FOR THE RECORD

Combined Annual Meetings of the DOE Topical Committees on Metrology and Accreditation and DOE Standards Laboratory Managers Meeting

DOE/Y12 National Security Complex, Oak Ridge, TN

March 20-22, 2001

Sponsor: DOE Technical Standards Program

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Action Items for 2001 – 2002

Steering Committee Elections

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AGENDA

2001 ANNUAL MEETINGS
DOE Topical Committees on Metrology & Accreditation
March 20th - 22nd — Y-12 National Security Complex, Oak Ridge, TN

Mar 20	AGENDA ITEM	TIME
A.M.	Sign-in	7:45 – 8:00
	WELCOME TO Y-12 NATIONAL SECURITY COMPLEX: Bill McKeethan, Mgr., Oak Ridge Metrology Center	8:00 – 8:15
	• ***Intro to facilities, lunches, etc. —*** Ed Pritchard (Y-12) • ***Introduction of Attendees —*** Don Ragland, Secretariat • ***Review Agenda:*** — Ragland	8:15 – 8:30
	Metrology Working Group Reports — 3 reports: (Discuss Action Items)	8:30 – 9:30
	BREAK	**9:30 – 9:45**
	Accreditation Working Group Reports — 3 reports: (Discuss Action Items)	9:45 – 10:15
	1st Speaker: Don Heirman, President of NACLA (National Cooperation for Laboratory Accreditation) — "*NACLA Status Report*" — (Group Discussion)	10:15 – 11:00
	CONTINUOUS IMPROVEMENT/LESSONS LEARNED: (Group discussion) Each member will share information that could benefit other calibration laboratories. What works and what doesn't work.	11:00 – 12:00
P.M.	**LUNCH**	**12:00 – 1:00**
	2nd Speaker: Dick Pettit & Jim Simons (SNL/A) — "*Comparison of ISO 17025 vs. ANSI/NCSL Z540-1*" — (Group Discussion)	1:00 – 1:30
	3rd Speaker: Dr. Carroll Brickenkamp (Program Manager, NVLAP) — "*NIST/NVLAP: 17025 Implementation Issues*" — [Discussion reserved until after Break]	1:30 – 2:00
	4th Speaker: Dr. John Rumble, Jr. (NIST) *"NIST Calibration Program"*	2:00 –2:15
	BREAK	**2:15 – 2:45**
	GROUP DISCUSSION OF 17025 ISSUES This will be a time for members to share their thoughts about this new standard and what they are planning to do about it.	2:45 – 4:15
	5th Speaker: Tom Wunsch (SNL/NM: Technical Staff) — "*Multi-Junction Thermal Voltage Converters* "— (Group Discussion)	4:15 – 4:45
	First Day Wrap-up / Review Action Items	4:45 - 5:00

Mar 21	AGENDA ITEM	TIME
A.M.	***REPORTS FROM REPRESENTED LABORATORIES:*** "Items of Interest; significant events/developments; FYI" Each member will update the group regarding changes in his/her organization since the last meeting; e.g. new capabilities, budget, and staffing issues. This activity is done in a round-table setting and it typically produces open discussions among the members and often generates Action Items or topics for the Round-Table discussion section of the agenda.	7:30 – 8:45
	6th Speaker: Harry Moody (INEEL/Calibration Services Manager) — "*Site Wide Calibration Responsibility*" — (Group Discussion)	9:00 – 9:30
	BREAK	**9:30 – 9:45**
	7th Speaker: Dr. Li Pi Su (Program Coordinator for DOD Metrology R&D) — " *Status of DOD Metrology* "— (Group Discussion)	9:45 – 10:15
	Round Table General discussion of current topics of interest to the group. Following have been suggested: • Training • Automation • Calibration procedures or methods • Quality methods • Sharing of resources • Web Page • ICSP Working Group on Laboratory Accreditation	10:15 – 12:00
	LUNCH	**12:00 – 1:00**
P.M.	***8th Speaker:*** Bruce Cox (Y-12: Technical Staff) — *"Gear Metrology"* — (Group Discussion)	1:00 – 1:30
	9th Speaker: Mike Duncan (Y-12: Technical Staff) — *"Automated Metrology Processes"* — (Group Discussion)	1:30 – 2:00
	Joint Business Meeting of the DOE Accreditation & Metrology Committees: • Review Action Items for the day • Steering Committee Elections • ID next three meeting locations • Meeting Evaluation • Wrap-up	2:00– 3:00
	TOUR of the Y-12 Oak Ridge Metrology Center	**3:00 – 5:00**

AGENDA

ANNUAL STANDARDS LABORATORY MANAGERS MEETING
FOR THE DOE NUCLEAR WEAPONS COMPLEX
Y-12 NATIONAL SECURITY COMPLEX — MARCH 22, 2001

