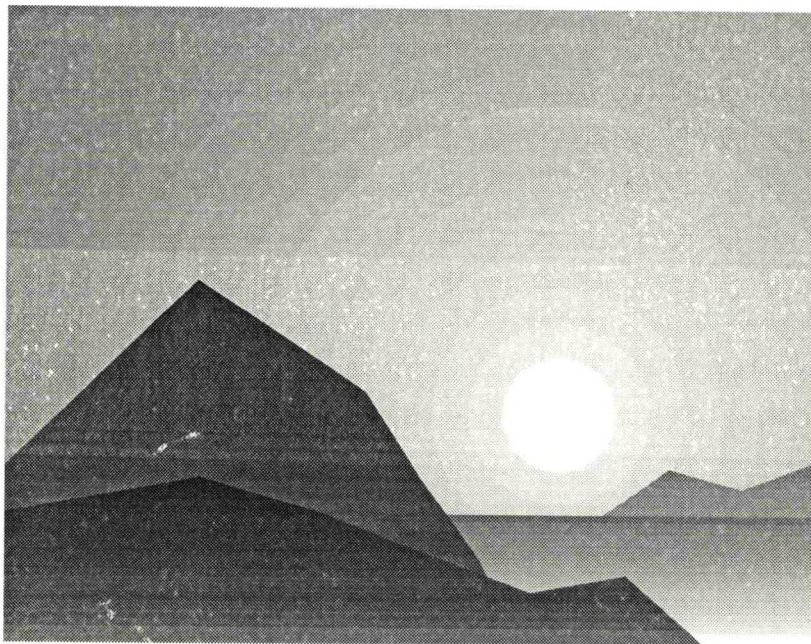


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North American Environmental Quality Assurance Program

Workshop Proceedings



Silver Spring, Maryland
September, 1995

US Department of Commerce

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National Ocean Service
Office of Ocean Resources Conservation and Assessment
Coastal Monitoring and Bioeffects Assessment Division

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National Oceanic &
Atmospheric Administration
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Silver Spring, Maryland
September, 1995

United States
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National Oceanic and
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National Ocean Service

Ronald H. Brown
Secretary

D. James Baker
Under Secretary

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Assistant Administrator

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ACRONYMS

CEC	Commission for Environmental Cooperation
CENAM	Centro Nacional de Metrología/Mexico
COMAR	Code of Reference Materials (database)
EC	European Community
EMAS	Environmental Management Audit Scheme/NMI
EPA	Environmental Protection Agency/USA
EUROMET	European Metrology System
ISO/REMCO	International Organization for Standardization/Council Committee on Reference Materials
NAAEC	North American Agreement on Environmental Cooperation
NAEQAP	North American Environmental Quality Assurance Program
NAFTA	North American Free Trade Agreement
NIST	National Institute of Standards and Technology/USA
NOAA	National Oceanic and Atmospheric Administration/USA
NORAMET	North American Metrology Agreement
NRC	National Research Council/Canada
QUASIMEME	Quality Assurance of Information for Marine Environmental Monitoring in Europe
SRM	Standard reference material (Certified Reference Material produced by NIST.)
UNCED	United Nations Conference on Environment and Development

North American Environmental Quality Assurance Program: Workshop Proceedings

Andrew Robertson and Adriana Y. Cantillo, Editors

NOAA/NOS/ORCA
Coastal Monitoring and Bioeffects Assessments Division
Silver Spring, MD

1. INTRODUCTION

The United Nations Conference on Environment and Development (UNCED) made "sustainable development" a global goal. Implicit in this concept is the need for conserving the environment. Environmental degradation impoverishes people and inhibits development. Reliable and accurate information on levels of contamination in the environment are required as our world strives to reach this goal of sustainable development. With UNCED setting the stage, the need for such information was especially evident during the recent debate and passage of the North American Free Trade Agreement (NAFTA). The NAFTA exemplifies the current trend toward expanding international trade, while the accompanying NAFTA environmental side agreements demonstrate that economic gain must not come at the expense of the environment. The parties to NAFTA recognized the need for a common basis for evaluating environmental issues. Among other things, this requires an agreed-upon quality assurance program to provide for reliable and verifiable comparison and exchange of environmental measurement results among the participating countries. There is no program in place at this time to address this concern.

