

Sufficiency or Deficiency: A Philosophical Issue

One item in the Control Room Management (CRM) alarm management regulation is “addressing deficiencies identified” in the procedures and implementation of the parts of the alarm management regulation. An effective CRM Plan is one that identifies and corrects deficiencies in all areas of control room management, not just in the alarm management section. Is your CRM Plan sufficient for its purpose? Do you have a process for identifying and correcting deficiencies in the entire CRM Plan? Does it bother you to think about deficiencies?

A controller in one of our recent team training sessions remarked that no one ever compliments them about their good performance and constantly harps on any mistakes or errors that are made. He said that his performance is good 99% of the time, and we are always talking about accidents, errors, mistakes, and lapses. He would like to be complimented and not criticized. He does not want to be lumped in with those controllers who have been involved in accidents. He may be riding for a fall.

He also may be right about his performance, and the industry cites a similar percentage: *A barrel of crude oil or petroleum product shipped by pipeline safely reaches its destination more than 99.99% of the time.* (Source: <https://energycitizens.org/wp-content/uploads/2017/02/API-EC-Infrastructure101-Final.pdf>)

The natural gas industry also emphasizes safety: *The dedicated efforts of natural gas utilities over the past three decades have led to an approximately 40 percent decline in pipeline incidents over the past ten years.* (Source: <https://www.aga.org/factsheets/pipeline-safety>)

Here’s my problem. Some pipeline accidents lead to deaths and injuries. That .01% of the time when barrels do not reach their destination has the potential to harm the public, pipeliners, the environment, and the pipeline infrastructure. The probability may be low, but the consequences can be dire. I have been a pipeliner since 1966, have made my share of operating errors, have responded to many spills, and have seen the results of pipeline accidents on people and their families and on companies.

I want CRM Plans and other programs to be sufficient for their purpose, and not deficient. We are dedicated to that goal. A starting point is to set a standard of sufficiency. I was thinking last night that even some companies that have had pipeline accidents are still satisfied with minimal compliance when it comes to regulations. That bothers me deeply; even keeps me awake some nights.

It is a philosophical issue. Apply what the Stoic philosopher Epictetus said: *First say to yourself what you would be; and then do what you have to do.* What would your CRM program be if it were sufficient? What do you need to do to remove all deficiencies?

If I apply what Epictetus said, I would look at the CRM elements holistically and consider that a CRM program would be one that provided controllers and others with CRM responsibilities a clearly stated purpose that emphasized excellence in performance and results. I would not be satisfied if one section had no deficiencies and other sections did.

Although we look at each section separately, they all should be connected by a common purpose, as we illustrate during CRM training. Consider this example we are using in control room team training. A non-technical skill that human beings need to practice in control rooms is situation awareness. We need adequate information in order to perceive, comprehend, process, and project what that information is telling us so we can make decisions and take appropriate actions. Our situation awareness capacity can be affected by fatigue, stress, noises, interruptions, distractions, inadequate or conflicting information, poor communication about changes, terrible SCADA displays, poor alarm systems, failure to learn from past experiences, and lack of competence.

A sufficient CRM program would address those items that affect our non-technical skills. Do what you have to do to increase sufficiency.

