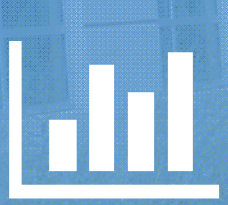
Welcome
NIST Safety Update

Richard Kayser
Chief Safety Officer, NIST

Visiting Committee on Advanced Technology
October 18, 2016

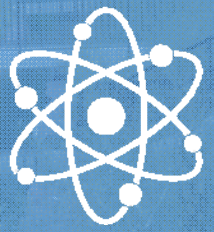
AGENDA

Report regularly to VCAT on NIST's safety improvement efforts.



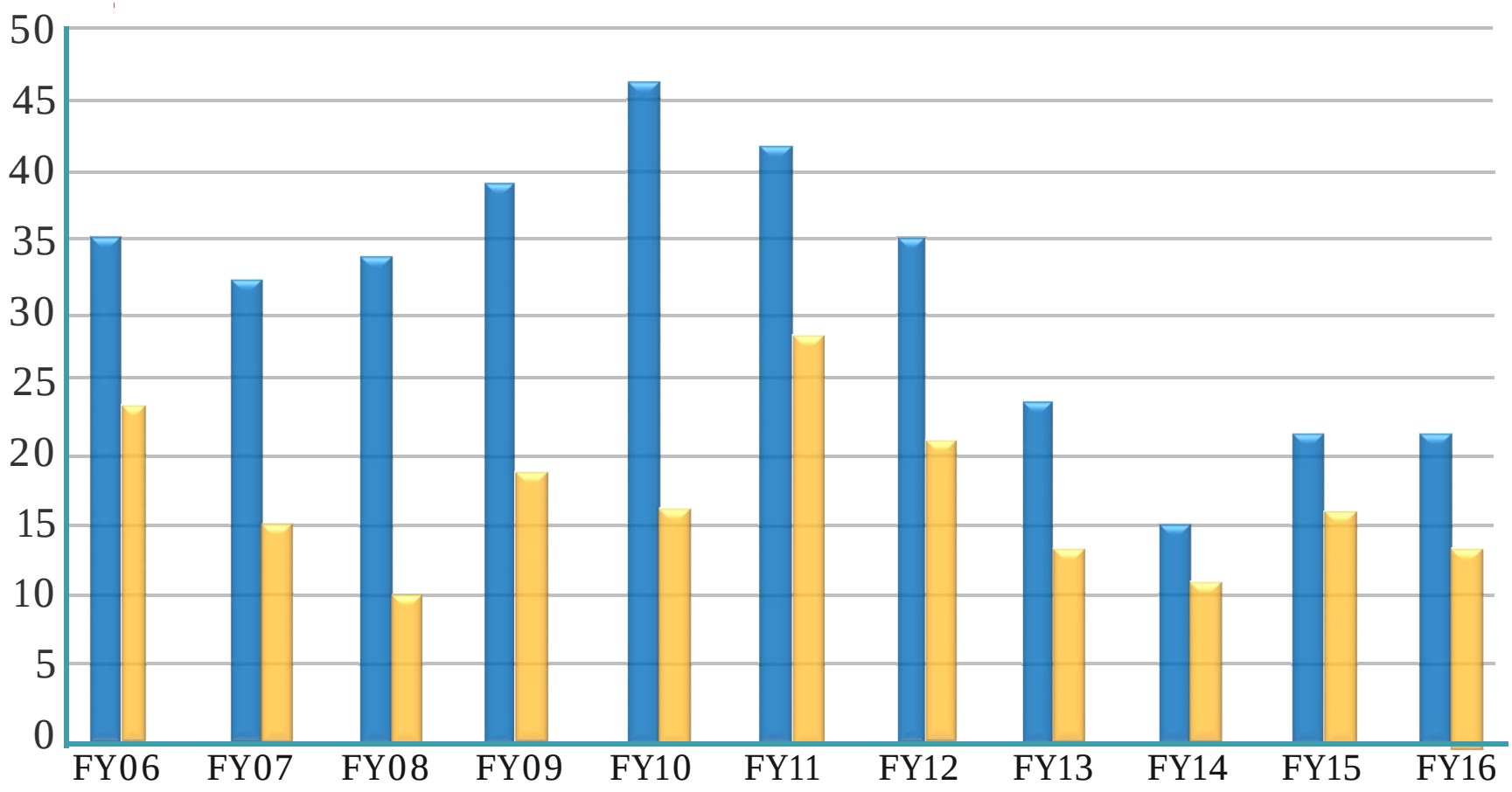
FY 2016 INCIDENTS

WORKPLACE INSPECTIONS



RADIATION SAFETY

NIST Safety Incident Metrics



FY 2016 Injuries and Illnesses

83 
Injuries

35% 
Slips, trips, & falls

8 
Illnesses

31% 
Struck by/against

What We're Doing About It . . .

