The Filthy Fifteen Causes of Errors and Accidents

In 1999, I was given a mission to reduce the number of pipeline operational errors that led to leaks, spills, and accidents. I sought to learn about *"human factors"* from any and all available sources since there was not much information in the pipeline industry. One of the sources was the aviation industry, and I attended an aviation human factors conference in 2000.

I learned about "The Dirty Dozen," which had been developed by Gordon Dupont and was widely used in aviation to help people learn the common causes of human error. We adapted the program to the pipeline industry and have spoken at conferences, written articles and a book, and provided training to several companies. I think an error management program that includes an emphasis on "The Dirty Dozen" can reduce human errors in control rooms, in field operations, in pipeline maintenance, and in our personal lives.

The Dirty Dozen Causes of Errors and Accidents are:

- Stress
- Fatigue
- Complacency
- Distractions
- Pressure
- Lack of Awareness
- Lack of Assertiveness
- Lack of Communication
- Lack of Knowledge
- Lack of Resources
- Lack of Teamwork
- Norms

Last year I was reading an aviation human factors article and learned that one organization had added three additional causes. This resulted in a change in terms to "The Filthy Fifteen." The three are:

- Inability to Admit Limitations
- Lack of Operational Integrity
- Lack of Professionalism

Think about what contributes to errors in your business. If one looks at the 15 causes and compares them to the subjects that ought to be covered in control room team training, one should see some similarities. Some of the clearly related subjects from the control room team training FAQs are situational awareness, decision making, teamwork, communication, professionalism, and error management. Other subjects from the FAQs that are affected by "The Filthy Fifteen" include leadership, understanding of roles and responsibilities, and problem solving.

We will be creating a classroom training program specifically for the pipeline industry on "The Filthy Fifteen and Ways to Prevent Errors." In addition, we will provide complimentary articles on each cause through e-mail distribution and on Linked In. I will also write a book for publication later in 2020 or in early 2021.

If your control room management/human factors program lacks a practical, easy to understand emphasis on error management, our program could be beneficial to you. If you need control room team training that includes how to avoid these causes, contact charles@pipelineperformancegroup.com.