

Risk Recognition and Mitigation

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Remember 1978?



➤ Technology

- No cell phones, Personal Computers, Digital Television, Satellite Receivers.
- Cars had either 8-Track tapes or the new high end cassette tape decks.
- There was no Google. If you wanted information on a subject, you went to the encyclopedia.

➤ Essentials

- Milk was \$1.71 per gallon and gas was .63 per gallon
- People didn't buy water.
- Average home price \$62,000

Remember 1978?



- 52 nuclear units had been completed in the US.
- 253 new nuclear plants had been ordered.
- INPO did not exist
- Plants had no CAP programs, no real human performance programs, few procedures, no plant evaluations.
- Not unusual to experience multiple reactor SCRAMs in a year.

What Changed Things in 1979?

- There were three significant “happenings” in 1979 that changed the industry:

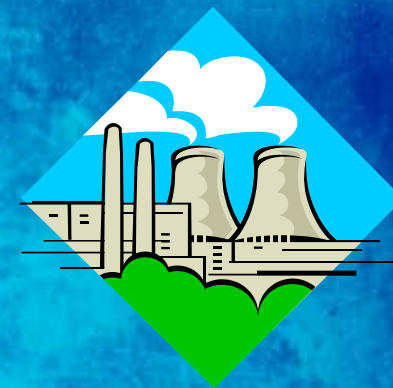
The Movie “The China Syndrome” was released 3/16/1979.

Twelve days later on 3/28/1979, the accident at Three Mile Island occurred.

- In December, following the issuance of the Kemeny Report, the Institute of Nuclear Power Operators (INPO) was formed.



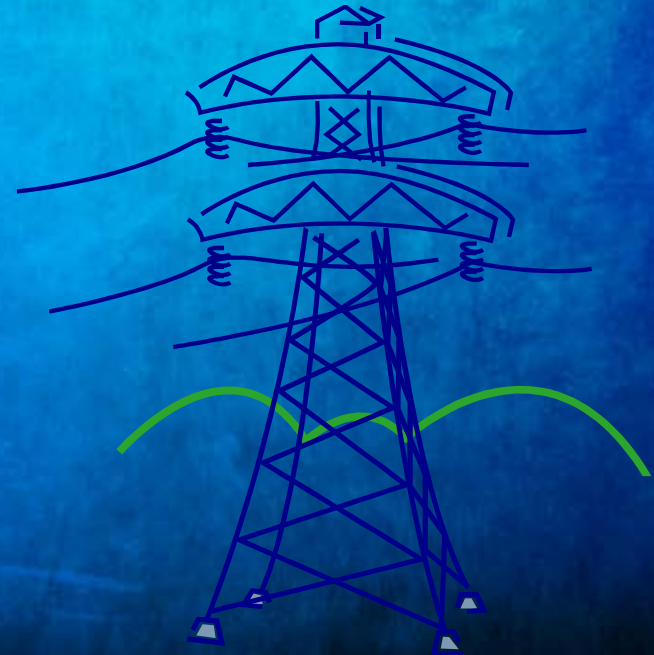
What has changed?



- 104 Nuclear Units operate today
- It has taken many years to rebuild confidence, much in part to INPO and the human performance focus.
- Nuclear Industry is on the verge of starting new plants .
- Recent NRC developments could help pave the way for more new plants.
- But we are always one accident away.....

Question:

Name some things we did in the past that today would no longer be considered an *acceptable risk?*

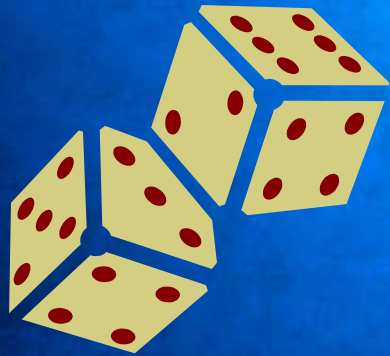


The Iceberg Analogy



Personal Risk Tolerance

How do we decide what is risky ?



Factors That Influence Our Decisions

- Personal Factors

- Experience (Positive/negative)
- Knowledge/Skill
- Age
- Physical Ability

- Situational Factors

- Stress
- Rushing
- Control

- Organizational Factors

- Safety/HP Program
- Leadership Behaviors
- Peer Behaviors

What personal beliefs would motivate someone to do this?



Our Actions Are Driven By Organizational Beliefs



- Safety /HP Program
 - Are systems in place to encourage people to do the job with minimal risk?
- Leadership Behaviors
 - Are at-risk, time-saving actions accepted?
- Peer Behaviors
 - Do our co-workers encourage at risk behavior?

What in the Safety/HP program would allow this?



Organizational Factors

What in a Safety/HP program would allow this?



Risk Perception

- We perceive risk differently
- Many factors influence our decisions
- By understanding our risk tolerance and personal / organizational factors, we can prevent errors that can lead to Events.



Objective Reasoning vs. Personal Opinion

Using a simple *Risk Model* instead of relying on one person's assessment of what is "risky".



