

May 2, 2007

TO: All Employees

RE: My View of Safety

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As a follow-up to my last email to everyone about achieving operational excellence, I also want to explain my view of safety. In my experience, an organization that operates safely is one in which all processes – from business development to project execution to financing and reporting – are run under control. Achieving this goal requires something more than effective training, clear metrics, and well functioning equipment. It also requires that anyone involved in a process has to understand (1) its key elements; (2) how they are related to each other; and (3) how these elements are likely to change (often with a time lag), based on the action you take to achieve a given objective. In the world of aircraft piloting and military operations, mastering all three levels of understanding is collectively known as “situational awareness.” For example, the reason even very experienced pilots still use a checklist before every flight is to remind themselves about the key elements in the process they are operating, as a means of “kick-starting” and double checking their situational awareness.

Sports teams operating with good situational awareness are said to be “at the top of their game” or, in the term used in Navy ships’ combat information centers, they “have the bubble.” All of us at CCR participate in the operation of different processes, and we all must constantly strive to achieve and maintain our individual and shared team situational awareness. I’m not saying this is easy, or that you sometimes won’t “lose the bubble.” That’s normal. I’m just saying we have to recognize the problems this can cause, and work hard – as a team – to maintain our situational awareness.

Another thing you see in safely run organizations is people actively trying to anticipate potential problems, communicating about them with each other, and working together to take preventive action before loss of process control or a reportable safety incident occurs. For example, every time I make a plan, I sit back and ask myself this question: “Assume your plan has failed – what did you miss, and what could you have done differently?” I have never asked this question without realizing that I had missed something the first time around. This is also the reason why surgical teams “talk through” or “mentally rehearse” each procedure before a patient arrives on their operating table (the teams that forget to do this too often end up starring in newspaper stories about a person who had the wrong leg amputated). In short, safe operations result from looking for problems before they occur and talking about them, even if it means admitting that you have made a mistake in the past. Unfortunately, in too many organizations fear of retribution causes people not to do this. I realize that this was an unfortunate characteristic of our company’s culture in the past. We all have to work hard to change this as we turn this company around.

The last thing I ever want to hear is “oh, I knew that might be a problem, but I didn’t tell anybody about it because I was afraid.” Operating safely is not about assigning blame. It is about anticipating problems and solving them before they cause processes to run out of control and reportable safety incidents to occur. The more problems we identify, the fewer we will experience.

Last but not least, I want to acknowledge that safety rules are too often easy to ignore. Why? Because people see that doing so typically produces no adverse consequences. There is a reason for this: safety rules are usually designed with a lot of extra margin built into them. Unfortunately, the routine violation of safety rules and operating procedures sometimes results in a combination of events that quickly gets seriously out of control, with potentially dangerous consequences. The explosion of the Chernobyl nuclear reactor in 1986 was a

classic example of this. Closer to home, the incident we were involved in earlier this year had a similar chain of events. The key point is this: the way most safety rules are designed creates a high temptation to violate them, which can quickly turn into a bad habit with very dangerous consequences. Keep that in mind when you are tempted to cut corners.

So, to sum up: operating safely is a critical part of the process of turning around our company. It is everybody's responsibility. Safe operations emerge from processes that run under control. This depends not only on good training and equipment, but also on good individual and team situational awareness, anticipating and solving problems before they happen, and not giving in to the temptation to violate safety rules.

Let's keep this in mind as we increase our pace of operations and accelerate our turnaround through the remainder of 2007.