Mar 22	AGENDA ITEM	TIME
A.M. only	***PSLMs:*** Larry Azevedo, Sandia "Review of comments received for CSLs regarding the extensively revised Primary Standards Laboratory Memorandums"	7:30 – 8:00
	Report of PSL Technical Surveys of CSLs: Larry Azevedo, Sandia "Update of PSL survey activities"	8:00 – 8:20
	PSL Proficiency Testing: Larry Azevedo, Sandia "Update of PSL proficiency testing activities."	8:20 – 8:40
	CCL/DCS Database: Jim Simons & Larry Azevedo, Sandia "Discussion of the use of accredited labs, reporting requirements, and data tracking and access. The DOE SQIG (Supplier Quality Information Group) database will also be discussed"	8:40 – 9:10
	BREAK	**9:10 – 9:25**
	Transition From ANSI/NCSL Z540-1-1994 to ISO/IEC 17025: Jim Simons, Sandia "The Weapons Surety Division of The DOE/Albuquerque is considering the possibility of transitioning from ANSI/NCSL Z540-1-1994 to ISO/IEC 17025 as a requirements document for the nuclear weapons standards and calibration program. This report will look at the pros and cons of this issue."	9:25 – 9:45
	4:1 Test Uncertainty Ratio and ISO/IEC 17025 Uncertainty Analysis Requirements: Jim Simons, Sandia "ANSI/NCSL Z540-1-1994 specifically allowed the use of a 4:1 TUR (Test Uncertainty Ratio) in place of performing an uncertainty analysis. However, ISO/IEC 17025 does not address the use of a TUR process. This presentation will review the process that the Sandia Secondary Calibration Laboratory plans to implement to address this issue."	9:45 – 10:30
	BREAK	**10:30 – 10:45**
	PSL Survey Process for Accredited CSLs: Dick Pettit, Sandia "The focus of the PSL Technical Surveys may change for those Contractor Standards Laboratories that are accredited by NACLA recognized accrediting bodies. This presentation will discuss several possibilities."	10:45 – 11:15
	OPEN TIME	11:15 – 11:30
	Meeting Format Review: Don Ragland, Sandia "The members will have an opportunity to express their thoughts about the format of the meeting and how the structure might be improved."	11:30– 11:45
	Wrap Up: Don Ragland, Sandia "The Standards Laboratory Managers' Meeting Action Item list will be reviewed to assure that each item clearly states the needed action, who is responsible for the action and when the action is due."	11:45 – 12:00

SPEAKERS / TOPICS

For copies of speaker presentations, click on a "SUBJECT"

NAME	FACILITY	SUBJECT
Don Heirman	National Cooperation on Laboratory Accreditation (NACLA)	"NACLA Status Report"
Dr. John Rumble	National Institute for Standards & Technology (NIST)	"NIST Calibration Program"
Dick Pettit	Sandia National Laboratories/Albuq. (SNL/A)	"ISO 17025 vs. Z540-1"
Dr. Carroll Brickenkamp	National Institute for Standards & Technology (NIST)	"NIST/NVLAP (17025 Implementation Issues)"
Tom Wunsch	Sandia National Laboratories/Albuq. (SNL/A)	"Multi-Junction Thermal Voltage Converters"
Harry Moody	Idaho National Environmental & Engineering Laboratory (INEEL)	"Site-Wide Calibration Responsibility"
Dr. Li Pi Su	Redstone Arsenal	"Status of DOD Metrology"
Bruce Cox	Y-12 National Security Complex (Y-12)	"Gear Metrology"
Mike Duncan	Y-12 National Security Complex (Y-12)	"Automated Metrology Processes"

SPEAKERS / BIOGRAPHIES

DONALD N. HEIRMAN (NCE), President, Don HEIRMAN Consultants
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Web: http://www.donheirman.com

Donald Heirman is President of Don HEIRMAN Consultants, a training and educational EMC consultation corporation, and a NARTE* certified EMC engineer (NCE). Previously he was with Bell Laboratories for over 30 years in many EMC roles including Manager of Lucent Technologies (Bell Labs) Global Product Compliance Laboratory where he was in charge of the Corporation's major EMC and regulatory test facility.

He chairs, or is a principal contributor to, national and international EMC standards organizations including ANSI ASC C63 and CISPR that develop new emission and immunity instrumentation specifications and measurement techniques. Mr. Heirman is a Fellow of the IEEE, a member of its EMC Society Board of Directors (and its Vice President for Standards), chairs the Society's Electromagnetic Compatibility Measurement Committee, and has authored and presented internationally numerous papers, tutorials, and seminars on EMC subjects. He is also the chair of the IEEE Standards Association Standards Board and is President of the National Cooperation for Laboratory Accreditation (NACLA). He chairs the American National Standards Institute Accredited Standards Committee C63, Subcommittee One on EMC Techniques and Developments, which prepares guidelines or standards for EMC measurements, test site qualifications, antenna calibrations, automated measurements, and emission and immunity limit setting.

