Countdown To Safety

a safety program by Astronaut Mike Mullane

In his program, "Countdown To Safety", Astronaut Mullane delivers a powerful message on the individual's role in keeping themselves and their teams safe in hazardous environments. The following is a summary of the significant points of his program:

Normalization of Deviance

In this discussion, Mullane uses the Space Shuttle Challenger disaster as an example of how a World-class team can be victimized by incremental deviances from safety best practices.

Challenger was a result of a catastrophic failure of the O-rings, Criticality 1 components used to form pressure seals between the four propellant-filled segments that comprise the twin solid fueled rocket boosters. Even though there were multiple instances of leaking O-rings in the 24 missions preceding Challenger, launches were never suspended to give engineers adequate time to address the problem. In hindsight, the serial justifications over a 4-year period to continue launch operations, reveal an incremental creep from best practices, i.e., a normalizing process. Challenger proved to be a 'predictable surprise'. Mullane will discuss the following factors contributing to the ultimate tragedy:

1. **Extreme launch schedule pressures.**
2. **Conflicting performance results with the O-ring seals.**
3. **A developing sense of 'margin' in the performance of the O-rings.**
4. **A significant communication breakdown which kept the grave concerns of the contractor engineers from key decision makers.**

From this discussion, the following lessons are derived:

1. **Normalization of deviance is rooted in decision-making while under job-related or personal pressures. Everybody is vulnerable. Procedural compliance will always be the best defense. Make it a religion.**
2. **Maintain situational awareness. Have a questioning attitude.**
3. **Risk has no memory. Risk is not diminished by the frequency at which one is successful in taking the risk.**
4. **Beware of this thought process, 'These are exceptional circumstances. I must take the short-cut. Next time I will do it right.' One successful safety short cut provides this false feedback: The absence of a negative consequence suggests a risk previously believed to be *absolute* is, in fact, *manageable.* One short-cut opens to door to more.**
5. **Set challenging but attainable goals. NASA's shuttle launch goal of 24 missions per year proved to be unattainable and pressures that resulted from that goal were significant factors in the tragedy.**
6. **'Failure is not an option' is a necessary belief-system for every team member if a goal of 'zero harm' is to be achieved.**

Responsibility & Accountability

Mullane will introduce this safety fundamental with a personal story from his USAF flying career.

At the time of the story, Mullane was a very experienced Weapons System Operator from the backseat of the reconnaissance version of the F-4 Phantom jet fighter but making his first flight in a swing-wing, supersonic F-111 jet. Ultimately, he and the pilot had to make a last second ejection from the crashing jet. This crash was due to crew error...including Mullane's failure to speak up at a critical moment in the flight. From this story he will develop these lessons:

1. **See something, Say something. Do something.**
2. **We're all in it together. In hazardous operations, the actions/inactions of a single individual can endanger everybody. Take each other's back.**
3. **One person with courage forms a majority. You count. You are unique. You might see something safety-related that nobody else sees. Never be a 'safety passenger' and assume somebody else will 'take care of it.'**
4. **Leaders: Empower your teams so everybody does count.**
5. **We all contribute to the safety culture of a team and will be accountable for our contribution. In hazardous operations, you may not get a 'do-over'. *OWN* your safety responsibility.**

Courageous Self-Leadership

'Courageous Self-Leadership' is necessary to achieve a 'zero harm' safety goal. Mullane uses his own life story in this discussion. Contrary to what many people think, he was not born with the gifts of genius and great talents. But for his passion to fly into space, he was an ordinary child. His journey to the title 'Astronaut' is a striking revelation into the power of courageous self-leadership, i.e., making personal excellence a life quest.

Key lessons derived from this discussion are:

1. We all have deep reserves of Courageous Self-Leadership we can draw upon to achieve 'zero harm' safety goals.

2. Safety is a continuous journey. It is not a final destination. Celebrate successes in safety but always remember...past successes will not guarantee future safety excellence.

To discuss the possibility of bringing Astronaut Mike Mullane to your next safety event, please contact: mike@mikemullane.com), 505-463-9001 (m)