Recognizing the need, twenty-nine participants representing environmental agencies from Canada, Mexico, and the United States met in Queretaro, Mexico in November 1994 to develop a plan for the establishment of a North American Environmental Quality Assurance Program. This workshop reached consensus on a draft plan for the proposed program including statements of the vision, mission, values, goals, and implementation strategies.

At the Queretaro meeting, it was agreed to hold a second workshop to review and revise the draft plan and to inform and expand support in the environmental measurement community for development of this program. This workshop was held at the U.S. National Oceanic and Atmospheric Administration's headquarters in Silver Spring, Maryland on May 2-4, 1995. Attendees included representatives from government, industry, and academia involved in the fields of atmospheric, fresh-water and marine environmental measurement science. This report documents the proceedings of this workshop. The agenda and list of attendees are in Appendix I and II respectively.

2. PRESENTATIONS

- 2.1. Workshop Purpose and Expectations. Opening Statement of the Chair of the Interim Steering Committee of the North American Environmental Quality Assurance Program: Dr. John Calder; Office of Oceanic and Atmospheric Research, NOAA, Silver Spring, Maryland, USA.

Good morning and thank you for joining us today. I appreciate the donation of your time and talent to help create something important. That "something" is what we are calling the "North American Environmental Quality Assurance Program." Our purpose here is to review the current draft plan for this program and to improve it in anticipation of its wider circulation.

In case there is any doubt that recognition of the need for such a program exists, we can look at the flow of thoughts and actions that began with the United Nations Conference on Environment and Development (UNCED) in 1992. The Nations attending the UNCED agreed to strive for "sustainable development", defined as development that meets the needs of the present without compromising the needs of future generations. The North American Free Trade Agreement and the companion North American Agreement on Environmental Cooperation (NAAEC), both completed in 1993, emphasize the need for mutually supportive economic and environmental policies. Within the United States, the Department of Commerce has prepared a draft Policy on Sustainable Development that is being circulated for public comment. This policy states that we must integrate our economic and environmental objectives, while achieving environmental justice. An underlying tenet is that environmental degradation is not only bad for the environment, it is also bad for the people who live in the affected environment, and bad for the economy which must cope with the costs of correcting the damage to the environment and people. This policy states that to achieve mutual economic and environmental goals, we have to employ our science and technology capabilities to better understand and manage the environment and to design environmentally benign economic engines. Further, it says that human behavior at all levels of complexity (individual through corporate and governmental) must adapt to take full advantage of the gains available through science and technology and to be consistent with our integrated economic and environmental goals. Finally, it recognizes that all segments of society must have a stake in the economy and the environment if we are going to reach our goals and achieve sustainability. It is abundantly clear that reliable data and information on economic, environmental and social systems are essential if we are to have any hope of truly achieving sustainable development.

Our role in this larger scheme relates to environmental data and information. The NAAEC includes expectations for data comparability and quality. There is no program in place now to accomplish this across the three countries; we have the opportunity to make it happen.

The initial thinking on this began in December 1993, at a quality assurance workshop sponsored by the Intergovernmental Oceanographic Commission. At this workshop, we were exposed to an environmental quality assurance program that was created to serve the needs of the European Economic Community. The United States had just ratified the NAFTA creating a new "economic community", and the question was asked, "Should NAFTA have a trinational quality assurance program?" After some research into the actual agreement and the companion environmental agreement, we concluded that the NAFTA called for a quality assurance effort, but didn't go so far as to establish one. An initial consultation at NIST in July 1994, attended by the National Institute of Standards and Technology (NIST), the Centro Nacional de Metrología (CENAM), the National Research Council of Canada (NRC), and the National Oceanic and Atmospheric Administration (NOAA), resulted in a program outline that focused on atmospheric and aquatic environmental measurements. This outline was presented at the first planning meeting, conducted at CENAM in November, 1994 and was fully developed into a draft program plan. This, the second planning meeting, will serve to obtain broader review of the draft plan and to develop a revised draft that will be circulated more widely.

During the workshop, we will undertake a very deliberate review of the vision, mission, values, and goals developed last November, and rewrite and expand them as needed to gain your support. Then we will take up each goal area and define specific actions that should be undertaken to meet each goal.