Mr. Heirman is a technical expert for CISPR Subcommittees A, E, and G. He is also the Secretary of CISPR A and chairman of its Working Group 1 responsible for CISPR 16 Part 1 (Specification for radio disturbance and immunity measuring apparatus and methods—measuring apparatus). He is also a member (for over three years) and group manager for electromagnetics of the U.S. National Committee Executive Committee for the IEC (International Electrotechnical Commission) responsible for facilitating the CISPR and TC77 (immunity) US participation and Chair of its Coordinating Committee on EMC. He is also on the Board of Directors of the US EMC Standards Corporation.

Mr. Heirman is an adjunct professor/senior research scientist at the University of Oklahoma and is the Associate Director for Wireless EMC at the University's Center for the Study of Wireless EMC. He is a listed in multiple "Who's Who" publications and is a retired Commander in the US Navy reserves.

*National Association of Radio and Telecommunications Engineers

RICHARD (DICK) PETTIT, Manager, Primary Standards Laboratory
Sandia National Laboratories/NM
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After gaining his Ph.D. in Applied Physics from Cornell University in 1971, Dick joined Sandia National Laboratories as a Member of the Technical Staff. Initial assignments involved developing optical measurement techniques and optical coatings for solar collectors, including black chrome solar absorbers, lightweight flexible mirror materials, and antireflection coatings for glazings. Since 1986 he has been a manager in the Sandia Primary Standards Laboratory overseeing electrical metrology in AC, DC and Microwave disciplines.

Dr. Pettit's expertise includes:

- Metrology management systems and quality operations
- Calibration uncertainties
- Optical properties of solar absorbers, mirrors, and glazings
- Ellipsometry and multi-layer thin film optical properties
- Thermal radiative properties of metals and coatings
- Transmission Electron Microscopy
- Enhanced superconductivity of thin films

He was a recipient of the DOE Solar Thermal Program Award in Technical Excellence in 1982; and he has been an American Society for Quality (ASQ) Certified Quality Engineer since 1992. Among several professional societies and various honors, Dick serves as Vice President of Measurement Science and Technology for the NCSL International; and he was a DOE representative to the National Cooperation for Laboratory Accreditation (NACLA). He is also a member of the American Association for the Advancement of Science (AAAS) and the American Physical Society (APS).

DR. CARROLL S. BRICKENKAMP, Dosimetry, Acoustics, and Construction Programs Manager
National Voluntary Laboratory Accreditation Program (NVLAP)
National Institute of Standards and Technology (NIST)
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Dr. Carroll Brickenkamp is program manager for the Dosimetry, Acoustics, and Construction Materials Testing Programs of the NIST National Voluntary Laboratory Accreditation Program (NVLAP). NVLAP's accreditation programs are established in response to Congressional mandates or administrative actions by the Federal Government or from requests by private-sector organizations. For example, all Nuclear Regulatory Commission licensees must use NVLAP accredited dosimetry laboratories.

Carroll obtained her chemistry degree from Washington University in St. Louis, and her Ph.D. in solid-state physics and crystallography from the University of Pittsburgh. She began her tenure at NIST as a National Research Council postdoctoral associate, and was Chief of the NIST Office of Weights and Measures during an unprecedented growth and maturation of legal metrology systems in the United States. She was also Scientific Advisor for the NIST Calibration Program.

She likes others to know that she is a scientist by training and a public servant by choice!

JOHN R. RUMBLE, Jr., Chief, Standard Reference Data Program
National Institute of Standards & Technology (NIST)
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John Rumble, Jr. is Chief of the Standard Reference Data Program at the National Institute of Standards and Technology (NIST). In this position he oversees more than 35 data activities than cover the full range of physical science and engineering. He received a Ph.D. (1976) in chemical physics from Indiana University. Prior to joining NIST in 1980, he was at the Joint Institute for Laboratory Astrophysics in Boulder, Colorado, and the International Atomic Energy Agency in Vienna, Austria. He has also worked as a chemist in industry. In 1993-1994, he was a Department of Commerce Fellow working in the Office of Science and Technology Policy in the Executive Office of the President. Dr. Rumble has published extensively in atomic and molecular physics and scientific informatics, including several books. He has been active in developing scientific database standards, including an international standard for industrial data exchange. Dr. Rumble is a Fellow of the American Society for Testing and Materials, a Fellow of ASM International, a member of the Russian Federation Academy of Metrology, and recipient of the U.S. Department of Commerce Silver Medal. In 1998, Dr. Rumble was elected President of the Committee on Data (CODATA) of the International Council of Scientific Unions.

