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September 22, 2017

SAFETY CULTURE

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Manager, Standards and Proficiency Compliance

SAFETY CULTURE
Introduction

- What is a Safety Culture?
- What is safety?
- NAV CANADA Safety Philosophy
- Why improve on safety?
- Reporting
- Our Safety Culture

BACKGROUND

- Began in ATC with RCAF in 1982
- Tower and Terminal Controller (Summerside, Cold Lake, AB, Gagetown, Portage La Prairie, MB)
- Wing Air Traffic Control Officer at 15 Wing Moose Jaw
- Military ATC Liaison Officer on United Nations Mission in Haiti
- Joined NAV CANADA in 2004 at Moncton Tower, Supervisor from 2009 to 2014
- National Manager, Airport and Terminal Control Safety Analysis, Ottawa
- Current position since June 2017

SAFETY CULTURE

- Safety culture is the way safety is perceived, valued and prioritized
- Refers to enduring value, priority and commitment placed on safety by every individual and every group at every level of the organization
- Reflects individual, group and organizational attitudes, norms and behaviours related to the safe provision of air navigation services.
- Safety Culture Elements
  - Reporting Culture
  - Just Culture
  - Learning Culture
  - Flexible Culture

WHAT IS SAFETY?

State in which harm or damage is reduced to and maintained at or below As Low As Reasonably Practicable through continuing application of an appropriate and effective Safety Management System

NAV CANADA SAFETY PHILOSOPHY

- The NAV CANADA safety philosophy recognizes that accidents can be organizationally based
  - we give our strategic safety goal (top decile) the highest priority over commercial, operational, environmental or social pressures
  - set goals (IFR-IFR LoS rate) based on safety enhancement and reducing safety risks
  - systematically, explicitly and in a co-ordinated manner identify, manage and monitor operational safety risks proactively
  - encourage reporting of potential hazards and system safety deficiencies within a just culture and take appropriate improvement actions as necessary
  - Everyone has a responsibility to contribute to the achievement of the safety goal and safety is afforded the highest priority

NAV CANADA SAFETY PHILOSOPHY

- The NAV CANADA safety philosophy recognizes that accidents can be organizationally based
  - openly disseminate safety-related information and maintain two-way communication channels between management and employees
  - develop awareness, through education and communication, so that managers and employees have a common understanding of safety and the nature of hazards
  - gather and analyze data in order to enhance the safety of the air navigation services provided by NAV CANADA
  - undertake safety assurance activities to monitor and continuously improve safety performance

WHY IMPROVE ON SAFETY?

- Regulatory requirement to do so
- We have a safety responsibility to the public
- Commitment to achieving our Strategic Safety Goal
- It makes good business sense

