July 1, 2016

MEMORANDUM FOR: RMAP Participants and Laboratory Directors

From: Georgia L. Harris, Laboratory Metrology Program
Office of Weights and Measures

Subjects: 2017 Regional Measurement Assurance Programs (RMAP) Training

2017 Regional Measurement Assurance Program (RMAP) Training

NIST Handbook 143, Section 5.2, Table 2 notes that annual attendance at the RMAP training session is required for ongoing laboratory Recognition. Handbook 143, Program Handbook details the criteria used for OWM Laboratory Recognition. In addition, participation in ongoing RMAP proficiency tests (PTs) requires completion of training requirements to the designated level and attendance at the annual RMAP training sessions.

The 2016 Regional Measurement Assurance Program (RMAP) training events have been scheduled as noted in the table below. Training topics (see attached detailed agenda and abstracts) are selected based on annual needs assessments; input is obtained during laboratory assessments, annual reviews of submitted data, laboratory requests, and input at prior regional training events.

Schedules and Locations:
The schedule, location, and contact host for each of the RMAP training is listed below. The agenda and detailed learning objectives are in the following sections. NIST will provide training content. Local hosts will provide details on hotel and local registration logistics as each training event approaches.

Region	**Dates**	**City, State** (*City may change)*	**Host Contact**
SEMAP	April 3 to 6, 2017	Raleigh, North Carolina	Van Hyder Van.Hyder@ncagr.gov 919-733-4411
CaMAP (NCSLI)	April 24 to 27, 2017 (April 28, 2017)	Bayamon, Puerto Rico	Jose Torres jatorres@nist.gov 787-319-6174
WRAP	May 1 to 4, 2017	Helena, MT	Dave Fraser dafraser@mt.gov 406-449-2582
NEMAP	September 18 to 21, 2017	Charleston, WV	Tony O'Brien Anthony.P.OBrien@wv.gov 304-722-0602
SWAP	October 2 to 5, 2017	Topeka, KS	Kevin Uphoff Kevin.uphoff@kda.ks.gov 785-296-2938
MidMAP	October 16 to 19, 2017	Lansing, MI	Nick Santini santinin@michigan.gov 517-655-8202 x316

Registration:
TWO registrations are required for each event (with OWM and with the HOST). The OWM Contact System is used to generate attendee registration lists, name tags/tent cards, adequate training materials, and training certificates. The registration list is shared with each host. R*egistration fees* for the RMAP training are determined by the local hosts. Every effort is made to keep registration fees to a minimum. Specific details about registration will be sent with information for each RMAP.

Agenda at a Glance
Sessions will be held from 8:30 am to 5:00 pm each day. Successful completion requires full attendance, participation in group activities. The agenda has been arranged so that if Thursday measurements (weight carts or LPG provers) are not on your Scope, participants may leave early, and attendance certificates will be adjusted accordingly. However, if these measurements are on the laboratory Scope, participants are expected to stay for the full session.

CaMAP Agenda

Monday 4/24	Tuesday 4/25	Wednesday 4/26	Thursday 4/27	Friday 4/28
Laboratory Safety and Risk Management	Round Table (Lab Reports: 5.2 through 5.6)	Basic Measurement Assurance, Control Chart Reviews, Managing Data (5.9)	SOP 33, Weight Cart Calibrations and Inspections	Additional Meeting
Lunch	**Lunch**	**Lunch**	**Lunch**	**Lunch**
Laboratory Safety and Risk Management	PT Reporting and Planning (5.9) Lab Visit	Basic Measurement Assurance, Control Chart Reviews, Managing Data (5.9)	SOP 19, Handbook 105-3, Large Prover Calibrations and Inspections	Additional Meeting

Abstracts and Learning Objectives
On-the-job (OJT) training focus. On the job training forms and approaches will be integrated into each module as was done during the 2016 training. A preliminary "laboratory metrology info hour" session will be held in 2017 to review the OJT outlines, forms, and approaches for those staff who were unable to participate in 2016 and for those who would like to review the content and approaches.