THOMAS F. WUNSCH, Principal Member of the Technical Staff
Primary Standards Laboratory, Sandia National Laboratories/NM
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Tom Wunsch began working in the field of metrology in 1983 during a four-year enlistment with the US Air Force. Since 1995, Tom has worked at the Primary Standards Laboratory. As a Principal Member of the Technical Staff in the Primary Standards Laboratory, his research activities are in the field of ac-dc transfer measurements and he is also responsible for oversight of primary temperature calibrations for the United States Department of Energy Weapons Complex. Prior to joining the Primary Standards Lab, Tom worked in the Microelectronics Development Laboratory at Sandia where he was involved in parametric measurements, circuit simulation, and radiation effects modeling of CMOS integrated circuits and in design of self-testable memory modules.

Tom received the B.S. in electrical engineering (with Honors) from New Mexico State University in 1987 and the M.S. in electrical engineering from the University of New Mexico in 1989. He is currently a Ph.D. candidate at the University of New Mexico and expects to complete the degree in June.

Tom is the Region 6 coordinator of NCSL-International and has served in various capacities for IEEE and NCSL-International conferences. He is a member of Eta Kappa Nu, the international electrical and computer engineering honor society.

HARRY J. MOODY, Mgr. Calibration Services

Idaho National Environmental & Engineering Laboratory

Harry Moody is the Department Manager of Calibration Services for Bechtel-BWXT Idaho, LLC who operates the U.S. Department of Energy Idaho National Engineering and Environmental Laboratory (INEEL) in Idaho Falls, Idaho. His responsibilities include the Standards and Calibration Laboratory, the Health Physics Instrument Laboratory, Equipment Pool, and the INEEL calibration program.

The INEEL Standards and Calibration Laboratory (S&CL) achieved NVLAP
Accreditation in December 31, 1997. The S&CL obtained accreditation in DC Volts, resistance, length, frequency, mass, pressure, and force.

Harry has a Bachelor's degree in physical science and math and a Master's degree in physics from the University of Wyoming. Past work experience includes working as a metrology engineer at Boeing in Wichita Kansas and as a technical auditor at the Wolf Creek Nuclear Power Plant in Burlington, Kansas. Harry worked as a metrology engineer at the INEEL until he became the metrology manager 14 years ago.

Harry is currently the NCSL International Western Vice President and on the Board of Directors.

DR. LI PI SU, Manager of the Army Metrology and Calibration R&D Program
U.S. Army Primary Standards Laboratory (APSL); APSL Quality Advisory Committee
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Dr. Li Pi Su has a B.S. and Ph.D. in Mathematics and a B.S. in Electrical Engineering. Post Doctoral Research, University of Toronto (1966-67). Professor of Mathematics, Tsing-Hua University (1967-68) and Central University (1978-1979) in Taiwan. Professor of Mathematics, University of Oklahoma (1968-78). Electrical Engineer, Department of the Air Force (Tinker AFB, OK, 1980-85). Logistics Engineer, Department of the Army (Lexington Army Depot, KY, 1985-92). 1992-Present, Electronic Engineer, U.S. Army, Test, Measurement, and Diagnostic Equipment Activity, Department of the Army (Redstone Arsenal, AL).
During 1992-2000, she had completed the research and development of the following technologies: the Diagnostic Analysis and Repair Tool Set; Embedded Diagnostics; Diagnostics-on-a-Chip, Reengineering the Integrated Diagnostics; and Repair Information System Programs; Diagnostics driven IETMs; Reengineering troubleshooting procedures into robust model-based integrated diagnostics; Wireless Communications Between System Under Test and Portable Maintenance Aids, and Prognostics Framework.

Since 2000, she has been managing the Army Metrology and Calibration R&D program, Lead of APSL Internal Auditing, and is a member of the APSL Quality Advisory Committee.

BRUCE L. COX, Engineering Specialist
Oak Ridge Metrology Center, Y-12 National Security Complex
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Bruce is an Engineering Specialist at the Oak Ridge Metrology Center at the Department of Energy's Y-12 National Security Complex managed by BWXT Y-12, L. L. C., in Oak Ridge, TN. He is currently serving as the Vice Chairman of the American Gear Manufacturers Association (AGMA) Calibration Committee and is serving on the AGMA Inspection Handbook Committee. Since 1994, Mr. Cox has been working to reestablish primary-level gear calibration service under direction of the ASME Committee on Gear Metrology. Mr. Cox holds a B. S. degree in Metallurgical Engineering from the University of Tennessee. He has 26 years of experience, and previously worked in the Metals and Ceramics Division at the Oak Ridge National Laboratory, the Engineering Division at the Y-12 Plant, and the Quality Division at the Y-12 Plant. He is also a member of the Society of Manufacturing Engineers, ASM International, and the American Society for Precision Engineering.

MICHAEL L. (MIKE) DUNCAN
BWXT-Y12, LLC.
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Mike has served as Electrical Engineer in the Oak Ridge Metrology Center at the Y-12 plant (Operated for the DOE by BWXT Y-12, LLC) in Oak Ridge, Tennessee since December 2000. Prior to that time and since 1988, he served as

Electrical Procurement Engineer for the Y-12 plant, the Oak Ridge National Laboratory and East Tennessee Technology Park (formerly the K-25 site) managing technical procurement projects.