SAFETY CULTURE

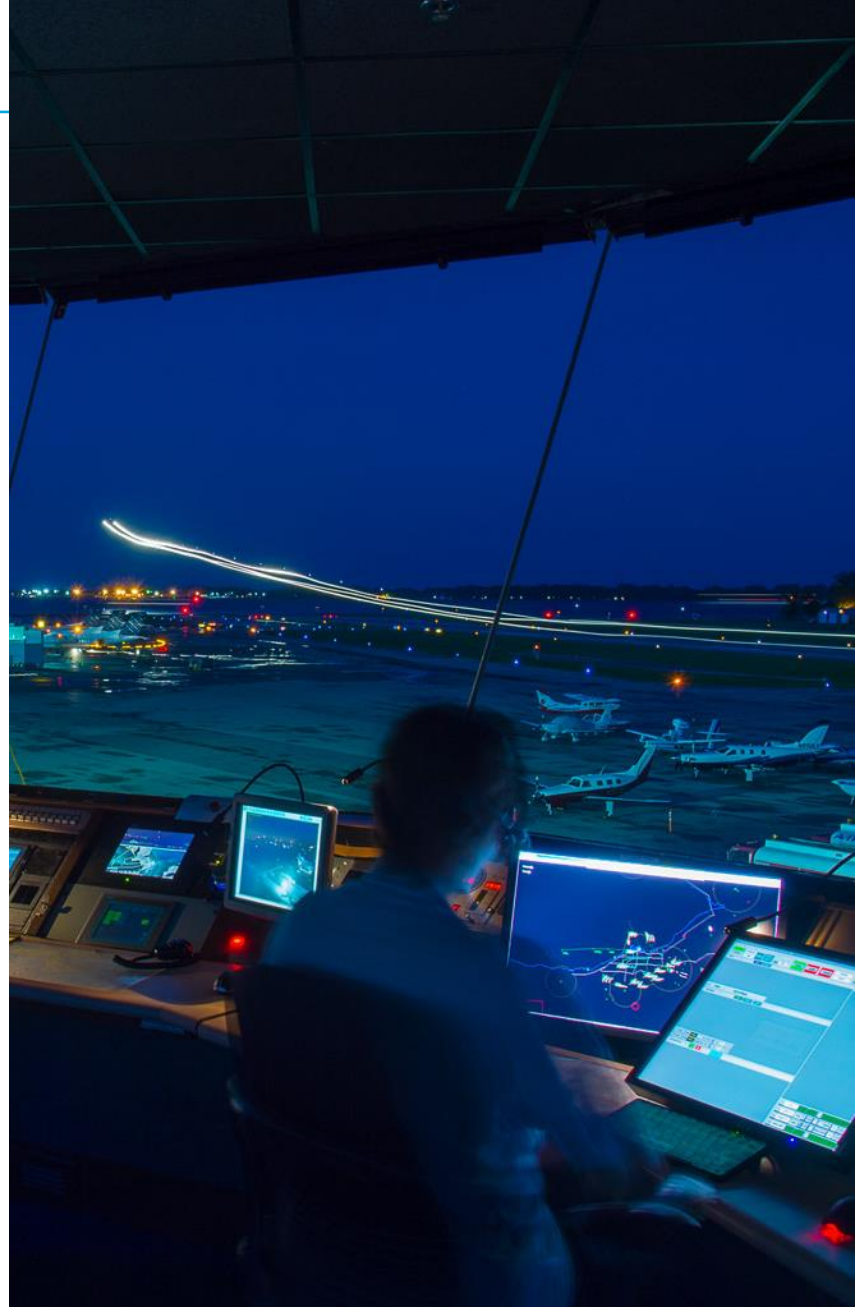
Reporting

- NAV CANADA has a regulatory requirement to report:

- Any event which is irregular, unplanned, or non-routine in nature, including any accident, incident, or other occurrence which involves aircraft, NAV CANADA employees or facilities, or any ATS system deficiency.

WHY REPORT AN OCCURRENCE?

- accidents are often preceded by safety-related incidents
- deficiencies reveal the existence of safety hazards.
- safety data is an important resource for the **detection of potential safety hazards**.
- purely reactive systems have been found to be of limited use in continuing to bring forward improvements.
- **proactive systems** complement reactive systems by using other types of safety data, to make effective improvements in aviation safety. (EASA)



OUR SAFETY CULTURE

- The NAV CANADA Safety Culture is shaped by our Safety Philosophy that has as its core the reporting of aviation occurrences
- Aviation Occurrence Reports provide the opportunity to understand why safety events occur
- Our proactive processes such as trend analysis and audits provide the opportunity to understand where risks and hazards may be present in our system
- Both provide opportunities for mitigation
- Make a safe system even safer

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QUESTIONS ?

