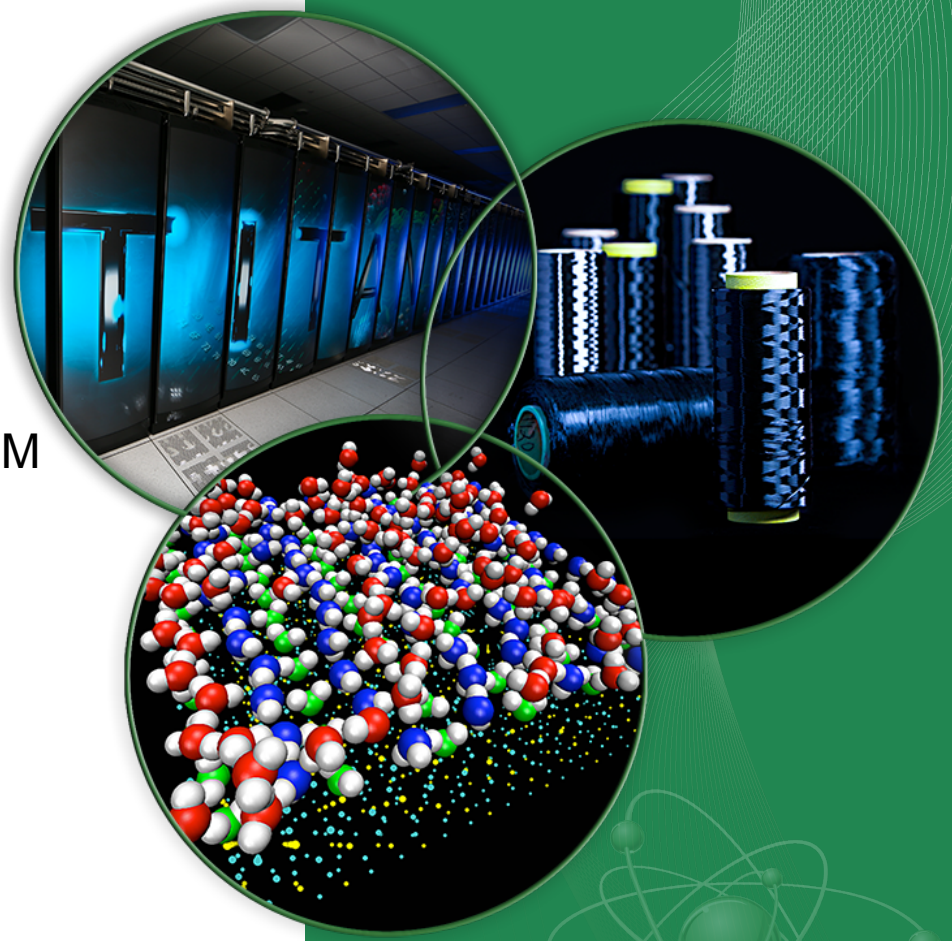
Digging Deep: the response to cultural issues



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OAK RIDGE National Laboratory

Setting the stage

- Impacts to the Oak Ridge National Laboratory
  - Fundamental programs existed and were mature
  - Lending a hand to others trying to establish programs
  - Made us very self-reflective
- Battelle-affiliated laboratories were experiencing our own problems
  - Electrical shock from inappropriate use of box furnace
  - Arc flash while research equipment operated
  - Serious burns from ejection of molten salt from reaction vessel
- The causes of these were primarily based in culture

Establishing a common platform

- Battelle codified key safety principles in “The Safe Conduct of Research”
- The principles are not unique. They were derived from
  - Department of Energy publications on Integrated Safety Management and high reliability organizations
  - International Nuclear Safety Advisory Group (INSAG)-4 publication, Safety Culture
  - *Managing the Unexpected: Resilient Performance in an Age of Uncertainty* by Karl E. Weick and Kathleen M. Sutcliffe
  - Causal analysis of events at various laboratories
- While not unique, the publication is special…

Eight principles that shape our behavior and form the basis for a strong safety culture

- Everyone is personally responsible for ensuring safety operations
- Leaders value the safety legacy they create in their discipline
- Staff raise safety concerns because trust permeates the organization
- Cutting-edge science requires cutting-edge safety
- A questioning attitude is cultivated
- Learning never stops
- Hazards are identified and evaluated for every task, every time
- A healthy respect is maintained for what can go wrong