At the close of the workshop, we will discuss follow-up actions and the need for further meetings.

Thank you again for being here and helping to make this workshop a success.

2.2. Enhancing the Quality, Comparability and Availability of Environmental Information Generated within the NAFTA Countries: Andrew L. Hamilton; Commission for Environmental Cooperation, Montreal, Quebec, Canada.

The governments of Canada, Mexico, and the United States of America negotiated the North American Agreement on Environmental Cooperation (NAAEC) as a side agreement to the North American Free Trade Agreement (NAFTA). The NAAEC contains many provisions, the achievement of which are directly dependent on the availability of good environmental information as well as a capability of making use of that information.

The Commission for Environmental Cooperation (CEC) created under that Agreement has an interest in fostering and encouraging cooperative efforts to improve the quality, comparability, and availability of environmental information pertinent to addressing the obligations and opportunities arising from the NAAEC. Two weeks ago, on April 19, the CEC hosted a consultation meeting on environmental information. Those of you who attended that meeting will already have a sense of many of the possible ways for the CEC to contribute "value added" to other trinational initiatives that are underway or are likely to emerge.

This meeting in Silver Spring convened by the North American Environmental Quality Assurance Program is an excellent example of an important trinational initiative that is being led by professionals who have an interest in fostering and encouraging the generation and use of environmental information. The efforts now underway to convene the first North American workshop on the long-term ecological monitoring of terrestrial and aquatic ecosystems to be held in Mexico next September is another closely related initiative.

The draft vision statement developed at your 1994 meeting in Mexico is very consistent with the marching orders given to the CEC in the North American Agreement on Environmental Cooperation. This clearly provides an opportunity to develop a mutually advantageous working relationship that would help each of us further our respective programs. During the course of this week you will be making important and productive refinements to your vision statement/terms of reference and will no doubt be thinking about ways of furthering the goals that you will be setting for yourselves.

Developing and refining a vision statement/terms of reference is an important exercise in consensus building and accommodation and in your case, the consensus/accommodation will reflect different disciplines and different sectors as well as three different countries. As you take on this task, I would ask you to keep the CEC in mind and consider appropriate ways for developing a mutually beneficial working relationship for our organizations. It is my personal view that we each have a very real need to foster and encourage improvements in the quality, comparability, and availability of environmental information generated within our three countries. I see our somewhat different mandates and origins as contributing significantly to the current opportunity to build a constructive working relationship that takes advantage of our complimentary characteristics and strengths.

Your initiative seems to have begun with a relatively narrow focus on quality assurance, particularly as it related to laboratories involved in the chemical analysis of samples from the marine environment. That focus remains, but it is clear that other

perspectives and other media are now also within the scope of your important and ambitious initiative.

I have had a long interest in the reliability of environmental information, first as an ecologist/limnologist and then as an advisor to the International Joint Commission. During my early career as a research scientist, I had access to an excellent analytical laboratory so I could afford to concentrate on the many errors associated with poor sampling design, inadequate sampling gear, poor sample transport and storage, or limitations in the way data from analytical laboratories were analyzed and interpreted. My work with the International Joint Commission made me aware of the importance of good laboratory practices. I now have a better appreciation of the need for quality control, quality assurance, and interlaboratory comparison.

At the CEC's earlier meeting (April 19), we also heard a lot about some of the "business" considerations associated with the analysis of chemical samples. A strong argument was made for the need to develop laboratory accreditation programs at the national level and that the three countries should develop mutual recognition agreements concerning the national accreditation programs. While this point of view may not have been central in the early stages of the North American Environmental Quality Assurance Program, I think that I detected general, if not universal support for these arguments. A related point was that many of those attending the meeting argued that an important aspect of these accreditation programs was that they be performance or results based rather than being based on particular methods or procedures.

Another area of discussion concerned the need to address the question of capacity building as a key element of a strategy to improve the quality, comparability, and availability of environmental information. The point was made repeatedly that this meant much more than simply bringing people on a tour to see the latest equipment in the most modern laboratories. While the need for adequate equipment was recognized, it was also recognized that many chemical analysts would benefit greatly from the opportunity to spend a month or more working in other established laboratories so as to gain hands-on experience and to benefit from the experience of others.