From 1977 to 1988, he served as Electrical/Instrumentation Engineer for the Tennessee Valley Authority at the Sequoia, Watts Bar and Brown's Ferry Nuclear plants as well as the central engineering organization in Knoxville, Tennessee. During that time, he specialized in the environmental qualification of electrical and instrumentation equipment and systems for safety-related applications in nuclear power facilities as well as managing upgrades of instrumentation and control systems in coal-fired generating stations.

Mike has a Bachelor's degree in Electrical Engineering from Tennessee Technological University and is a past senior member of the Instrument Society of America and Institute of Electrical and Electronic Engineers (IEEE). He served as a working group member for IEEE's Nuclear Plant Module Qualification committee.

REPORTS BY REPRESENTED LABORATORIES

Honeywell FM&T Metrology
Reporting: Roger Burton

New Capabilities & Development Projects:

Upgrade of mass calibration lab will incorporate eight new balances and automated data collection.

Flow meter calibrations using critical flow nozzles from 0.006 SCFM to 70 SCFM. Critical flow nozzles calibrated by PSL.

LIGA (microsystems) dimensional measurement development. Obtaining new CMM from Werth that utilizes innovative contact optical probe. Information about CMM is available under "New Products" at http://www.werthamerica.com

Brought new International Resistance Measuring system, MI6000, on line. Resistance measuring capability is 10μΩ to 100MΩ.

Developed new High Accuracy Absolute Pressure Calibration System, utilizing a DWPG that was obtained from the PSL.

Upgraded the Accelerometer Vibration Calibration System. Obsolete components and old HP computer were replaced. New software was written.

Obtained three new temperature fixed point cells (zinc, indium and aluminum) and oven and a Hart Scientific Super Thermometer.

Facilities:

Major upgrade planned in 2001 for HVAC system for temperature controlled dimensional laboratories.

Budget:

Capital equipment budget remains relatively tight. A new autocollimator is being purchased this year. Metrology is also purchasing a new CMM and lab for our Tool and Gage Inspection department.

Expense budget is staying fairly constant.

Major expenditure planned for NVLAP re-assessment this year.

Personnel Issues:

Hired two new Engineering Technologists. New Dimensional Engineer starts in June, 2001. Also trying to hire one additional engineer.

Other Issues:

General Electric acquisition of Honeywell. Should be completed this summer.

Plantwide ISO 9001 audit in May.

PSL audit in May.

NVLAP assessment expected sometime this summer.

New Calibration Management System (CMS) should be rolled out to all calibration organizations by end of the year.

LOS ALAMOS NATIONAL LABORATORY
Reporting: Allen Gauler

Funding & Staffing

FY-99
17.5 FTE's.
Transferred to new organization.
Overhead costs increased by about 16% due to different organizational structure.

FY-00
Detailed analysis of Laboratory requirements.
Warm standby funding proposed.
Warm standby budget only partially approved.
Direct funding from production programs filled 16% gap.

FY-01
13.8 FTE's
PSL deficiency.
39% increase in G&A funding proposed.
G&A budget increase approved.
Direct funding from production programs more than doubled.
Presently hiring six new employees.

Facilities

Roof repaired.
Old AC system failed; new one installed.
Dimensional modulab upgraded to +/- 0.1 degC (maybe), humidity control added.

Capabilities

Automated torque system operational.
- Torque Master (AKO Inc, Connecticut)
- A few oz-in to 1,000 ft-lb

Humidity system operational.
- General Eastern GC-1

New Z-Mike 1210 Gold ($10k).
- Master at .05 and .7 inch; use from .01 to 1 inch; +/- 20 uinch
- Currently obtaining Z-mike with robotic pin handler at $100k

Ergonomics of Moore M-18Z CMM improved.
- Readout acquired thru Moore; had to separate from power supplies

Vision system used for wire mesh calibrations.
- Bender Associates, Arizona
- Polaroid video camera on microscope, Image Pro 4.1 software
- Linear uncertainty +/- 1 um at 100X
- FOV 2.5 x 3 mm at 100X

New Brunswick Laboratory (NBL)
Reporting: Margaret Legel

New quality management software purchased in October 2000 is being implemented to meet ISO 17025 criteria, particularly in the areas of document control, corrective/preventive actions, audits and management reviews, equipment control, and personnel training. Although NBL has very different measurement capabilities, Uranium and plutonium chemistry, instead of physical metrology, these criteria in ISO 17025 need addressed by all of us to become accredited laboratories. Full implementation of the software's six modules will take all of FY 01 to accomplish, but the time savings compared to maintaining a paper-based system are immeasurable and well worth it, based on our experiences so far.

For additional information or to exchange ideas and lessons-learned, contact Margaret A. Legel, QA Officer.