Laboratory Operations Leadership Academy

- Two day program designed for frontline supervisors
- Scenarios based on the safe conduct of research principles
- Provides immediate feedback from peers plus mentoring opportunities
- Now in the process of developing program for research operations

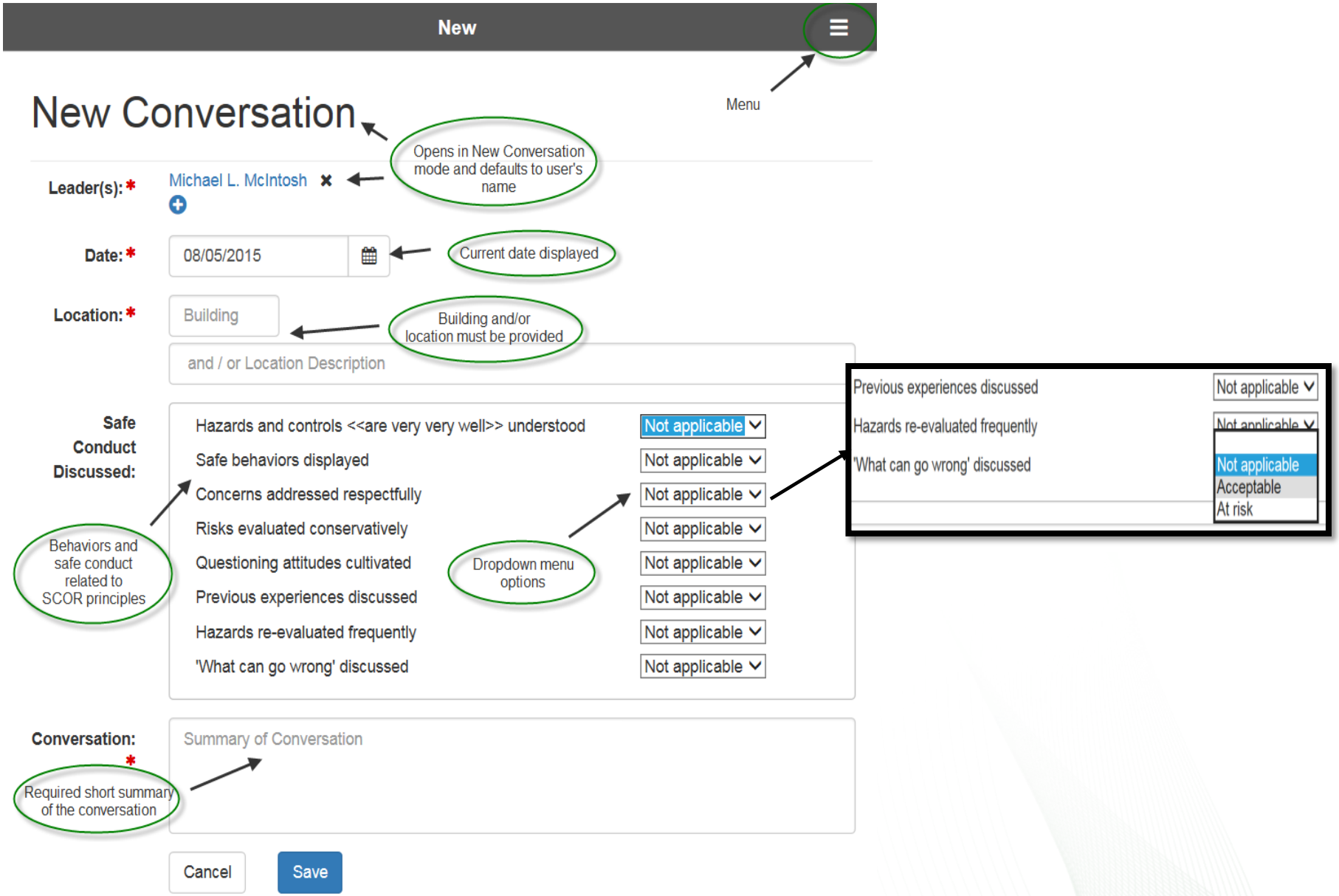
Reinforcing the principles through routine discussion or “SafetyTalks”

What it is…

- A tool for recording the safety-related discussions
- A place to share strengths and areas for improvement that the institution can use collectively for learning
- A mechanism to help the safety leader determine if they are routinely engaging with people across your span of control

What it isn’t…

- A way to document observations only
  - Workers are engaged in conversation and the leader writes about what they saw and **discussed**
- An action tracking system
- A place to report bad behaviors that the leader did not personally challenge at the time
- A place to document or upload pictures of conditions people think need to be corrected



