

## BriRisk Consulting Ltd.

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December 8, 2013

Re: Draft Safety Culture Framework

National Energy Board  
444 Seventh Ave SW  
Calgary AB T2P 0X8

Attention: Ms. Claudine Bradley

Dear Ms. Bradley

I am a Calgary based process safety consultant with a background in engineering and plant operations (oilsands) management. Since my formal retirement in 2003 I have been involved as a consultant and/or expert witness on several major incidents in the oil and gas sector. I am also a part time staff consultant for the Center for Chemical Process Safety (CCPS), a US based industry alliance in which several Calgary based energy companies are involved.

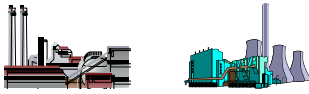
Much of my international work is coordinated through CCPS. Since 2008 I have conducted several process safety workshops in places such as Aberdeen, Houston, Anchorage, Kuala Lumpur and Rio de Janeiro as well as Halifax and St Johns on the Canadian front. Our four day CCPS workshop, conducted by two consultants, is entitled “Process Safety Foundation Course” and we allocate considerable time to process safety culture. I was informed of the NEB initiative through Howard Pike of C-NLOPD at one of our recent workshops.

To the subject at hand I congratulate the NEB for undertaking such an important initiative. I have previously worked with Transport Canada and Environment Canada to promote management systems in high hazard industries but have been only partly successful. I think your draft framework is an excellent document and I have passed a copy on to Scott Berger, the CCPS executive director in New York. He has given it to the subcommittee on process safety culture and you might expect some further feedback from its members.

The comments to follow are my own and none of these is meant to criticize the excellent work that has been done by NEB. Within Process Safety Culture we often fuse three concepts: leadership/accountability/discipline.

### General comments

- Page 3 List is very comprehensive. We typically add “Culture dictates what happens when no one is watching”. It is continuous and embedded – not something you turn on and off.
- Culture influences how people think and act. But culture is also a function of the way people think and act. A two way sword so to speak.
- Each company needs to establish its own culture. You can’t simply copy it or get it from a book.
- Leadership starts at the top but must transcend down to the front line. Unless the worker on an offshore platform at 2 AM feels responsible and deems a sense of ownership errors and shortcuts may occur. How do you make the front line worker proud of his position



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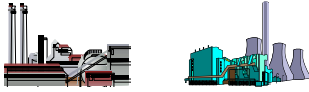
and proud of the operation? I think the NEB document needs to add a few lines to encompass the front line worker.

- Page 3, second bullet. Hazard awareness is important but... we stress the word vulnerability. Not only is it important to understand hazards but to realize the worst case scenario as a possibility. We use the Titanic and Challenger case studies as examples of failing to recognize vulnerability. Managers in industry often do not know what they don't know. Just because a facility meets the codes does not assure that a major accident cannot occur. If senior executives better understood vulnerability perhaps corporate spending would be altered or re-aligned.
- There is little reference to teamwork in the document. Fostering teamwork is the best way to achieve a good safety culture. A good team can self-manage and promote trust and understanding. We often make reference to the US hockey team which won the gold medal in the 1980 Lake Placid Olympics. This was a classic example of strong teamwork.
- Page 5, bullets 1 and 2. Tolerance of inadequate systems and Normalization of deviance go hand in hand. This is the first time I have seen the two themes split. I think these feed each other. These themes are a critical warning sign of impending disaster. Few companies are able to spot this anomaly themselves. External audits or "cold eyes" reviews are useful for detecting NOD.

### Threats to Safety Culture

My own list includes the following:

- Frequent changes in organizational structure – ie reporting relationships
- Bullying in the workplace – rated number 1 threat in Incident Warning Signs project.
- Early and sudden retirements at the senior level
- Lack of stability in the workforce – particularly western Canada and offshore
- Stock options offered to senior and middle line managers. These often result in deferred spending particularly affecting critical maintenance jobs.
- Lack of front line experience by senior leaders and executives. Unless there is a reality check between the two organizational extremes senior management communications will be ignored and could actually inhibit a good safety culture.
- Inconsistent knowledge and understanding of risk within an organization. Any determination of risk is therefore subjective and not defensible. This is apparent at the top of many organizations from audits which I have conducted. The University of Alberta offers an elective course in risk management for final year business students; few universities provide such training.
- Traditional management training stressed "management by objectives" and assessed the end result. While most graduates of my era (the late 60s) have since retired there are new management initiatives that promote delegating details down the line. In high hazard industries this is unwise and can put an operation at risk. Some leading US corporations exist because managers care enough to explore the details of the business. Business schools fail to highlight this important activity.
- Management unwilling to accept bad news. A good news organization will fail to deal with its problems because they will not have any.



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On page 12 there is a reference to key safety personnel. I personally believe that these individuals should not be the prime focus. They are certainly an important part of the solution. Reporting lines need to extend to those persons who possess the expertise whether they be engineers, electricians or maintenance coordinators. Key safety personnel must not be seen as policemen but rather as resources.

As I wrap up my comments I must make reference to one more accident that occurred while your draft document was likely being prepared. The Lac Megantic train derailment in Quebec this past July was a classic example of lack of safety culture. The botched interview with the railway CEO confirmed that there was little commitment to safety and integrity. Blame and denial drowned out any questions posed by the media which might have revealed some truth.

Management systems are what process safety is all about. They take responsibility for safety beyond the control of a single person. My former employer in Fort McMurray assigned managers to act as custodians of the various management system elements. I was given such responsibility for two important elements in addition to my line responsibilities. It is important that energy companies carefully investigate and roadmap their management system strategies before jumping on a bandwagon. This is critical to success.

I hope your final position paper on safety culture leads to tangible results in the oil and gas sector and again I commend the NEB for its worthy undertaking. If my comments are not clear or if you require further input I can be reached in Calgary at (403) 375-0709 till January 10<sup>th</sup>, 2014.

Respectfully submitted

Brian D. Kelly P Eng  
BriRisk Consulting Ltd.