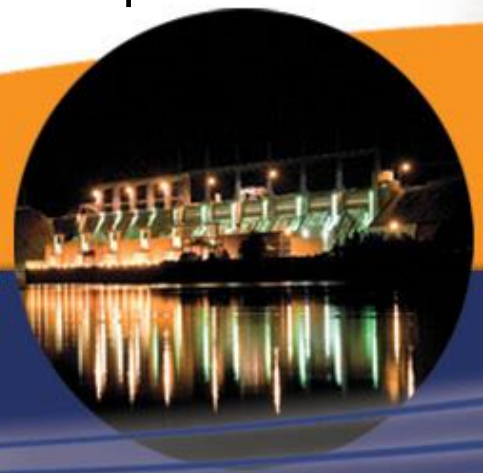
Énergie NB Power

Point Lepreau Generating Station

Nuclear Safety Culture

Sept 22nd, 2017

Ryan Paquet



Nuclear Energy

- The use of fission to produce heat which creates steam to power turbines
- Design, procedures, safety systems, and people help make nuclear energy safe
- A fuel bundle temperature is around 2,100 degrees

History of Nuclear Safety Culture

Three Mile Island (March 1979)

- Partial meltdown
  - Relief valve opened loosing coolant
  - Operators turned off Emergency Coolant system because of faulty mental model due to training

History of Nuclear Safety Culture

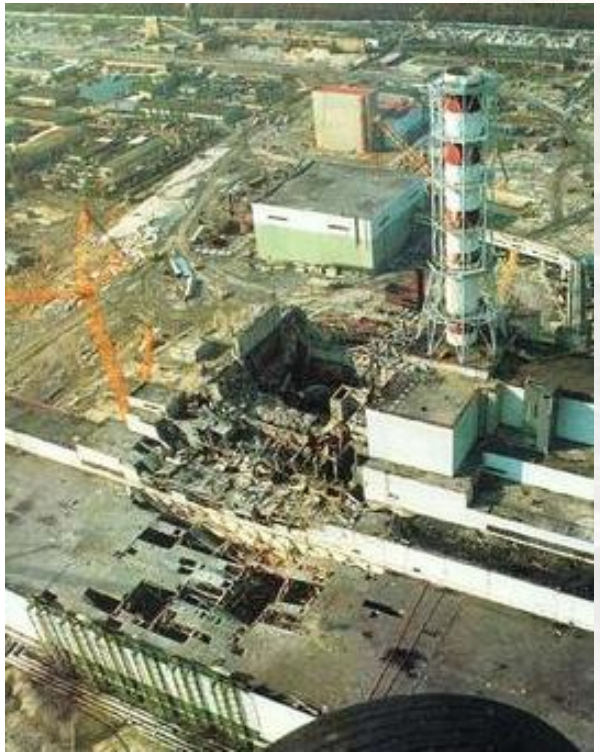
Davis Besse (March 2002)

- 7" carbon steel reactor pressure vessel only had 3/8" left due to corrosion (borated water)
  - Company was known in industry to be a high performing company
  - The borated water leak was known since 1998, but not taken seriously

History of Nuclear Safety Culture

Chernobyl (April 1986)

- Full Meltdown
  - Latent design issues compounded with unapproved testing with the safety systems turned off



Énergie NB Power

Common Themes for the events

- The initial fixes for the three of the events included additional design (e.g. couldn't turn off emergency coolant), more procedures, training, programs, and testing
- Human behaviours under certain conditions are not repeatable or predictable
- What drives human behaviours?
  - Nature versus nurture
  - Money
  - Power
  - Business goals
  - Empathy

The answer is “Culture”

- It took the Nuclear Industry a few events and many years to understand that human behaviour is the least reliable of all of the inputs into events
- In a business setting, this is set by what leadership values
- The entire nuclear industry had to respond to the definition of culture

Culture Definition (So What?)

An organization's core values and behaviors resulting from a collective commitment by leaders and individuals to emphasize safety over competing goals to ensure protection of people and the environment.

- How do you improve culture?
- What is your culture?
- How do you measure it?
- How do you fix it?

Measuring Culture

We have 10 traits and 40 attributes we measure against.

- Traits include items such as:
  - Leadership Safety values & Actions
  - Personal Accountability
  - Decision Making
  - Problem Identification and Resolution
  - Work Processes
  - Environment for raising concerns
- The attributes further define specific areas that are desired for each trait.