Laboratory Safety and Risk Management.
Topics will cover job hazard reviews, personal protective equipment, and good safety practices in the laboratory, including the value of regular safety assessments. Examples of "hazard reviews by SOPs" as covered in the NIST seminars will be provided. At the end of this module, participants will be able to identify key laboratory safety concerns and list the kinds of steps that can be taken to minimize on-the-job injury/risks. Participants will practice writing learning objectives for OJT related to laboratory safety.

Laboratory Round Table. Laboratory round table sessions help to identify major trends and changes among the laboratory community. Reports focus on changes and challenges related to facilities, equipment, standards, staffing, operations, and economic/workload issues. These items are covered in Handbook 143 and ISO/IEC 17025, Sections 5.2, 5.3, 5.4, 5.5, and 5.6. Specific follow up actions are identified.

PT Reviews and Planning. Proficiency testing results will be presented by the PT coordinators with analyses and corrective actions discussed among participants. Planning is done to ensure that every

laboratory has a PT available to cover every area of their scope at least once every four years. PT Plans must be available for every laboratory and are a new Recognition and Accreditation Requirement (every recognized and/or accredited laboratory must have a PT Plan available for their Recognition and/or Accreditation Body). Participants will ensure that the regional plan meets their own laboratory requirements. Updated publications and new software analysis and applications will be presented and reviewed again to ensure effective application and review of proficiency testing reports. Highlights of observations from the 2015 annual submission technical analysis will be presented as well.

Laboratory Visit/Assessment. Participants will be provided explicit guidance to observe specific laboratory components and identify at least one best practice or idea to implement in their own lab and/or to share with the host. Good safety practices (or concerns) will be one the key item to observe to reinforce the safety training.

Basic Measurement Assurance, Control Chart Reviews, Managing Data (5.9).
This session will revisit some of the content from Measurement Assurance as it is covered in webinars and seminars and from the 2014 Combined "Managing Data" session to address a number of real-life application scenarios on what to do with all of the measurement assurance and proficiency testing data that is maintained by the laboratory. It will cover at a fairly simple level what and how to manage the data, when to archive, what statistical tests are useful tools, and how often assessments and integration of data from multiple sources should be performed. It will also include review of assessment tools and methodologies with hands-on review of selected measurement assurance files from your own laboratories. Participants will have a chance to discuss best practices and share their ideas on ways to best evaluate and manage data based on the case studies. At the end of the session, participants should be able to describe Measurement Assurance and give some examples of problems when it is absent from a laboratory, recognize control charts that are out of control and have some ideas of what to do next, describe check/control standards or replicate methodologies and determine when each should be used, and create a list of action items that can be applied to manage and improved measurement assurance data, analysis evidence, and related records.

NOTE: Staff must bring measurement assurance files and analysis data for hands-on review and discussion of examples. Electronic files on a laptop are preferred.

SOP 33, Weight Cart Calibrations and Inspections.
SOP 33 for weight cart calibrations will be reviewed and discussed in detail with clarification provided as issues/concerns are raised. Handling of replicate measurements, pooled standard deviations, and identifying suitable degrees of freedom will be covered. A hands-on inspection of a weight cart will be conducted using the tools in SOP 33 and those in NIST Handbook 105-8. Participants will be able to compare the SOP to what they are doing in their own laboratory and reinforce good practices and identify opportunities for improvement and/or corrective action.

SOP 19, Handbook 105-3, Large Prover Calibrations and Inspections.
SOP 19 for large prover calibrations will be reviewed and discussed in detail with clarification provided as issues/concerns are raised. Handling of replicate measurements, pooled standard deviations, and identifying suitable degrees of freedom will be covered. A hands-on inspection of a large prover will be conducted using the tools in SOP 19 and those in NIST Handbook 105-3. Participants will be able to compare the SOP to what they are doing in their own laboratory and field programs and reinforce good practices and identify opportunities for improvement and/or corrective action.