confirmatory Order dated September 16, 2013 (EA-12-189), from Roy Zimmerman, Director, Office of Enforcement, USNRC, to Jeffrey J. Lyash, President, Power, CB&I

Letter Dated May 17, 2013, from Philip K. Asherman, President & CEO, CB&I, to Glenn Tracy, Director, Office of New Reactors, USNRC [CB&I Document No. L-CBI-USNRC-000002]

Letter dated April 18, 2013, from Glenn M. Tracy, Director, Office of New Reactors, USNRC, to Philip K. Asherman, President and Chief Executive Officer, CB&I [Docket: 99901424]

Dear Mr. Cheek:

This letter provides an update of CB&I's ongoing efforts to correct the chilled work environment at CB&I's fabrication facility in Lake Charles, Louisiana. In our response letter dated May 17, 2013, CB&I affirmed its commitment to take the necessary actions to address the issues at the Lake Charles facility. Our response discussed the immediate actions taken and the planned actions to address the elements and issues contained in your letter of April 18, 2013.

CB&I is fully committed to establishing a strong nuclear safety culture at the Lake Charles facility. We have taken actions to strengthen the leadership and supervision at the facility, including providing stronger oversight and corporate involvement, providing managers and supervisors with the training and tools they need to be successful, and improving internal communications. CB&I has also taken actions to establish a strong Safety Conscious Work Environment (SCWE) to ensure that employees are free to raise safety and quality concerns without fear of retaliation. Ongoing actions have included frequent senior management reinforcement of our expectations with the staff, establishment of a formal Safety Conscious Work Environment (SCWE) policy, improved communications, and addressing management behaviors regarding receptiveness and responsiveness to concerns. CB&I is strengthening the Corrective Action Program (CAP), updating its CAP refresher training and reinforcing expectations of thoroughness and timeliness to managers and supervisors. In addition, CB&I has taken actions to ensure quality products are fabricated at Lake Charles, including improving the fabrication processes, and improving the training and qualification program. Additionally, the Nuclear Safety Advisory Board (NSAB) has been established and is functioning to provide oversight of the implementation of the Chilled Environment Letter (CEL) Action Plan to assess, evaluate effectiveness, advise and provide feedback on suggested improvements to enhance and maintain a strong nuclear safety culture and SCWE at CB&I Lake Charles.

The specific programs discussed in the CEL that needed to be addressed were:

- Nuclear Safety Culture/Safety Conscious Work Environment (SCWE)
- Corrective Action Program (CAP)
- Employee Concerns Program (ECP)
- Quality Assurance Program (QA)
- Training Program



The planned actions identified in the CB&I response formed the foundation for the corrective actions to respond to the NRC concerns. The actions were entered into the facility's Corrective Action Program (CAP).

Our leadership team has vigorously implemented actions identified in the CB&I response to address the chilled work environment and is continuing to assess and monitor additional areas of improvement. A high-level summary of key improvement initiatives and actions that have been implemented or are in the process of implementation are highlighted below by program area:

Nuclear Safety Culture/Safety Conscious Work Environment (SCWE)

- Revised the CB&I Lake Charles Nuclear Safety Culture and Safety Conscious Work Environment policy
- Implemented training on establishing Nuclear Safety Culture and Safety Conscious Work Environment
- Updated the new hire orientation section on Safety Culture and Safety Conscious Work Environment
- Implemented a Nuclear Safety Culture refresher course for employees
- Developed a procedure for executive review for personnel actions
- Reviewed results of previous safety culture assessment with employees and managers
- Began conducting internal informal Nuclear Safety Culture Employee Surveys
- CB&I third party Nuclear Safety Culture Assessment, as identified by Confirmatory Order, to be conducted by Spring of 2014

Corrective Action Program (CAP)

- Emphasized the use of CAP as a tool to identify conditions and concerns
- Developed posters to promote the use of Condition Reports to raise a concerns
- Established a CAP Refresher training program

Employee Concerns Program (ECP)

- Updated ECP posters to identify alternate avenues for raising concerns
- Implemented an exit interview/survey
- Conducted an independent review of ECP
- Relocated ECP staff to an area more accessible to the employees in the fabrication areas

Quality Assurance Program (QA)

- Conducted an Independent Assessment to determine if effective programmatic controls are in place at CB&I in five areas. The Assessment was conducted and the final report was completed October 21, 2013. Some additional issues were identified and conditions reports were initiated and corrective actions are underway.
- A root cause analysis was conducted on the issues identified when the NRC found 12 shear studs that had not been installed per the design as the sub-module arrived at the site. The RCA identified some additional corrective actions that are being included in our overall improvement effort. This event was determined to be a Programmatic QA Breakdown per 10 CFR 50.55(e) and reported to the NRC.
- A CB&I Quality Assurance group recently conducted an audit of the corrective action program at the CB&I Lake Charles site. It was determined that the facility response to all of the committed CEL response items did not fully meet our expectations. In addition, some concerns about the implementation of the Corrective Action Program were highlighted, some of which were already known. The findings from this audit are being captured in the Corrective Action Program.