Measuring Culture

- Site wide Industry culture assessment every two years (focused interviews with all levels of staff)
- Surveys every year
- Culture Monitoring Panel
- Investigations
- Human Performance/Human Factors
- Self Assessments

What We Have Learned

- Culture is hard to change and takes time
- Perception is reality
- Management believes the culture is always better than the employees
- An open transparent assessment of your company speaks volumes
- Water cooler talk can have a huge impact to your organizations
- With the absence of information, other information (factual or not) will be generated
- Senior Leadership has the most important role
- Fixing a few key items can change the employees belief in management

Contact

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Performance Improvement Manager (former)

Performance Improvement is responsible for:

- Corrective Action Program
- Operating Experience Program
- Human Performance Program
- Nuclear Safety Culture
- Self Assessment Program

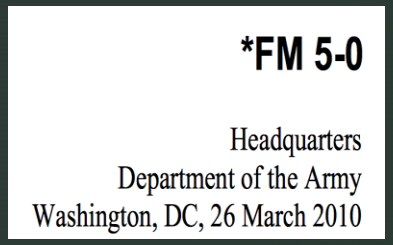
Landon James, RN, BSN, MA, PCP, CEN

Safety Culture in Emergency Nursing

Disclosure

- Project lead for EPICC – Emergency Practice, Interventions and Care – Canada program

What do YOU start with?



SMEAC

- Situation
- Mission
- Execution
- Administration/Logistics
- Communication/Command

STICC

- Situation
- Task
- Intent
- Concern
- Calibrate

Weick K, Sutcliffe K. 2007. Managing the unexpected: Resilient performance in an age of uncertainty. San Francisco, CA: Jossey Bass.

Escalating “Failures” Approach

- Failure to Assess
- Failure to Recognize
- Failure to Act/Communicate
- Failure to Escalate

Failure to Assess

- The failure to gather important information in the environment or care of a patient

- Solution: Checklists, Assessment Forms
- Less So: Practice Guidelines, Policy

Failure to Recognize

- The failure to recognize what the information in front of you is telling you

- Solution: Education, Experience, Questioning, Criteria
- Requires: Culture of Inquiry

Failure to Act/Communicate

- Content
- Purpose
- Audience
- Occasion

A mixed-methods study of the causes and impact of poor teamwork between junior doctors and nurses FREE

Paul O'connor ✉, Angela O'dea, Sinéad Lydon, gozie Offiah, Jennifer Scott, Antoinette Flannery, Bronagh Lang, Anthony Hoban, Catherine Armstrong, Dara Byrne

International Journal for Quality in Health Care, Volume 28, Issue 3, 1 June 2016, Pages 339–345, https://doi.org/10.1093/intqhc/mzw036

Lingard L, Espin S, Whyte S, *et al.* Communication failures in the operating room: an observational classification of recurrent types and effects, *BMJ Quality & Safety* 2004;**13:**330-334.

- Style
- Solution: Education, Objective Guildeines, Performance Management, Communication Frameworks/Tools

Failure to Escalate

- Stems from Failure to Rescue literature
- Giving Up
- I made one call…
- Personalities

- Solution: Engineering of System, Hierarchy, Clear Chain of Command, Accountability and Review Processes

When Things Are Going Wrong…

- "CUS" Approach
  - I am CONCERNED
  - I am UNCOMFORTABLE
  - This is a SAFETY issue
- Pre-Arranged Team Approach
  - Alert
  - Alert & Recommend
  - Abort

Debriefing and Learning

- Focus is on system and solutions not on individual performance

In the end…

- We must make a performance management issue out of unwillingness to participate in safe and respectful communication. There is now enough evidence in the literature that a negligence case is only a matter of time.

Summary

Failure	Solution
Assess	Checklists Assessment Forms
Recognize	Education Experience Questioning Criterion
Act/Communicate	Education Objective Guidelines Performance Management Performance Expectations Communication Frameworks/Tools
Escalate	System Engineering Dismantling Hierarchy Clear Chain of Command Accountability and Review