Others, such as my long-time colleague, Dr. Andrew Robertson, emphasized the importance of quality control and quality assurance as applied to the many non-laboratory steps associated with the generation and use of environmental data and information. Clearly, I am sensitive to this point of view and it seems to me that the Commission for Environmental Cooperation, as a user of environmental information, will be less interested in the details of how environmental information is generated than in having some assurance that all reasonable efforts have been taken to produce quality information.

During the next three days we will be working together to help design an important new trinational institution. Because of your previous efforts we already have a most promising outline of that institution and as the workshop progresses I expect to see many important details and possibilities come into focus. I wish you well in this most timely and important initiative.

2.3. Coordination of North American Metrology Programs: Hratch G. Semerjian, NIST, Gaithersburg, Maryland, USA.

Dr. Semerjian presented a description of NORAMET and discussed the coordination of the programs of the national metrology organizations (i.e., CENAM, NIST, NRC) in the three

NAFTA countries being undertaken under this agreement. The purpose of NORAMET is to achieve an enhanced effectiveness of these organizations in their pursuit of their respective national missions of developing the science of metrology and the provision of measurement services. A chemical metrology committee is being formed under NORAMET. The committee will provide the link between NORAMET and NAEQAP.

2.4. Environmental Chemical Metrology Linkages to and within the European Community:
Robert Kaarls; Netherlands Measurement Institute, Delft, The Netherlands

Mr. Kaarls made a presentation regarding the development, structure, and prospects of EUROMET, the European equivalent of NORAMET.

2.5. The Value of Measurement Intercomparisons: Shier Berman and Scott Willie; National Research Council of Canada, Ottawa, Ontario, Canada.

This laboratory has been coordinating intercomparison studies since the early 1980s. It became immediately obvious that most other studies were not well planned and executed. They really did not answer the question of the reliability of analytical results for a particular analysis from the participating laboratories. In many cases, the samples were not relevant. An approach was developed which ensures and measures the following aspects:

- intralaboratory precision
- interlaboratory precision
- sample relevance by using "real" samples with relevant analyte concentrations
- feedback and education

The efficacy of this approach has been demonstrated in about 20 domestic and international studies. The best documented and most effective work is related to our organization of the annual NOAA National Status and Trends Quality Assurance Program, now in its ninth year, for a large range of inorganic analytes in marine sediments and biological tissues. It is not difficult to demonstrate the obvious general improvement of the annual participants or to generally discern differences in reliability of results between "veterans" and new participants.

A key to the success of the NOAA program is its annual periodicity, which we believe will become even more important as accreditation bodies begin to accept these studies as valid proficiency tests.

**3. THE NORTH AMERICA ENVIRONMENTAL QUALITY ASSURANCE PROGRAM:
VISION, MISSION, VALUES, GOALS**

The draft plan for the North American Environmental Quality Assurance Program (NAEQAP) developed at the Queretaro meeting was presented to the Workshop by Ismael Castelazo Sinencio, CENAM and the other members of the Interim Steering Committee for the NAEQAP (i.e., J. Calder, Chair, NOAA; S. Berman, NRC; and W. May, NIST). Following this, five break-out groups were established to consider and report back to a plenary session of the

Workshop with recommendations for additions and revisions to the vision, mission, values, and goals statements for the NAEQAP. The following subsections present the revised versions of these statements based on the discussions and conclusions from this plenary session.

3.1. Vision

It is recognized that the environmental measurement program within the countries participating in NAFTA have operating quality assurance programs. Our vision is to build on the best of these programs to assure that:

Environmental information produced by the NAFTA countries is comparable, available, of known quality, and adequate for its intended purposes, thereby providing a reliable and harmonized basis for characterization and management of the North American environment.

3.2. Mission

The North American Environmental Quality Assurance Program is concerned with all aspects of production of information describing the North American environment, including program planning and design, environmental measurement and sampling, sample analysis, data management, and assessment and reporting in order to:

- promote acquisition of environmental information adequate to meet the intended programmatic uses;
- assure environmental information is of known and documented quality;
- provide a mechanism for sharing information;
- facilitate technical and administrative collaboration among program participants;
- enhance program participant's capabilities; and
- provide an interface with other multinational quality assurance programs.