Hearing Losses

- Correct legacy recordkeeping issue
- Analyze data & act on results

Security Turnstiles

- Implemented signage, video, & other measures
- Convened group to recommend solutions to NIST Director

Cuts and Lacerations

- ***NIST Safety Minute*** on safe cutting practices & tools

Slips, Trips, & Falls

- Reconvening STF Team to identify risk reduction actions

Workplace Inspections

- Clear roles & responsibilities
- Required frequencies
- Trained OU inspectors
- OU-led inspections with Safety Office notification

Workplace Inspection Program

300+

NIST staff members trained as inspectors

900+

Pre-inspections conducted


WORKPLACE INJURIES CAN BE PREDICTED
DATA
112 M safety observations
15 K worksites
Predictive Models
80-97%
success predicting injuries
#incidents that actually occurred
line of perfect correlation
incidents predicted by model
PROACTIVE SAFETY INSPECTIONS ARE BETTER THAN REACTIVE INCIDENT INVESTIGATIONS
Relying on incident data for injury prevention is expen$ive
OSHA incident averages
$7,000 /recordable incident
$ 910,000 / fatality
I DON'T CARE
Waiting for an incident to happen before preventing one tells staff you don't care.
You can eventually run out of incident data to analyze and learn from.
4 SAFETY TRUTHS
THAT REDUCE WORKPLACE INJURIES
Predictive Analytics in Workplace Safety | A Predictive Solutions White Paper (2012)
1
MORE SAFETY INSPECTIONS PREDICT A SAFER WORKSITE
incidents
inspections
time
INCIDENTS
as
INSPECTIONS
2
MORE INSPECTORS (OUTSIDE THE SAFETY FUNCTION) PREDICT A SAFER WORKSITE
% of pro safety inspectors
# incidents
# inspectors
#incidents
INCIDENT PROB
as NUMBER & DIVERSITY of PEOPLE INSPECTING
3
TOO MANY "100% SAFE" INSPECTIONS PREDICTS AN UNSAFE WORKSITE
flying blind
find & resolve
TOO FEW FINDINGS?
Risk
high
At-risk obs (frequency)
FLYING BLIND!
WHERE YOU WANT TO BE
4
TOO MANY UNSAFE OBSERVATIONS PREDICTS AN UNSAFE WORKSITE
flying blind
find & resolve
inaction
TOO MANY FINDINGS?
high
At-risk obs (frequency)
DO SOMETHING!
SKETCHNOTES: 03.07.2016