National Renewable Energy Laboratory (NREL)
Reporting: Ibrahim Reda

The lab was successfully relocated in a new building. In the early stages of planing for the new building, the laboratories environmental specifications were emailed to NREL staff that was responsible about interfacing with the new building subcontractor. This document did prove valuable because the new building temperature and humidity were not within the required specifications; this saved the laboratory the costly replacement of the temperature/humidity system.

Oak Ridge National Laboratory (ORNL)
Reporting: Bob Effler

We moved most of our Metrology facilities from one building to another over the last twelve months; this was, of course, not without with some severe difficulties (primarily being "broke"). This move was sort of a "last minute" (after the budget was set) "deal" and I thought I was going to have to "invite some bean counters outside". ("Whaddya mean you can't move your Lab for $100K?")

Due to something inimical about the environment in the new building, we now can't calibrate electrometers below 2pA any longer. It's no "biggie"; there's not much demand; but I sure don't like the trend.

Our Fluke 5700A "smoked". The repair cost took a huge "chunk" out of my "Instrument Repair" line on the budget.

Among the many issues that we had to address when we learned that we would be moving was our blackbody furnace calibration fixture. The unit was mounted on an old lathe bed and was extraordinarily heavy. Moving it would have been prohibitively costly and its weight would probably exceed the allowable floor loading in the new building. Bill Wright, our Technical Manager helped design a new, lightweight, mount for this unit using aluminum structural members.

Personnel

I've lost one of my best Technicians and have another one on loan to the HRIBF (Holifield Radioactive Ion Beam Facility).

We have done some "neat stuff", however (Interesting R&D Work)

We were asked to calibrate some gas flow meters while they were at 150 degrees C. We had to "rig" something to be sure that the inlet gas was at the correct temperature when it got to the instrument.

We're working with the Air Force on a project, which will require the calibration of instruments that measure Hydrazine, the rocket fuel. They've asked one of my Technicians to "act" in a training film that they will make using a mock-up of the system.

As a spin-off of something we had done for the Energy Division, we devised a module for the PTAC (Packaged Terminal Air Conditioner) project. We helped to design and put together an auto-dial-out data logger to monitor and report the operating conditions of Motel HVAC units. It is installed in series with heater/air conditioner power cords and automatically dials out and downloads its data to a remote location. It worked so well that our Instrument Fabrication Group (which I also supervise) was asked to build 50 of them.

Capabilities

Over a year ago, we "inherited" a set of metal-freeze-point temperature standards from a researcher, who told us that they weren't any good. On of my Technicians, however, tested them with a furnace, for which he had recently designed an upgraded control interface, and found that they performed perfectly with nice, sharp, flat plateaus. The researcher's problem was, apparently, his old, unstable furnace.

Our Cox Flow calibrator is "up and running", giving us a good, stable instrument to calibrate water flow from 5 to 95gpm.

Because we've moved our Lab and have committed to comply with ISO 17025, we're probably going to have to recalculate the uncertainties for most of our calibration procedures.

Money Woes

I'm still struggling with the difficulties associated with trying to fund my Lab on a direct charge-back basis. One of the measures to which I've had to resort is to set a policy of recovering from customers the cost of calibrating some of my transfer standards. Where we can "batch" a group of similar calibrations, we charge the customer(s) for the activity of calibrating the transfer standard that we will use for the job. This is because we've deduced that it costs us more to keep the standard "in-cal" continuously that we "make" on it during the year. This is tricky to administer because this places some of our infrequently used transfer standards into a strictly "cal-before-use" category. In the past, we've kept them "in cal" continuously. This allowed us to use them at a moment's notice. Now, we have to be very careful. We've also been asked to take a "hard look" at "shelving" some of our "warm and fuzzy" crosscheck standards. I'm being rather intransigent about this, however.

I have Capital Requests in the queue for:

- A Fluke 5720A,
- An upgraded environmental control system, and
- Upgrades to our Schwien manometer.

I've also made a very strong appeal to my management to change our funding strategy to reflect the philosophy in the White Paper, "CHARGE-BACK VS. OVERHEAD FUNDING" STRATEGIES" that I wrote for the Committee a couple of years ago. So far, response is moderately favorable. More news on that will be forthcoming.

Vendor Problems

Lately we've been having some serious problems with repair services from MKS on our Baratron heads. I consulted with VTI (Vacuum Technology Incorporated) and learned that they are probably going to become the provider of a good many of MKS' services. Since VTI is going after A2LA and their facility is just a few miles from ORNL, this is great news for me.

Pantex Metrology
Reporting: Danny Wilhelm, Mgr.