Its purpose is:

- to support development of high quality environmental data for characterizing and understanding the North American environment and thus
- to provide tools for quality decision-making regarding protection, sustainable use, and enhancement of the North American environment.

This effort is intended to facilitate the work of policy makers, environmental agencies, industries, and the scientific community.

3.3. Values

The objectives of the program will be achieved through:

- adherence to scientific principles;

- objective analysis and interpretation of scientific data;
- international cooperation;
- commitment to improvement;
- traceability of measurements;
- recognition of, and respect for, differences among the national systems for environmental quality assurance; and
- adherence to good measurement practices.

3.4. Goals

The goals are:

1. To support the incorporation of quality assurance management systems (e.g., ISO Guide 25) in participating programs;
2. To promote and enhance the comparability of environmental measurements among the NAFTA countries;
3. To enhance technical capability and capacity through training and technology transfer;
4. To foster development and proper use of reference materials needed for assuring the quality of environmental measurements, such materials to include Certified Reference Materials, commercial Reference Materials, interlaboratory proficiency testing samples, and research materials;
5. To implement a communication activity for this program that is readily accessible to all environmental laboratories in North America;
6. To report periodically on the comparability, availability, and quality of the environmental information produced by the NAFTA countries.

4. **THE NORTH AMERICAN ENVIRONMENTAL QUALITY ASSURANCE PROGRAM: OBJECTIVES, STRATEGIES, BARRIERS**

With the overall vision, mission, values, and goals of the NAEQAP agreed upon, it was then necessary to develop plans for how the program could be implemented. Initial statements of objectives, barriers, and strategies for carrying out the program had been developed at Queretaro. The workshop attendees again broke into five break-out groups. Each of these considered revising and expanding the statements of objectives, barriers, and strategies for a different one of the first five of the goals listed above. The sixth goal was added during the Workshop and was not considered at that time. After the deliberations of the break-out groups, each one reported back to a plenary session. These reports were considered and revised in the plenary session and revised statements of the objectives, barriers, and strategies from the Queretaro meeting were agreed upon and are presented in the following subsections:

4.1. GOAL 1 - TO SUPPORT THE INCORPORATION OF QUALITY ASSURANCE MANAGEMENT SYSTEMS (E.G., ISO GUIDE 25) IN PARTICIPATING PROGRAMS

4.1.1. Objective: Adopt consensus standards for the elements to be addressed by management systems for quality assurance.

Strategy: Identify and collect existing national-international standards documents for quality assurance management systems applicable to environmental programs. Begin the consensus process by extracting commonalities (comprehensive list) in elements. Develop and reach agreement on documents specifying standards.

Barrier: Who will take responsibility for developing consensus standards?

4.1.2. Objective: Distribute consensus standards documents.

Strategy: Distribute consensus standards documents to participating programs by December 1996.

4.1.3. Objective: Conduct a series of outreach activities to aid those programs requesting assistance in the establishment of management systems for quality assurance.

Strategy: Conduct briefings on implementation of management programs for quality assurance. Identify and meet training needs.

Barrier: Who will conduct programs to meet training needs?

4.1.4. Objective: Evaluate progress in the adoption of management systems for quality assurance in the environmental programs of NAFTA countries.

Strategy: Carry out review of status in adopting management systems for quality assurance in environmental programs in NAFTA countries after 5 years.

Barrier: Who will be responsible for carrying out review?

4.2. GOAL 2 - TO PROMOTE AND ENHANCE THE COMPARABILITY OF ENVIRONMENTAL MEASUREMENTS AMONG THE NAFTA COUNTRIES

4.2.1. Objective: Expand participation in existing intercomparison exercises.

Strategy: As an initial step for making quick progress under this goal, encourage laboratories from the three NAFTA countries to participate in the following existing intercomparison exercises: (1) the CENAM exercises for wastewater analyses for trace elements, phenols, and cyanides; (2) the NOAA National Status and Trends program exercises for analyses of trace metals, chlorinated pesticides, polychlorinated biphenyls, and polycyclic aromatic hydrocarbons in marine tissues and sediments; and (3) a possible exercise for intercomparison of analysis of atmospheric samples. By June 30, 1995, information on existing intercalibration exercises will be distributed on the Internet by I. Castelazo of CENAM, Adriana Cantillo of NOAA, and possibly a representative from a center for intercomparison of atmospheric samples. By June, 1996, the coordinators of the existing intercalibration exercises will develop plans describing their ability to add large numbers (e.g., fifty) of additional participants and what the costs for this would be.