Training Program

- Implemented training of managers, supervisors, and foremen on nuclear safety culture and SCWE
- Revised New Hire Orientation to include emphasis on nuclear safety culture, SCWE, and use of CAP
- Implemented CAP refresher training
- Developing improved craft training and qualification programs to have a Systematic Approach to Training (SAT) for skilled trades



CB&I Lake Charles has completed the majority of the corrective actions identified in the Chilled Environment Letter (CEL) and implemented many positive improvements. However, some challenges remain, including issues identified in subsequent assessments and audits, and the corrective actions have not yet resulted in the rate of change we desire or expect in all areas. We have performed a Root Cause Analysis (RCA) on the safety culture issues and Independent Assessment of Quality Assurance programmatic controls. Corrective Actions from these activities are in place and being implemented. CB&I Lake Charles management has also developed an Integrated Improvement Plan (IIP) to consolidate and coordinate the many activities that are ongoing at the facility to reach and sustain improvement in performance. We are also continuing to work in the development of additional metrics that we will use to monitor the ongoing health and sustainability of our Nuclear Safety Culture at Lake Charles.

CB&I continues to assess and evaluate emergent performance issues, or areas where performance improvement is not as expected, and is adding new actions to its improvement effort such as the following:

- Additional actions are being taken from assessments conducted as part of CEL response (e.g. QA), other audits, and emerging issues (e.g., missing studs RCA)
- Corporate management is monitoring performance and assessing progress on a regular basis
- Performance in all areas has not improved as expected based on preliminary results, so additional actions will be implemented
- Floor training at crew level, led by production and quality management, is being implemented to improve procedure adherence

As noted in the September 16, 2013 NRC Confirmatory Order, CB&I agreed to take a number of actions for all CB&I nuclear employees and contractors to improve its companywide nuclear safety culture. Some of these actions from the Confirmatory Order relate to the May 17, 2013, specific commitments for CB&I Lake Charles. It is CB&I's desire to ensure all commitments of the Confirmatory Order are integrated at all CB&I nuclear sites. We have reviewed the commitments and dates previously provided in our May 17, 2013 letter and we are working with the CB&I Nuclear Safety Officer (NSO) and have revised any actions and/or commitments accordingly to be consistent with the broader actions in the Confirmatory Order. The attachment to this letter provides those specific Lake Charles commitments that have been revised to reflect the Confirmatory Order. In addition, we recognize that some of the completed actions will be enhanced or revised based on the broader CB&I actions resulting from the Confirmatory Order.

Please do not hesitate to contact me, or Remi Bonneau (President of Fabrication & Manufacturing) if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Luke V. Scorsone'.

Luke V. Scorsone
Executive Vice President, Group President
Fabrication Services
CB&I

w/Attachment

Cc: USNRC Document Control Desk
Samantha Crane
Philip Asherman - CB&I
Pat Mullen - CB&I

Ronald Stevens - CB&I
Lisa Marie Jarriel
Remi Bonneau - CB&I
Kevin Walsh - CB&I

Edward Roach
Dori Willis
Geoff Grant
Jeff Lyash - CB&I

ATTACHMENT

CB&I Lake Charles Chilling Effect Letter Commitments Superseded by the Confirmatory Order

CB&I Lake Charles Commitment	Due Date	Confirmatory Order Action	Due Date	Discussion
NRC Item 1 Action #22 - Evaluate all CB&I nuclear sites to ensure a strong nuclear safety culture exists at each location?	12/13/13	E.1. As committed to in CB&I's May 17, 2013, response to the NRC's April 18, 2013, Chilling Effect Letter, CB&I Lake Charles has entered the conditions associated with the Chilling Effect Letter into its corrective action program, characterized it as a significant condition adverse to quality, and completed a root cause analysis. By no later than six (6) months after issuance of the Confirmatory Order, CB&I shall evaluate the potential for similar issues at other CB&I nuclear sites.	3/16/14	The Confirmatory Order actions and due date supersede the specific Lake Charles action and due date. This action is considered part of the evaluation to determine the potential for the Lake Charles root causes to be present at other CB&I nuclear sites.
NRC Item 1 Action #23 - Based on the root cause analysis' identified causes of safety culture issues at Lake Charles, evaluate the potential for these issues at other CB&I sites	12/13/13	E.1. As committed to in CB&I's May 17, 2013, response to the NRC's April 18, 2013, Chilling Effect Letter, CB&I Lake Charles has entered the conditions associated with the Chilling Effect Letter into its corrective action program, characterized it as a significant condition adverse to quality, and completed a root cause analysis. By no later than six (6) months after issuance of the Confirmatory Order, CB&I shall evaluate the potential for similar issues at other CB&I nuclear sites.	3/16/14	The Confirmatory Order actions and due date supersede the specific Lake Charles action and due date.

