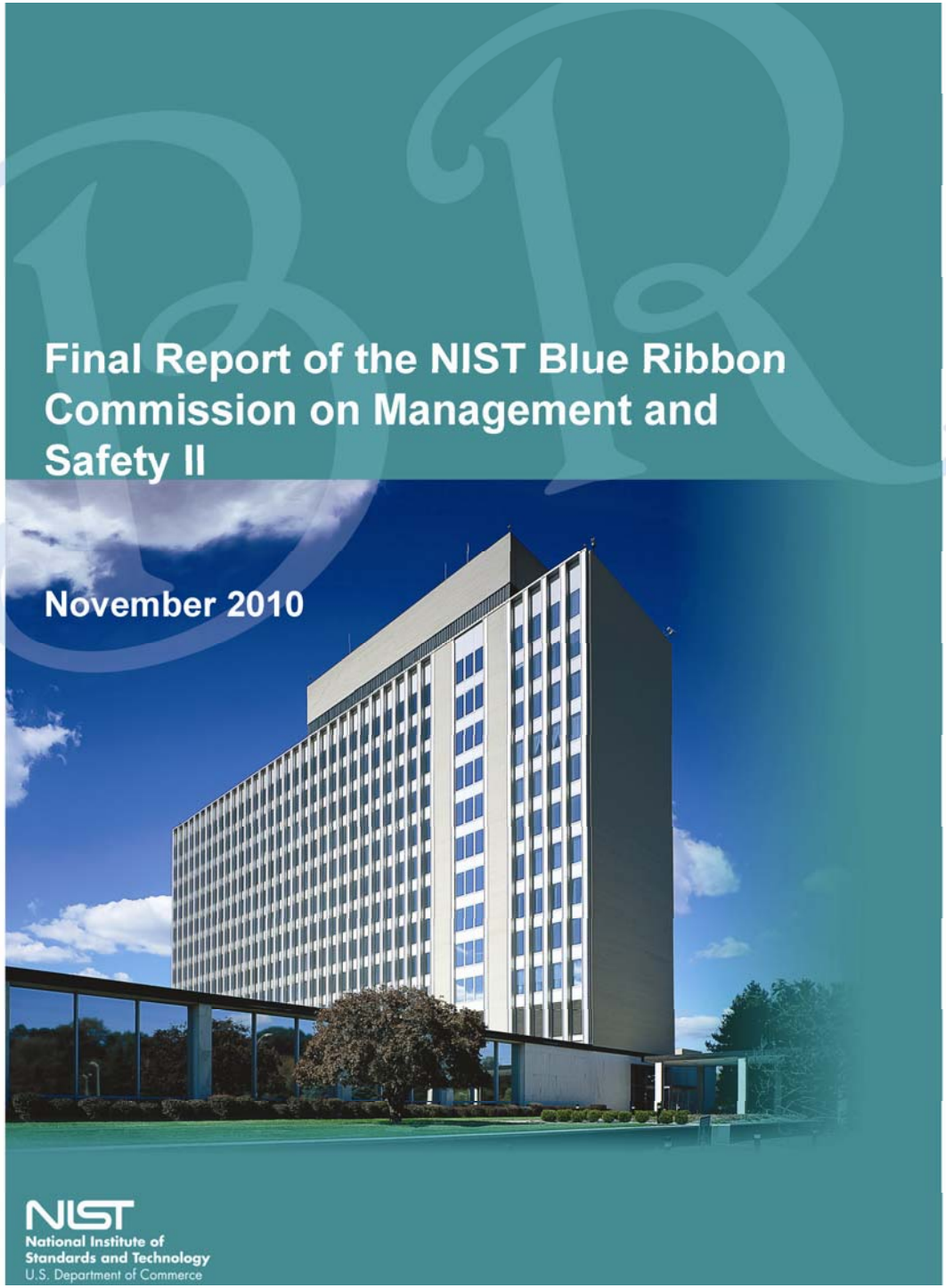

VCAT Presentation by
Tony Haymet

Feb 1, 2011

Commission Members

- **Charles V. Shank, Sr.** (Chair), Fellow, Janelia Farm Research Center and Former Director, Lawrence Berkeley National Laboratory (1989-2004)
- **Paul A. Croce**, Former Vice President and Manager of Research, FM Global (retired)
- **Kenneth P. Fivizzani**, Former Research Scientist, Nalco Company (retired)
- **Kenneth C. Rogers** (vice chairman), Consultant and Former Commissioner of the Nuclear Regulatory Commission (1987-1997)
- **William VanSchalkwyk**, Managing Director of Environment, Health, and Safety Programs, MIT
- **A. Thomas Young**, Former Executive Vice President, Lockheed Martin Corporation (retired)
- **Tony Haymet**, Director, Scripps Institution of Oceanography and Vice Chancellor – Marine Sciences, UC San Diego
- All but last members of BR I