4.2.2. Objective: Establish an active steering committee to coordinate intercomparison exercises for environmental analyses by September 1995.

Strategy: A steering committee with a representative from each of the NAFTA countries will be established by September 1995. The national representatives will be the focal points for their nations in participation in the intercomparison exercises.

Barrier: Identifying a coordinating organization for each country and providing the coordinators with sufficient time for coordination activities.

- 4.2.3. Objective: All countries agreeing on priority analytes/matrices to be used in initial intercomparison exercises by January 1996.
Strategy: A questionnaire to determine the analytes and matrices of most importance will be distributed and results compiled. Based on the results from this questionnaire, the Steering Committee will define a NAFTA intercomparison exercise by January 1996.
- 4.2.4. Objective: Intercomparison study design of analytes/matrices agreed to by all countries by June 1996.
Strategy: Steering Committee directs accomplishment of this objective.
- 4.2.5. Objective: First intercomparison exercises for analytes/matrices completed by July 1997.
Strategy: Steering Committee directs accomplishment of this objective.
- 4.2.6. Objective: Report issued on results of intercomparisons with identification of strengths and recommendations for improvement by July 1997.
- 4.2.7. Objective: Build broadly based participation from government, industry, academia, and other interested organizations.
- 4.2.8. Objective: Support development and mutual recognition of national accreditation programs for environmental measurements.
- 4.2.9. Objective: Foster policies for assuring adequate reporting and availability of environmental measurement data and ancillary information to enable secondary use and peer evaluation.
- 4.3. GOAL 3 - TO ENHANCE TECHNICAL CAPABILITY THROUGH TRAINING AND TECHNOLOGY TRANSFER.
- 4.3.1. Objective: Identify areas of current capability and expertise through national labs.
Strategy: Identify key coordinators at the national laboratories in each country (i.e., Canada - S. Berman (NRC); Mexico - I. Castelazo (CENAM); USA - W. May and T. Gills (NIST)) to meet this objective.
- 4.3.2. Objective: By November, 1995, identify and prioritize areas in which training and technology transfer are needed.
Strategy: Develop survey to identify training needs and capabilities. Identify recipients and distribute the survey. Use the results to identify and prioritize training needs.
- 4.3.3. Objective: By November, 1996, and continuing thereafter, disseminate information and implement seminars, workshops, personnel exchanges and round robins in areas pertaining to sample collection, data reduction, and quality assurance and management.
Strategy: Plan and implement seminars, workshops, training sessions, etc.

4.4. GOAL 4 - TO FOSTER THE PRODUCTION AND PROPER USE OF THE REFERENCE MATERIALS NEEDED FOR ASSURING THE QUALITY OF ENVIRONMENTAL MEASUREMENTS; SUCH MATERIALS TO INCLUDE CERTIFIED REFERENCE MATERIALS, COMMERCIAL REFERENCE MATERIALS, INTERLABORATORY PROFICIENCY TESTING SAMPLES, AND RESEARCH MATERIALS.

4.4.1. Objective: By November, 1995, establish cooperation among CENAM, NIST, and NRC in chemical metrology relevant to the development of environmental Certified Reference Materials.

Strategy: Meet and establish priorities based on input from NAFTA QA GP by May 1995. Distribute executive summary regarding environmental reference decisions.

Barrier: Resources.

4.4.2. Objective: Update NOAA catalog of reference materials. Support an expansion of the listed existing reference materials.

Strategy: Include not only Certified Reference Materials but also all other types of Reference Materials. Incorporate biological Reference Materials. Drop concept of "primary" or differentiate between primary and other Reference Materials for this document.

Barrier: Resources.