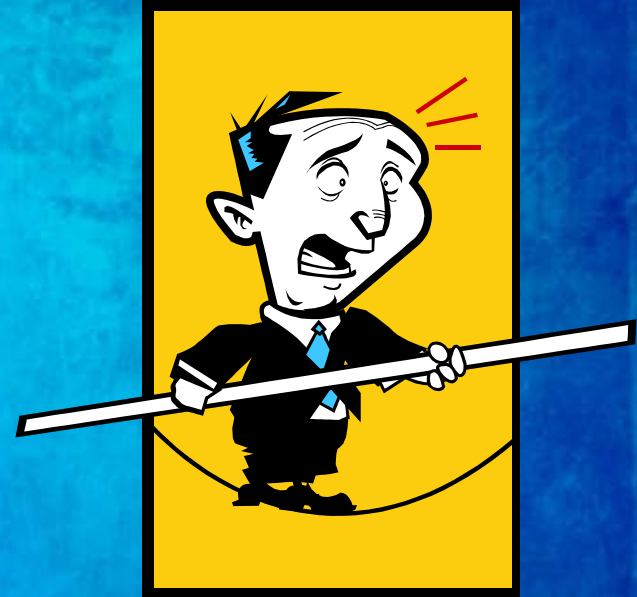
Assessing Acceptable Risk

- Probability

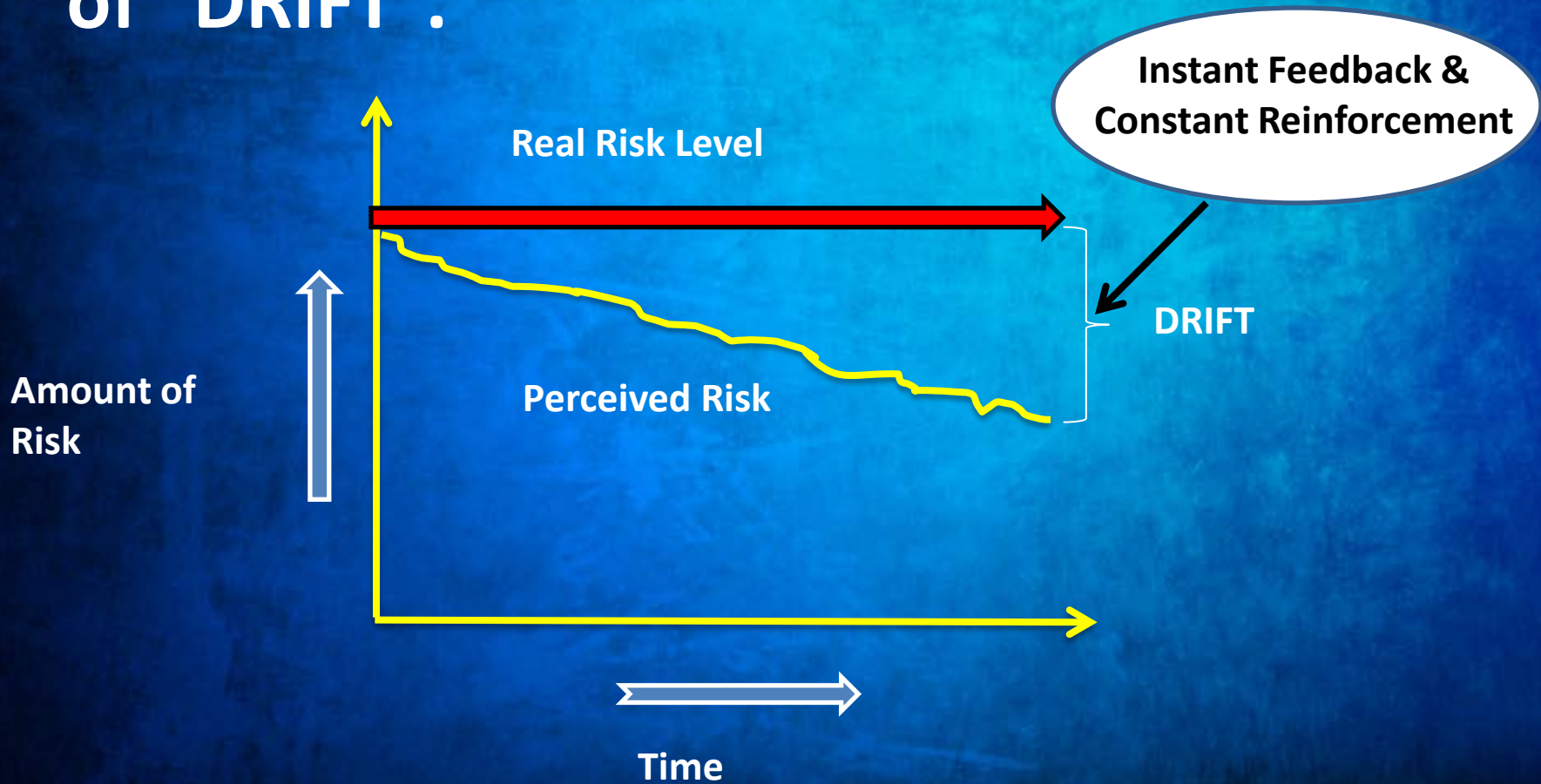
- What is the “CHANCE”..... ?

- Severity

- How “BAD” could it be..... ?



Individual's Risk Recognition in terms of "DRIFT".



So how do we make it *EASY* for our folks
to Recognize and Mitigate Risk ?



Take a Minute ♦ CCV and Validate Assumptions ♦ Pre-Job Brief/Task Preview ♦ Procedure Use and Adherence

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Takeaways

1. The way we look at “RISK” has changed
2. Make Risk Recognition “EASY” for the people who touch the equipment.
3. Stick to the fundamentals for “ERROR PREVENTION”
4. “COACHING “across the industry is where it is at.....