Timeline

06/2008 Contamination event

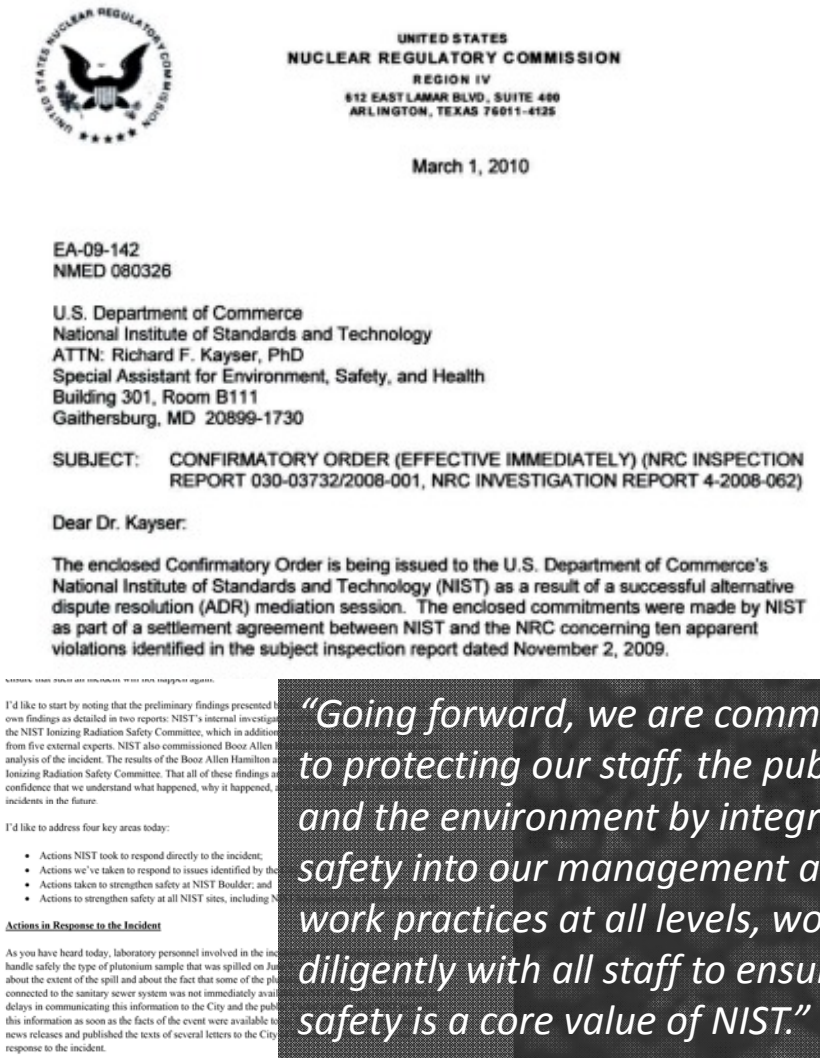
07/2008 NRC Confirmatory Action Letter

06/2009 Reopening of Labs

09/2009 NRC Public Meeting

01/2010 Alternative Dispute Resolution

03/2010 NRC Confirmatory Order



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
612 EAST LAMAR BLVD, SUITE 400
ARLINGTON, TEXAS 76011-4125

March 1, 2010

EA-09-142
NMED 080326

U.S. Department of Commerce
National Institute of Standards and Technology
ATTN: Richard F. Kayser, PhD
Special Assistant for Environment, Safety, and Health
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Gaithersburg, MD 20899-1730

SUBJECT: CONFIRMATORY ORDER (EFFECTIVE IMMEDIATELY) (NRC INSPECTION REPORT 030-03732/2008-001, NRC INVESTIGATION REPORT 4-2008-062)

Dear Dr. Kayser:

The enclosed Confirmatory Order is being issued to the U.S. Department of Commerce's National Institute of Standards and Technology (NIST) as a result of a successful alternative dispute resolution (ADR) mediation session. The enclosed commitments were made by NIST as part of a settlement agreement between NIST and the NRC concerning ten apparent violations identified in the subject inspection report dated November 2, 2009.

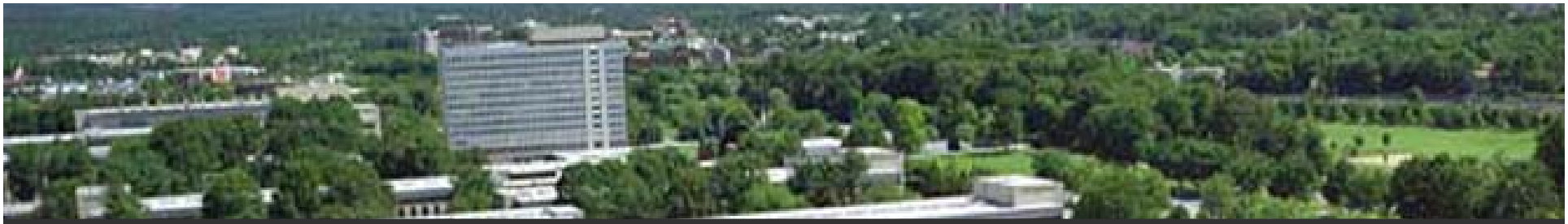
"Going forward, we are committed to protecting our staff, the public, and the environment by integrating safety into our management and work practices at all levels, working diligently with all staff to ensure that safety is a core value of NIST."

NRC Confirmatory Order

Eleven actions, including:

- Copies of annual external audits for five years
- Radiation safety training of new employees
- Incorporation of ten elements into initial and refresher training
- Institution a hazard analysis and work authorization process
- Defined process for acquiring radioactive material
- Deep-cut assessment of radiation safety program


NRC Inspection
September 2016
5 Days
3 Inspectors
18+ Locations
26 Interviews
17 Safety Areas



NIST-Gaithersburg radiation safety program provides "a high assurance of preventing significant radiological incidents now and in the future."

DISCUSSION