CB&I Lake Charles Commitment	Due Date	Confirmatory Order Action	Due Date	Discussion
NRC Item 3 Action #8 - Develop a company-wide ECP available to all employees participating in activities subject to the NRC authority	12/13/13	<p>C.2. By no later than six (6) months after issuance of the Confirmatory Order, CB&I shall develop and maintain a single Employee concerns Program (ECP) for all CB&I employees.</p> <p>C.2.a) The ECP, including position descriptions, shall be informed by benchmarking at least 2 organizations in the nuclear industry with developed processes.</p> <p>C.2.b) The ECP Functional Manager will report to the Vice President, Nuclear Safety for these activities, with day-to-day reporting and oversight by the Director of Nuclear Compliance.</p> <p>C.2.c) ECP personnel shall receive appropriate training, including investigative techniques.</p>	3/16/14	The Confirmatory Order actions and due date supersede the specific Lake Charles action and due date.

CB&I Lake Charles Commitment	Due Date	Confirmatory Order Action	Due Date	Discussion
<p>NRC Item 1 Action #20 - Plan to conduct a nuclear safety culture assessment to measure the health of the safety culture and safety conscious work environment. Ensure the assessment is conducted by persons who are independent of the chilled organization and knowledgeable and experienced in conducting such assessments. If individuals are interviewed as part of the assessment, document the interview questions used and that the basis to determine the number and cross section of individuals interviewed was appropriate to obtain the necessary information to fully evaluate the chilled work environment. Refer to NRC Item 3 below for actions to be taken to ensure results of the assessment are appropriately addressed.</p> <p>NRC Item 3 Action #3 - Review future nuclear safety culture assessments and initiate CRs as appropriate.</p>	10/31/13	<p>D.2. By no later than six (6) months after issuance of the Confirmatory Order, CB&I shall hire a third-party, independent consultant to perform tailored comprehensive nuclear safety culture assessments, including site surveys, of all CB&I nuclear business entities not already assessed by a licensee and perform assessments or surveys within twelve (12) months to ensure effectiveness of the Nuclear Safety Culture and Safety Conscious Work Environment programs.</p> <p>D.2.a) Follow-up assessments or surveys shall be conducted every two years for a total of 4 years. These future nuclear safety culture assessments or surveys shall be comparable to one another to allow for effective evaluation of trends.</p> <p>D.2.c) The results of each assessment or survey and CB&I's plan to address the results shall be communicated to employees with three (3) months of receiving the assessment/survey results.</p>	3/16/14	The Confirmatory Order actions and due date supersede the specific Lake Charles action and due date.

CB&I Lake Charles Commitment	Due Date	Confirmatory Order Action	Due Date	Discussion
NRC Item 1 Action #21 - Conduct a follow-up nuclear safety culture assessment within one year following the date of the previous assessment (in Action 20 above) to measure the health of the safety culture and safety conscious work environment. Ensure the assessment is conducted by persons who are independent of the organization and knowledgeable and experienced in conducting such assessments. If individuals are interviewed as part of the assessment, document the interview questions used and that the basis for determining the number and cross section of individuals interviewed was appropriate to obtain the necessary information to fully evaluate the chilled work environment. Refer to NRC Item 3 below for actions to be taken to ensure results of the follow-up assessment are appropriately addressed.	10/31/13	<p>D.2. By no later than six (6) months after issuance of the Confirmatory Order, CB&I shall hire a third-party, independent consultant to perform tailored comprehensive nuclear safety culture assessments, including site surveys, of all CB&I nuclear business entities not already assessed by a licensee and perform assessments or surveys within twelve (12) months to ensure effectiveness of the Nuclear Safety Culture and Safety Conscious Work Environment programs.</p> <p>D.2.a) Follow-up assessments or surveys shall be conducted every two years for a total of 4 years. These future nuclear safety culture assessments or surveys shall be comparable to one another to allow for effective evaluation of trends.</p> <p>D.2.c) The results of each assessment or survey and CB&I's plan to address the results shall be communicated to employees with three (3) months of receiving the assessment/survey results.</p>	3/16/14	The Confirmatory Order actions and due date supersede the specific Lake Charles action and due date.