Budget:
- Personnel - Numbers were increased from 40 to 43 (3 new technician slots)
- Supplies - Under $25K - holding steady
- Cap. Eq. - Dollars still very short

Personnel/Staffing Issues
- Having difficulties finding Mechanical Types
- Have hired 4 personnel in the last 4 months
- Need additional EE on staff (not currently funded)

New Equipment/Capabilities:
- Wavetek Model 395 Arbitrary Waveform Generator
- Agilent Model 86100A Digital Signal Analyzers(2)
- Volume capability increased from 500cc to 1 liter
- Portable torque calibrator
- Super Thermometer
- Humidity Generator (two temperature & pressure) -Thunder Scientific Spec. . . -95 to 10°C
  Note: EG&G 300 chilled mirror Analyzer monitors the generated humidity
- Automated Leak Detection System - Built in house w/contracted software integration
  Spec. . . test standard leaks to 10-9 std cc/sec
  Special note. . . totally oil free system using dry pumps and Spectra RGA as sensing medium
- Automated Temperature System - Hart Scientific
  Spec. . . -40 to 300°C using a Low & Hi temp bath. The system integrates a super thermometer & SPRT as sensing medium.
  Note: A triple point cell/maintainer is being explored to decrease uncertainty. Looking at Pond Engineering triple point cell

  Concern area. . . The SPRT is calibrated @ primary lab and we have experienced damage to the SPRT during shipping.

Plans for the next year:
- Fluke/Wavetek Model 9500 Scope Calibrator
- Fluke Model 5700 upgrade to a Model 5725
- Triple Point Cell - Pond Engineering
- Femto Tech Tritium Monitors

Biggest Issues:
- Number of Low Humidity calibration requirements (time consuming due to -70C range req.)
- Classified Tooling handling requirements - Vault-type rooms required
- CMM Funding - Need to replace 2 aging Moore Machines (funding looks promising)
- Facility Maintenance - environmental controls need to be updated, but dollars are very short

Pacific Northwest National Laboratory (PNNL)
Reporting: Ken Harrison

Finding Doug Olesen's Successor. Battelle has formed a search committee to review candidates to replace Chief Executive Officer Doug Olesen, who expressed his intention of retiring later this year. Battelle's Board of Trustees, which has been supportive of the commercialization strategy set by Doug, is looking for a candidate to continue progress in this area. Both internal and external candidates are being considered, with final selection expected this summer.

DOE Sector Integration. Battelle's DOE Market Sector is making great progress in integrating several programs and activities across the four DOE national laboratories managed or co-managed by Battelle. The sector sponsored several workshops to encourage joint research proposals, including one on genetic data management with DOE and the National Institutes of Health. We also developed a common database for analyzing IP opportunities, eliminated PNNL overhead charges on inter-laboratory work to encourage collaboration, and held the first annual succession planning review to identify staff who can take on leadership assignments.

Joint Institutes Launched. Earlier this week, we launched the Joint Institute for Nanoscience and Nanotechnology with the University of Washington. In March, we joined with the University of Maryland to form the Joint Global Change Research Institute. These two joint institutes will give us valuable experience before we forge ahead with other such partnerships.

PAAA Issues. EM-10 has visited PNNL with no detrimental results and was complimentary on our implementation of the PAAA program.

Calibration Facility. PNNL has combined its non-radiation and radiation calibration capabilities under one management program. The non-radiation program meets the ANSI/NCSL Z540-1-1994 Criteria.

BWXT Y-12, L.L.C., ORMC
Reporting: Bill McKeethan

1) Changed contractors from Lockheed Martin to BWXT Y-12, L.L.C.

2) Hired two new Metrology Engineers.

3) Hired two new Metrologists.

4) Training is big issue with new employees.

5) NVLAP Accreditation renewed. Assessment scheduled for May '01.

6) Uncertainties for ID on M-48 have been reduced.

7) Have done ~$600K in Work for Others.

8) Continue to evaluate sending Y-12 standards to PSL rather than NIST.

9) Automation of processes continuous.

METR/ACCR/SLMs 2001-2002 ACTION ITEMS (Updated: 6/7/01)

	date due	item	RI	STATUS
1.	TBD	Initiate changes to D&P Manual (Chapter 8.4) to include 17025; pursuant to gap analysis of 17025 vs. Z-540 by PSL mgmt.	L. PEREZ	[Pending PSL gap analysis]
2.	03/30/01	Prepare an NCSL 2001 blurb for both websites	D. RAGLAND	**DONE**
3.	03/31/01	White paper on survey results to D. Ragland for committee approval and post to web site	R. BURTON/D. RAGLAND	**PAPER DONE—** Survey is not an official white papeR. Where should it be posted to web site?
4.	04/15/01	Post to Metrol & Accred web sites the Serbu (TSP) letter authorizing both Topical Committees to speak for DoE in related matters.	D. RAGLAND	Pending approval by Serbu's manager.
5.	04/30/01	Prepare and transmit to Ragland a brief, written report (text, viewgraphs, lists, etc) of the oral presentation ("items of interest; significant events/developments; FYI") you gave at the meeting	LAB REPS: RECEIVED R. BURTON B. MCKEETHAN R. EFFLER A. GAULER I. REDA K. HARRISON D. PETTIT M. LEGEL C. TUNLEY R. MARTIN D. WILHELM	***DONE***
6.	04/30/01	Review your lab capabilities on the website Capabilities Matrix; note changes, and transmit them to Ragland for posting.	ALL LAB REPS	no responses received yet; sending another notice 6/7/01.
7.	04/30/01	Potential rep to ICSP (Serbu/TSP)	M. LEGEL	***DONE*** M. Legel committed to participate on the ICSP Working Group, after discussions with R. Serbu. He subsequently submitted her name to the ICSP at a meeting on ~ 4/26/01. There has been no further information made available from any other ICSP Working