Example “SafetyTalk

Discussed general utility of laboratory ... mainly instrument lab. Minimal usage of chemicals. Observations from walkthrough are being compiled by Ginny Hopkins. I focused discussions on lab coat usage, asking participants when they would be expected to wear a lab coat within labs B174. When in lab A322, I talked to the PI and LSM about the THF event (spill into drain system). They both had some understanding of the event. We looked at proximity of the drain to lab hoods and discussed the need to be careful when handling chemical bottles to and from the hood to avoid accidental spills to the drain. When asked what he would do if he accidentally spilled chemical to the drain, the LSM responded that he would get help. Things can and will go wrong, the Division Director responded, and shared with the LSM that he can freely report problems to the ops staff without concern. We want staff to feel comfortable in doing that! Operations staff also explained that anything spilled to the drain system, other than soapy water, needs to communicated to CSD ops support right away. She then explained how the drain system works. A very engaging discussion!

Special Edition!

SAFETY TOOLBOX

Facilities & Operations

#89

February 15th 2016

The second *Safe Conduct of Research* principle:

Leaders value the safety legacy they create in their discipline.

So, what does it mean?

- It takes discipline to build a strong safety culture. It also takes an entire team working for a common goal: *to leave work every day as healthy as when you arrived in the morning.*
- When you value safety and set a positive example, you inspire others to do the same.
- **The best part:** Safety leaders do not have to be managers or supervisors.
- You can demonstrate safety leadership no matter where you fit in an organization.

Here's how...

Notice anything wrong with these flammable cabinets?

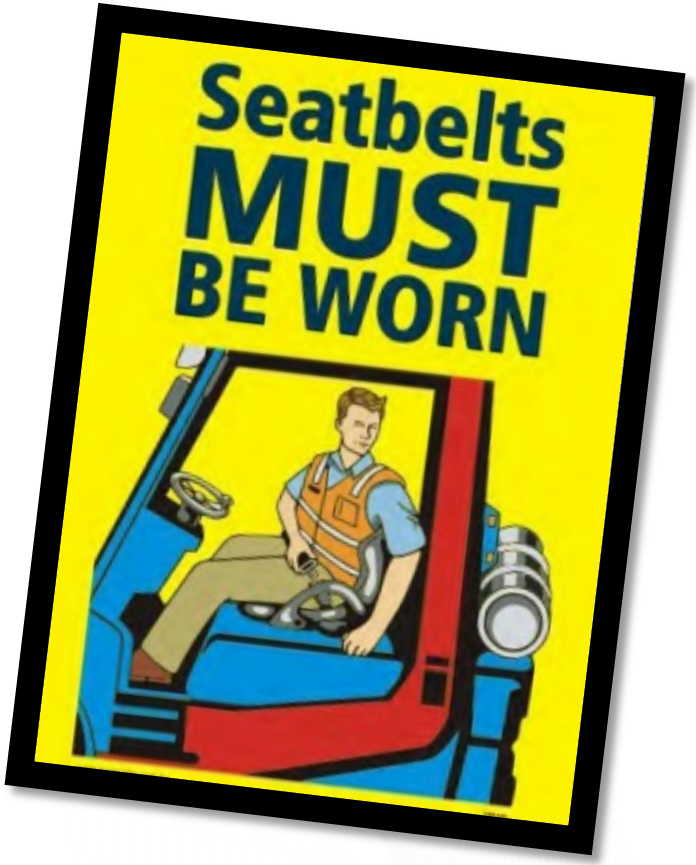
See next page for answer

Safe practices for flammable cabinets

- Purchase and store the smallest quantity of flammable liquids necessary for the work to be done.
- Do not store flammable and combustible materials with incompatible materials.
- Do not store combustible materials (e.g., paper, cardboard) inside flammable liquid storage cabinets.
- Flammable liquids that will be routinely transported out of a storage cabinet should be kept in listed and approved safety cans. **Remember**: All secondary containers need labels.
- Locate flammable liquid storage cabinets in rooms with multiple exits.
- Do not place flammable storage cabinets near exit paths or doors.
- Petroleum-based sprays should be stored inside a flammable cabinet when not in use.