We found

- Progress in the last two years has been both impressive and dramatic. The new NIST Director has led what can be termed a **transformational safety initiative**.
- Despite the extraordinary progress, **much remains to be accomplished** in order for the new safety efforts to be institutionalized beyond the tenure of the current NIST Director.

We recommend the following actions

- Appoint crucial Associate Director for Laboratory Programs (and Principal Deputy)
- Address the enthusiasm gap in some senior management
- Establish an Audit mechanism

Summary of BRCII Review Elements

- The BRCII reviewed documents provided by NIST prior to the site visits
- Made site visits to the Gaithersburg and Boulder NIST campuses - Oct 12 and Oct 20, 2010
- Attended presentations by the NIST director and other senior NIST leaders
- Made targeted lab visits
- Took part in focus group discussions with the operating unit lab directors, division chiefs, members of the OSHE group, representative bench-level scientists, and division safety representatives

Focus Group Discussions

- In Gaithersburg, discussions were held with four focus groups:
  - The operating unit lab directors (LDs)
  - Division chiefs (DCs)
  - Members of the OSHE group
  - Representative bench-level scientists and division safety representatives (BSs and DSRs).
- In Boulder, discussions were held with two groups:
  - Division chiefs (DCs)
  - Representative bench-level scientists and division safety representatives (BSs and DSRs)

Safety culture findings

- When compared to findings of two years ago, the difference in leadership is dramatic.
- Leadership and operations have been strengthened; safety roles and responsibilities have been clarified; an Executive Safety Committee has been established.
- A totally new safety management program has been created that emphasizes reviews, rewrites all relevant documentation, and establishes meaningful new training programs for operating units.
- High-quality, experienced safety professionals have been hired at both sites to support the broad range of NIST's activities.
- Safety and hazards training has become a much higher priority and new mechanisms have been implemented to make it easier for staff to access information and training resources.

Safety culture - continued

- The development of a genuine safety culture at NIST is clearly underway. However, that institution-wide goal has not yet been reached, and much steady effort over the months and years ahead will be required.
- Laboratory Directors, in general, have not considered comparing their safety systems and performance metrics with those of similar units in other organizations that are known to have well-established safety cultures.
- Many members of staff hold the traditional view that placing safety on par with scientific/technical activities diverts precious human and financial resources away from NIST's central mission.
- Convincing these "traditionalists" that safety and science/engineering can (and must) be fully integrated, without reservation, into each individual's personal philosophy of work at NIST remains <u>one of the most important challenges for senior management</u>.

Integration

- Much work has been done to establish hazard identification protocols and prioritize risks presented by identified hazards.
- The initial elements of a corresponding training program are taking shape at NIST.
- The newly established Executive Safety Committee and Safety Representatives Council enable transfer of best practices among organizational units.
- NIST organizational unit lab directors need to support these cross-unit endeavors.
- We note greater acceptance of OSHE personnel by the research community, and a more productive collaboration and integration between OSHE and lab personnel.
- NIST should seize the opportunity to grow relationships, collaborations and integrations as it develops common policies, procedures, inspection and audit protocols, training content and data management during the maturing phase of safety program development.

Benchmarking and Metrics

- The Commission encourages NIST to identify additional organizations to serve as benchmarks. Examples include major universities and national laboratories.
- NIST's safety program will indicate metrics that would be appropriate to monitor safety requirements. Once these requirements have been established, safety performance will be monitored, measured, assessed and audited.
- As the key metrics, including injury/illness data for the entire facility, are recognized and understood by NIST staff, the safety culture will deepen.

To repeat:
We recommend the following actions

- Appoint crucial Associate Director for Laboratory Programs (and Principal Deputy)
- Address the enthusiasm gap in some senior management
- Establish an Audit mechanism

Desired End-State for Safety at NIST

- We would wish that the safety culture and program at NIST would be the standard by which all scientific laboratories would measure themselves.
- Within five years, senior science managers should be visiting NIST to learn about safety the way that scientists now visit NIST to learn about science and engineering.

Questions?