				Group members, if assigned yet, from any other agencies.
8.	04/30/01	Introduce DoE/AL (Perez) to Serbu/TSP	D. PETTIT	***DONE*** Called R. Serbu and indicated that both Louis Perez and Leslie Schaeffer would like more information about TSP. Rick called both
9.	04/30/01	Investigate SNL web site policy regarding making changes to a site	D. PETTIT/D. RAGLAND	Get some kind of written confirmation from Mannie Ontiveros re policy
10.	05/01/01	Check with D. Braudaway on PSLM-3B, RP-14 (3/99). Is it included in RP-14?	D. PETTIT	***DONE*** The NCSL International Recommended Practice, RP-14, contains all the laboratory environmental information in the PSLM-3B and has been updated. Therefore we can replace PSLM-3B with the RP-14
11.	05/01/01	Investigate need for subcontracting of calibration of STDs with accredited labs	D. PETTIT	***DONE*** We do not have to worry about subcontracting of accredited calibrations. A calibration lab. will not have a calibration listed in its Scope of Accreditation that is subcontracted. This will simplify our internal requirements. Consider this question closed.
12.	05/15/01	*Standards Forum* article re Y12 meeting	D. RAGLAND	***DONE***
13.	05/15/01	Y12 Minutes	RAGLAND:	Complete, but not posted to web; send to SC for approval, first.
14.	05/30/01	Complete white paper on Calibration Supplier Evaluations	K. HARRISON	Ragland to contact Harrison
15.	05/31/01	Modify PSL survey for accredited CSLs	L. AZEVEDO B. MCKEETHAN R. BURTON	***DONE*** (See PSLM review below)
16.	06/01/01	Complete PSLM review and provide comments to PSL	ALL STDS LAB MGRS	In process
17.	06/01/01 (BEGIN)	Send yearly a CCL/DCS-based list of approved suppliers to CSLs.	L. AZEVEDO	
18.	06/01/01	Develop a Certificate of Completion" for PSL survey process	L. AZEVEDO	
19.	06/15/01	Compile lists of current R&D projects/future needs	L. SCHAEFFER	

20.	06/15/01 (REPORT)	Develop new champion at DoE/HQ	K. HARRISON	
21.	06/15/01	Investigate a “Hit Counter” for the web site	D. RAGLAND	
22.	06/30/01	Post list of current R&D projects/future needs to web sites; also change POCs per Schaeffer’s results	D. RAGLAND	
23.	07/15/01	Set up DoD/DoE/NASA/NIST links on the Metrol web site	D. PETTIT/D. RAGLAND	
24.	07/31/01	Prepare, get approved and publish white paper on Committee’s recommendation to adopt 17025	K. HARRISON/D. RAGLA ND	
25.	08/15/01	Investigate organizing round robins with CSLs as pivot labs	PSL MGMT	
26.	09/01/01	Work with Kuster and Burton on an approach to 4:1 tolerance testing procedure	J. SIMONS	
27.	09/01/01 (DRAFT)	Assist Jim Simons with approach to 4:1 uncertainty analysis	M. KUSTER R. BURTON	
28.	02/28/02	If possible, prepare written lab reports for 2002 meeting in advance	ALL LAB REPS	

STEERING COMMITTEE ELECTIONS

Following are the committee members elected to serve on the combined (Metrology & Accreditation) Steering Committee:

Member	Term	Term Expires
Roger Burton (Honeywell/KC)	2 yrs	2003
Jerry Harris (DOE/Y12)	2 yrs	2003
Margaret Legel (NBL)	2 yrs	2003
Ken Harrison (PNNL)	1 yr	2002
Gary LaBruyere (INEEL)	2 yrs	2003
Harry Moody (INEEL)	1 yr	2002
Dick Pettit (SNL/A)	2 yrs	2003
Ibrahim Reda (NREL)	1 yr	2002
Leslie Schaeffer (Pantex)	1 yr	2002
Jim Simons (SNL/A)	1 yr	2002

NEXT THREE ANNUAL MEETING LOCATIONS

2002: New Brunswick Laboratory (NBL), Argonne, IL
(Contact: Margaret Legel)

2003: Los Alamos National Laboratory (LANL), Los Alamos, NM
(Contact: Allen Gauler)

2004: Pacific Northwest National Laboratory (PNNL), Richland, WA
(Contact: Ken Harrison)