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ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC

**REPORT ON THE PROCEEDINGS OF
THE TRAINING ON EMISSION MONITORING AND ESTIMATION IN
NORTH-EAST ASIA**

**Beijing, China
26-28 February 2003**

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I. CONCLUSION AND RECOMMENDATIONS

The Training for Emission Monitoring and Estimation in North-East Asia was held in Beijing, China from 26-28 February 2003. The training formulated the following conclusions and recommendations to the conduct of future training and capacity building for emission monitoring and estimation in the countries of North-East Asia:

Continuing conduct of the Training Programme

1. Adequate emission monitoring is essential in optimizing plant operation and reducing air pollutant emission. Similarly, data and information collected in air emission monitoring are valuable sources of information for policy decision-makers in updating policies for air pollution control. The training recommended that the conduct of this programme should be continued to include as well local government officials.
2. Training and capacity building programmes for emission monitoring should be made as an integral part of future NEASPEC activities.

Expanding the coverage of the training content

3. A component of the program should be expanded to include discussions on economic estimation of air pollution. The course program is to be designed for government staff involved in air pollution control policy making.
4. The training programme should include in its component some practices for manual measurement that are widely used. This would allow the participants some better appreciation of the range of options available to them in deciding which techniques for monitoring they can adopt and use in their respective areas.
5. The duration of the training programme is deemed to short to cover other important aspects of air monitoring. The participants suggested that future training course be longer for a more extensive coverage of the topics.
6. Consideration be made in the possibility of including the monitoring of dusts and particulate matter in future training courses.

Use of Country Reports for improving training design

7. Country reports need to be compiled and used as reference for presenting changes on air quality conditions of country. The recommendations in the country reports need to consider the design of future training programmes on air emission monitoring.

Enhancing exchange of information among engineers in the North-East region

8. Opportunities for exchange of opinions and know how through joint monitoring exercises among engineers from the sub-region should be explored.

Enhancing site visits

9. On site demonstrations should be complemented with the use of practical demonstrations of the Recommendations on Methodologies of Monitoring Air Pollutant Emissions. This would allow greater appreciation of the recommended

techniques, as well as provide valuable insights for improving the methodologies that are being practiced.

10. On-site demonstrations should be continued and be made part of the training programme particularly if conducted in developing countries in the region.

Others

11. Participants of the training expressed their sincerest appreciation to UNESCAP, the China State Environmental Protection Agency (SEPA) through the China National Environmental Monitoring Centre (CNEMC) as the host of the training, the Government of Japan through its Ministry of Foreign Affairs and the Ministry of Environment, as well as the cooperation of the Japan Environment Technology Association (JETA) for the fruitful conduct of the training programme.

II. ORGANIZATION OF THE TRAINING

1. The Training on Emission Monitoring and Estimation in North East Asia was organized by the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), hosted by the China State Environmental Protection Agency (SEPA) and the Japan Ministry of Foreign Affairs and the Ministry of Environment, in cooperation with the North-East Asian Center for Environmental Data and Training (NEACEDT) as an activity under the North-East Asian Subregional Programme for Environmental Cooperation (NEASPEC). The China National Environmental Monitoring Centre (CNEMC) and Japan Environmental Technology Association (JETA) extended technical support to the conduct of the training.

2. The Training was participated in by participants from China, Democratic People's Republic of Korea, Japan, Mongolia, Republic of Korea and the Russian Federation. The list of participants is attached as Annex I.

3. The Training was opened by Mr. Tu Ruihe, Director of the Division of International Organizations, Department of International Cooperation of the State Environmental Protection Administration.

4. Mr. Yue Ruisheng, Deputy Director General of the Department of International Cooperation, State Environmental Protection Agency gave the welcoming statement and formally opened the training programme. Mr. Rodrigo U. Fuentes, Environmental Affairs Officer of the Environment Section, Environment and Sustainable Development read a statement for and in behalf of UNESCAP. Mr. Nobuaki, Yoshiguchi Assistant Director, Environmental Cooperation Office, Global Environment Office of the Japan Ministry of Environment likewise gave a statement that warmly welcomed the participants. The text of the respective statements appears as Annex IIA-C.

5. To facilitate its conduct, the Training elected Dr. Li Gougang as Chairperson, and Mr. Vladimir Tsibulski and Dr. Takashi Ibusuki as Vice Chairpersons. The first day session was facilitated by Dr. Li, the second day session by Mr. Tsibulski, and the third day by Dr. Ibusuki respectively.

6. The Training was guided by the following agenda:

- a) First day

- (i) Opening Programme;
- (ii) Election of Chairpersons;
- (iii) Keynote Lectures;
- (iv) Country Presentations.

b) Second day

- (i) Lectures on the Methodologies of Air Pollutant Emissions Monitoring;
- (ii) Practical demonstrations on the use of several monitoring equipment.

c) Third Day

- (i) On site demonstration and practice at the Gaobeidian Power Plants;
- (ii) Training evaluation.