4.4.3. Objective: Establish and disseminate Reference Material needs to appropriate organizations.

Strategy: Establish an electronic mechanism for receiving input on the required standards by January 1996. Develop a prioritized document on required standards and update this on an annual basis.

Barriers: Resources and defining appropriate sources of information.

4.4.4. Objective: Provide traceability of infrastructure for producers of secondary Reference Materials. Provide infrastructure for establishment of commercially available Reference Materials with well-defined traceability. Encourage other Reference Material producers to demonstrate traceability to national and/or international standards.

Strategy: Develop protocols and education. Establish NORAMET chemical metrology subcommittee by September 1995.

Barriers: Commercial producers, buy-in.

4.4.5. Objective: Promote education and training to assure that Reference Materials (of all kinds) are properly used to improve measurement comparability among laboratories.

Strategy: Achieved through: (1) holding workshops and seminars under possible CEC sponsorship; (2) supporting staff exchanges and training; and (3) developing publications, newsletters, and brochures. Initially prepare a workshop for Reference Material users for presentation at conferences and symposia (such as meetings of the Society for Environmental Toxicology and Contamination, the American Chemical Society, the Pittsburgh Conference and others).

Barriers: Different languages of the three countries, staff, and resources.

4.5. GOAL 5 - TO IMPLEMENT A COMMUNICATION ACTIVITY FOR THIS PROGRAM THAT IS READILY ACCESSIBLE TO ALL ENVIRONMENTAL LABORATORIES IN NORTH AMERICA

4.5.1. Objective: Establish an Internet and paper-based newsletter to be updated quarterly.

Strategy: Establish a network of editors from the three NAFTA countries as well as representatives from other QA organizations, such as QUASIMEME. It is projected that a newsletter can be compiled in 6 weeks. A draft of the proposed newsletter has been prepared and distributed for comments. An initial list of recipients of the NAEQAP newsletter has been compiled using the information supplied by the workshop participants and other sources. The principal source of distribution will be via electronic mail. Facsimile or paper copies will be used for those not yet accessible through electronic networks.

- 4.5.2. Objective: Develop a promotional document describing the NAEQAP for wide distribution.

Strategy: A draft of a promotional document for NAEQAP has been prepared and distributed for comments. Variations of this document have and will be used to publicize the Program at symposia, meetings, and workshops.

- 4.6. GOAL 6 - TO REPORT PERIODICALLY ON THE COMPARABILITY, AVAILABILITY, AND QUALITY OF THE ENVIRONMENTAL INFORMATION PRODUCED BY THE NAFTA COUNTRIES.

This goal was added by the Workshop and objectives, strategies, and barriers for its accomplishment have not yet been developed.

5. SUMMARY AND NEXT STEPS

Before the Workshop adjourned the Interim Steering Committee led a discussion of what had been accomplished and what should be done in the future. The discussion dealt with the following points.

5.1. WORKSHOP REPORT

Speakers and others who owe material were reminded to provide their input to Adriana Cantillo by May 15, 1995.

5.2. INTERACTION WITH CEC

It was agreed that the Interim Steering Committee will work to:

- create a formal affiliation with the CEC that will serve the interests of the CEC and also the interests of the NAEQAP;
- draft a proposed annex to the NAAEC that defines the purpose, vision, mission, goals, and implementation mechanism for this affiliation; and
- draft terms of reference that spell out responsibilities for a formalized group (possible name: Advisory Council on Environmental Measurements).

This affiliation will be responsive to the high priority mission of the NAAEC, namely that the "CEC may consider and develop recommendations regarding comparability of techniques and methodologies for data gathering and analysis, data management, and electronic data communication on matters covered by the Agreement."

Additionally, the Interim Steering Committee will propose specific pilot projects for the CEC to review and implement as appropriate (for example, exchange visits, interlaboratory

comparisons, communication network). It was requested that draft two-page proposals for these tasks be submitted to John Calder by June 15, 1995.

5.3. ENLARGE AND EXPAND INTERIM STEERING COMMITTEE FOR NAEQAP

It was clear that the Interim Steering Committee, currently composed of Shier Berman (NRC), Ismael Castelazo (CENAM), Willie May (NIST), and John Calder (NOAA), should be expanded. It was identified that there is a need to add representatives from:

- additional government agencies having interest in the NAEQAP, such as the USEPA, Environment Canada, Secretary of the Environment (Mexico), and others with environmental quality and living marine resource habitat interests;
- commercial environmental laboratory organizations; and
- commercial suppliers of reference materials.