Benefits of the publications

- Allows supervisors more time in the field, less time thinking about content for weekly safety meetings
- Coaching the supervisors in methods to engage
- Variety of topics
- Content is becoming driven by the readers
- Allows us a mechanism to quickly distribute lessons learned



Strengthening our safety culture

Trait	No.	Question	Mean	LCL	UCL	SE
Personal Accountability	1	I understand the importance of our safety rules.	4.64	4.54	4.75	0.05
	2	I understand my responsibility for performing work safely.	4.70	4.60	4.80	0.05
	3	I am responsible for taking action when I see potentially unsafe behaviors or conditions.	4.54	4.42	4.66	0.06
	4	I communicate with others in my work group to ensure that work is performed safely.	4.45	4.31	4.59	0.07
Questioning Attitude	5	I would suspend work if I find unexpected conditions.	4.45	4.29	4.61	0.08
	6	I challenge assumptions and offer opposing views when I believe something is not correct.	4.32	4.18	4.47	0.07
	7	I expect to be successful, but I still plan for the possibility that something could go wrong.	4.41	4.29	4.54	0.06
	8	If I suspend work, I would make sure the work could be performed safely before starting again.	4.54	4.42	4.67	0.06
Effective Safety Communications	9	I get timely information about decisions that affect my work.	3.72	3.52	3.92	0.10
	10	Safety communication is a part of my daily work activities.	4.08	3.90	4.26	0.09
	11	Individuals communicate openly in our organization.	3.69	3.47	3.91	0.11
	12	We communicate honestly with external auditors and regulators.	3.99	3.79	4.18	0.10
	13	Communication from our leaders reflect safety as a core value.	4.10	3.91	4.30	0.10
Leadership Accountability	14	Our leaders' behaviors demonstrate their commitment to safety.	3.92	3.69	4.15	0.12
	15	Our leaders ensure the priorities of the organization reflect safety as a core value.	3.90	3.67	4.12	0.11
	16	Our leaders give praise and exercise discipline in a manner consistent with our safety values.	3.74	3.52	3.95	0.11
	17	Our leaders ensure personnel, equipment and procedures are available and adequate to support safety.	3.87	3.67	4.08	0.10
	18	Our leaders are commonly seen in our work areas observing, coaching and reinforcing safety expectations.	3.33	3.10	3.55	0.11
cision-aking	19	When we make decisions, we are conservative and tend to err on the side of safety.	3.92	3.74	4.10	0.09
	20	We decide if a proposed activity is safe before we proceed.	4.08	3.92	4.24	0.08

De M	21	Our approach to safety decision-making is consistent.	3.63	3.43	3.84	0.10
CONTROL	22	Please mark "neither agree nor disagree".	3.06	2.98	3.13	0.04
Respectful Work Environment	23	I trust my immediate supervisor.	4.18	4.01	4.35	0.09
	24	Everyone in my working group is treated with respect.	3.97	3.75	4.18	0.11
	25	Conflicts are resolved fairly.	3.59	3.37	3.80	0.11
Continuous Learning	26	Our organization provides high quality safety training.	3.90	3.70	4.09	0.10
	27	We learn from other organizations so we can continuously improve knowledge, skills, and safety performance.	3.91	3.71	4.10	0.10
	28	We apply the lessons we have learned from operating experience.	4.01	3.84	4.18	0.09
	29	If challenged by someone, I would view it as a chance to get better.	4.14	4.00	4.28	0.07
	30	Safety and lessons learned that apply to me are routine topics in work discussions.	3.83	3.63	4.03	0.10
Problem Identification and Resolution	31	Safety problems get reported immediately.	3.84	3.65	4.03	0.10
	32	We thoroughly evaluate safety issues.	3.92	3.73	4.11	0.10
	33	When a safety problem is found, we address the problem in a timely manner.	3.91	3.73	4.08	0.09
Environment for Raising Concerns	34	I feel free to raise a safety concern without fear of retaliation.	4.00	3.77	4.23	0.12
	35	When I make a mistake, I am not afraid to report it to my immediate supervisor.	4.07	3.88	4.26	0.10
	36	In the past year, I have not experienced retaliation for raising a safety issue or concern.	4.16	3.98	4.34	0.09
	37	If necessary, I would report an issue or concern to our Employee Concerns or Differing Professional Opinion Program.	4.05	3.83	4.26	0.11
Work Processes	38	We plan, control, and execute work activities so that safety is the overriding priority.	3.87	3.67	4.08	0.10
	39	We routinely identify and manage risk as part of our work processes.	3.98	3.78	4.17	0.10
	40	Up-to-date procedures are available to me.	3.89	3.69	4.08	0.10

Our principles personified

OAK RIDGE National Laboratory