III. SUMMARY OF TRAINING PROCEEDINGS

Keynote lectures

7. Mr. Rodrigo Fuentes (UNESCAP) made the secretariat presentation on “The Economics of Air Quality Monitoring and Assessment” highlighting the importance of air quality monitoring for policy strategy development, objective setting and formulating the framework for compliance monitoring and enforcement. The presentation also stressed that economics is an important factor in assessing the considered options for appropriate actions.

8. Dr. Mitsuo Samata of the Yokohama Environmental Science Research Institute gave a lecture on the usefulness of emission monitoring from the regulation standpoint. Dr. Samata presented the history of air pollution control in Yokohama, Japan and how it has dramatically improved the air quality conditions through constant improvement in the technology, passing of stricter laws and strict monitoring of compliance by companies.

9. Mr. Ichiro Saito, of the Electric Power Development Co. Ltd. of Japan made a presentation of how to monitor emissions and maintain the environmental air quality in power stations. He suggests that power plants must continuously monitor gas concentrations in order to control desulfurization and NO_x systems appropriately, openly report to local governments emission monitoring to show compliance to standards and make the emission data open to the public in order to convince them that emissions from power stations have little influence in affecting ambient air quality.

10. Mr. Hajime Mikasa, of the Japan Environmental Technology Association (JETA) presented the finalized UNESCAP publication “Recommendations on Methodologies for Monitoring Air Pollutant Emissions”. Mr. Mikasa outlined the contents of the publication and highlighted that the document was prepared with the hope that it will be widely utilized in designing and introducing emission monitoring in large stationary sources in the North-East Asia region, as well as in other regions for their reference.

Country presentations of current situation of emission monitoring

11. Country reports were presented by representatives of the participating countries. The scope and content of the presentations covered the status of air pollution, current air pollution source monitoring and training programs, and their respective plans of utilizing the “Recommendations on Methodologies of Monitoring Air Pollutant Emissions”. The country reports were made in the following order: Mr. Liu Fang (China); Mr. Mun Jong Nam (Democratic People’s Republic of Korea) Mr. Toshiro Shikata (Japan); Mr. Enkhbayar Dondog (Mongolia); Mr. Dai Gon Kim (Republic of Korea) and Mr. Vladimir Tsibulski (Russian Federation). The discussions brought forward the following issues with respect to emissions monitoring: (a) selection or priority of measurement, (b) the selection of appropriate sampling points and (c) the evaluation of data and telemetering systems.

Lecture on Recommendations on Methodologies of Monitoring Air Pollutant Emissions

12. Mr. Hajime Mikasa, Mr. Ryuzo Kano, and Mr. Kaoru Nakahashi, all from JETA took turns in discussing in detail the content of finalized UNESCAP publication "Recommendations on Methodologies for Monitoring Air Pollutant Emissions". The focus of their presentation covered Quality Assurance /Quality Control (QA/QC) of air pollution monitoring, sampling/measuring air pollution using manual and automatic analytical methods, and the advantages/disadvantages of each approaches.

13. Dr. Liu Wen-Qing of the Chinese Academy of Sciences presented recent developments and research work on air pollution monitoring using optical and laser techniques. Accordingly, the research efforts in the field are producing positive results showing encouraging prospects for the future application. However, for the moment costs in the application of the technology may still appear to be prohibitive.

Practical demonstrations on the use of air monitoring equipment

14. For the participants to have better appreciation of the recommendations presented in the publication, some practical demonstrations on the use of air monitoring equipment were conducted. The demonstration included a discussion of the principles of how measurements are made, maintenance of equipment, how to replace parts, calibration, and how it is used in stack sampling and features of transportable as against stationary type of monitoring equipment.

On-site visit of the Gaobeidian Power Plant

15. An on-site visit of the Huaneng Beijing Thermal Power Plant in Gaobeidian, China was undertaken. The visit was conducted to practically show to the participants the methods of stack monitoring for air emissions , provide useful insights on the practicalities of air monitoring, and considerations for designing future training and other capacity building for air quality monitoring.

Training Evaluation

16. The participants jointly evaluated the conduct of the training programme. Views were exchanged on improving its conduct and elicited suggestions for other aspects that needs to be included in future undertakings. On the basis of this evaluation, considerations are made in the future design of the training programme on air emissions monitoring.

Consideration and adoption of the recommendations

17. Many participants found the training and its manual (publication) very useful and relevant to their work. A set of recommendations was formulated which, the training agreed to recommend for consideration by the Ninth Senior Officials Meeting to be held in Russia.