All attendees were encouraged to consider if their organizations should be represented on the Steering Committee and, if so, to work through their organizations to have letters sent from a responsible official making an offer to participate and recommending a specific person or persons for the Steering Committee. It was requested that such letters be sent by June 15, 1995 to enable the enlarged Steering Committee to proceed with its list of action items.

5.4. NEXT MEETING

At this point, there seems to be no further need for planning meetings. If an invitation is forthcoming, some members of the Steering Committee will attend the meeting of the Commission on Environmental Cooperation, tentatively scheduled for September or October of 1995. Assuming a positive outcome from this meeting (the chances of which will be increased dramatically by effective work by the Steering Committee over the summer), there may well be a need for an initial meeting to review progress and results, perhaps in mid- to late 1996. If requested to do so, Environment Canada has offered to organize this meeting.

6. ACKNOWLEDGMENTS

We gratefully acknowledge R. Dyson and D. Harris for their assistance in planning the workshop, and S. Dolvin, F. Daskalakis, B. Gottholm, M. Harmon, S. Kokkinakis, K. McMahon, G. Lauenstein, T. O'Connor, and C. Parker for their assistance as rapporteurs.

APPENDIX I. Agenda

**PLANNING MEETING
for
NORTH AMERICAN ENVIRONMENTAL QUALITY ASSURANCE PROGRAM**

National Oceanic and Atmospheric Administration
Silver Spring, Maryland
May 2-4, 1995

AGENDA

Monday, May 1, 1995

Travel to the Washington, DC area
Hotel check-in, Silver Spring, Maryland

Tuesday, May 2, 1995

8:30 AM	Registration	
9:00 AM	Welcome and Introduction	A. Robertson
	Workshop Purpose and Expectations	J. Calder
	NAFTA Environmental Program	A. Hamilton
	Coordination of North American Metrology Programs	H. Semerjian
	Environmental Chemical Metrology Linkages to and within the European Community	R. Kaarls
10:30 AM	Break	
10:50 AM	The Value of Measurement Intercomparisons	S. Berman
	Report on Queretaro meeting and Presentation of Draft Plan	I. Castelazo Sinencio and Steering Comm.
	Vision	
	Mission	
	Values	
11:45 AM	Lunch (Participants on their own at the NOAA cafeteria or Silver Spring restaurants)	

1:00 PM Break-out Groups (Participants break into five groups of 12-20 to consider and develop recommendations for revisions to draft plan)

Group 1 (In Spanish)	I. Castelazo Sinencio
Group 2 (Marine)	S. Berman
Group 3 (Freshwater)	A. Robertson
Group 4 (Atmospheric)	J. Calder
Group 5 (Private sector)	W. May

4:30 PM Adjourn

5:00 PM Social Hour

Wednesday, May 3, 1995

8:30 AM Presentation and Discussion of Recommendations from Break-out Groups
R. Lefante, Facilitator

10:10 AM Break

10:30 AM Strategy for Accomplishing Goals
- Objectives
- Strategies
- Barriers
- Specific Actions
Goal Leaders

11:45 AM Lunch (Participants on their own at the NOAA cafeteria or Silver Spring restaurants)

1:00 PM Break-out Groups (Participants break into groups of 12-20, one for each of the five goals, to develop recommendations regarding means for advancing achievement of these goals)

Goal 1 (QA Management Systems)	R. Turle
Goal 2 (Measurement Comparability)	W. Mitchell
Goal 3 (Technical Capabilities)	I. Castelazo Sinencio
Goal 4 (Reference Materials)	W. May
Goal 5 (Communication)	A. Cantillo

4:30 PM Adjourn

Thursday, May 4, 1995

8:30 AM Presentation and Discussion of Recommendations from Break-out Groups
R. Lefante, Facilitator

10:20 AM Break

10:40 AM Summary/Next Steps
J. Calder

12:00 AM Lunch

1:00 PM Tour of the National Institute of Standards and Technology

4:00 PM Adjourn

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